CENTRAL COAST REGIONAL WATER QUALITY CONTROL BOARD
JEAN-PIERRE WOLFF, CHAIR

In the Matter of the Public Hearing)
re:)
)
Consider Adopting)
Administrative Civil Liability Order)
for Carpinteria Sanitary District)
_____)

TRANSCRIPT OF PROCEEDINGS
San Luis Obispo, California
Friday, May 29, 2015

Reported by:
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CSR No. 13957

Job No.:
4964WQSLO

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TRANSCRIPT OF PROCEEDINGS, taken at 895 Aero Vista Place, Suite 101, San Luis Obispo, California, commencing at 9:00 a.m. on Friday, May 29, 2015, heard before the CENTRAL COAST REGIONAL WATER QUALITY CONTROL BOARD, reported by MADISON C. KURZ, CSR No. 13957, a Certified Shorthand Reporter in and for the State of California.

APPEARANCES:

CHAIR: Jean-Pierre Wolff
VICE CHAIR: Monica S. Hunter
BOARD MEMBERS: Kathleen Thomasberg
Karina Cervantez
Michael Johnston
Bruce Delgado

EXECUTIVE OFFICER: Ken Harris

BOARD STAFF: Jessica Jahr
Lori Okun
Lisa McCann
Jon Rokke

WITNESSES: Dr. Matthew Scott Buffleben
Leo Sarmiento
Beverly Hann
Peter Von Langen
Dan Hennessy
Craig Murray

San Luis Obispo, California, Friday, May 29, 2015
9:00 a.m.

MR. WOLFF: So now we will move to the main agenda of the day and I do have an opening statement that I will make.

So this is the Carpinteria Sanitary District, ACL Complaint No. R3-2015-0011, Item 22. This is the time and place for a hearing of a Central Coast Regional Water Quality Control Board to Consider Adoption of the Administrative Civil Liability Order Against Carpinteria Sanitary District.

This hearing will be conducted in accordance with the hearing procedures that were provided to the parties. Designated parties as follow:

Regional Board Prosecution Team and Carpinteria Sanitary District. The designated parties and their witnesses are subject to cross-examination and for prosecution staff, will be allowed 45 minutes for their presentation including opening statement, direct testimony, and cross-examination and five minutes for closing statement.

Carpinteria Sanitary District will be allowed 45 minutes as well for their presentation including

opening statement, direct testimony, cross-examination and 5 minutes for their closing statements.

All other persons are considered interested persons, who are considered interested persons and will be allowed three minutes.

The Chair may provide additional time at its discretion and we will use a timer, with the helpful assistance of my Vice Chair here, and Board Members, the Advisory Team and Staff Counsel, may ask questions to clarify testimony of witness at the end of each witness testimony.

So feel free, if when a witness has given their presentation, you flag to me. I'll go left to right and then I'll switch right to left on the next one, but I'll need just one pass, so make sure you have your questions all prepared. Thank you.

For the purpose of this hearing, the function of staff and counsel are separated. Prosecution Staff, who are proposing this action, have had no communication with the Board Members or Board Advisors other than for non-controversial procedural matters. The Board Counsel has not advised the Prosecution Team in this matter.

For this hearing, the Prosecution Team consists of Mr. Michael Thomas, Assistant Executive Officer, Mr. Harvey Packard, Thea Tryon, Todd Stanley, Leo

Sarmiento, Jim Fisher and Dr. Matthew Buffleben.

They are advised by Julie Macedo and David Boyers, Counsel for the State Water Resource Control Board, Office of Enforcement.

For this hearing the Board's Advisory Team consists of Jessica Jahr, who is on the phone, I believe; correct? Yes. Lori Okun and Tamarin Austin, Counsel for the State Water Resource Control Board Office, Chief Counsel Mr. Ken Harris, Executive Officer Lisa McCann and Jon Rokke.

Each person who testifies at this hearing, shall begin by stating his or her name and address, unless the address has already been given.

All persons who may testify at this hearing please stand, even if you do not plan to testify, but are involved in this matter.

(Wherein individuals stand)

Thank you. Raise your right hands and take the following oath.

(Wherein all standing persons took the oath)

(IN UNISON: "I do.")

MR. WOLFF: Thank you, very much.

The order of presentation at this hearing will be as follows:

Number 1: Opening statements by Prosecution

Staff and the Carpinteria Sanitation District.

Number 2: Central Coast Water Board Prosecution Staff Case in Chief with cross-examination by the Carpinteria Sanitary District.

Number 3: Other interested persons who will be allowed three minutes, and then closing statement by the Carpinteria Sanitary District and Prosecution Staff.

Cross-examination of each witness will occur after the witness direct testimony and the party offering the witness may then offer redirect testimony as well.

At close of the hearing, the Board Members and Advisory Team may adjourn to closed session to deliberate on the evidence as authorized by Government Code (GC) Section 11126.

After conclusion of the deliberation, the Board will resume open session and provide its ruling.

So when you're presented, please state your name, address, affiliation and whether you have taken the oath before testifying. And at this time, evidence should be introduced on the following issue whether the Regional Board should issue, reject or modify the proposed Administrative Civil Liability.

So I will now begin the hearing, and Mr. Harris -- so we'll start with open statement from the Prosecution

Staff.

MR. PACKARD: Good morning, Chairman Wolff and Members of the Board.

I am Harvey Packard of Water Board Staff on the Prosecution Team. I have taken the oath and I am introducing Enforcement Team's Presentation this morning.

We're here as a result of the Enforcement Teams issuing a complaint against Carpinteria Sanitary District alleging six violations of their NPDES Permit.

Carpinteria and the Enforcement Team have had discussions regarding these violations and are in agreement regarding several issues. We agreed that five of the violations are subject to Mandatory Minimum Penalties and regarding the loss of disinfection incident, we agree on several circumstances of the event, including the volume discharged.

There are areas of disagreement. Mainly, whether the loss of disinfection violation is subject to Mandatory Minimum Penalties versus a Discretionary Penalty and if subject to a Discretionary Penalty, the amount of the appropriate penalty, um, and as considered under the Enforcement Policies Factors.

The MMP versus Discretionary Penalties is an important issue for the Enforcement Team as detailed in our written submittals. We maintained that the loss of

disinfection violation was not a violation MMP Statute and therefore, if there is to be a penalty, it must be of the discretionary variety.

You will note that this is not the largest penalty we've recommended to the Board by far, and as we say in our brief, Carpinteria's Facility is generally well run and they do have a good reputation.

We did make a good-faith effort to settle this matter with Carpinteria without a hearing, but there are several important issues that compel us as Enforcement Staff to bring this matter to the Board.

One is the integrity of the Water Board's Regulatory Program. The Board, through a public process, adopted this NPDES Permit. Once that process is finished and the requirements established, Staff is tasked with monitoring and enforcing compliance with the permit.

There is no disagreement that the facility lost capability to disinfect effluent on October 3rd, 2012. Carpinteria argues that this violation is minor and that the motion be penalized with a $3,000 minimum penalty. We maintain this violation is significant enough to warrant a more substantial penalty.

Secondly, deterrence is an important element of enforcement. Here's a quote from the Enforcement

Policy: "Enforcement is a critical ingredient in creating the deterrence needed to encourage the regulated community to anticipate, identify, and correct violations. Appropriate penalties and other consequences for violations offer some assurance of equity between those who choose to comply with the requirements and those who violate them. It also improves public confidence and government is ready, willing and able to back up its requirements with action."

Third, this is an important case to demonstrate the need for facilities to have proper treatment -- treatment system safeguards, including monitoring systems, alarms and redundancies to ensure compliance with their permits.

I'd also point out that there is a separation of functions even within Water Board Staff; Permitting Staff, draft permits, review monitoring reports and do initial review and follow-up on violations. We have Enforcement Staff who are separate from Permitting Staff in order to pursue enforcement objectively and impartially.

Our presentation today will focus on reviewing the technical and legal reasons why I recommend a penalty for this violation is appropriate.

At this time, I'll turn the time over to Dr. Matthew Buffleben of the State Water Board Office of Enforcement.

MR. HARRIS: Just for the record, I think we need to announce that Ms. Cervantez is now present.

MR. WOLFF: And also, I apologize for mispronouncing Carpinteria. This is my French-ism. You may have a few more examples later on today of my mispronunciations. Thank you.

MR. BUFFLEBEN: Good morning. My name is Matthew Scott Buffleben. I'm an Engineer -- a Senior Engineer with the State Water Resources Control Board and I have taken the oath.

Let me tell you a little bit about my background first before we get into the testimony case.

I have Bachelor's Degree in Mechanical Engineering--

MR. CARTER: I'm sorry, is this direct examination or is this opening statement?

MR. BOYERS: So this is intended to be a, um -- a witness narrative testimony, which is permitted under the Hearing Procedures.

MR. WOLFF: Yes, please proceed.

MR. CARTER: If this is going to be a testimony--

MR. WOLFF: Could you speak louder, please?

MR. CARTER: May I go to the stand?

MR. WOLFF: Yes.

MR. CARTER: Good morning. I'm William Carter on behalf of Carpinteria Sanitary District.

I was under the impression, and I apologize, that Carpinteria would have an opportunity to make an opening statement before there was a presentation of evidence to the Board.

If that's not the case, I apologize. I would, though, make a motion, since all these individuals are under oath and we are making a record and we want to be as accurate as possible. I would be making a record to exclude all witnesses who are not testifying. They would have to wait outside, except for one representative of the client and one expert. That way, we can assure that we have a full and accurate and candid questioning or cross-examination of these witnesses.

That's standard procedure in every court of law, every administrative proceeding. I would ask for all witnesses who are not testifying be excluded until such time they've been called and admonish not to discuss what was -- they testified to in here during the hearing.

MS. OKUN: Would the Prosecution Team like to

respond before I advise the Chair?

MR. BOYERS: Uh, well, you know, my response would be that these proceedings are not conducted like a court -- like a trial, not in, you know -- they're much different.

And so, um, you know, we would prefer that our witnesses be available to hear the testimony of all the other witnesses to give perspective and context to their own statements and to be able to provide answers to the questions that the Board Members may have.

MS. OKUN: Dr. Wolff, that's also my recommendation. That is the way that the Boards conduct their administrative proceedings. It's consistent with the Administrative Law, and it also allows the Board Members to address questions to the panel.

In some cases, it's not necessarily clear to us who the best person is to respond to a question, and we leave it to the parties to designate which witness will address which issues.

So my recommendation is not to exclude the witnesses, and if you agree --

MR. WOLFF: Yes, I do agree not to exclude the witnesses.

MS. OKUN: And then on the issue of opening statements, the hearing procedures are silent. It says

that each party has a total of 45 minutes to use as they wish. So it's up to you whether the discharger will be allowed to present the opening statement before the Prosecution Team presents its evidence. It could be helpful, but it's totally up to the Chair.

MR. WOLFF: Thank you.

So please proceed.

MR. BUFFLEBEN: Thank you.

So once again, my name's Matthew Buffleben. I was telling you a little bit about my background. I have a Bachelor's Degree in Mechanical Engineering from UC Santa Barbara. I have a Master's Degree from the UCLA School of Public Health and Environmental Health Science and I have my Doctorate Degree in Environmental Science and Engineering. I am a Licensed Civil Engineer in the State of California, and I've been -- prior to my working at State Board as a Supervising Engineer, I worked at the North Coast Regional Water Board for 12 years.

So today I'm gonna discuss the Enforcement Policy in its application for the penalty calculation. I know many of you may not be very familiar with enforcement calculations, um -- but in the interest of time, I'll go through the policy, but I'll skip a few steps that we're in agreement with the discharger.

I want to point out that the largest difference between the Prosecution Team and the District is the estimate of harm for the discharge. So when I get to that step and that factor and going over the Enforcement Policy, I'll spend a little bit more time discussing the harm of the discharge.

So first, let's talk about the violations. The violations that we're seeking a penalty for is the discharge of the undisinfected effluent that occurred for over five and a half hours. This discharge started approximately at 4:00 in the morning, 4:08 in the morning, and lasted until approximately 9:45 in the morning on October 3rd.

There's other violations, including failure to take care of -- take all reasonable steps to minimize, prevent discharge, failure to provide safeguards and failure to monitor; however, we're using our Prosecution discretion and not seeking penalties for these violations.

So California Water Code Section 13385, describes several factors that the Board must consider in ACL complaints. The Enforcement Policy provides directions in how to weigh those factors in 13385.

There are 10 steps to these factors and some of the steps have several factors within them. So I want

to walk us through and apply an Enforcement Policy for this incident.

The first step is determined the potential for harm for the discharge violation. Now, there's three factors in this step. There's the harm or potential harm for beneficial uses, there's the characteristics of discharge, factor two, and then there's factor three, the susceptibility to cleanup abatement. I want to take these factors a little out of order, hopefully this won't confuse you.

So the first factor I wanted to talk about is susceptibility cleanup. We agree with the District that this -- this discharge wasn't susceptible for cleanup and therefore, it scored in a one and according to the Enforcement Policy, there's no reason to further discuss that.

And next, I want to go to is factor two, which is actually the characteristics of the discharge. This factor essentially looks at the material discharge and isolation. Is it toxic and how harmful is the waste? In other words, it's the degree of toxicity of the discharge. This factor has a scale from 0 to 4, which is designed based on the risk or threat of the discharge. It goes from negligible, a 0, up to a 4, which is significant.

So what is undisinfected secondary effluent? So primary and secondary treatment at wastewater treatment plants removes a lot of pollutants; particularly, suspended cells, suspended solids and organic materials.

However, primary and secondary treatment results in only small reductions and human pathogens bacteria and viruses remain and these include: Norovirus, cryptosporidium, and giardia.

Until very recently, we didn't have methods to detect human pathogens. The Water Quality Standards are based on indicators of sewage. We call these indicators Fecal Indicator Bacteria. Typically and historically, they have been total and fecal coliform enterococcus. Enterococcus is a subset of these bacteria, and it's really the best indicator of the presence of sewage in pathogens.

Now, since we're dealing with bacteria, there's a large uncertainty in any one measurement, um -- for bacteria counts. This is because coliform and bacteria aren't evenly distributed through the water columns. So you may take two samples and you have a wide range of what the results are, and I cover this in my next slide.

So we required in our 13267 letter to the

District to do an Impact Assessment for public health in the ecosystem. The District, at this time, had tested their undisinfected secondary effluent at the treatment plant. Their result for total coliform was 160,000 MPN, that's the most probable number, per 100 milliliters.

Now, the range of this -- the confidence of where that true medium is, actually lies somewhere between 40,000 MPN and 460,000 MPN. There's a large range of uncertainty and, like I said, it's because coliform bacteria are not evenly distributed in the water column and your samples, even taken at the same time and using the best methods possible, will have large range results.

Fecal coliform, their result was 92,000 MPN. And now, when we compare that to the effluent limit, the permit states the effluent limit is an instantaneous maximum of only 2,300 MPN per 100 milliliters. As you can see, the results for this undisinfected secondary effluent are well above the effluent limit in the permit.

So now we're going to go over the score for factor two. Once again, I mention that the scale goes from 0 to 4. We selected a 2, a moderate risk or threat to potential receptors. This is based on discharger's analysis that discharged material has potential to

contain high levels of human pathogens.

Now, a few of the Prosecution Team -- we could have selected a factor of 3, and that would have been consistent with other sewage discharges. Even in cases where there's been a discharge of highly diluted sewage into the environment, a case where you have a sewer system during a rain event where there's a high amount of inflow and infiltration into the system and that dilutes the sewage, the Regional Water Boards throughout the state have consistently scored characteristics of the discharge as a 3, above moderate risk.

In this case, since the discharge lasted for five hours and it was -- did go through other treatment processes, we determined appropriate score would be a 2.

Now, the next thing I wanted to talk about is factor one -- is Step 1. Like I said before, this is where we have the most disagreement with the District. The harm considers -- or potential harm that may result from exposure to the pollutants or contaminants in the discharge.

As we've stated in our briefs, there was no receiving water monitoring data collected during the discharge or after the discharge, even though the permit required monitoring for seven days after the loss of disinfection.

Now, the presence of absence of such monitoring data is not a primary determining factor regarding harm. In many enforcement cases, particularly dealing with spills, we usually lack that such data and a general qualitative assessment of harm is conducted. Even if there was comprehensive monitoring data, evidence of direct harm is rare.

However, in response to our 13267 order, the District did conduct an Impact Analysis and we use the information provided by the District, as well as other sources, particularly from the literature, to determine the potential harm. In this case, the score goes from 0 to 5. 0, once again being negligible, and 5 being a major impact.

So let's first look at the outfall location. Here's a map of Carpinteria, and I put a little pin on the map with the approximate location of the outfall.

So approximately 1,000 feet offshore and water depth of 25 feet and it's off of the State Carpinteria Beach.

Next step I'm gonna look at is the beneficial uses. I'm going to focus on the two beneficial uses that were most likely affected by this discharge and they will receive moderate standards.

The first one is water contact recreation, as

defined in the permit and in the basin plan. This is a zone that's bounded by the shoreline and a distance of up to 1,000 feet from the shoreline or to the 30-foot depth contour, whichever is further from the shoreline. So it's important to note that the outfall in this case, is actually located in the zone for water contact recreation.

The next beneficial use that was likely affected was shellfish harvesting. Now, as defined in the basin plan, shellfish harvesting is actually a combination -- I'm using a combination of four closely-related beneficial uses and it's been defined as an existing use from Coal Oil Point to Rincon Point, having been designated for shellfish harvesting.

Now, it's important to note that when I get further into this discussion, that there's no distinction in the basin plan between recreational or commercial uses for shellfish harvesting standards. It's that these beneficial uses exist and may need to be protected.

So this table shows the relevant Water Quality Standards for water contact in that left-hand column and for shellfish. The middle column shows the Commercial Shellfish Standard that the California Public Health uses for commercial shellfisheries. And then the last

column there, I'm calling it ABCL Analysis. This is the consultants work that the discharger did to analyze and estimate the potential harm for the discharge.

So on the left-hand side, I have the total fecal coliform, single sample maximum 1,000 for total coliform and 400 for fecal coliform and then enterococcus and the shellfish, the medium value, the permit limit is 70.

Now, ABCL Analysis did -- ran two essential analyses. They took an ocean sample and to estimate the receiving water limits, on the left-hand side they assumed that dilution of 93 to 1. So that results in 1,720 in total coliform and the second one is for fecal coliform. They also took a sample and spiked it with ocean added dilution of 93 to 1 and that result came to 490, for fecal coliform 330.

And the reason why this 93 to 1 dilution is important because that's what we assume that occurs within the mixing zone that's allowed by the permit. We have that much dilution of the effluent until it reaches the receiving water zone.

Now, considering the variability of these coliform and bacteria accounts, it's our opinion that the shellfish standard was violated receiving water by the discharge and it's likely that the water contact

standard was also violated.

So I'm gonna talk a little bit more about the ABCL report. So once again this report was created by the District consultants in response to our 13267 order, requiring an Impact Analysis. This report concluded that there was no exceedances of the water quality limits and no adverse impacts. However, we find that this report was incomplete and inaccurate in many aspects.

First of all, there was -- there was not an analysis for the shellfish beneficial use. The Shellfish Standard and Receiving Water Standards were not mentioned in the report at all.

There was an incomplete analysis because there was no analysis of enterococcus. Enterococcus is the best indicator for human pathogens and sewage in receiving waters. So the failure to conduct enterococcus sampling hampers their analysis.

The ABCL report only partially recited the Recreational Standard. They cited the higher limit of 10,000 MPN receiving water limit when they should have been using the 1,000 MPN limit because there was a presence of fecal coliform and a ratio higher than .1.

Now, the District and the ABCL report states that there possibly could have been some additional disinfection in the chlorine contact tank after the

chlorine pump failed to deliver chlorine to this tank and also that there might have been further UV disinfection, since there's approximately a three-hour to a one-hour holding time within this tank, where it would be exposed to sunlight.

In our rebuttal we noted that the weather conditions on that morning was overcast in the area, therefore, likely limiting any UV disinfection and that we believe that the statement that if there was any leftover chlorine in the contact chamber, that there would have minimal disinfection on coliform and more likely minimal impact on human pathogens that may be present.

The next part -- disagreement we have with the ABCL report is that they used the wrong fate and transport modeling approach. They used a dredging model for wastewater effluent. Now, the parameters for dredging material are much different than wastewater effluents. They also used a near-field mixing zone model to describe the far-field effects, and I'll go into that a little bit more.

So here's the document on the left is what ABCL used. It's a joint document between EPA and Army Corps of Engineers and like I said, it's evaluation of discharge dredging material. Dredging material, it's

very different physical properties than effluent. It sinks. It has entirely different characteristics in the water column. Marine waste outfalls, which we cited in our rebuttal, describes how wastewater reacts.

This is an example of a water outfall. Down here we have the diffuser and the effluent coming out of the diffuser and this mixing zone, which is defined as the permit as the 93 to 1 mixing zone, you have buoyant forces and momentum changes that create this.

Wastewater effluent is essentially freshwater compared to saltwater. So it's buoyant. It flows up to the surface of the water. This combination of the buoyancy forces and the momentum changes creates turbulence mixing in the zone and you get entrainment with the surrounding seawater, and this is where you get that rapid dilution of the effluents.

That happens rapidly, and my opinion is it occurred within a minute or so after the discharge from the effluent pipe, and the plume would have surfaced within approximately 100 feet within the location of the discharge -- within the location of the outfall. Actually, let me go back to that slide.

So this is the near-field dilution, it's really close to the outfall. Now, once it passes its near-field, engineers call this a far-field, and the

processes that happen to dilute the plume further into far-field are very different than what happens in the near-field mixing zone.

Once this passes that zone that has the buoyant and turbulent forces, it only -- the plume only dilutes by diffusion and it's carried by a long ocean occurrence.

Since we're in a near-shore environment, it's my opinion that this plume persisted for a substantial amount of time, a period of hours and would have drifted towards shore until it reached a more turbulent zone, like a surf zone and there, once again, would have been mixed up and diluted even further.

So finally, the District in their brief, claims that since other agencies didn't require additional actions, that it supports ABCL's analysis and conclusions. So however, the District acknowledged that they did not have a return call from Santa Barbara County until the day after the event and, furthermore, the analysis that was done by the Department of Public Health is only for the active commercial shellfishery, which is located 13 miles away from the outfall.

The Department of Public Health did a very crude calculation on the area of impact. It serves their purposes, particularly since the only active commercial

fishery at this time is located over 13 miles away, so we can understand their concern.

However, at the Water Boards, we're concerned about protecting the beneficial uses of the water and these are existing uses throughout the area in the water column. So that's factor one and that's, like I said, I spent a little more time on that factor because that's where we have the most disagreement with the discharger.

So once again, the scale for this factor goes from 0 to 5 and we selected 2, a below moderate threat to beneficial uses and this is because the receiving water limits for shellfish, we believe, were exceeded and it was likely that the water contact recreation and receiving water limit was also exceeded.

So Step 2. I'll move a little bit faster through these other steps in the Enforcement Policy. This is the assessment for discharge violations. Here we talk about the deviation requirement.

Often, the Prosecution Team assigns a major for violating the prohibition against unpermitted discharges. However, since this discharge lasted for five and a half hours, we were conservative and selected moderate for the deviation permit requirement.

The high volume discharge, instead of assigning the maximum of 10 gallons per gallon, we stipulated with

the District to assign this as $2.00 per gallon.

I'm going to skip Step 3 in the Enforcement Policy because there -- we're not prosecuting non-discharge violations.

So moving on to Step 4. There's several adjustment factors to the penalty: Culpability, cleanup and cooperation and history of violations. These factors can increase or decrease the penalty amount.

I want to talk first about the history of violations. Since we stipulated with the discharger that this should be a 1, since there were no previous undisinfected violations from the District.

Next, I want to talk about culpability. The general Enforcement Policy says that higher liability should result from intentional and non- -- and negligent violations than for accidental or non-negligent violations.

Our first step is to identify any Performance Standards or, in their absence, prevailing Industrial Practice in the context of this violation. Now, the likely cause in this case was an air lock. However, the lack of alarm or automated backup system contributed to the duration in the volume of the spill and we scored it as a 1.1.

At this stage, I'm gonna pass the testimony over

to Leo Sarmiento, and he'll talk a little about the treatment plant and the alarm.

MS. OKUN: Could you use the microphone, please?

MR. CARTER: Excuse me.

When would cross-examination be for the District?

MS. OKUN: It's up to the Chair. You can have the Board questions and the Board cross-examination after each witness or you can save all the questions until the end of the presentation. Both for the discharger and for the Board questions, and I don't know if the District has a preference on whether to cross-examine each witness after they finish their part of the presentation or whether you prefer to wait till the end.

I would suggest you wait until after the Board asks its questions because they may ask a lot of the same questions without using your allotted time.

MR. CARTER: I'll defer to that. Thank you.

MR. WOLFF: So I think, because there's quite a bit of material being presented, it would help if, you know, my colleagues here had an opportunity after a presentation to ask questions because, you know ,we're taking a lot of notes, and I think while it's fresh in our mind, that would be best.

So at this time, and of course, you know, we'll hold off the total allotted time, but I would like to give the opportunity to my fellow Board Members, if you have specific questions for that very first presentation that was made before we go to your step.

So I will start with my right.

MS. OKUN: I think Mr. Boyers is trying to say something.

MR. WOLFF: Oh, I'm sorry.

MR. BOYERS: To the extent that you might indulge me, um--

MR. WOLFF: Yeah, we'll indulge you.

MR. BOYERS: Thank you.

Um, my recommendation is that you allow for the entire presentation to be heard. There is some continuity and some context in tying in what Mr. Sarmiento is going to testify as to the Culpability Standard, and then Mr. Buffleben is actually gonna go back and wrap it up.

So, you know, we're kind of maybe, a little more than halfway through. So to the extent that that would be allowed by you, I would ask for that.

MR. WOLFF: I'm gonna look at my Board Members. We're fine with that?

Okay. So please proceed.

MR. SARMIENTO: Good morning, Board Members,

Chair and Advisement Team. My name is Leo Sarmiento, Water Control Engineer with the State Water Control Board, Office of Enforcement, located at 1001 I Street in Sacramento. I am also Licensed California Chemical Engineer, and I have taken the oath.

I'm here today to support the Prosecution Team's assertion that the October 3rd, 2012, discharge of undisinfected effluent could have been prevented or minimized had the District installed a low-dosage alarm system to alert operators of chlorination problems.

I will provide information about my experience and tell you why the District violated the Standard Provisions of the NPDES permit and I finished explaining why a low-dosage chlorine alarm system is considered Industry Standard Practice, especially at facilities like Carpinteria that all the staff have planned for eight hours per day.

I have over three years of experience as Grade 3 Certified Wastewater Treatment Plant Operator at the City of Palo Alto's Regional Wastewater Treatment Plant. I received numerous hours of training on Standard Operating Procedures for equipment at the plant including the chlorination system. Our plant was equipped way back then, 25 years ago, with a chlorine system alarm that notified operators of deficiencies,

malfunctions or hazardous situations, including low or high-chlorine dosages.

I also have more than 16 years of regulatory experience as a Water Resources Control Engineer at both Regional and State Water Boards, writing NPDES and WDR permits and conducting dozens of non-compliance and enforcement inspections of wastewater treatment plants.

For routine compliance inspections, we typically check areas such as adequate staffing, discuss unit processes, monitoring systems, etc. For incident related investigations, like the chlorination failure of the Districts wastewater treatment plant, we conduct detailed investigations as to the cause of the incident.

The NPDES permits Standard Provisions require the District to provide all reasonable steps to minimize or prevent distress that's reasonable likelihood of adversity affecting human health or the environment and provide safeguards to assure maximum compliance with all terms and conditions of this discharge permit.

In this case, the District has to identify possible situations that could cause upset, overflow, bypass or other non-compliance, could lead to unauthorized discharge and to provide the necessary safeguards or reliable disinfection processes.

Industry Standard Practices are generally

accepted set of methods of practices or practices within an industry. Alarm systems are considered Industry Standard Practices that provide safeguards of key treatment components in wastewater treatment plants.

Alarms are critical components, especially for facilities of remotely monitored plant operations by state assistants like the District's wastewater treatment plant. By providing a low-dosage chlorine alarm, operators would be notified of any chlorination failures that could be caused by chemical pump failure, absence of adequate or in supply, the brief clogging in feed lines or pumps, air locking, loss of pump prime or chemical supply.

I would also point out that the District's report on page 7, "The cause of failure" indicates -- and I quote, "The chlorination pump inlet does not appear to be flooded at all times, i.e., low liquid levels in the tank may not be higher than the elevation at the inlet of the pump. This can cause or can create an increased risk for air locking or loss of prime," end of quote.

This admission of risk further illustrates the critical nature of having a safeguard in place as a low chlorine dosage alarm to notify operators, which the District did not provide.

An example of Public Industry Standard Practice, specific for chlorination systems was published on the SWRCB's website entitled, "Manual for Wastewater Chlorination and Dechlorination Practices." This is Exhibit 6 of our evidence list.

The purpose of assuming this manual was to provide regulatory agencies, consulting engineers and treatment plant operators with recommended chlorination and dechlorination practices. The manual focuses on the use of compressed liquid molecular chlorine, but is applicable to any facility with a chlorination system, including those facilities like the District that use hyperchloride disinfection system.

The manual states on page 51, and I quote, "Every chlorination facility should have an alarm system that adequately alerts the operators in the event of deficiencies, malfunction or hazardous situations related to chlorine supply, chlorine monitoring equipment, chlorine leaks and chlorine residual."

The manual also specifies, "Utilization of monitoring equipment, such as chlorine residual, analyzes at the end of the contact chamber and recording of chlorine flow through the chlorinator."

As a Certified Wastewater Plant Operator, it was crucial that I was alerted as soon as possible about any

potential equipment or process problems to ensure continuance and reliable operations to avoid any non-compliance issues, including violations of our District's permit.

Based on my communal experience as a Certified Wastewater Plant Operator and Board Staff and in my expert opinion, chlorination process is a critical treatment component that should be continuously monitored with an alarm system that would alert operators to respond for corrective actions and return to normal process operation. This course of action is considered Industry Standard Practice.

District violated Standard Provisions in its NPDES permit by not having such an alarm. Had there been an alarm, a safeguard, that could have immediately notified plant operators of low-chlorine condition in chlorine contact tank, this type of unauthorized discharge could have been prevented or minimized.

Thank you.

MR. BUFFLEBEN: So continuing on. I only have a few more slides in this presentation to go through the rest of the Enforcement Policy.

Cleanup and cooperation. This is the extent to what the discharger voluntarily cooperated in returning to compliance in correcting the environmental damage.

In this case, the discharger created an alarm a few weeks after the event and was cooperative in our responding for our request for information.

However, it failed to complete the required monitoring in the permit. A discharger that fails to comply with its permit should not be given the maximum reduction in any recommended penalty. Therefore, the Prosecution Team proposes a score of 0.9, which slightly reduces the penalty.

I'm gonna skip over steps 5, which is the determining the base liability and step 6, which is the ability to pay, since the District agrees that they have the ability to pay the proposed penalty.

And moving on to Step 7, other factors that justice may require. One of the factors is staff costs. We calculated the staff cost at the time ABCL was issued and excludes the cost of several members of the Prosecution Team.

Step 8, the economic benefit. This includes the cost of the alarm and failure to monitor the receiving waters. There is a difference between the District and our estimate of the economic beneficial, and we believe the main difference is that the District did not include staff time to collect the samples for seven days at two different locations and their estimate of economic

benefit.

All right. So the final steps. Discuss the minimum and maximum liability for this discharge violation. The minimum liability by the Enforcement Policy is 10 percent more than economic benefit, which we estimate is $28,000. The maximum penalty is defined by statute, and that's $2,978,960,000.

Step 10, the final liability amount is that -- what we're proposing for this discharge. So I know today I've talked a lot about the steps and factors and the calculations of the penalty and in the Enforcement Policy. Once again, our biggest disagreement with the discharger is the assessment of harm to the beneficial uses.

It's up to you to decide if we applied the Enforcement Policy appropriately and if the proposed fine is reasonable for this discharge.

That ends our testimony. I'm going to take questions now.

MR. WOLFF: Thank you.

So you're done with your opening statements?

MR. BUFFLEBEN: Yes.

MR. WOLFF: Thank you. So I would like now, to give the opportunity to my fellow Board Members to ask questions and this time, I will start on my right.

MS. THOMASBERG: Kathleen Thomasberg.

I want some clarification, if you could, please. I was listening to your description -- um, of the effluents coming from the wastewater treatment plant -- thank you -- going out 100 feet as the outfall outlet.

MR. BUFFLEBEN: 1,000 feet.

MS. THOMASBERG: And 25 feet depth.

MR. BUFFLEBEN: In water depth, correct.

MS. THOMASBERG: Correct.

So the concept is, because of the heavier weight of the seawater, the lighter fresher water, even if it is effluent, will float up, move to the shore and then be eventually mixed, is that correct.

MR. BUFFLEBEN: Yes, that's my testimony. Yes.

MS. THOMASBERG: Okay, thank you. That's all I have.

MR. WOLFF: Ms. Cervantez.

MS. CERVANTEZ: Hi.

I just wanted some more clarification on the economic benefit piece. If you could just sort of clarify the various calculations you included in reaching that dollar amount.

MR. BUFFLEBEN: Yes.

So there's two steps. There's the economic benefit for the alarm. So if you look at the proposed

order in attachment A, the table covers two things. There's the avoided sampling and analysis of the receiving waters violations. So the permit requires that sampling occurred for seven days at two different locations and five samples total. So that's what those estimates of the cost were.

The second part of that table shows the delayed installation of the alarm and economic benefit for that. Um, do you want me to break down the cost a little bit further?

MS. CERVANTEZ: No, thanks.

MR. WOLFF: Mr. Johnston?

MR. JOHNSTON: Thank you.

I have a few questions. Um, okay, so in the economic benefit analysis, the biggest chunk of the economic benefit is a failure to monitor. Um, but if I understood correctly in your explanation of the charges themselves, you explained that the Prosecution Team had exercised their discretion to not charge the failure to monitor as a violation; is that correct?

MR. BUFFLEBEN: That's correct.

MR. JOHNSTON: So the economic benefit is the discharger can't reap an economic benefit from their violation and the violation of -- or the potential violation of failing to monitor is not before us. So

why would an economic benefit from failing to monitor be before us as part of this damage calculation?

MR. BOYERS: David Boyers, Counsel for the Prosecution Team. If I might just try to address that, Board Member Johnston.

There's a legal theory that's called "res judicata" and it basically precludes us from bringing a claim that is alleged in this complaint, but because we've alleged this is a violation and it's discussed in the amended ACL complaint and it's discussed in proposed order, our opinion is that that violation is resolved through this proceeding, even though no penalty has been assessed. And because the violation has been alleged and resolved, it's appropriate to consider the economic benefit that arises from that violation and looking at the penalty methodology.

MR. JOHNSTON: And I'm sorry, I heard that legal theory as a "rest your cod," and I'm sure I got it wrong.

MR. BOYERS: No, "res judicata."

MR. JOHNSTON: Oh, res judicata.

MR. BOYERS: The claim is precluded from being alleged again.

And I think the District would, you know, certainly argue that if after these proceedings we issued another complaint and said, "We are now going to

penalize you for the failure to conduct monitoring." It would say, "Well you alleged those claims in your complaint and therefore, you're precluded from bringing those again."

MR. JOHNSTON: Okay. I -- I think I understand.

Um, now, you mentioned in your testimony that highly diluted sewage discharges in major rain events have consistently been scored at 3. Were those treated sewage or were those, uh, something analogous to this?

MR. BUFFLEBEN: It was raw sewage that was diluted through inflow and filtration during a rain event.

So what happens in sewer systems is, during large rain events, you get a lot of freshwater mixed with the sewage and that mixes and dilutes that sewage down quite a bit in some cases. However, when there has been an overflow or a spill event of that, the Regional Water Boards, and we cite two examples for this region, we consistently score that as a 3, mainly because that sewage has the potential to carry a high amount of pathogens.

MR. JOHNSTON: Thank you.

Now, I was a little -- I'm a little curious about the testimony around the design standard -- it being a design standard for -- to have, uh, chlorine

alarms and the, um -- there was a quote from the Wastewater Treatment Manual -- I'm probably naming it incorrectly -- and that referred -- I believe the testimony said, that that -- actually, that quote referred to liquid chlorine systems, but it was analogous. And, um, I would just like to hear a little more about that, because some of the other words I've heard in the testimony around that was to deal with leaks and hazardous situations.

I know the liquid chlorine has the potential -- I mean, obviously, you don't just want an alarm principally, you don't want an alarm for when it's not chlorinating. You want an alarm for when it's leaking and liable to kill your operators.

Um, so I'm trying to understand how that's -- how that establishes that it's an Industry Standard to have a low-chlorination alarm in a situation where using what I assume to be some sort of a dry pattern, something other than liquid chlorine.

MR. SARMIENTO: The manual was intended for -- during the time, it was a lot of use of compressed gas, which is the liquid gas.

And so there's a lot of concerns about protection of human health, protection for operators, and so the -- that's why I pointed out that the analogous

here is that the hazardous nature of the chemical is also applicable for this hyperchloride solution, because it's also hazardous material, and so not only because for safety and health concerns of operators out there, but also for the process control.

So that is what I'm referring to.

MR. JOHNSTON: Okay, so -- but the manual was specific to liquid chlorine systems?

MR. SARMIENTO: Yes. It was designed or it was intended for the use of liquid compressed gas.

MR. JOHNSTON: Okay, and, um -- I guess the other question I have is, I'm aware from just reviewing the parties' filings that there's -- I guess there's about 15, uh, permitted municipal wastewater treatment systems in the region. Couple of them don't have chlorination and I know Prosecution distinguished those by having a deeper or further outfall.

But of the others that do have chlorination systems, did the Prosecution Team attempt to ascertain how many of those did or did not have chlorination alarms?

MR. SARMIENTO: No, I was not involved in that.

MR. BUFFLEBEN: No, we haven't done that.

MR. JOHNSTON: So you did not review to see which of the other systems did or did not have

chlorination alarms in the region?

MR. BUFFLEBEN: No.

The permit requires that they have safeguards. The permits don't list out each and every alarm that's required.

MR. JOHNSTON: I understand that. My question, just to be specific is, did in the course of its investigation, the Prosecution Team or anyone on the Prosecution Team, attempt to act, to poll, to ask the other dischargers -- the other permitted municipal wastewater treatment facilities in the region, as to whether they do or do not have chlorination alarms?

MR. BUFFLEBEN: We did not.

MR. JOHNSTON: Okay. Thank you.

That's the only questions I have. Thank you.

MR. WOLFF: Okay, thank you. Dr. Hunter?

MS. HUNTER: Thank you.

So, Mr. Flaven, is that your name?

MR. BUFFLEBEN: Buffleben.

MS. HUNTER: Okay. Thank you.

So I'm interested in understanding the fate of the plume as it moved -- as it rose in the water column.

MR. BUFFLEBEN: Yes, that's the near-field mixing zone.

MS. HUNTER: So your contention is that

currents would have moved it towards the shore?
MR. BUFFLEBEN: Correct.
MS. HUNTER: Okay, and then my question is, would it have reached the shoreline, and could it have moved into that area that borders shore and actual beach?
MR. BUFFLEBEN: Yes.
So my experience and my professional experience dealing with waves and how near shore processes work is that the surface of the ocean slowly moves towards the coast. This is a combination of wind and wave action and the ocean swells and how those wave actions move particles.
So, however, that dilution of that plume happens very slowly, so that plume, I believe, would be relatively stable until it reached the surf zone where there's breaking waves and that turbulent action would further dilute the plume at that stage.
MS. HUNTER: So your -- if I'm understanding you correctly then, um, that further dilution, which is pretty dynamic in the surf zone--
MR. BUFFLEBEN: Correct.
MS. HUNTER: -- that anything that may have actually landed on the beach would have been diluted sufficiently that we wouldn't be concerned about

bacteria or human pathogens at that point?
MR. BUFFLEBEN: It would have been highly diluted by the time -- when it reaches the surf zone and certainly reaches the shore throughout the surf zone, yes.
MS. HUNTER: Okay.
Then my second question is, the shellfish operation. That's what I'm concentrating on.
So shellfish operations. During the seven days following, aren't shellfish operations highly, highly monitored on a almost hourly basis?
MR. BUFFLEBEN: No, I don't believe the frequency of monitoring is that frequent. And I can't remember what the required monitoring frequency is in the permit -- we did include that --
MS. HUNTER: Would it be daily?
MR. BUFFLEBEN: No, I don't believe it's daily. For -- it depends on when they're actually harvesting the shellfish.
And, actually, I take that back. So if they are harvesting on a daily basis, then yes, I believe they do have to take a daily sample. But typically, they're not harvesting on a daily basis.
MS. HUNTER: Okay.
So during harvest time, which we don't know

when that would be, but --
MR. BUFFLEBEN: Correct.
MS. HUNTER: So were there any shellfish operation reports of exceedances?
MR. BUFFLEBEN: No, there were not.
MS. HUNTER: Okay.
My last question -- and I think you answered this already, but I just want to clarify. In the economic benefit calculation, um, there were costs associated with staff time for sampling?
MR. BUFFLEBEN: Correct.
MS. HUNTER: And there was a total of five samples would have been required in seven days.
MR. BUFFLEBEN: Correct.
MS. HUNTER: And I'm going to assume and just to confirm, that also includes the lab fees for the analysis of the samples?
MR. BUFFLEBEN: Correct, yes.
MS. HUNTER: Okay, because those can be substantial?
MR. BUFFLEBEN: What's that?
MS. HUNTER: Those can be substantial?
MR. BUFFLEBEN: Right, but the District has a laboratory that does at least two of the tests that was required by the permit.

MS. HUNTER: Okay, and I'm sorry, I do have one more question.
As far as -- and you may have answered this to Mr. Johnston's point. In the -- within the permit, there are monitoring requirements over -- during the duration of the permit. And on occasion staff will actually inspect systems. Is that triggered by an event minor or major, those inspections? Or are they routine? Do staff just circulate across the wastewater system within our region and take a look at what's going on on any given date?
MR. BUFFLEBEN: So this NPDES permit is considered a major facility and EPA requires major facilities get inspected every other year or even annually if there's sufficient violations and it's on their watch list.
So in addition to permitting staff or compliant staff reviewing the monitoring reports, they're supposed to visit and inspect the facility on a two-year cycle for major facilities like this.
MS. HUNTER: Right.
So my follow-up on that would be, would staff then, under the category of safeguards, look at or question or ask for information about what safeguards exist within the operating system?

MR. BUFFLEBEN: They can, but as Leo testified earlier, that generally they're not looking at specific safeguards or alarm systems, but that generally could be part of their inspection.

MS. HUNTER: So have you examined the inspection records that occurred prior to this event to see if staff noted what safeguards they observed?

MR. BUFFLEBEN: We did review the inspection reports, and they were pretty general in nature and didn't provide specific details about safeguards and alarms and that sort of details.

The more thorough report that we included and that was the EPA compliance report, which I believe was in 2010, that report was a little bit more detailed, but also I don't believe it touched on the issue of safeguards or alarms.

MS. HUNTER: Okay.

So let's say that there is a spill and there is monitoring system or an alarm system in place. If the alarm fails, which can happen, um, then at that point, staff would be looking specifically at the failure of the alarm system or whatever redundancies failed in case of a spill such as this?

MR. BUFFLEBEN: Sure. When there's a failure of process equipment and definitely in violation of the

permit, staff will investigate that and work with the District and try to help determine -- try to determine what the cause of the alarm failure or the process from there as best we possibly can.

MS. HUNTER: Okay.

So I guess the -- just to be sure I'm clear on this. Those systems redundancy is a feature of the operation according to Industry Standards?

MR. BUFFLEBEN: Correct. Yes.

MS. HUNTER: But we don't really look at that unless one of those systems fails. And so when we go and look at the operation as required by EPA, we don't look for those safeguards, we don't ask about those safeguards, and we don't record or observe our documents or observations of what those safeguards might be?

MR. BUFFLEBEN: Generally, the inspections are, compliance inspections is of a more general nature and don't dive into those type of details about alarm systems.

MS. HUNTER: Hm, okay.

Well -- and is there an EPA checklist?

MR. BUFFLEBEN: EPA has their contractors, a checklist, and State Water Board also recently developed a checklist and so, in general, that's some of the things on the checklist, but unless there is a permit

violation that would indicate that there might be a problem in the operations of the facility, like I said, those inspections are in general nature.

MS. HUNTER: Well, I would hope that the checklist is applied more effectively in the future because if it's on there, then perhaps this discussion could have occurred, because I agree with you that we do -- our role is both in monitor- -- you know, observing or assuring that the permit conditions are met, but we also are out there, you know, eyes on the system and we have that technical expertise to observe, you know, how the system is actually set up for redundancy and if it's on the checklist, then it would seem that the staff should have that dialogue and make sure they understand what those safeguards are.

MR. BUFFLEBEN: Yes, I'm sure after this hearing that the enforcement staff and compliance staff will discuss those issues.

MS. HUNTER: Mm-hm. Thank you.

MR. WOLFF: Mayor Delgado?

MR. DELGADO: Yes, thank you.

Regarding shellfish, the Exhibit 8 of the Prosecution's opening brief on page 8, this is a January 2014 Carollo report, I guess a consultant to Carpinteria Sanitary District.

It says that the result of the discharge was a maximum 1.57 mile radius. Looking -- considering shellfish in this case, do the Prosecution -- does the Prosecution Team agree with that?

MR. BUFFLEBEN: So that calculation was done by Public Health and, actually, I included that calculation in one of our exhibits, and I can walk you through that if you want me to.

MR. DELGADO: I just wanted to know if you agreed with that number, more or less.

MR. BUFFLEBEN: Um, no. Because that calculation is done specifically for commercial fisheries by Public Health.

MR. DELGADO: Right, that's what the figure says. It's no impact to shellfish growing due to a 1.57.

So do you agree with the number, not the --

MR. BUFFLEBEN: Oh, the actual calculation processing?

MR. DELGADO: Yes.

MR. BUFFLEBEN: Yes, that calculation, that was accurate.

MR. DELGADO: Okay, so I asked that because my two next questions are regarding that.

Within that area of impact, that 1.57, generally

a mile radius, how much shellfish recreational harvesting occurs?

MR. BUFFLEBEN: I don't have information on that.

MR. DELGADO: Okay, wouldn't you want that information to assess potential harm to that beneficial use?

MR. BUFFLEBEN: It would be nice to have information like that, but, once again, we're interested in protecting the existing beneficial uses that have been defined by the permit and the basin plan.

MR. DELGADO: So if you want to protect beneficial use, don't you need to know what kind of use is occurring on some level?

MR. BUFFLEBEN: At some level when the basin plans were corrected, that analysis was done, and so that's why it's an existing beneficial use for that region.

MR. DELGADO: So did that analysis, in general, do you think, disclose the amount of recreation occurring in this area?

MR. BUFFLEBEN: I don't have the history on that.

MR. DELGADO: Okay.

My other question about shellfish, let's say

there was no recreational shellfish harvesting in this 1.57-mile radius. I don't understand shellfish biology, but is there impact to the ecology of the shellfish regionally, let's say there are larva reproduction going on in this area of the coast that might contribute to, um, shellfish occurrence available for recreation harvesting somewhere nearby. I would guess their larva probably float, you know, a good distance, but do you believe that there is an impact potentially on the shellfish ecology of the area due to this discharge?

MR, BUFFLEBEN: No. The main concern why the limit is so low for shellfishery is the human consumption, and so shellfish are filter feeders, and so they can accumulate the bacteria and for a limited time give that bacteria and viruses an opportunity of further growth.

So that's why the limit, it concentrates potential pathogens, and so it's strictly a Human Health Standard. I don't expect that those pathogens would affect the shellfish ecosystem, itself.

MR. DELGADO: Okay.

So then just to conclude on this track for my understanding as a layperson in this area, would you agree that the impact of the discharge or the potential, would relate closely to how many people are

recreationally harvesting in that area or the frequency of that activity?

MR. BUFFLEBEN: Um --

MR. DELGADO: 'Cause if no one's there, no ones gonna get hurt by eating the shellfish; right?

MR. BUFFLEBEN: So the active of consumption or shellfish harvesting, that's not part of the beneficial uses, and so we're talking about the potential harm for the beneficial uses. And so that would be an example of actual harm, where if somebody ate a contaminated shellfish and got sick from it, that would be strong evidence that this discharge was harm. We don't have that in this case; however, we're supposed to be protecting the existing beneficial uses.

MR. DELGADO: Okay.

Um, my next question is the same regarding water recreation, that's one of the two beneficial uses we're concerned with. Is there a lot of water recreation going on in this area of impact or a very little bit or you have no, no --

MR. BUFFLEBEN: There's a lot in this region. It's a State Beach and there's also Rincon Point, which is a world famous surfing area. So there's a lot of water contact recreation in this zone.

MR. DELGADO: Okay, thank you.

Um, Leo Sarmiento, you mentioned that for up to 25 years ago, Palo Altos' Waste Treatment Plant had a chlorine pump alarm; right?

MR. SARMIENTO: (Nods head affirmatively)

MR. DELGADO: Uh, I just wanted to confirm that it's the same kind of pump alarm that wasn't present in this case?

MR. SARMIENTO: The alarm that was present in Palo Alto was the low-chlorine dose alarm, and they don't have that in this particular facility.

MR. DELGADO: Okay, and that relates then to my next question, thank you.

I thought you said that it would be ill-advised -- that wasn't your exact quote, but basically what I got out of it is it would be ill-advised if the chlorine levels in the tank at the time of this incident were low.

MR. SARMIENTO: Yeah, there should be an alarm for a low-level chlorine residual.

MR. DELGADO: Okay, and I wasn't aware until you mentioned that, that the chlorine levels might have been low at the time of incident.

Is it that the chlorine stopped pumping into the tank and that's why they were low?

MR. SARMIENTO: That's a possibility. There

could be other issues, but mainly it's loss of chlorination.

MR. DELGADO: Okay. All right. Well, maybe the District will clarify on that when they have a chance.

My next question is for staff. You mentioned toward the end of your presentation that the cost of several members of the Prosecution Team weren't included in the cost sought for recovery. My question is why weren't they?

MR. BOYERS: Um, well, I'm not sure that I actually have the knowledge to testify as to why they were not. Assistant Executive Officer Michael Thomas is not here today.

Um, I think, you know, the fact is there are several members and if I were to speculate, I would say it was intended to keep the costs, you know, down to a reasonable level. Um, you know, these things take a lot of time to prosecute. And so, you know, it was probably a way to try to mitigate the number of hours, and the dollars keep racking up.

MR. DELGADO: Right. Well, I would hope that the District was made whole in paying for -- we have a lot of conflicting needs to spend our money and if we're not recovering costs in this kind of a situation, I would not like to see only part of our

costs recovered, so it was curious to me that we would not include all of the costs. At least Board the would be aware of what the real costs were when we got to the point of making a decision here today.

My very last question was -- is to the staff here. If you had inventory or polled all of the or many of the central coast treatment operations and if you had found from that polling that most or all of them didn't maintain -- didn't have the chlorine alarm pump that is set to be Industry Standard in the presentation, would you still think it was Industry Standard?

MR. BUFFLEBEN: Well, as Leo testified, alarms are very important and particularly for compliance and notification of operators.

So yes, in this case, particularly since chlorination is part of their unit processes that we contend that is an Industry Standard to have an alarm system.

MR. DELGADO: So if you polled the closest 12 plants and none of them had it, you would maintain that this pump was still Industry Standard?

MR. BUFFLEBEN: Yes, and then we would also write them all a notice of violation that they're failing to contain safeguards in their permit and expect them to correct that deficiency.

MR. DELGADO: Okay, thank you very much. That's all I have. Thanks.

MR. WOLFF: Thank you.

So my question is for Mr. Sarmiento. So you're a Licensed Plant Operator?

MR. SARMIENTO: 25 years ago.

MR. WOLFF: Okay. And what was the level of your license?

MR. SARMIENTO: Grade 3.

MR. WOLFF: Level 3?

MR SARMIENTO: Yes.

MR. WOLFF: How many levels are there?

MR. SARMIENTO: There are five.

MR. WOLFF: Five levels.

And in order to maintain a license as an operator, does it require taking an exam?

MR. SARMIENTO: Yes.

MR. WOLFF: Does that exam include questions associated with monitoring level of chlorination for these infection purposes?

MR. SARMIENTO: I don't recall, but it might include certain levels of safety. There are safety questions that they pose like, for example, if there's a spill of a chemical or hazardous was gonna be a reaction, those types of questions may be in the exam,

but it varies from what level you're taking -- Grade 1, Grade 2, up to Grade 5.

MR. WOLFF: Okay, and so I would assume that the questions are based on the standard manual, operators manual and their expected competency at the various levels.

So do you recall if the training manuals do cover alarm systems, monitoring systems --

MR. SARMIENTO: Yes.

MR. WOLFF: -- for chlorination?

MR. SARMIENTO: Yes.

MR. WOLFF: So it does include that?

MR. SARMIENTO: Yes.

MR. WOLFF: And in order to maintain your license, do you have to take continued education classes?

MR. SARMIENTO: There are -- yes. At that time it was not required. I don't know if it's required now, but it is equally important to have continuance training and education.

MR. WOLFF: And I would assume there are associations that do provide ongoing training for operators--

MR. SARMIENTO: Yes, there were.

MR. WOLFF: -- in order to assure they maintain

their license. Do you know a couple of the names of these?
MR. SARMIENTO: CWEA is one of them that has conferences and training programs for operators.
MR. WOLFF: And could you spell what the acronym means?
MR. SARMIENTO: California Water Environmental--
MR. BUFFLEBEN: Association.
MR. WOLFF: Association.
So in the course of their training for their members, do these training programs also do cover the importance of alarm systems?
MR. SARMIENTO: I do think so. They have -- they have different aspect or subject matters.
MR. WOLFF: Mm-hm.
MR. SARMIENTO: It deals with effective operations and also safety.
MR. WOLFF: All right. Thank you.
MR. SARMIENTO: You're welcome.
MR. WOLFF: Mr. Harris?
MR. HARRIS: Mr. -- Mayor Delgado just asked the question about surveying other wastewater treatment plants and said that if -- if you found that 12 didn't have them, would this be -- would you be treating this the same way and your answer was, "Well, we'd write them up for a violation of not having safeguards."

This plant's been inspected multiple times; has this plant ever been written up under that portion of their permit for not having an alarm?
MR. BUFFLEBEN: Not that I know of.
MR. HARRIS: Okay.
Did the Prosecution Team do any modeling of the plume? You had a nice slide that showed the -- how it floats, and I was just wondering if you did any near shore modeling of where that might have gone onto shore concentrations -- I don't know if there are models that even do that--
MR. BUFFLEBEN: I reviewed the model that the District used, and I applied that model to a certain extent to understand why it was saying it was diluting beyond my expectations. And then after that, I looked at the general research and literature to, you know, estimate what the far field dilution factors would be and the time frame that occurs over hours. So I didn't do a mathematical model of that dilution process, but I reviewed that in general sense.
MR. HARRIS: Was the beach ever posted -- now, you said this occurred near a state beach; is that correct?
MR. BUFFLEBEN: Correct.
MR HARRIS: Was that beach ever posted or closed

because of this spill?
MR. BUFFLEBEN: It was not.
MR. HARRIS: Um, Southern California has a history of problems with bacteria and beach closures, a lot due to stormwater, rain events, and that kind of things and, um, there's a lot of work going on in terms of trying to make the monitoring much more timely, but it's pretty common to go out and post beaches to close them to protect public health, so I'm just wondering why -- do you have any sense of why this one was not posted?
MR. BUFFLEBEN: I did not talk to the public health official for Santa Barbara County, so I don't know why the day after, he didn't take any further action.
Um, in an open shore environment like this, we would expect the plume and the discharge to dilute relatively rapidly and if it was an enclosed bay, that would be a different situation.
We also reviewed the monitoring data from the beach itself, and there was a water quality sample taken at the beach five days after the event that we included as part of our evidence and that showed a standard background level of bacteria.
MR. HARRIS: So bacteria in a marine

environment -- I'm not a biologist, but does it die off faster than, say, in freshwater or is it more a matter dilution in terms of discharges of treated effluent to the ocean?
MR. BUFFLEBEN: Dilution is much more an important process in these environments than the actual persistence or what I would call the half-life of the bacteria in the viruses in the ocean environment.
MR HARRIS: So if the, um -- I think what you're saying is, you don't think there was any issue with bacteria at the beach because more than likely in that turbulent environment, there would have been sufficient mixing to protect public health.
Where would the -- and I'm thinking about Rec. 1 Standard, where would the Rec. 1 Standard -- where would the potential harm for Rec. 1 be occurring?
MR. BUFFLEBEN: So that Rec. 1 Standard, that zone is defined from a thousand feet offshore, um, or to the 30-foot depth contour. So that range that we're talking about to the breaking waves, I believe, concentrations were likely exceeded for water recreation within the surf zone itself, like I said, there would have been more rapid dilution that would lower that exposure level.
MR. HARRIS: So if I'm out in the water

swimming, in theory, their outfall is at 25 feet. So what it's saying is, if I swim out a thousand feet and I go down 25 feet, I should be protected under Rec. 1 and that is where a violation --

MR. BUFFLEBEN: That is incorrect.

MR. HARRIS: -- that is where the potential harm is, all the way out there, so I should be able to swim that entire area without worrying about my health.

MR. BUFFLEBEN: No, that's incorrect.

So there is a mixing zone and within that mixing zone the receiving water limits don't apply, but once you're outside that mixing zone, you have the receiving water elements, and it's our contention that that plume would have likely exceeded the water recreation.

So that zone from a thousand feet to the surf zone, just typically a couple hundred feet, I believe there would have been an area where that plume would have traveled and violated -- likely violated the receiving water limits.

MR. HARRIS: So I looked through the permit last night. I don't recall seeing -- is the mixing zone defined in the permit as a -- an actual numeric spacial volume of water?

MR. BUFFLEBEN: No, it's understood that the mixing zone is where those turbulent forces, the

buoyancy and momentum changes that entrains the ocean water and rapidly mixes, that's the mixing zone.

Typically, in a situation like this where there is a shallow outfall near the shore, I believe that mixing zone would be essentially a hundred feet around the outfall.

MR. HARRIS: Okay, all right. Thank you.

MS. OKUN: Okay. I have just a couple questions.

The $300 economic benefit or savings for failure to have an alarm, that's based on the delay costs and not the cost of purchasing the alarm; is that correct?

MR. BOYERS: That is correct.

MS. OKUN: And then on the $22,000 in staff costs, there's a table in part of the Prosecution Team submittal that lists the tasks and hours, and I think it says it's based on an estimate of the time spent on this matter.

What are those estimates based on and how do you track your time?

MR. BUFFLEBEN: So those estimates are based on my work, Leo Sarmiento's and Jim Fisher's hours that they spent to conduct this investigation.

We don't have a formal tracking process, but those are estimates based on our meeting notes and times

where we come up of those estimate hours that we worked on it.

MS. OKUN: Thank you.

MR. WOLFF: Okay. So this is now an opportunity for the Defense to ask questions.

MR. CARTER: May I ask if we can take a quick break before we start the Defense presentation?

MR. WOLFF: Yes. Absolutely, so let's make -- can we make it 10 minutes?

All right, so we'll reconvene at 5 to 11:00. Good idea, thank you.

MS. OLSON: Please remember to use your mics. If you don't use you mic, it won't be on the recording devices.

(Wherein a 10-minute recess was taken)

MR. WOLFF: Okay, folks, it's 5 to 11:00, so we'd like to -- now that we have reconvened, this is now an opportunity for the Defense Team to ask questions that you had from the Prosecution.

So this -- my understanding from Counsel is that this is part of your overall time allotment that you were given. Okay.

MR. CARTER: Good morning, Mr. Chair, Members of the Board.

Again, my name is William Carter, and with me at

the table we have the members and representatives of Carpinteria Sanitary District.

I'll be very brief in my opening statement and then I'll move to cross-examination of the various witnesses.

I think the first and only question I have that, and hopefully you will ask is, why are we here? Why is this matter even here? This is the first time I'm aware of that this Board will have ever seen such a case. This is the first time that we are aware of, that this type of violation has been brought before the Board as a discretionary ACL. First time. Why? And we haven't heard any good reason for it.

As you have heard, there's very little of any harm. None. There's been actually no evidence of any harm, or any potential harm. You even heard a gentlemen say it's highly diluted by the time it gets to a certain point and you will hear that from an expert. An expert that actually does this. Not speculation. Not guessing. Not potential. Maybe. You can see that the Prosecution hasn't done their job. They haven't proven any harm, whatsoever.

With respect to the alarm, we have a lot of speculation. We have a citation to a 1981 manual that doesn't even apply to the type of chemical we're dealing

with here as the basis for an alarm. The manual that Mr. Sarmiento referred to, in the very first pages in the abstract says, "The manual has been directed at chlorination systems that meter and control compressed liquid molecular chlorine." These are quotes. The text does not, does not include aspects of hyperchloride instances in chlorination systems. That's what Carpinteria had.

Board Member Johnston, you asked the right question, sir. How is this applicable? It's not. In fact, Board Member Hunter, you also asked a lot of good questions. This facility had been inspected for years. Not once did ever any of the inspectors, either permitting or enforcement, say that the plant was deficient in any way about their alarm systems, whether they be redundant or not.

And in fact, if you look at the manual, the Standard Provisions, the Standard Provision states these are the safeguards that you may want to consider, and there is no reference whatsoever to having an alarm of the type that the Prosecution says the District should have had. It's not in the permit and it's not in the standard provisions.

They are suggesting things that, as Board Member Delgado also pointed out, maybe you should have done a

survey of the other plants in the area to see what they were doing. Well, we have. And people just don't have these kinds of alarms on these kinds of pumps.

So the two bases of which -- why we're here, the harm and the alarm, they are just -- they crumble when you really look at it, and those are the conversations we've been having with the Prosecution Team for many months, and we are thankful we are finally in front of an objective body who can look at this and ask these questions because frankly, we don't know why we're here.

And as to cost, correct, we would hope that you wouldn't be spending all this time and money. Certainly, the District doesn't want to spend all this time and money. In fact, less than a year before this event happened, the EPA vendor, the vendor that works for the EPA that does NPDES compliance, the entity, a third party came in and did a full inspection of the plant in December of 2011, less than a year before this incident. They did a thorough top-to-bottom examination of the plant. Not one reference that there was a deficiency in any of the alarm systems in the plant. Not one.

So this plant, which was named Plant of the Year in 2008, 2013, 2014 -- in 2008, they had the same system they had at the time of the event and they were

Plant of the Year. So if this is Industry Standard, I'm not sure where they're getting that standard. That's a hard award to get, Plant of the Year.

So with respect to costs, everything that we are talking about today, every fact, every consideration that you are thinking about today in evaluating whether to impose an ACL penalty, was known within a day or two of the incident in 2012. Every fact you are considering.

So why all the costs? If the District had looked at this event and gone through the Enforcement Policy and ranked it on a priority basis, this would have been down at the bottom. This would have been either no enforcement or an MMP at most, because that's what this District -- this region normally does.

If the Regional Board had done the enforcement priority, based on Enforcement Policy, this would have been nothing as they normally treat these cases. But why did they go to all this expense? Years and years and years of going and spending costs, not only requiring the District to pay costs to defend itself, but Board Member Delgado is right, why did you spend so much money on this? Why? I have no idea. Why? You can ask that question because all the facts were known.

On the day of the event, it was fully reported

that this was a pump that failed because it air locked and they reported the amount of volume, which most people don't do. The District did, and now it's like no good deed left goes unpunished.

They reported the full volume. It was off about 15 to 20,000 gallons, but it was pretty close to 300,000. The County Health knew that, the Department of Public Health knew that, the Region knew that. Everyone knew within a day or less what the volume of the spill was, and nobody posted the beaches. Nobody.

In fact, if you look at Exhibit 21, I believe, of the Prosecution, that's the calculation that the Department of Health did, that 1.57 miles. They used a calculation of one million MPN. One million. And they didn't even require the beaches to be posted. Look at that exhibit. Look at it. That's the states -- your colleagues in the states used a one-million calculation, and they didn't post the beaches. They didn't require the shellfish harvesting to close. Nothing. So why are we here? I don't know.

The District has stipulated they're willing to pay a mandatory minimum penalties. They're willing to pay, just like everyone else does. But we have to have a third party look at this ACL because it is unusual. It is odd. It is precedent setting. We've never done

it before for a case like this. Never.
So I hope you ask those questions, and I would recommend just letting the District pay the MMPs as recommended and dismiss the ACL penalty proposal. You have the authority to do that. And the District will pay the MMPs and dismiss the ACL. We ask you to do that. We thank you for listening to this evidence.
I'm closing my opening statement now and I would like an opportunity, if I may, to cross-examine Mr. Buffleben.
MR. BUFFLEBEN: Buffleben.
MR. CARTER: Buffleben, I'm sorry. I apologize. If I may?
This was not a sanitary sewer overflow; correct?
MR. BUFFLEBEN: Correct.
MR. CARTER: This was a loss of disinfection?
MR. BUFFLEBEN: Correct.
MR. CARTER: Have you ever calculated the harm of a loss of disinfection case?
MR. BUFFLEBEN: I personally have not, but I am aware of other ACLs that have.
MR. CARTER: Well, you never have yourself?
MR. BUFFLEBEN: Correct.
MR. CARTER: And you said that the -- but you would defer to experts on this issue, wouldn't you?

MR. BUFFLEBEN: I am an expert.
MR. CARTER: On this loss of disinfection?
MR. BUFFLEBEN: And water quality permits and regulations, yes.
MR. CARTER: But you did not do loss of disinfection calculation for this, did you?
MR. BUFFLEBEN: I'm sorry, I don't quite understand the question.
MR. CARTER: Well, have you ever worked on a loss of disinfection case?
MR. BUFFLEBEN: As I stated, I personally have not, but I know of other ACLs that have.
MR. CARTER: What case was that?
MR. BUFFLEBEN: I believe we cite one case in Napa in our evidence.
MR. CARTER: No, did you work on it, though?
MR. WOLFF: Defense, could you move the mic, so we can hear you? Thank you.
MR. CARTER: I'm sorry.
Did you work on that case?
MR. BUFFLEBEN: I did not work on that case.
MR. CARTER: Now, what is the specific violation at issue here?
MR. BUFFLEBEN: It's the discharge of unpermitted discharge.

MR. CARTER: Loss of disinfection?
MR. BUFFLEBEN: The permit requires compliance with, um, all components of the system as described in the permit.
MR. CARTER: Would that mean loss of disinfection?
MR. BUFFLEBEN: Yes.
MR. CARTER: Is that the specific violation?
MR. BUFFLEBEN: The specific violation is the discharge of unpermitted material.
MR. CARTER: And what is the unpermitted material?
MR. BUFFLEBEN: It's the undisinfected effluent.
MR. CARTER: Okay.
So if I say loss of disinfection, is that what that means?
MR. BUFFLEBEN: You're taking a shortcut, yes.
MR. CARTER: Okay. I just want to make sure we understand each other.
Have you ever been involved in a ACL prosecution for loss of disinfection?
MR. BUFFLEBEN: No, I have not. I've only been working in my current position for three years.
MR. CARTER: And in those three years, you've

never seen a loss of disinfection ACL case in this region?
MR. BUFFLEBEN: Not in this region.
MR. CARTER: Are you aware of loss of disinfection incidents in this region in the last three years?
MR. BUFFLEBEN: I am not aware, no.
MR. CARTER: Okay. Are you familiar with a Dr. Carter Olman?
MR. BUFFLEBEN: Um, possibly.
MR. CARTER: Is he at the University of California Santa Barbara?
MR. BUFFLEBEN: I believe so, yes.
MR. CARTER: Did you speak with him about this matter?
MR. BUFFLEBEN: Yes, I did.
MR. CARTER: And didn't he tell you that he did not believe that this discharge would have any impact?
MR. BUFFLEBEN: I do not believe that was part of our conversation.
MR. CARTER: What did you talk with him about?
MR. BUFFLEBEN: I talked to him about the modeling that he did at the Montecito outfall.
MR. CARTER: And did that have anything to do with this case?

MR. BUFFLEBEN: I mentioned this case in general terms; I did not go into specific details about this case.
MR. CARTER: Did he provide you with an opinion about what he believed?
MR. BUFFLEBEN: No, he did not.
MR. CARTER: Okay. Now, you mentioned that you believe that this discharge would be highly diluted by the time it hit the beach; is that correct?
MR. BUFFLEBEN: No, I said -- well, so I said by the time the plume reaches the surf zone, the turbulent mixing in the surf zone will dilute the plume to background levels essentially.
MR. CARTER: Now, um, are you familiar with the -- or have you had an opportunity to review the District's Exhibit G?
MR. BUFFLEBEN: The ABCL report that I referred to, yes.
MR. CARTER: Can I show this to you? If you look at Table 3 -- would you look at Table 3, please?
MR. BUFFLEBEN: Yes.
MR. CARTER: Do you understand that table?
MR. BUFFLEBEN: Yes, I do.
MR. CARTER: And can you -- do you understand that that's calculating what the concentration would be of the effluent within distance?

MR. BUFFLEBEN: Sorry, you showed me Table 1, I'm flipping to table 3 right now.
MR. CARTER: Okay, Table 3, would you look at that?
MR. BUFFLEBEN: Yes, I am looking at Table 3, now.
MS. HUNTER: Um -- may we understand which exhibit you're referring to? Where would we find that?
MR. CARTER: That's in the -- that's Exhibit G for the District, Table 3, Board Member Hunter.
MR. WOLFF: Okay. Now that we're on the same music sheet, could you please tell us again which section your pointing out?
MR. CARTER: Table 3 of Exhibit G.
MR. DELGADO: What's the title of Table 3, please?
MR. CARTER: I'm sorry. Table 3?
MR. BUFFLEBEN: It's the estimate of plume mixing characteristics for the October 3rd, 2012 loss of disinfection event.
MR. CARTER: Have you had an opportunity to study that table?
MR. BUFFLEBEN: Yes, I have.
MR. CARTER: And do you have any concerns about that table, any disagreements with that table?
MR. BUFFLEBEN: I have a lot of concerns and

disagreements with this table, yes.
MR. CARTER: Have you ever done such calculations?
MR. BUFFLEBEN: Yes, I did.
MR. CARTER: Okay, and in what case?
MR. BUFFLEBEN: For this case.
MR. CARTER: All right. And how was it deficient, in your opinion?
MR. BUFFLEBEN: Um -- first of all, the model is a model for dredged discharge material, which is -- acts very differently than waste water effluent, particularly in marina environment, as I said earlier in my testimony.
There's other factors that are incorrect, in my opinion, for the modeling exercise, understanding the physical processes of the effluent.
This -- first of all, this zone, they did the 93 to 1 dilution in this zone. That's the near zone mixing field dilution that I was talking about.
So they're applying this model into the far field. So the application of this model, in and of itself, is incorrect. Furthermore, the discharge rate is too low. The average current is also very low for the situation. The effluent limit, they got correct. The assumed mixing depth is wrong, as I stated before, the sewer effluent would float on the surface; it would not reach the

25 deep, depth of the diffuser and mix throughout that water column.
MR. CARTER: Can I ask you -- what is the mixing zone in the permit? How is that spelled out in the permit?
MR. BUFFLEBEN: The mixing zone is defined where the actions of the initial mixing of the plume is.
MR. CARTER: Isn't it true that the mixing zone is not spelled out in the permit?
MR. BUFFLEBEN: Um, correct.
MR. CARTER: Then how do you know it's the wrong mixing zone?
MR. BUFFLEBEN: Because I understand the engineering terms and the science behind effluent discharges and consumer out costs.
MR. CARTER: So even though there's no mixing zone specified in the permit, you think it's the wrong mixing zone?
MR. BUFFLEBEN: So the mixing zone, as understood in the permit, is that zone where there is rapid diffusion and turbulent mixing of the discharge.
MR. CARTER: Aren't mixing zones sometimes spelled out in permits?
MR. BUFFLEBEN: Sometimes they are, yes.
MR. CARTER: But not in this case?

MR. BUFFLEBEN: No.
MR. CARTER: Okay. Um, I have no further questions.
MR. BUFFLEBEN: I have some further comments on that table if you want me to comment on in other inaccuracies.
MR. CARTER: No, thank you. Someone can ask you those questions on their time.
Um, I'd like to cross-examine Mr. Sarmiento.
MR. BOYERS: In terms of process, would it be more appropriate to redirect Mr. Buffleben before we move to cross?
MS. OKUN: No, I don't believe so. I think we should let the discharger finish their questions.
MR. CARTER: If I may?
MR. WOLFF: Yes, please.
MR. CARTER: Thank you.
Good morning, Mr. Sarmiento.
MR. SARMIENTO: Good morning.
MR. CARTER: Mr. Sarmiento, that manual that you have cited, this 1981 manual, isn't it true that it does not refer to hyperchloride chlorine?
MR. SARMIENTO: Yes.
MR. CARTER: That's correct?
MR. SARMIENTO: That's correct.

MR. CARTER: And the hyperchloride system is what the District has; is that correct?
MR. SARMIENTO: Correct.
MR. CARTER: Now, Mr. Sarmiento when you -- you recall conducting an inspection at the facility in October of 2013; correct?
MR. SARMIENTO: I believe so.
MR. CARTER: All right. And during that inspection, do you recall asking some of the members of the District whether -- whether or not they believed sabotage was involved with that pump?
MR. SARMIENTO: Yes.
MR. CARTER: And why did you ask that?
MR. SARMIENTO: Because in my experience, one of the plants that I inspected, um, they could not figure out what's the cause of the chlorination failure, and they found out that it was one of the employees actually closed the valve of the chlorination system, and that caused the alarm because they have an alarm system at that time to notify the operators on standby. And this particular operator was on administrative leave, and he came to the plant and just locked the valve.
And so that was part of the investigation they did and submitted to us at that time, and so that was one of my experience that sabotage could be an issue when you

couldn't figure out what's the cause of the chlorination failure.
MR. CARTER: So here you found -- what did you find the cause of that pump failure to be?
MR. BOYERS: Objection. That misstates his testimony.
MR. CARTER: Well, did you ever determine what the cause of the pump failure was?
MR. SARMIENTO: No.
MR. CARTER: Did you -- how did you -- then how do you know that the plant was deficient in your estimate?
MR. SARMIENTO: Are we talking about the city involved or --
MR. CARTER: District. In this case.
MR. SARMIENTO: Could you repeat the question again?
MR. CARTER: In this case, did you determine what the deficiency was, or the failure was of the District's pump in this case?
MR. SARMIENTO: No, at that time, no.
MR. CARTER: Have you -- did you later determine that?
MR. SARMIENTO: Yes, we did after they submitted the report that they were not, um, they could not determine what was the cause of the failure.

MR. CARTER: And you believe it was an air lock?
MR. SARMIENTO: I don't think so.
MR. CARTER: It wasn't sabotage, was it?
MR. SARMIENTO: I don't think so.
MR. CARTER: Okay. So have you found any other factors relating to that pump that failed, any other issues that may have caused that pump to fail?
MR. SARMIENTO: I don't think there -- it was a pump failure. Um, as the information that I got, at the time, the pump was still running, but it was just sucking air, and so there was no delivery of the hyperchloride solution into the system and so, therefore, there was no chlorination at that time.
MR. CARTER: So other -- is there any other factor that you investigated as to the cause of the pump failure?
MR. SARMIENTO: What we looked at is that there's possibly a loss of prime, because at that time there was delivery of the chlorine solution at the plant and just, incidentally, it just returned into operation after the delivery of the hyperchloride solution.
MR. CARTER: And so -- and the District reported immediately that the pump was probably -- the pump failure was the cause of the discharge failure; isn't that correct?

MR. SARMIENTO: I'm not aware of that.
MR. CARTER: You didn't see the notices that the District sent to the Regional Board?
MR. SARMIENTO: They notified the Regional Board of the disinfection failure, yes.
MR. CARTER: They also reported in their first report that it was a pump failure; correct?
MR. SARMIENTO: I'm not aware of that.
MR. CARTER: Did you look at Exhibit C of the District's exhibit?
MR. SARMIENTO: I have not seen it.
MR. CARTER: I can show it to you if you'd like. Take a look at District Exhibit C, which is within a day of the event. Read that.
MR. SARMIENTO: It's a -- dated 10-4-12 to Mr. Roger Briggs from Mark Bennett and the subject is noncompliance notification, and it says here "On October 3rd, 2012, at 4:08 A.M. to 9:45 A.M. the Carpinteria Sanitary District disinfection system malfunctioned. The District estimates 281,250 gallons of effluent were discharged during this period. The cause is suspected to be an air bound chemical feed pump. The District had over 1,200 gallons of sodium hyperchloride in inventory at that time. The District notified coastal -- the Central Coast Water Board and left messages for

Peter Von Langen and his supervisor."
Do you want me to finish it?
MR. CARTER: Um -- no, thank you.
So in that notice, within a day of the event that -- the District advised the Regional Board that they believed it was a pump failure; correct?
MR. SARMIENTO: It says here air bound chemical feed pump. It may not be pump failure, the pump may be running, but it's just sucking air.
MR. CARTER: Okay, and it specified what they believed to be the estimated volume, correct?
MR. SARMIENTO: Yes.
MR. CARTER: Which ultimately was lower than anticipated by about 17,000; correct?
MR. SARMIENTO: After we looked at the actual effluent flow based on their data system.
MR. CARTER: Did you learn any additional facts about the cause of the event?
MR. SARMIENTO: There are possible causes as reported by the District, which could be debris in feed lines, which could be loss of prime.
MR. CARTER: But other than that pump that the District suspected was the cause of discharge, did you determine that there was any other potential cause for why that pump failed?

MR. SARMIENTO: Um, I did not see any other causes.
MR. CARTER: Okay. And so for the last two or three years, you've been investigating what?
MR. SARMIENTO: I've been investigating a lot of, you know, unauthorized discharges, like SSOs --
MR. CARTER: No, on this case.
MR. SARMIENTO: On this case?
MR. CARTER: What more did you need to know than what was reported within a day of this discharge?
MR. SARMIENTO: We sent a letter -- like the 13267 letter, asking for technical report as to what was the cause of the discharge.
MR. CARTER: And you read the technical report?
MR. SARMIENTO: Yes.
MR. CARTER: And is the technical report consistent with that initial notice?
MR. SARMIENTO: It's part of this, but it has all other causes stated in technical report.
MR. CARTER: But ultimately the cause was a pump failure; correct?
MR. SARMIENTO: According to the District.
MR. CARTER: Would you have any reason to doubt it wasn't pump failure?
MR. SARMIENTO: Like I said, it's not a pump

failure for me. The pump was running, but it was just sucking air, so it could be a loss of prime.
MR. CARTER: But it was that pump?
MR. SARMIENTO: That was the particular pump in operation at that time.
MR. CARTER: One pump?
MR. SARMIENTO: Yes.
MR. CARTER: And we're talking about the same pump that was under investigation; correct?
MR. SARMIENTO: Yes.
MR. CARTER: I have no further questions of Mr. Sarmiento.
Thank you sir. Thank you sir.
I have no further cross-examination, obviously. If it's appropriate, we can certainly move to the District's witnesses. Appropriate?
MR. WOLFF: Yes, please. Proceed.
MR. CARTER: The District is going to ask Beverly Hann to testify, if I may get my folder.
MR. WOLFF: Question?
MR. BOYERS: Yeah, I'm interested in going back to the process in terms of a redirect. It may be more appropriate now while it's fresh in everyone's mind.
MR. WOLFF: I agree with that.
MR. BOYERS: Thank you. Again, David Boyers,

Counsel for the Prosecution Team.

Mr. -- Dr. Buffleben, let's go back to Table 3 of the District's Exhibit G; do you have that in front of you? I can give you my copy.

MR. BUFFLEBEN: I see it.

MR. BOYERS: Can you finish explaining to the Board what else is wrong or incorrect, in your opinion, about the calculations or other data in that table?

MR. BUFFLEBEN: The other aspect is going through that list of initial parameters in that table is the assumed turbulent dissipation parameter.

Well, once again, we're talking about a far field zone after the initial zone, so that's a turbulent dissipation parameter. That's an incorrect parameter.

Furthermore, that parameter is set at its highest level in that recommended model. I would not agree with that setting and that model and would have gone with a much, much, lower level that would reflect a dissipation by the diffusion.

After that -- after going through those assumed parameters in that model, the rest of the model was ran accordingly to the equations for that model. But pretty much all the input parameters that the District and the analysis chose were incorrect, in my opinion.

MR. BOYERS: And let me ask a question about

your testimony. You stated that the effluent limit of 4,000 MPN was accurate; is that correct?

MR. BUFFLEBEN: That's correct. There's actually a change of units there that when you look closely at it, it goes from -- that's 4,000 per liter versus, typically, we're talking about 100 milliliters for the limits.

MR. BOYERS: It is -- it is correct that the permit specifies 2300 MPN per 100 milliliters; is that correct? Is that an equivalent value?

MR. BUFFLEBEN: (Nods affirmatively)

MR. BOYERS: Thank you. That's all the questions I have for Mr. Buffleben -- Dr. Buffleben. I'd like to bring Leo.

Mr. Sarmiento, there was a lot of talk about, you know, did you find out the cause of the pump failure and that the District had recorded it as to be basically an air locking situation. Did you further investigate that or did you assume on face value that the District had determined what the cause was or the District would continue to investigate the cause of the failure?

MR. SARMIENTO: I, um, basically relied on the District's determination because that's their system. And so my opinion may be different from what they submitted to us, but, um, that's what it is -- what

they reported as the cause is an assumption, not a determination.

MR. BOYERS: And when you're preparing for an enforcement action such as this, um, does -- do the things that you do to prepare for this stop at the time you learn of the cause of the violation?

MR. SARMIENTO: Um, I don't follow that. I'm sorry.

MR. BOYERS: So let me ask you another question. Um, do you assist in preparing the ACL complaint?

MR. SARMIENTO: Yes.

MR. BOYERS: Do you go to meetings and have discussions about what factors might be applied?

MR. SARMIENTO: Yes.

MR. BOYERS: So your activities to prepare for a case like this don't stop at the time you know all the facts that give rise to the violation, do they?

MR. SARMIENTO: Correct.

MR. BOYERS: Okay. And let me actually have you read from the Enforcement Policy, which is included as the District's Exhibit A.

If you can read from page 19, so that the Board members can follow along, where I've highlighted the cost of investigation and enforcement.

MR. SARMIENTO: It says here that "These costs may include the cost of investigating the violation, preparing the enforcement action, participating in settlement negotiations and putting on a hearing, including any expert witness expenses."

MR. BOYERS: Thank you. No further questions.

MR. WOLFF: Okay. So at this time, does any other Board Member have a question?

MR. JOHNSTON: Yes, just one question.

The Prosecution felt that the, uh, that the input value for the title current at the outfall was wrong. What input value would you have used?

MR. BUFFLEBEN: I don't have my notes in front of me, but if I remember correctly that current value is actually a very low value. Um, and would have adjusted that accordingly to the tidal currents in that area.

MR. JOHNSTON: Okay.

Do you have any sense of what the tidal currents in that area are in terms of feet per minute or per second?

MR. BUFFLEBEN: I am a sailor, so I usually talk in knots for current velocity. I actually have quite an experience in sailing in that area and, furthermore, there are data available using radar about current velocities, too, but I didn't specifically check that at

that time.
MR. JOHNSTON: Can you give me a guesstimate? I mean, what are we talking about --
MR. BUFFLEBEN: For knots, I would say a half a knot of current would be more applicable.
MR. JOHNSTON: Okay, so half a knot is a -- a nautical mile, as I recall, is about 6,000 feet; is that right?
MR. BUFFLEBEN: That's correct.
MR. JOHNSTON: So half a knot would be about 3,000 feet an hour?
MR. BUFFLEBEN: Correct.
MR. JOHNSTON: Or about, uh -- wait a minute, I'm trying here -- uh, 350 -- about 50 feet a minute?
MR. BUFFLEBEN: I assume so. I can't calculate that fast.
MR. JOHNSTON: Okay, and would a -- and they estimated six feet a minute.
So would the higher current have given you less diffusion?
MR. BUFFLEBEN: It potentially would have diffused it more.
MR. JOHNSTON: Okay, so this is what I don't understand. You're proposing that the value for the current -- tidal current should have been 10 times as

high as the -- as the consultant -- the discharger's consultant put it, but -- or I guess it was another state agency that estimated, I don't know -- whoever it was, but that would have given you more diffusion.
MR. BUFFLEBEN: This is the current -- this is the report from the discharger and this is their consultant that did that, but the biggest -- the largest factor that I have most disagreement with -- well, there's two. There's the depth. The depth is clearly not going to be 25 feet for the diffusion of the effluent.
The second one is that turbulent mixing parameter. I believe that is off by two to three orders of magnitude because of the different mixing processes.
MR. JOHNSTON: Okay, but if the -- if the current is off by an order of magnitude, which is roughly what you're saying?
MR. BUFFLEBEN: Correct.
MR. JOHNSTON: Then that would give increased diffusion?
MR. BUFFLEBEN: This is not a linear equation.
MR. JOHNSTON: I understand, there's a lot of different variables.
MR. BUFFLEBEN: And exponential factors, too.
MR. JOHNSTON: Okay.

MR. BUFFLEBEN: So it's not a simple case of multiplying across.
MR. JOHNSTON: Okay, so what you're saying is that they did various factors wrong, and some of those factors would have given much less diffusion and apparently some of them would have given more?
MR. BUFFLEBEN: Correct.
MR. JOHNSTON: Thank you.
MR. WOLFF: Mrs. Thomasberg?
MS. THOMASBERG: I can ask questions of Carpinteria, right?
MR. WOLFF: Sure.
MS. THOMASBERG: Okay. I have two categories --
MS. OKUN: Actually, why don't we let them make their presentation before we start asking them questions.
MS. THOMASBERG: Oh, sorry. So I'll hold off.
MR. WOLFF: Okay. Any other clarification?
MR. DELGADO: Over here. I don't want to be out of turn, I just didn't know if you were --
MR. WOLFF: No, no, no, it was your turn.
MR. DELGADO: Okay. I wanted to clarify that unlike what the Carpinteria representative said, I didn't ask earlier why we spent so much money. I asked earlier why wasn't all the money spent on staff included

in their cost analysis. And so I just wanted to clarify that.
Then I did have some other questions, but they were mainly for the District, so I understand just now that based on Kathy's question, we want to save those for later; is that correct? Okay.
Then the only question I have for our staff is, why was the 1990, 1980, some old manual referenced, rather than a more recent manual?
MR. SARMIENTO: Um -- I'm just referring to that as a standard practice, industry practice that's for chlorination, although it's focusing on liquid gas chlorine.
It's also, for me, it's applicable for chlorination system and in some practices it's just a reference like, for example, standard operating procedures that they should have at the facilities. Those are standard industry practices that are considered safeguards in the operation and maintenance of the wastewater treatment plant.
MR. DELGADO: So if they're industry standard, wouldn't you be able to find such a reference in manuals that were more recent or manuals of equipment that was more relevant to the equipment in question here?
MR. SARMIENTO: There are references that are vaguely referencing to a particular alarm system. This

is very specific for a chlorination system that we're looking at alerting operators.

An alarm system that will trigger an alert, a notification to a -- whoever is designated operator in a facility or standby operator, so that there is an immediate response. So that's the most specific information or literature that is also published by the State Water Board.

MR. DELGADO: Okay. Thank you very much.

MR. WOLFF: I have a question pertaining to reporting quantities.

If the Central Coast Regional Quality Control Board staff makes a request the following day to have the estimated amount of the spill, is the answer a courtesy answer, or is this an answer that is required as part of permit that we have the authority to ask and request that question, so it should not be treated as a -- as a courtesy answer?

MR. BUFFLEBEN: So I don't think there is anything in the permit that specifically requires them to report the volume, but clearly if you're reporting a discharge the very first question is, how much was discharged? I think that's a question that we asked in discharge cases or spills like this and if we need to, we could always follow that up with an order if they are not

cooperating with the investigation.

MR. BOYERS: I was just gonna add that a lot of times if the discharge doesn't specify the requirement, we will follow up with a 13267 order asking for a variety of information related to the discharge including the gallonage.

MR. WOLFF: Thank you for that clarification.

So now I think -- let's, we'll let you proceed. Thank you.

MR. CARTER: Thank you, and I apologize, Board Member Delgado, if I misspoke about our conversation -- your statements.

The District would now question Beverly Hann, if I may? Should I start?

MR. WOLFF: Yes, please. Go ahead, thank you.

MR. CARTER: Ms. Hann, what's your background in education?

MS. HANN: I received a Bachelor of Science and Civil Engineering from University -- I'm sorry, California State University of Chico followed by a Master's Degree in Environmental Engineering by UC Davis.

MR. CARTER: And where do you currently work?

MS. HANN: I work for Carollo Engineers.

MR. CARTER: How long have you worked there?

MS. HANN: Over nine years.

MR. CARTER: And what do you do for them?

MS. HANN: I do water and wastewater design, construction, and also permitting.

MR. CARTER: Were you, at some point, retained by the District to perform work on this particular matter that we're dealing with today?

MS. HANN: Yes.

MR. CARTER: And when was that?

MS. HANN: I believe the phone call came late December 2013.

MR. CARTER: All right.

And what kind of work did you do or perform on behalf of the District?

MS. HANN: I prepared a response report, specifically in response to the notice of violation received by the District.

MR. CARTER: And is that report a technical report?

MS. HANN: Yes.

MR. CARTER: Is that what's shown in Exhibit 8, the Prosecution Team's Exhibit 8?

MS. HANN: I believe so.

MR. CARTER: And you prepared that?

MS. HANN: Yes.

MR. CARTER: And was that signed off by an engineer?

MS. HANN: Yes. That was signed off by me.

MR. CARTER: And in preparing that report, what kind of documents and materials did you receive or look at?

MS. HANN: Um, I -- in preparing the report, I conducted a site visit and investigated the facilities at the plant, interviewed staff and operations crew and also reviewed the -- the logs of information that were prepared by the District.

MR. CARTER: And in preparing that report and reviewing this material, you were looking both at this October 20, 2012 incident, as well as some other incidents?

MS. HANN: Yes.

MR. CARTER: I just want to refer specifically to the October 2, 2012 incident.

Did you prepare and state a conclusion in your report?

MS. HANN: Yes. Our conclusion was that it was likely -- I'm sorry, the event on October 3rd was likely caused due to air locking of the sodium hyperchloride pump.

MR. CARTER: And in doing that -- in reaching that conclusion, did you consider other possibilities,

regarding the pump failure?
MS. HANN: Yeah. We looked at loss of power, the facility hadn't lost power. We looked at -- sorry -- the, um, operation of the pump. The pump was noted to still be operating when the flow was not being delivered.
We looked at, um, the condition that the pump had returned to normal operation following delivery of the chemical.
MR. CARTER: And what was the basis of that conclusion?
MS. HANN: The basis of the conclusion was that the pump had continued to run and the pump hadn't been -- I'm sorry, the chemical hadn't been delivered, but upon delivery of the chemical, the increase in head on the delivery system could have cleared an air lock condition.
Also, it looked at an evaluation of what happens with sodium hyperchloride. It does off gas and an off-gas situation can cause air locking on pumps.
MR. CARTER: And did you -- was there any other factor that you believed caused the pump failure, anything else that you considered?
MS. HANN: Um, yes, we did note that the inlet to the pump appeared to be lower than, you know,

potentially lower than a low level within the chemical tank, and so that would be a possible cause of loss of prime to the pump, but because -- oh, I'm sorry, because the District had noted that there was chemical available, that was likely not the cause.
MR. CARTER: And in your opinion, the cause of the incident was the failure of the pump?
MS. HANN: Um, it was the air locking of the pump. The pump was still operating.
MR. CARTER: I have no further questions.
MS. HANN: Thank you.
MR. CARTER: We'd move to the next witness, if I may?
MR. WOLFF: Yes, please proceed.
MR. CARTER: I would like to question Dan Hennessy.
Mr. Hennessy, good morning. Mr. Hennessy, can you tell us your background in education, please.
MR. HENNESSY: Yeah, my background is, I'm an Environmental Consultant specializing in Human Health Ecological Risk Assessments and Site Assessments. My highest degree is Master's in Fishery from the University of Washington. I also have an Environmental Science Degree from Western Washington University and a Social Science Degree from University of California,

Irvine.
MR. CARTER: What's your current employment status?
MR. HENNESSY: I'm currently employed at Anchor QEA LLC, I've been there for about 14 years.
MR. CARTER: And what do you do for them?
MR. HENNESSY: I am a Risk Assessor Toxicologist specializing in waste site cleanup and water quality concerns for our clients.
MR. CARTER: And were you retained to work with the District on this matter?
MR. HENNESSY: Yes, I was.
MR. CARTER: And when was that?
MR. HENNESSY: I believe that was probably towards the end of 2013, early 2014.
MR. CARTER: And in doing that work, what type of work were you doing? What did you do?
MR. HENNESSY: I was investigating the potential risk to human health and the environment from the three events that I was asked to look at, the two chlorination events and the loss of chlorination event that we're speaking of today.
MR. CARTER: I want to focus on the October 3rd, 2012 loss of chlorination event.
How did you go about reviewing and assessing

that matter?
MR. HENNESSY: I basically applied pretty standard risk assessment procedures. I try and consider, um, a conservative maximum exposure scenario and by default use very, very conservative exposure parameters, and then, in this case, to look at the potential effects using the permitted standards and other applicable rules from the State of California.
MR. CARTER: And in doing so, did you prepare a report?
MR. HENNESSY: Yes, I did.
MR. CARTER: And do you see District Exhibit G? I think it's also part of Prosecution Team H. I think it's Attachment L --
MR. HENNESSY: Yes.
MR. CARTER: -- to the Prosecution Team's 8, but if you could look at Exhibit 8, or excuse me, Exhibit G from the District; is that your report?
MR. HENNESSY: Yes, it is.
MR. CARTER: And in your report, did you reach a conclusion?
MR. HENNESSY: Yes, I did.
MR. CARTER: Can you tell us what your conclusion is?
MR. HENNESSY: My conclusion was that this is a

very minor event and that the potential harm to human health or the environment was minimal, if not just negligible.

MR. CARTER: And when you say the environment, did that include beneficial uses, such as shellfish harvesting and water contact?

MR. HENNESSY: I would put that in the camp with human health concerns, but, yes, I did look at that.

I very, very much was concerned about all the permit limits including the beach recreational direct contact, as well as potential impacts from coliform bacteria on shellfish and human consumption of those shellfish.

MR. CARTER: Did you -- what is the basis of that conclusion?

MR. HENNESSY: The basis of that conclusion is essentially the exposure -- understanding of exposure from the discharge event and comparison to the applicable standards for shellfish, specifically. Um, I did not look at that 14 MPN number because that number is intended to be applied as a long-term average. This is a very short-term event.

So in that case, I used the 400 MPN maximum single sample value as the basis for comparison.

MR. CARTER: So let's be clear. What modeling

or what standards did you use in coming -- to render your opinion?

MR. HENNESSY: Yeah, two things. The laboratory tests that were conducted by the Carpinteria Sanitary District, as well as the model that has been discussed on Table 3 of my report.

That model was parameterized to be very conservative. It's a very simple dilution model. I do have some contesting opinions regarding the other side on that.

Um, it is not intended necessarily to be modeling dredging effluent as you can picture, it's muddy water. It's actually intending to be modeling in a very simple and straightforward way water that comes off of dredging material after it's been placed upland and has been dewatered, it's meant to apply to the water that is then discharged back into the system out of a pipe.

So it's not intended to address mud, for example, that's being discharged.

MR. CARTER: Now, you heard some comments from Mr. Buffleben about -- he disagreed with some of the factors; do you recall that?

MR. HENNESSY: I do recall that, yes.

MR. CARTER: Do you have any comments about the nature of those comments?

MR. HENNESSY: Yeah, again, as a Risk Assessor um, just our Standard Default is to go to a very conservative model of exposure right out of the gates, and then if we see potential harm after that, we would do a more complex fate and transport model, for example, if I think it was being alluded to.

This -- this model we parameterize it as -- was noted at very low current rates. I consulted with a coastal engineer about the other parameters in that, and we felt that the default parameter that was discussed previously was appropriate, given its use in model in estuarine default whereas this coastal, it's a much more high-energy dynamic environment.

MR. CARTER: So you actually used a lower title or mixing rate?

MR. HENNESSY: Exactly. We used 1/10th of a foot per second, which is about, maybe, three centimeters per second, roughly. Looking at some of the available data that's online for this area, um, currents are typically in the, you know, 10 to even 30 centimeters per second range.

MR. CARTER: So if you had used the number suggested by Mr. Buffleben, your numbers might have been different?

MR. HENNESSY: We would have come up with a

much, much lower potential hazard, that's correct.

MR. CARTER: So your calculations are actually higher than what Mr. Buffleben would have done?

MR. HENNESSY: I believe we were being as conservative as was appropriate here.

MR. CARTER: Can you tell us what you found in terms of distance and concentration?

MR. HENNESSY: Well, again the model is a very simple type of way to estimate this. You know, we were trying to keep this reasonable, um, but essentially the distances that are required to dilute this to levels that are below the applicable standards are matters of feet and very short time durations as well.

MR. CARTER: Could you give us an example?

MR. HENNESSY: Well, on Table 3, I believe it's approximately two feet and 20 seconds to reach the 400 MPN per 100 milliliters standard.

MR. CARTER: And so you've heard that -- so within 20 seconds and within two feet of the outfall, you would have met that 400 MPN?

MR. HENNESSY: That's what we would expect with this very conservative model again, yes.

MR. CARTER: And you've also heard this number, 14 MPN?

MR. HENNESSY: 14 MPN, yes.

MR. CARTER: And what is that?
MR. HENNESSY: Well, it's a Shellfish Standard that's applied. Its genesis is from the FDA National Sanitary Shellfish Program, um, which indeed has very specific monitoring requirements to apply that.
It's intended to be applied as a long-term average for monitoring shellfish waters or waters where shellfish are harvested. It's not intended to be a, um, single point sample. Um, the National Sanitary Shellfish Program, for example, talks about maybe five annual samples. Again, they're referencing an annual averaging. They specifically talk about this being a median or a geometric mean of data over a long time.
MR. CARTER: So this is -- you wouldn't consider that 14 MPN an enforcement sample?
MR. HENNESSY: Not for this event, no. That would be more of a long-term monitoring type of benchmark, and if you were exceeding that, then -- I think this was discussed earlier, you would actually then look at the tissue samples of the organisms being harvested.
MR. CARTER: Did you calculate at what distance from the outfall the effluent would have met the 14 MPN?
MR. HENNESSY: I believe I did, and it would clearly be, you know, less than the 400. I don't have that in front of me right now.

MR. CARTER: Um, may I show you something to refresh your recollection?
MR. HENNESSY: Yeah. This is a chart that I have prepared, um, that essentially shows the fecal coliform concentrations by the length from the diffuser and what those concentrations would be relative to that length.
So at approximately two feet, we would see that we reached the 400 MPN value. By the time we're approximately 23 feet away from that diffuser, we reached the 14 MPN threshold. And then, for example, going out to 150 feet, it would be less than 1 MPN per 100 milliliters.
MR. CARTER: Thank you. I have no further questions.
May I go to the next witness?
MR. WOLFF: Yes, please.
MR. CARTER: Thank you.
The District would call Peter Von Langen.
Doctor, I'm not sure where you can sit, um. Beverly, may I ask you to stand up, please? Thank you.
May I?
MR. WOLFF: Yes, proceed, please.
MR. CARTER: Dr. Von Langen, I'm sorry. Good morning.

MR. VON LANGEN: Morning, Chair, Members of the Board. Peter Von Langen. Staff -- Central Coast Water Board Staff. Peter Von Langen.
MR. CARTER: Doctor, were you involved in the drafting of the permit for the District?
MR. VON LANGEN: I was involved in the drafting and reviewing of the draft permit.
MR. CARTER: And so you're familiar with the permit?
MR. VON LANGEN: Um, to some degree, yes.
MR. CARTER: And you work closely with the District in making sure it was in compliance with that permit?
MR. VON LANGEN: Yes.
MR. CARTER: And how often had you inspected that facility prior to 2012 -- October of 2012?
MR. VON LANGEN: I recall inspecting it approximately every year or every other year since 2010, so probably two to four times.
MR. CARTER: And during that time period, did you ever issue a violation to the District for failure to have the appropriate alarms on any of these chemical feed pumps?
MR. VON LANGEN: No.
MR. CARTER: Were you aware of any deficiencies

with their chemical feed pumps, including the pump at issue?
MR. VON LANGEN: No, I wasn't.
MR. CARTER: Are you familiar with the monitoring requirements after a discharge like this, there's been discussions about the District having to go out and sample and monitor. Are you familiar with that provision in the monitoring requirements?
MR. VON LANGEN: It came to me later, yes.
MR. CARTER: When did you first -- when did it first come to you about this requirement?
MR. VON LANGEN: At some point the discharger contacted me in October of 2012 regarding that there was monitoring, that the initial monitoring had been missed.
MR. CARTER: So that was news to you that this sampling and monitoring was required?
MR. VON LANGEN: At that point, yes.
MR. CARTER: Even though you were involved in writing the permit?
MR. VON LANGEN: Yes, we have a contractor that drafts the permit and then we review them.
MR. CARTER: Now, in that monitoring and sampling requirement, does it require what kind of boat or how the District is supposed to conduct that sampling?
MR. VON LANGEN: No, it doesn't.

MR. CARTER: So it's very general; is that correct?
MR. VON LANGEN: Yes.
MR. CARTER: It doesn't require them to conduct any particular -- use any particular kind of boat or any particular kind of system to collect those samples?
MR. VON LANGEN: No.
MR. CARTER: I mean, it's correct. That's correct?
MR. VON LANGEN: Yes. That's correct.
MR. CARTER: All right. I have no further questions.
MR. WOLFF: Thank you.
MR. CARTER: At this point, we would call General Manager -- thank you, Doctor. Craig Murray. General Manager, Craig Murray.
MR. WOLFF: And according to our uncalibrated time clock, there was about four minutes left, but, you know, I wanted to give you a bit of extra time. But just so you keep track of the time.
MR. CARTER: I appreciate that, I really do.
MR. WOLFF: No problem. Time flies and I understand.
MR. HARRIS: Mr. Chair, if we could ask, do you have a sense of how much time you will need to present

your case?
MR. CARTER: I would say with respect to Mr. Murray -- General Manager Murray, who I think is probably one of the key witnesses here, I would say 15 minutes.
MR. HARRIS: 15 additional minutes?
MR. CARTER: Yes, if I may. I mean, I think it's important to hear from Mr. Murray.
MR. WOLFF: I will grant you that.
MR. CARTER: Thank you very much.
MS. OKUN: And the Prosecution Team will also get the same amount of additional time.
MR. CARTER: We have no objection to that. Whatever is fair.
MR. WOLFF: Yeah, fairness for both sides.
MR HARRIS: So just to be clear. That's 60 minutes, total of 60 plus 5 for closing arguments?
MS. OKUN: Correct.
MR. HARRIS: Okay.
MR. CARTER: Thank you very much.
Mr. Murray, what's your background and education?
MR. MURRAY: Good morning, my name is Craig Murray. I'm the General Manager of the Carpinteria Sanitary District. The address is 5300, 6th Street.

I remembered that part, in Carpinteria. And I did take the oath and with respect to your question, my background -- my educational background, I have a Bachelor's Degree from the University of California Santa Barbara. I hold a Master's Degree in Civil and Environmental Engineering from Cal Poly San Luis Obispo. I have a Certificate from UCSB in Hazardous Materials Management, and I'm a Registered Professional Engineer in the State of California.
MR. CARTER: Okay, and what is your current position?
MR. MURRAY: I'm the General Manager of the Carpinteria Sanitary District.
MR. CARTER: And how long have you been in that position?
MR. MURRAY: I started in May of 2004.
MR. CARTER: And are you familiar with the NPDES permit for that facility?
MR. MURRAY: Yes, I am.
MR. CARTER: And during the course of your managing of that plant, have you received awards or commendations?
MR. MURRAY: Yes, we've received a lot of recognition.
In 2008, as was mentioned, we were named the CWEA

Statewide Plant of the Year for all treatment plants in California less than five million gallons per day, flow rate. Just last year, we received the Statewide Award from CWEA for the Collection System of the Year. That's all treatment -- all collection systems less than 250 miles of sewer.
We've had operators of the year recognized. We've received recognition, many times over for a recent project we've completed, the breakout point subject to sewer conversion project. I think we've earned a good reputation in the industry.
MR. CARTER: And you -- over the course of the years, are you familiar with how any notices of violations or enforcement actions that have been taken against the District?
MR. MURRAY: In my tenure, I think we have had just a handful of MMP violations that were settled through an expedited payment letter.
MR. CARTER: Have you ever received an ACL, any type of discretionary penalty like that?
MR. MURRAY: We have not.
MR. CARTER: Were you aware of, or involved in, the incident on the 3rd of October 2012? Were you there at the plant at the time?
MR. MURRAY: I was.

MR. CARTER: And was that reported immediately?
MR. MURRAY: Yes, it was.
MR. CARTER: And was the volume reported as well?
MR. MURRAY: Yes, it was.
MR. CARTER: And was -- you saw the technical report that Ms. Hann described in Exhibit 8. Is that accurate representation of what you understand to be the events of the incident?
MR. MURRAY: It is. It provides a very comprehensive timeline and sequence of events, and I found it to be accurate.
MR. CARTER: And in a nutshell, what was the cause of the event, the incident?
MR. MURRAY: The cause of the event, that we believe, was an air lock in that chemical feed pump suction line, but it really wasn't determined, and I think there was discussion about what caused it, but that's the only thing that we can point to in our after the fact assessment, you know, in the minutes after we identified the problem.
We looked at all of those possible sources and um, as was mentioned within minutes of -- 10 minutes or so of identifying the fact that this pump was no longer sending chemical to the chlorine contact tank, we had a

delivery of chemical that was prescheduled that basically returned that pump to its normal state.
MR. CARTER: So when you say you're not sure what the cause was, you're saying you're not sure what caused the pump to fail?
MR. MURRAY: I mean, that's correct. I mean, after the fact, we disassembled the pump, we inspected it and we didn't identify any mechanical issues with the pump itself.
MR. CARTER: But it's clear that the incident was caused by that pump failing?
MR. MURRAY: Yeah, and that pump had been a very reliable piece of equipment for our facility. It operated without fail since 1998, I think like 14 years of operation.
Obviously, it's maintained and inspected. And we track it with our computerized asset management system and we're looking at it every day, but it was a very reliable piece of equipment.
MR. CARTER: Is that pump still in operation?
MR. MURRAY: It is not in operation.
MR. CARTER: When was it removed?
MR. MURRAY: Earlier this year it was removed and we completed the installation construction of an entirely new chemical disinfection system for our plant.

MR. CARTER: And from the time of the October incident when it failed until it was removed in April of this year, had that pump failed again?
MR. MURRAY: It did not. It worked perfectly.
MR. CARTER: When was -- this upgrade you're talking about, this improvement project, when did you first start considering that improvement project?
MR. MURRAY: It first started, I think, in 2007 as part of an assessment -- a facilities planning effort for our solids handling, our digesters and dewatering systems at the treatment plant. And this replacement of the chemical feed system was really just a component of that project. We needed to move that equipment out of the way to construct new tanks and we took the opportunity to build what, I believe, is a brand new state-of-the-art system. It costs our tax -- our rate payers over a million dollars, so, um --
MR. CARTER: After the incident on October 2012, did you have any contacts with Dr. Von Langen?
MR. MURRAY: Yes.
MR. CARTER: Was the incident reported to him?
MR. MURRAY: It was reported by Mark Bennett, our operations manager, yes.
MR. CARTER: And in your conversations with Mr. -- Dr. Von Langen, was there any discussion about having

to take samples for monitoring?
MR. MURRAY: There was not.
MR. CARTER: Did he direct you to do that?
MR. MURRAY: No, he not.
MR. CARTER: Were you aware of any of the beaches were posted in the area after the spill?
MR. MURRAY: They were not.
MR. CARTER: Did you report this at a later date as set forth in the District Exhibit J, this was reported later to the Regional Board? If you can look at District Exhibit J.
MR. MURRAY: Yes, this was reported as part of our monthly monitoring report that we submit to the Regional Board.
MR. CARTER: And in that report, or Exhibit J, does it lay out the basic events of the incident and what the cause might have been or was?
MR. MURRAY: It does. We simply attached this report, the original notice of noncompliance, and we also had reported this incident onto the State's CIWQS online. We recognized this was noncompliance and we reported it as that.
MR. CARTER: Between the time of the incident and this report in Exhibit J, did anyone contact you that there was gonna be an enforcement action, there was

gonna be any kind of follow-up by the Regional Board because of this incident?

MR. MURRAY: Not until October of 13 when we were visited by the Office of Enforcement Staff.

MR. CARTER: Was that a surprise to you?

MR. MURRAY: Yes, it was.

MR. CARTER: Now, after the incident in October 2012, did you undertake any corrective actions?

MR. MURRAY: Yes, we did.

MR. CARTER: What were those?

MR. MURRAY: Well, within a week we engaged our engineering consultant to engineer in that alarm that has been maintained as what's required or missing.

So within a week we engaged our consultant; within two weeks that alarm was in place and remained in place until we replaced that system.

MR. CARTER: Between the time of the incident in October and then October 2013, when the inspectors came to the facility, did you have any communication with the Regional Board about this October incident enforcement, anything like that?

MR. MURRAY: We did not.

MR. CARTER: Are you familiar with this compliance examination or the CEI inspection that was conducted at the plant in December of 2011?

MR. MURRAY: Yes, I participated in that.

MR. CARTER: And during the course of that, was that conducted by a vendor from the USEPA?

MR. MURRAY: Yes.

MR. CARTER: And was Dr. Von Langen there?

MR. MURRAY: He was for most of that.

MR. CARTER: So during that -- at some point after the October -- or excuse me, sometime in 2012, did you receive a report regarding that inspection?

MR. MURRAY: Yes, I did.

MR. CARTER: And in that inspection, was there a report that listed various things that were inspected at the facility?

MR. MURRAY: Yes.

MR. CARTER: And was there any mention that there was a deficiency in your alarm system?

MR. MURRAY: No, there wasn't.

MR. CARTER: Did you have conversations with Dr. Von Langen about that report?

MR. MURRAY: Yes.

MR. CARTER: Did Dr. Von Langen indicate to you whether any enforcement action was gonna be taken as a result of that report?

MR. MURRAY: Yeah, he indicated that there would be no enforcement as a result of that inspection.

MR. CARTER: During -- were you present during the inspection or -- excuse me, yeah, the inspection by the investigators in October 2013?

MR. MURRAY: Yes.

MR. CARTER: And Mr. Sarmiento showed up?

MR. MURRAY: Yes.

MR. CARTER: And did they ask for consent to come into the facility?

MR. MURRAY: They did.

MR. CARTER: And did you give them consent?

MR. MURRAY: Yes, I did.

MR. CARTER: Did they ask for documents?

MR. MURRAY: Yes.

MR. CARTER: Did you provide those documents?

MR. MURRAY: Yes, I did.

MR. CARTER: Was Dr. Von Langen in that meeting as well?

MR. MURRAY: Yes, he was.

MR. CARTER: And you heard Dr. Von Langen said that at some point he learned about or -- I don't want to say learned, but he was focused on the sampling and monitoring provision that was in the permit? Did you hear him discuss that during that inspection?

MR. MURRAY: Yeah, it appeared to me he was, you know, paging through the permit and identified the section

that's kind of buried in the monitoring and reporting program that required that seven-day sampling, and we talked about that requirement; that there is no threshold and, you know, if we lose chlorination for 30 seconds, does that trigger seven-day monitoring? So it seemed to be a new revelation for everyone.

MR. CARTER: What do you mean everyone, who else?

MR. MURRAY: The Office of Enforcement Staff, for me, frankly, um --

MR. CARTER: And who else when you say Office of Enforcement Staff?

MR. MURRAY: It was Jim Fisher and Leo Sarmiento.

MR. CARTER: It appeared to you that they didn't also understand the sampling and monitoring provision?

MR. MURRAY: That's the way it appeared.

MR. CARTER: At some point -- in regards to that sampling and monitoring provision, are you -- you had an opportunity to review it?

MR. MURRAY: Yes.

MR. CARTER: And in that, is there any specific requirement about what kind of boat, what kind of method you have to use in terms of conducting such sampling and monitoring?

MR. MURRAY: No. We collect surf zone ocean samples. Um, our operator will go out on a boogie board to collect those samples, so it's possible to do in any manner.

MR. CARTER: Now, are you aware of how the Regional Board calculated their economic benefit as it relates to that particular item failing to sample and monitor?

MR. MURRAY: Yes.

MR. CARTER: How did they do it as you understand it?

MR. MURRAY: They called our consultant that does our five-year cycle benthic monitoring program and asked them how much it cost, how much they charge to engage a charter vessel, and basically that was the basis for the sampling.

MR. CARTER: So it's your understanding that when Regional Economic Board was calculating economic benefit, they based it on a larger vessel that is normally used in a five-year benthic study, underwater?

MR. MURRAY: I believe so.

MR. CARTER: That's your understanding?

MR. MURRAY: Yes.

MR. CARTER: And in your experience, if you were to have done the sampling and monitoring, what

would it have cost you?

MR. MURRAY: Um, you know, far less than that. A couple thousand dollars, I would expect over the seven days.

MR. CARTER: What would you have done?

MR. MURRAY: I would have likely sent my operators out on a kayak to collect the samples, and we would have run the majority of them in our lab and sent the enterococcus samples to Fruit Growers Lab in Santa Paula.

MR. CARTER: Does your permit require the monitoring for enterococcus?

MR. MURRAY: It does not.

MR. CARTER: But your lab -- so that's why your lab doesn't have that ability; correct?

MR. MURRAY: Correct.

MR. CARTER: So had you done it, you would have done in-house sampling, in the kayak, perhaps, and/or done your analysis in-house in your laboratory and maybe sent out the samples to another lab for enterococcus?

MR. MURRAY: In retrospect that sounds right to me.

MR. CARTER: It would not have cost $25,000, would it?

MR. MURRAY: No, sir.

MR. CARTER: At some point, you received a notice of violation?

MR. MURRAY: Yes.

MR. CARTER: In response to that, did you retain the consultants that we've heard here today?

MR. MURRAY: Yes, I did.

MR. CARTER: And you've -- as part of that, your team collected samples and had them analyzed and provided to Mr. Hennessy?

MR. MURRAY: That's correct.

MR. CARTER: And you provided him the information that he and Ms. Hann needed, excuse me, to conduct their analysis and draft the report?

MR. MURRAY: Yes, we did.

MR. CARTER: Now, at some point after you received the NOV, did you conduct a review of available public enforcement data and information?

MR. MURRAY: I did.

MR. CARTER: And did you focus on this region or elsewhere?

MR. MURRAY: I focused primarily on this region, but I looked at enforcement activity throughout the state.

MR. CARTER: And what did you find -- tell us what you looked at first.

MR. MURRAY: I looked at -- since May of 2010 when the Enforcement Policy was published, I looked at all of the enforcement actions and reported violations that were on the CIWQS online system.

I also spent a day here in this office looking at all the files for all of the POTWs within this region and focusing then on enforcement and violation reporting.

MR. CARTER: And what did you find?

MR. MURRAY: I found that there has never been a discretionary penalty action in that time period for a POTW where they assessed a per gallon penalty for any type of violation, except for one overflow of raw sewage that was not at a treatment plant or not akin to this kind of violation. All of the violations were treated as MMPs.

MR. CARTER: In this case, is it your opinion this would be the first ever discretionary ACL imposed for this kind of violation?

MR. MURRAY: Based on the information that was available to me, I would say so.

MR. CARTER: Have you seen anything to the contrary?

MR. MURRAY: Um, no.

MR. CARTER: One moment. I'm sorry. I have no

further questions.

Oh, I'm sorry, go ahead.

MR. MURRAY: I'd just like to add a couple things.

It's been mentioned that, you know, we were somehow deficient in monitoring, but our treatment facility has a very comprehensive SCADA monitoring and alarm system, um, it's now called Rockwell Factory Talk. It is connected to a WIN 911, which is an alarm plan that does call out our operators in the event of an alarm in our plant.

We have in October 12, at that time, over a 150 discrete alarm points. Within our disinfection system, we had a whole number of alarms, high effluent chlorine residual, low-tank level, high-tank level. We had a whole number of alarms, even in that specific standpoint.

So the representation that we don't have alarms or don't have alarm systems is just not accurate. We simply lack this low-chlorine dose alarm system, and it's kind of one of those things where until you sort of recognize that it's necessary -- in this case we didn't, the pump worked perfectly for 14 years straight -- it's hard to anticipate. You can't have an alarm on every piece of equipment within, you know, a large wastewater treatment facility. It's not practical.

We had over 150 alarms -- as soon as we identified this vulnerability we put that alarm in place. Um, and you know, I believe that was a reasonable response to this one-time, minor loss of chlorination.

MR. CARTER: Well, that was my last question I forgot to ask you was, at the time of the incident in October of 2012, you had various alarm systems and various SCADA systems in place; correct?

MR. MURRAY: That's correct, yeah.

MR. CARTER: And, uh, so this notion -- how many, essentially, how much different individual alarms did you have at the time?

MR. MURRAY: Around 150 alarms.

MR. CARTER: Would this pump have been amendable to that type of alarm?

MR. MURRAY: The pump itself is mechanical, there's no type of alarm that you could connect to it other than loss of power. That's just -- the feature of it.

The new chemical disinfection system that we installed has inline flow meters that will detect when and if the chemical itself, the liquid chemical stops flowing or goes to a low level.

MR. CARTER: In doing these -- your years as general manager, including this time period when you were

getting Plant of the year, during any inspections, during any kind of examination of your plant, did anyone ever tell you, you don't have the right alarm on the right piece of equipment?

MR. MURRAY: No, they did not.

MR. CARTER: And this reference manual that's shown in Prosecution Team Exhibit 6, this 1981 manual, do you believe that applies to your operations?

MR. MURRAY: No. I believe that applies to gas chlorine systems and those don't even exist, except in a couple large municipalities in the state.

MR. CARTER: And why is that? Why don't you think it applies to your plant or at least to the plant at the time?

MR. MURRAY: I think it -- you pointed out it says in the abstract, it does not apply, but we have a liquid chlorination system. We use sodium hyperchloride, which is essentially a strong bleach, and all of those safety alarms that are referenced in that manual don't apply.

MR. CARTER: All right, thank you very much. Thank you.

MR. WOLFF: Okay. So your --

MR. CARTER: That was our last witness.

MR. WOLFF: Okay. Thank you very much.

So now I provide the opportunity for our Board to ask questions. I'm gonna start on my left with Mayor Delgado.

MR. DELGADO: Can we ask questions of staff and Carpinteria, or just Carpinteria?

MR. WOLFF: Just ask your questions.

MR. DELGADO: Okay. For our staff -- and this is the only question I have for our staff -- if seven days of the permit required monitoring had occurred, would there have been better facts available today regarding dilution concentrations after this October 2012 event?

MR. BUFFLEBEN: Yes.

MR. DELGADO: Okay, so that's it for my question for staff.

For Carpinteria representatives, I wanted to ask you the same question, and I don't know who's the best to answer it.

MR. HENNESSY: Can you repeat the question?

MR. DELGADO: Yeah, if the seven days of monitoring had happened with samples taken, et cetera, would we have had better facts on the table today regarding the October 2012 event?

MR. HENNESSY: Yes. I would -- when you have data to answer that kind of question, it's helpful.

MR. DELGADO: Okay. A lot of people don't like

the government telling them how to meet desired outcomes or results. Just tell us what you want, what you need and we'll figure out a way of getting there.

So I wanted to ask if the District staff understood the details of their NPDES permit and the waste discharge requirements that are relevant to that permit, such as the monitoring requirements?

MR. MURRAY: Did we understand the details of the requirement?

MR. DELGADO: Yeah. You have permit. Do you understand what that permit says? Do you understand the requirements within that permit?

MR. MURRAY: Yes, we do.

MR. DELGADO: Okay. So regarding the seven days of monitoring, did you understand that that requirement was in the permit?

MR. MURRAY: I understood it not at that moment, and I think it was perhaps an oversight. Perhaps, due to the fact that it's somewhat buried and sort of strangely worded in the monitoring and reporting program.

It's, um -- that's all I can say, you know, I think once we realized that was a requirement, we said, "Mea Culpa, we didn't do this. Next time, we will."

We asked the Regional Board staff, would it be

possible to get some clarification, some threshold information, as I mentioned earlier. Do you trigger seven days of ocean monitoring if you lose chlorination for 10 seconds? 10 minutes? 10 hours? 10 days? And so in that regard, it's a vague requirement that I'm aware of; I don't fully understand it.

MR. DELGADO: Okay. And I think it's kind of obviously, but I just want to ask, why did you install the alarm, either on the pump or on the feed to the pump, after the incident?

MR. MURRAY: I think that's indicative of our whole approach to operating our facility. We try to make it the very best system that it can be all the time and once we recognized this as a vulnerability, we installed that alarm proactively. Nobody told us to do it. It wasn't a directive from the Regional Board. We said, "We want to know when this happens, so we can minimize any impacts that may occur from a future event."

MR. DELGADO: Okay. And Mr. Murray, you stated in your response to a question from your counsel that within one week of the incident, that your district's engineers installed the pump that you said, quote, "Was required or missing," quote -- unquote. What did you mean when you said it was "required or missing"?

MR. MURRAY: I only meant that -- that that's

what's been represented by the Prosecution Team; that that alarm was required and we should have had it before this one-time failure and, you know, we installed it after the fact, as I mentioned on our own accord.

MR. DELGADO: Okay, and do you consider installing a pump after an unwanted discharge or noncompliant discharge, installing an alarm on that pump, do you consider that to be a proactive action?

MR. MURRAY: Perhaps reactive is a better word. I mean, I wish I'd had a crystal ball to have known that pump was going to fail at that moment and I would you have installed the alarm beforehand, but sometimes in mechanical systems, that's how things improve.

MR. DELGADO: Okay. And my last question is, I'm confused about your comment and other's today that after delivery of chemical, that the pump returned to its normal state. Can you--

MR. MURRAY: Yeah, I can. I can clarify that. It wasn't very explicit.

So we have a large 6500-gallon chemical storage tank, it's a bulk storage tank. A line comes from that tank, piping, to the pump that's in question today. That pump delivers a precise amount of chemical to the chlorine contact tank.

So when I say we got a chemical delivery, a big tank truck came in and filled that larger tank, and that process is what returned the chemical feed pump to normal operation.

MR. DELGADO: So to me, a layperson in this instance, it sounds like the tank didn't have enough chemical in it. You added chemical and everything was okay, but I don't think that's correct.

MR. MURRAY: That's not correct. There was over 1200 gallons remaining in that tank when we received the additional delivery, so we basically topped it off.

But we've gotten below 1200 gallons many, many times, you know, down to hundreds of gallons without this pump failing, so it wasn't a -- not related to the level in the tank.

MR. DELGADO: So when I read through all the documents for today, there was some reference to turbulence or some change in pressure that happens when you add more to a tank, but can you explain why adding more to a tank would clear whatever problem the pump was having?

MR. MURRAY: It really -- just, I believe, is a matter of pressure, you know, you have all of a sudden 20 feet of chemical high, you know, in that tank that you didn't have before. It puts more pressure, and maybe if

there was an air bubble or an air lock condition, it'll push through the pump itself.

MR. DELGADO: Okay, thank you very much.

MR. MURRAY: You're welcome.

MR. WOLFF: Dr. Hunter?

MS. HUNTER: Thank you.

My first question is for Prosecution or Staff. Um, just to clarify my understanding is, that in our regulations and permits, well, we provide standards, um, that define what violation parameters set, define what a violation is. We do not provide direction as to how you would assure that those standards are met.

So in other words, we do not direct within the language of a permit, we would not direct what types of alarms or what types of safeguards. We don't define that in anyway and we don't instruct or limit or constrain what types of safeguards would be required in order to be consistent and compliant with the permit -- conditions of the permit; is that correct?

MR. SARMIENTO: That's correct. It's not restricted.

MS. HUNTER: That's true of all of our permits?

MR. SARMIENTO: Most of the permits are, um -- there are some specific information or requirement like some operating procedures that's part of the permit, but

not all are in there.

MS. HUNTER: Okay. So in the case of this permit, that is typical or consistent with all permits issued, that we would not specify how those safeguards are in order to be compliant, would need to be designed or what function they would serve?

MR. SARMIENTO: That's correct.

MS. HUNTER: Okay, thank you.

Now, um, to the Carpinteria group. Um, so this system failure occurred at 4:00 A.M. in the morning and I'm curious. Is there a difference in day staff and night staffing? Are there differences in the number of people and the type of expertise?

MR. MURRAY: Our plant is manned from 7:00 A.M. until 3:30 P.M. in the afternoon. We even have a shorter schedule on the weekends, so that's -- the remaining 16 hours of the day, our -- you know, that monitoring system that I mentioned is what is controlling and calling out operators in the event of any failure.

MS. HUNTER: Okay. So is there a line of a hierarchy of who gets called in first through those alarm systems? How does that work?

MR. MURRAY: There is. We have an on-call assigned operator for the treatment plant. We also have an on-call assigned operator for the collection system.

In this case, it would have been the alarm goes to the treatment plant operator on-call, and then there is a chain of command all the way up to our operations manager.

MS. HUNTER: And is there a time frame in which they are expected to respond and be on site?

MR. MURRAY: Yes, within 30 minutes.

MS. HUNTER: Within 30 minutes, okay.

Um, can you tell me then -- so apparently, the pump and its dysfunction status was identified then first thing in the morning when the staff returned?

MR. MURRAY: Essentially. They started at 7:00 A.M. They do their normal safety meetings and shortly thereafter the assigned operator that does the plant inspection or the rounds, starts his way around. When he came around to this part of the system that's inspected every day, he realized that, you know, this pump had some problem.

MS. HUNTER: Can you describe to me what specifically were the cond- -- how did he or she know the condition of the pump, that it was in dysfunction?

MR. MURRAY: Well, as was mentioned, the pump appeared to be turning and operating normally and it was the appearance of the water in the chlorine contact tank. One of my operators noticed that it looked dark.

This was the operator who would be collecting the sample normally that day.

He ran a chlorine concentration from that location and, um, it happened kind of all in an instant, "Hey, let's start looking at what's going on here," and then they identified the problem.

MS. HUNTER: And so how was it determined that the pump was not functioning for five and a half hours?

MR. MURRAY: As I mentioned, we have a SCADA system that, um, monitors the plant at all times.

So we're continuously monitoring both chlorine residual and oxidation reduction potential at the head of that treatment plant, at the location where we would -- well, where we installed the alarm after the fact. Um, so we can go back and chart in our 13267 report, we provided some of that information. We can very clearly show exactly when the chlorine residual went to 0 and when it came back on.

So we have all that data, we monitor it, very sophisticated systems, industry standard systems. We just didn't have the alarm.

MS. HUNTER: So if this had occurred during the day when staff was there, do you think that the chlorine levels would have been detected in a much shorter time frame?

MR. MURRAY: I'd say that's probable.
MS. HUNTER: Mm-hm, okay. What was actually required, what were the actions taken to restore the pump function to get back online?
MR. MURRAY: Um, we did nothing to get it back online, other than take that delivery of chemical.
MS. HUNTER: Can you explain that me again?
MR. MURRAY: Sure. Well, the pump appeared to be working. When they delivered -- excuse me, the tank truck came and put more chemical, another 5,000 gallons into the 6500-gallon tank; the pump just starting working again.
MS. HUNTER: So the 5,000 was the difference between the -- the full capacity of the tank and what was remaining in the tank.
What was remaining in the tank, would you consider that point at which the pump would have locked up?
MR. MURRAY: No, ma'am. It's -- we've ran without any failures many, many times well below that level.
MS. HUNTER: What would you say is "well below"?
MR. MURRAY: Oh, down into the hundreds of gallons of chemical remaining. We try not to get that low, but sometimes it works out, schedules for delivery and so forth.

MS. HUNTER: Okay. So simply restoring supply at the full capacity of the tank, the pump then began to deliver chemicals into the tank?
MR. MURRAY: I wish I knew definitively why that pump stopped sending chemical to the tank. You know, we've speculated that there was an air lock condition and it was remedied, but after we did our post-event debriefing and download of information, we took the pump apart, we couldn't find anything mechanically wrong with it. Nothing wrong with the control system. It just really appeared to be some temp- -- you know, short duration, temporal failure.
MS. HUNTER: So when you took the pump apart, did you stop the operation system altogether or did you put in a secondary pump?
MR. MURRAY: Well, we have a secondary pump. There's a fully redundant pump in this system and there was at this time, um --
MS. HUNTER: It's just a flip of the switch?
MR. MURRAY: Flip of the switch, yes.
MS. HUNTER: One pump or the other?
MR. MURRAY: Yes.
MS. HUNTER: Okay. Um, so then you made a statement that gave me pause, and you said that there are many alarm systems within your -- the design of your

operation, um, but you're looking at reasonableness of alarming everything.
So my question is, wouldn't this particular pump, which is delivering chemicals for tertiary treatment, wouldn't that be considered a significant part of the system in which you -- that should have been one of the 150 alarms installed in your system? Especially, given that you have two pumps, so to me, it would seem that you would have a redundancy there; that if that pump is not delivering chemical, that it would automatically switch to the other pump.
MR. MURRAY: You know, in hindsight, I think that the answer is easy. We've -- I did not design this system. We had engineers that designed this system. We have periodically gone and looked for vulnerabilities in our process and remedied things. We've added redundant equipment and so forth just to make sure we're, you know, not going to have a situation like this.
This was one particular alarm that we simply didn't have, nor was it, you know, in the forefront as critical, and I think part of that is based on the reliability of that particular pump. Um, we put the same model of pump back in place, and anyway --
I did poll some of our area treatment plants and asked the question that was raised earlier. I'm reluctant

to say who has what and who doesn't, based on what we heard from the Prosecution Staff. I can say that in Region 3, I would not say that alarm is an industry standard alarm.
MS. HUNTER: Yeah, okay. So I mean, to me, that would seem like a really critical point to understanding your tertiary treatment sequence that that pump and with its backup pump, that one or the other was functioning correctly.
So getting to the mechanical part of it, um, everything that's mechanical fails at some point. I mean, some things have long lives. I just discovered how long an airplane flies before they take it out of service, and it's remarkable to me, but there's a great deal of maintenance, there's a great deal of expert systems, checks, and it would seem to me that a pump with 14 years of non-failure would suggest that that pump is -- what is the lifespan of a pump like that, do you know? Did you ever look into that?
MR. MURRAY: This one was 15 years, until we proactively replaced it with this new system. Um, but it's not uncommon for, you know, wastewater equipment of this caliber to last 20, 25 years and that's with active maintenance and monitoring, which we provide.
MS. HUNTER: So what is the maintenance schedule for that pump in particular? Not your system

overall.
MR. MURRAY: Sure. Well, that pump is inspected every day. Annually, I know that we change the gear oil. We do sort of a more comprehensive breakdown on an annual basis.
The remainder is really kind of on a operator experience replacement, um, basis, not scheduled. Just, you know, let's change the diaphragm on this one, on this interval.
MS. HUNTER: So just an inspection of observing wear or tear, things like that?
MR. MURRAY: Yes.
MS. HUNTER: But in this case, this particular system relies on human intervention because you did have a backup pump. So if someone had been online, it may have been a much shorter duration before they recognized -- wouldn't have been five and a half hours, I'm guessing.
MR. MURRAY: You could speculate that way. I can't say, it would depend on when somebody was going around the plant looking at that it particular function. It's a fairly large facility.
MS. HUNTER: How many people do you have online that work the system itself?
MR. MURRAY: In the treatment plant, we have a total of six people.

MS. HUNTER: Okay. And finally, if there had been an alarm -- and I realize I'm asking you, it's a hypothetical -- but let's say there was an alarm, either it would have triggered the secondary pump switching on, or it would have been off some human observation of some sort; is that -- would you agree with that?
MR. MURRAY: It would have been an alarm that called out an operator to come and address that specific alarm. With our new system that we've installed, we have automatic switchover, we have flow monitoring. You know, we have sort of the state-of-the-art system.
What we had before was, you know, 15 years old working perfectly fine, very, very reliable system, but it didn't have every bell and whistle.
MS. HUNTER: Okay, thank you.
MR. MURRAY: You're welcome.
MR. WOLFF: Mr. Johnston?
MR. JOHNSTON: Mr. Chair, I'm correct in assuming I can ask question of both the Prosecution and the Defense?
MR. WOLFF: Yes.
MR. JOHNSTON: Okay. Starting with the Defense. Um, you stated that you had surveyed wastewater treatment plants in -- to establish who was using these types of alarms and who wasn't; is that correct?

MR. MURRAY: Yes.
MR. JOHNSTON: And can you tell me who exactly you surveyed and what you learned?
MR. MURRAY: I can if I'm obligated to do that. I've heard this Prosecution say they would be issuing notices of violation to those people who don't have such an alarm, so I'm reluctant.
MR. JOHNSTON: Let me rephrase the question. Can you tell me how many wastewater treatment plants you surveyed in -- how many of them were in this region and what you learned?
MR. MURRAY: Um, I -- I'd say five or six and all but one did not have this alarm.
MR. JOHNSTON: Fair enough. Um, now, um, I want to ask a question about this dredging model. So the way that I heard the Prosecution explain the deficiency of the model is that it's designed to deal with essentially stuff that's heavier and doesn't mix and disburse in the same way as effluent, which has a very low specific gravity related to seawater.
And, um, and the way I heard you respond to that -- I hope I've got this right -- is that well, it was a model that really wasn't designed to deal with mud; it was designed to deal with, uh, the water that the solids had dropped out of; is that correct?

MR. MURRAY: That's correct, yes.
MR. JOHNSTON: So it would -- was it a model that was designed to deal with -- with undersurface discharges?
MR. MURRAY: Yes it is, yes it is.
MR. JOHNSTON: And was it a model that was designed to deal with discharges that had a much lower specific gravity than the waters they were being disbursed into?
MR. MURRAY: Not specifically, no.
MR. JOHNSTON: Okay. So -- so the characteristics of effluent disbursal where the effluent is significantly lighter because it doesn't have the salts in it like seawater does, and so there's this turbulence as it rises, aren't really contained in that the model, is that correct?
MR. MURRAY: That's correct. The model is a very simple application that we use to look at the dilution and the concentrations that would occur at different times and distances from the discharge. We did not do a more complicated fate and transport model, because we attempted to parameterize this or did parameterize this model to really be conservative and again underestimate the current to try to use the parameters that would underestimate the dilution that

would occur in an ocean environment, such as this.

MR. JOHNSTON: So would the fact that the model that you were using was -- it did not take into account the lighter, uh, the broiling that happens when a lighter effluent rises through the seawater, make it a more conservative model? That's what I'm trying to understand.

MR. MURRAY: I don't have an answer for that. My understanding from this model is that it's as was described a near field model, the farther field figure that was shown previously that showed the buoyancy, is not something that we tried to address. We looked at this at a very small localized scale and tried to understand what dilution would occur using some very conservative parameters when we saw that the numbers we were obtaining indicated that we were below our permit standards that were relevant. We basically said there was no need to continue to look at a far field more complicated fate and transport model.

We were very much trying to focus on the immediate zone around the area of discharge.

MR. JOHNSTON: Okay. Prosecution. I want to ask about the same thing.

Um, and it's, it's hard for me as a layman to get my head around these things, you know, intuitively,

and I got my engineering degree at K-MART, so --

Intuitively, it seems like if their using a disbursal model for the near field disbursal that does not have the same rising towards the surface and mixing characteristics as the effluent actually has, would that not make it more conservative because there would be less short-term mixing going on?

MR. BUFFLEBEN: So they're applying this model in theory to the far field. So if you look at Table 3 in their calculations, they have already assumed that the effluent was diluted 93 to 1.

So they're already assuming that it's been mixed, and then they run the model off of that concentration and see how long it takes.

They didn't describe how big that initial mixing zone is. I've testified it's probably within a hundred feet of the outfall and probably occurs within a couple of minutes of the outfall, but that 93 to 1 assumption that they've built into their application model is the near field -- the mixing zone. So they've actually tried to apply that model beyond that because they've already taken the dilution concentration into account.

MR. JOHNSTON: So let me see if I understand what you're saying. You're saying that that 93 to 1 dilution takes place over a hundred or -- I forget if

you said a hundred or 150 feet?

MR. BUFFLEBEN: Yes. Within a hundred feet, yes.

MR. JOHNSTON: Okay. And that that's -- when you talk about the near field, that's what you're talking about?

MR. BUFFLEBEN: Correct.

MR. JOHNSTON: And so you're saying that their model assumes, almost assumes it's coming out of the pipe already diluted?

MR. BUFFLEBEN: That's the way they ran their model, right.

MR. JOHNSTON: And that -- so what you're saying is their model has what's coming out of the pipe diluted to the level that you would have it at 100, 150 feet out?

MR. BUFFLEBEN: Correct. The way they ran their model--

MR. JOHNSTON: Yeah, I understand that and I just want to come back and make sure I understand what they're saying with this, and then I'm done with that.

Okay, I have two other questions for the Prosecution. One is the, uh, their fisheries, uh, expert, testified that the -- in terms of the question between the 14 and the 400 standard -- that the 14 standard was

a long-term average standard, not a -- not an appropriate standard for -- for a short-term event like this. Um, do you have -- do you view this as a -- the 14, as a long-term average standard or are you prepared to answer that?

MR. BUFFLEBEN: So the way Public Health sees this is that when 14 fecal chloroform limit is exceeded, they shut down commercial harvesting.

So that's not a long term. They see that number greater than a 14 fecal coliform, they shut down the commercial harvesting fishery.

MR. JOHNSTON: Okay. Finally, the last question I have for you, well actually, it's the second to last.

There was reference to a -- a Regional Board Staff Member telling the, uh, the District that they did not have to do monitoring. Um, we didn't hear testimony on it, but there was reference to it in the briefs.

Um, I would just like to know when that happened and what was told to them.

MR. BOYERS: Well, perhaps, that's best answered by the witness himself or, you know, we can have Harvey Packard talk about sort of staff and their rules and what he understands the incident to be.

MR. PACKARD: Harvey Packard.

Do you have a preference on who you -- would

like Dr. Von Langen to answer that?
MR. JOHNSTON: I do not.
MR. PACKARD: Can you repeat the question that you are inquiring, please?
MR. JOHNSTON: Um, there's been reference made in the briefs and I think in passing in the testimony to Regional Staff telling the District at some point -- it's unclear to me when, that they did not need to do monitoring. I just need to know what was said and when to the District.
MR. PACKARD: Okay. I won't testify to what Dr. Von Langen may have said to the District, but we've heard testimony today that the requirements of the MRP in the loss of disinfection incident weren't widely understood either by our staff or by the District at that point.
There's also reference in the written testimony to a call that the District made to the -- both the State Health Department and the County Health Department and there may have been instruction there, but other than that, I would defer to Dr. Von Langen.
MR. JOHNSTON: Okay. I mean, there's a statement in the Prosecution's brief that the District erroneously told -- that the Region erroneously told the District that they did not have to do monitoring. That's the --

I don't see it right in front of me, but I think a pretty accurate paraphrasing of the statement in the brief.
MR. PACKARD: Right. I would agree that that's an accurate paraphrasing in the brief. I'm not certain that that's exactly what happened. Our understanding of what happened may be -- may have progressed beyond what we understood at the time we wrote that brief.
MR. JOHNSTON: Okay. Um --
MR. BUFFLEBEN: Sorry. I'm gonna clarify.
I believe in our brief we said "may have told," and there was some qualifiers on that.
MR. JOHNSTON: I'm gonna quote from your brief. "Although a Water Board Staff Member erroneously told Carpinteria that they did not have to conduct the required sampling." That is from page 3 of your April 15th brief.
MR. PACKARD: And that was our understanding as of April 15th.
MR. BOYERS: And again, I might add that there's no real time element there. So I think the best way to address this is to have the witness come and talk about his recollection about, you know, what he said, when he said it, and what he remembers.
MR. JOHNSTON: I just want to know what happened and when.

Do you have a problem with this, Chair? Or if so, you're the Chair.
MR. WOLFF: Well, no, but you know, I think we may be getting into hearsay because we're gonna be hearing from staff saying, "Well," you know, "this is what we said," but we don't have also the District on the other hand saying, "Well, this is what my understanding was."
So we're, you know, at a bit of a quandrum here.
MR. JOHNSTON: I think that the way we would avoid hearsay is that if it's any participant in the conversation, it's not hearsay.
MR. WOLFF: Yeah, but we should really hear from both sides.
MR. JOHNSTON: I would agree.
MS. OKUN: And before Dr. Von Langen testifies, I just want to point out that there is an evidentiary stipulation between the parties and they did address this issue to some extent; they didn't resolve it, but what they stipulated to was the following language:
"Although this failure to conduct sampling could be considered a violation of the discharger's permit it is not included in the proposed administrative liability. In providing notification to the Central Coast Water Board Permitting Staff, the discharger was apparently told there was no need to sample after the

October 3, 2012 discharge. However; the discharger is responsible for compliance with the terms of its permit despite verbal directives to the contrary."
MR. JOHNSTON: Okay, actually, I think that's good enough. I don't think we need to beat a dead horse. I missed that. Thank you, Counsel.
Um, finally, I -- the last question for Prosecution. If the, um, there was a question raised about monitoring, and the monitoring while it's not charged as a violation is a significant chunk of the proposed penalty, the cost of monitoring in terms of economic benefit. If the discharger had -- what is the threshold?
If the discharger had caught this and, let's say the alarm had gone off and somebody had rushed in and they caught it in 30 minutes, or let's say somebody had noticed in five minutes. Is there a threshold in this permit for monitoring in the view of the Prosecution?
MR. PACKARD: Harvey Packard, again. I can read the provision if you want, if I can find it.
MR. BOYERS: And while Harvey's looking that up, again, David Boyers. Let me just make sure we're all clear that the economic benefit that is being calculated based on this failure to monitor is not an additive part of this penalty.
It sets a floor so that if you decide that, you

know, we want to reduce the proposed penalty by the Prosecution Team, the water code says you can't go below this floor. We have to recover at least the economic benefit plus 10 percent, but it's not kind of an additive part of the penalty.

MR. JOHNSTON: I understand that, but as part of the enforcement process by the guidelines, we have to set the minimum and the maximum penalties, which means we actually do have to have an answer to that.

MR. BOYERS: Absolutely.

MR. PACKARD: So the monitoring program says, "The discharger shall monitor for total coliform, fecal coliforms and enterococcus at receiving water sampling stations RSWF and RSWG as identified in MRP Section 2 above in addition to three shore sampling stations approved by the Executive Officer for seven days after loss of disinfection."

MR. JOHNSTON: Okay, thank you.

Um, well, I want to ask just one more question, and then I'm done. To the Defense, I just would like to hear a response to what I heard from the Prosecution about the modeling of the disbursal of the bacteria.

MR. HENNESSY: So basically, my understanding of the way the outfall diffuser works is it has ports on it.

As the effluent comes out of those ports, there's turbulent mixing. That's what the 93 to 1 dilution zone is applied to.

That is a small area, in my understanding, not a 150 feet, maybe on the order, 10 feet. Um, we did assume in this civil model that we ran, again, just really trying to put this into perspective, we weren't running a full blown fate and transport complicated model.

We were just trying to use simple tools to understand this. We applied it in a very conservative way to understand from that 93 to 1 dilution and then what happens, Craig pointed out, maybe it's two feet plus 10 feet, I acknowledged that. But again, that initial zone of dilution that applies the 93 to 1 factor is very small around the initial outfall.

Um, the dilution that happens in a coastal zone is significant. Um, we underestimated that dilution substantially with our current term.

I can't comment on the diffusion term. It's different than the diffusion term that applies to an effluent coming out of a port and a diffuser. That's not the same thing; that's not what this model does.

You'd correctly stated that this model is simple. It assumes something like coming out the end of a pipe. That was meant to make a demonstration that this stuff

is basically going to be dissipated into the environment at a rapid rate and is going to be below applicable standards, um, quickly and within a short distance.

Um, and that the area where there is potential exposure is very small, very limited to the area around the discharge.

Um, if I may, I would also like to comment that I don't have the permit in front of me, but the 14 MPN per 100 milliliter standard, I believe, in the permit specifies that that's a median concentration.

So I believe it's incorrect to say that once that is exceeded, there is closures of shellfish that have died. In fact, that's not my understanding of the rule, that's not my understanding of the genesis of that 14 number in The National Sanitary Shellfish Program.

MR. WOLFF: You done? Okay, just as a little heads up, at 1:00 we will take a break and we owe this to you because I see your fingers are starting to cramp there, and also I think that everybody needs a break.

So we will break at 1:00 for one hour and reconvene at 2:00. So, Ms. Cervantez, please proceed.

MS. CERVANTEZ: Yes, I just had a brief question regarding the cost of sampling and also the kind of

sampling you described, Mr. Murray, and I'm wondering if what you described is an example of what you would do under regular -- sort of day-to-day operations to monitor the receiving waters or, if in this situation, I'm also asking about would it prompt a different kind of sampling and monitoring if as in the situation you have a discharge of untreated material?

MR. MURRAY: Um, well, it is a little different than what we do normally. We do collect ocean samples, we collect dilution water that goes along with our toxicity analysis that occurs periodically, we do some surf zone monitoring periodically.

The surf zone monitoring in this case would have been conducted by my operators from the shore. The offshore monitoring, which is a thousand feet offshore, we would have had to figure out how to collect those, but the process really is take a jar, collect seawater, you know, jar on a stick, essentially, collect seawater and return it to our lab.

So it's a matter of getting out there, getting back it back to our lab with proper preservation and, um, control.

MS. CERVANTEZ: But you've also mentioned that there isn't capacity in your own lab for sampling for some of the human pathogens, and I'm trying to get

clarification on that, where -- in which permits, I know it's a heavily permitted industry, and so just wondering sort of where specifically it is outlined the kind of human pathogen that you would need capacity for.

MR. MURRAY: I can respond to that.

The normal sampling that we do every day, or -- for bacteria every other day of our effluent is for fecal coliform and total coliform. That's what our permit requires. That's what our lab is certified to perform, that analysis.

We're certified by the state, it's an ELAP certification for our lab. Because we don't routinely -- we're not routinely required to sample for enterococcus, which is also an indicator species, we don't have that certification. We don't perform that in our lab, so that's just the one analyte that would have to go outside to a contract laboratory.

MS. CERVANTEZ: And I imagine that you're certified to do that kind of testing and analysis because that's part of your day-to-day operation.

So the other piece of my question is, this wasn't obviously a part of the day-to-day normal operation of the facility. So in that situation, recognizing that there was untreated effluent that was discharged, what would your protocol be in that

situation? Who would you contract with or which labs would you send out to and then how would that change the cost of what you initially had described, which was about, you know, $3,000?

MR. MURRAY: Well, as I mentioned, I mean, the low end of the spectrum would be that we would do all of the sample collection in-house. Our operators would do the sample collection, we would run two out of the three samples in our lab, that work is already happening every day. The third sample would go out to Fruit Growers Laboratory in Santa Paula, the cost per analysis I would gather it to be $50 or no more than a hundred dollars per analysis over that seven-day period times, you know, the number of sampling locations.

MR. WOLFF: Do you have any more questions, Ms. Cervantez?

MS. CERVANTEZ: No.

MR. WOLFF: Ms. Thomasberg?

MS. THOMASBERG: Um, Kathleen Thomasberg.

There are so many questions that have been asked and so many answers. I'm trying to sift through all of the questions I have that have already been answered, especially Dr. Hunter, she hit the nail on the head for my questions.

However, I do have, uh, I think the focus for my

theme is and I'll try to make it short for lunch, I know everybody is starving. The safeguards.

Now, in process control, no matter what production you're in whether it's wastewater, food, drink, et cetera, you a have process control, and you have safeguards that you take in any process control.

So now I was -- I continue to read through and through the sequence of events, starting at it's 4:08 A.M. that there was this 0 chlorine residual right? 0.

So then I looked at -- I'm looking on page 7 of the sequence of timing. So at 9:30 I'm assuming the safety meeting was finished, the guys finished their coffee and their donut and now they're gonna do the rounds, or I don't know what their standard operating procedure is in that wastewater plant. Our wastewater plant was different that I worked in.

Anyhow, so I'm trying to figure out what -- why, and I know there was urgency once it was determined at 9:30 A.M., right? Then it was determined the pump was working, but there's no chlorine in there.

So then I'm looking at the start time, 4:00, and I'm just reading this starting to panic and going, okay, what safeguards need to be taken? And first thing that seems to me that's deficit is it's listed in your NPDES permit for sampling, even if you didn't have a kayak to

go out there a thousand feet, just a sample at shore to see what's coming in if people are on the beach.

So, um, and then by 10:00 the sample analysis indicates still 0 even after the tank was filled, and you said it was 6500 gallon tank, right? For your sodium hyperchloride?

MR. MURRAY: That's correct.

MS. THOMASBERG: And then finally at 11:00 A.M., I mean, quite a few hours have passed, that was another hour. Finally, it reads 8.8 milligrams per liter.

So wouldn't a safeguard in the big category of "safeguard" be, to go "Gosh, we'd better check that water sample, even if it's at shore to see what we're getting as part of the NPDES permit.

So that seems logical to me. Did that ever occur to you folks at the wastewater treatment plant?

MR. MURRAY: Well, we did collect a sample during the time when this pump was out of service. We collected a sample--

MS. THOMASBERG: Where did you collect that?

MR. MURRAY: It was from the effluent point in the tank.

MS. THOMASBERG: In the tank?

MR. MURRAY: But it wasn't as a result of identifying this problem; it was just our normal sample.

So we have a lot of information to characterize the quality of water that was going out and it was very high quality, it just hadn't been disinfected. It looked like a glass of water, you know.

MS. THOMASBERG: So it didn't occur to you as a category or safeguard to go out and at least collect a beach sample knowing that it had not had chlorine for that period of record?

MR. MURRAY: I can't say that it occurred to us, because we basically had remedied the problem as soon as we identified it. It was corrected. And I guess our assessment was that this was not a significant event; this was not -- there was not likely to be harm associated with it to receiving waters, whether it be recreational contact or shellfish harvesting.

That was just based on our experience operating the facility, our understanding of treatment plants throughout this region and throughout California. We didn't see it as an emergency kind of crisis situation, and that was confirmed when we, you know, notified the Public Health Department and the shellfish harvesters and the Regional Board. Nobody said "Go out and take samples," "post the beaches," you know.

I think, my take on the whole situation is that there's really divergent perspectives on whether this

was a significant event or whether it was a one-time equipment failure that was properly responded to.

MS. THOMASBERG: So then the next question arises and this was on my list, too, is what constitutes a short duration? Is it one hour at such-and-such a flow? Is it one minute at such-and-such a flow? Are there two variables in here? Is it the flow of disinfected -- or of effluent?

So what is your definition of a short duration?

MR. MURRAY: Well, I've asked that question of the Regional Board Staff and haven't gotten--

MS. THOMASBERG: I'm asking Carpinteria. You just made that statement --

MR. MURRAY: I'll be just perfectly frank with you. If I had been aware of this requirement to sample on that day to start a seven-day sampling program, I would have done it.

MS. THOMASBERG: So excuse me, let me go back to the Prosecution Team.

What constitutes the trigger in the NPDES permit for the sampling? It says, "Thou shalt use safeguards." And so what constitutes a duration that would trigger sampling, that's my question -- a duration and flow?

MR. PACKARD: Harvey Packard. The permit does not specifically say. It says exactly what I read

before, when there was a loss of disinfection there at the sample.

It also mentions after that, that the discharge -- the discharger shall determine in its sole discretion, whether an event has occurred, talking about an event of inadequate disinfected effluent.

So really it's -- I will agree we could improve this language, and we will take a look at it for the next time.

And I would agree with Mr. Murray, if we had been aware of this requirement, I think we would have asked them to sample, and they would have sampled had they been aware of it, also.

But getting back to what Dr. Hunter said earlier, the permit, the discharger is required to comply with the permit. We don't specify how they're going to do it.

MS. THOMASBERG: Right.

MR. PACKARD: We have two basic expectations. Comply with the effluent limitations and provide safeguards. Those are both in the permit. I think, you know, they -- the District has testified that there's 150 alarm points in this system. I think it's unreasonable to expect the Regional Board Staff to know all of those alarm points and to evaluate if that's adequate or not.

The basic determination of whether their alarm system is adequate is whether they have violations in the permit, and they did in this instance, and I think that's why we view it as significant and are taking enforcement actions here.

MS. THOMASBERG: Thank you.

One more minor question on this, and I kept listening and listening and the statement was made that the equipment was faulty, the pump was faulty, when in fact according to this description, it was not. It was operating, but there was nothing coming through it.

Now, one thing I did note on that same page of the sequence of the time, and the key burden here is at the 9:30 A.M., Mr. Rogers, let's see, the plant rounds and notifies Mr. Rogers that the dose analyzer, the dose analyzer, detected 0. So as a safeguard, wouldn't that be the most critical point to have a safeguard, whatever that is to notify staff?

So it wasn't the pump; it was the dose analyzer. What goes to 0, then who's gonna know? Not necessarily the pump because the pump was operating. So do you now have a dose analyzer alarm and if you do now, what did you use as a safeguard before this occurrence for the dose analyzer reading 0?

MR. MURRAY: We do have a safeguard, an alarm

now --
MS. THOMASBERG: Yes, but what about before?
MR. MURRAY: I think before, we acknowledged that this particular safeguard we did not have. And I -- you know, I think that's why we felt this is a reportable violation. We did everything that we knew to do to report it as a violation and we've -- we're willing to accept, you know, some reasonable penalty associated with that violation.
We did within one week, as I mentioned, engineered that safeguard in. And whether it's the most critical safeguard in our treatment plant, I don't believe that to be the case, but it is. I acknowledged we should, you know, hindsight's 20/20. Should we have had that? Perhaps.
MS. THOMASBERG: Well, I also think that -- I congratulate Regional Board Staff for not specifying what safeguards you shall have because that's not their job. So even if you did get awards and you've been a pretty darn good treatment plant, this was one that fell through the cracks and, to me, it's significant. It's a significant discharge and there were other questions that I can ask, but I don't think they're important at this point having to do with when you had prearranged the delivery of the sodium hydrochloride.

So anyhow, long story short, there was a discharge that would have been a safeguard that could have been implemented before this discharge, and so that's where I'm at.
MR. MURRAY: Should I respond?
MS. THOMASBERG: Sure.
MR. MURRAY: I -- you know, I don't disagree with you and I think part of our position has been that, um, there needs to be fair and firm and consistent enforcement and that's the main tenet of the State Board's Enforcement Policy. And so I mentioned I looked at the history of violations since 2010 in this region, and I identified at least nine other instances that were very, very similar in the terms of loss of disinfection.
In one case it was nearly a million gallons of undisinfected effluent discharged and a similar enforcement response did not happen in any of those instances. It fact, there was no enforcement that I could find, at the time I looked, on any of those losses of disinfection in this region.
And, you know, I'm not using that as an excuse for what happened at my facility. I'm just asking that, um, if this has happened nine other times including during the course of this inspection, and the only response from Regional Board staff is "Put that in your monthly report,"

it's hard for me to accept an $80,000 penalty from my rate payers. I just don't find that to be consistent enforcement. We've admitted to the violation, we've negotiated in good faith, on our opinion, to pay a reasonable penalty that is consistent.
We're here today because we disagree on whether this is significant in respect to other events.
MS. THOMASBERG: I would like to also mention on the list in the back of this binder, it states many of the treatment plants and what their dilution ratios are, the distance of the outfall, the depth of the outfall, what that water is combined with, if it's not disinfected, and it's apples, oranges and pears here, and if you're comparing yourself to a 10,000-foot discharge at hundred feet versus 1,025 feet and oh, this one has brine with it, that's to me, totally different.
So I think -- I still feel that it is a substantial discharge in the amount of water.
Thank you.
MR. WOLFF: Okay, thank you.
So it's past 1:00 o'clock. I'll round it to 10 past 1:00. We will now take a one-hour break. We will reconvene at 10 past 2:00 and, Counsel, would you please make a statement?
MS. OKUN: And just to recap where we are when we

come back from lunch, the Board will complete its questions, the Advisory Team may have some questions and then the Prosecution Team will have the opportunity to do cross-examination, and then we'll move into closing statements.
Once the evidence is completed, the Board will at that point adjourn to closed session to deliberate on the evidence. We're taking a lunch break, but the Board will not be deliberating over lunch.
However, we will be addressing a personnel matter in closed session over the lunch break and just to give the parties a time check, Mr. Harris will let you know how much time you have left.
MR. HARRIS: So the Defense has used 61 minutes, so they're -- even with the extension, you have used your time, and the Prosecution has used 38 minutes. They have roughly 23 minutes left.
MS. OKUN: And in addition to that, each side has five minutes to close.
MR. HARRIS: Plus your five minutes; correct.
MR. WOLFF: Okay, so we're in break time.
(Wherein a lunch recess was taken until 2:10 P.M.)
MR. WOLFF: All right. Okay, now, we do have all our Board members back, so we are now back in session at 2:15 P.M. and now it is myself, will ask a few questions,

and the questions are to the District. And one of the questions is, we talked about the model you used, you refer to as a simplified model. And I wonder what was the rationale of using the simplified model versus the disposal model knowing that this would certainly be a key part of, you know, the overall evaluation of the impact from the water construction?

MR. HENNESSY: Certainly. Dan Hennessy, by the way. I have neglected to mention my name several times.

So basically, I approached this primarily from a question of whether there was harm or not. And as a risk assessor, um, typically try and do things starting simply and then doing it more complicated as you need to do to answer the question.

Again, as I had mentioned my model, um, model that we prepared, um, was parameterized to be very conservative, which is very consistent with the way this is typically approached.

So based on that, simple model outcome where we saw that there was very little impact, we expected the standards to be met within a near close vicinity to the outfall. We didn't really feel there was a need to do a more elaborate and complicated model that would involve a lot more cost, a lot more effort, a lot more specific data -- not just the data we have available from the

Sanitary District, but also the chemistry when with motions, current, things like that. It becomes quite complicated to do something like that.

There are available packages. For example, the Army Corps has prepared that are steps above this simple model that is in their test drive. So the model that we applied, it's a very, very, generally simple mathematical model that takes into account the flow, the turbulence that you would expect in the system.

Um, and look at the -- you know, really a simple framework, not something that takes into two or three dimensional transports. It's really just try and get an understanding in a conservative simple framework about what we would expect under some very conservative worst case conditions. And so when we saw that we were able to make a case, a very strong case, that our standards were being met, very near the point of discharge where the standards were being met. We didn't really see a need to do more than that at this point for this demonstration.

MR. WOLFF: Okay, thank you. And my next question is for Carollo Engineer.

And how many years has Carollo been providing engineering design?

MS. HANN: That's a good question. I believe

it's been quite a few years.

MR. WOLFF: 20 years? 25?

MS. HANN: At least 10. I haven't ever personally worked for the District. This is my first encounter with them.

MR. WOLFF: Um, the question was for, in terms of Carollo Engineers, you know, how many years that company has been in business.

MR. MURRAY: Not serving my agency -- business, in general?

MR. WOLFF: In general, yes.

MS. HANN: Oh, I'm sorry. I thought you meant with the District.

Probably almost 80 years, if not a little bit more.

MR. WOLFF: That's what I thought. I knew it was over half a century.

MS. HANN: Yeah, it's been quite a long time.

MR. WOLFF: And then -- thank you. And my next question with the District, approximately how many years?

MS. HANN: And that's -- I'm not really sure of that number.

MR. MURRAY: Since around 2005.

MR. WOLFF: Okay. So Carollo Engineering, it's

a company that's designed new wastewater treatment facilities throughout California and probably other states?

MS. HANN: Yeah.

MR. WOLFF: Okay. And Carollo Engineers also does design upgrades of existing wastewater treatment facilities?

MS. HANN: Yes.

MR. WOLFF: And that includes disinfection systems using chlorination techniques?

MS. HANN: Yeah.

MR. WOLFF: So in the designs that are currently applied by the Carollo Engineers, when the Carollo Engineers and its design, do you use alarm systems for low-chlorination levels?

MS. HANN: I think for a new facility or an upgrade that we are asked to design, we would typically recommend an alarm system.

MR. WOLFF: So you would recommend if you saw a facility that did not have an alarm system, you would recommend to have one installed?

MS. HANN: Yes.

MR. WOLFF: Okay. And so my -- thank you.

My next set of questions is for the District, and earlier on with the opening comments from your legal

counsel, the lack of alarm in the low chlorination part of the system was characterized as being really a small item, but I forgot how it was quoted, but it was sort of this is and how much, if I understand correctly, the District spent 1.1 million in upgrading its system and a lot of the local upgrades, I believe you quoted yourself, "State of the art" technology or state of the art industry technology with a very robust supervised control acquisition system.

So I guess I see a little bit of a paradox where the District was willing to spend a significant amount of money in upgrades, realizing the criticality and importance of the disinfection system; yet, it was characterized in terms of the alarms, alarm as being a relatively small element. So I commend the District for, you know, the -- the capital equipment upgrades that were made, and also recognizing the importance of having a good overall system.

So if we get to the root cause of the event that took place, a lot of it revolves around the pump. And so this particular pump, I forgot the model -- model 200 TW, or something like that.

MR. MURRAY: Encore 700.

MR. WOLFF: See, I'm off by 500. So -- but some of the numbers before were off by 10,000, so I guess

I'm still in good territory.

That particular pump, is it a self-priming pump?

MS. MURRAY: It's a diaphragm pump.

MR. WOLFF: Okay. Which kind?

MS. MURRAY: Yeah --

MR. WOLFF: Yes or no.

MS. MURRAY: I'd say it's not a self- -- it -- I'm sorry, I can't answer that in definitive terms. I don't know if it's characterized itself priming or not. It doesn't have a lot of suction head.

MR. WOLFF: Could you answer that question?

MS. HANN: They certainly work better if they do have a positive head available for the suction side. I mean, they can prime themselves if they --

MR. WOLFF: But, you know, it's usually a pump, it's mechanical whether it's self-prime or not. So that's why I was asking that question.

So because it is relied -- oh, have any of you read the manufacturer's manual, the pump manual?

MR. MURRAY: I've read the manual.

MR. WOLFF: Okay. So in the pump manual, is there a section called troubleshooting?

MR. MURRAY: Yes, there is.

MR. WOLFF: And -- and in the troubleshooting section, is there a description of what some of the

causes of pump malfunction could be?

MR. MURRAY: I believe there is. I don't have it right in front of me, but I believe I remember seeing that.

MR. WOLFF: Okay. And does the manual have schematics about elevation of the holding tank versus the pump, since the pump is not inherently designed to be necessarily self-priming?

MR. MURRAY: I don't believe it has a graphical representation of that, but as I mentioned, I'm trying to put it in front of me, and I don't -- don't have it.

MR. WOLFF: Well, you can go online and look for it.

MR. MURRAY: Oh, we provided it with our original response. The entire manual for this pump.

MR. WOLFF: All right.

So refresh my memory. The holding tank, is it above or below the pump or is it at about the same elevation as the pump? So if we take gravity flow, is it above, below, or at the same level?

MR. MURRAY: I'd say it's relatively the same level.

MR. WOLFF: By the way, would have helped, you know, we talked about this pump over and over and I haven't seen a single schematic. I think that could have

been enhancing a little bit or understanding.

MS. HANN: I was just gonna say that when I was on site that is one thing -- that is one thing that I observed. The bottom of the tank appeared to be at very similar height as the inlet to the pump, which is why we had mentioned that the priming issue could have caused, had the chemical in the tank been low. But with the chemical at a elevation that it was, that shouldn't have been the case.

MR. WOLFF: But because the pump is not a self-priming pump, the proper design of the elevation of the tank would be critical, I would assume.

Did your piping system from the holding tank to the pump include backflow preventers?

MS. HANN: I didn't observe any backflow preventers.

MR. MURRAY: You mean, like a check valve that would go --

MR. WOLFF: Like a check valve, yes.

MR. MURRAY: I don't think that was part of the design of the system that existed in 2012.

MR. WOLFF: So have you compared that to the manufacturer's recommendation in their schematics, in their manual?

MR. MURRAY: I'm -- if you give me one second,

I have the manual now on my computer. I can look at it and see if there is a schematic to compare to.

MR. WOLFF: Yeah, you will find three schematics.

MR. MURRAY: You're not looking at the pump cutaways, are you?

MR. WOLFF: Well, I guess I can help a little bit, but there is one set of installation recommendation where you do have actually three figures of installation recommendation, and you will find check valves between the holding tank and the pump.

And you know, the reason I ask this question is because there appears to be some question marks about why this particular pump did not function properly, and I agree the terminology should not be "failed," because it did not fail.

So, you know, trying to address the part of root cause, you know, air lock was certainly one -- one of the concerns. But I think when performing, for instance, evaluation of the system failure, you have to look at the manufacturer recommended practices versus the actual design installation.

Um, we -- and we do not have -- I haven't seen in record, your actually as-built schematic design. Does that make sense? I mean, I tried to be diligent in reading everything, but --

MR. MURRAY: We have that, um, even though that system doesn't exist anymore, we have that information. It was not requested of us. We didn't provide it, nor did we really expect to get into this level of discussion.

MR. WOLFF: Well --

MR. MURRAY: We're here, so let's talk about it.

MR. WOLFF: And I think we all agree that the root cause, why we're all here today is because of the lack of chlorination at the end, and the root cause of that was because the -- the pump delivery system did not operate as intended.

So I think it is important to focus on that particular aspect of the design of the system.

MR. MURRAY: I can acknowledge that, but I would say that that pump system worked perfectly for 14 years continuously. Um, aside from this one failure, if you want to call it that, it worked after the case until we took it out of service. So I would struggle to say, to point to a design flaw or some problem in the piping that contributed to this one-time event.

MR. WOLFF: So back to the troubleshooting portion of the manual.

Does the manual provide various scenarios of failure mode of the pumping system, either the pump itself or the function of the pump system to properly

deliver the chlorine? And specifically, addressing causes of air loss.

MR. MURRAY: I know in our response, Carollo Engineers pointed to certain conditions that could contribute to an air lock. Um, I'm trying to get to the page, the troubleshooting page that you're referring to and that might help me.

I can tell you that my operation staff is the one that would be most familiar with this manual. They're the ones that have -- they have this on an iPad. They are able to pull it up in the field whenever they need to, um, so I apologize for not being able to answer these right off the cuff.

MS. HANN: If you don't mind, I'd like to make a correction to the statement that I made.

I mean, this manual actually has two examples. One that is a flooded suction installation and one that is not where you could actually have the pump at a higher level than the tank.

So our statement in the report that that could be a cause in noting that the elevations are supported is just a theoretical cause that we had dismissed based on the knowledge that there was chemical in the tank at that time.

So I'm not sure exactly what the setup is of

that pump, whether or not it's meant to be -- whether or not it was designed to be a flooded suction pump or not.

MR. WOLFF: Well, I suggest that the time is being spent with the District bringing your experts, and I'm a little bit troubled by the fact that, you know, some of these, um, fundamental aspects of the manufacturer recommended practices and design, you know, we -- if it's not very clear. So --

MR. JOHNSTON: If we're gonna go into the manual, where is it in the documents? Is it in the record?

MR. CARTER: It should be Exhibit 8.

MR. JOHNSTON: Thank you very much.

MR. CARTER: It should be the technical support.

MR. WOLFF: All right, thanks.

So you know, basically, I think you will find in your manual, since it's in the book here, that one of the other possibilities of air locks is because of air leaks in the lines. And I haven't heard part of the testimony, any discussion when you did the evaluation of why did it -- why did it not function properly to have had a variation of any air leaks in some of the piping joints? Because I would submit that most likely you did have various mechanical connectors between the piping system, and it was not a continuous supply.

MR. MURRAY: I'm very familiar with sodium

hyperchloride. It's a very aggressive product. In PVC piping systems, it will attack the glue joints and it can cause leaks. But they're typically not air leaks. They're typically liquid leaks that we repair on a periodic basis.

After this event my staff did a very thorough inspection of the entire system, and I'm certain that they looked for leaks and did not find any. Um, we had an expert come in and do an independent assessment of the system, and I don't believe they identified any smoking gun-type issues there.

MR. WOLFF: Then my last quick question. Did you do a Google search to see if that particular model had any other failure in other facilities?

MR. MURRAY: I did not do a Google search.

MR. WOLFF: I'm not saying because it's on Google, it's right, but it's --

MR. MURRAY: I mentioned this. I think maybe this was mentioned in our brief.

When we were to redesign the new disinfection system, we intentionally chose to use this same model, Wallace Interior Encore 700, for the new installation because of their reliability. I can't believe that one indeterminate failure over a 14-year service life points to anything other than a very reliable piece of

mechanical equipment.

MR. WOLFF: Yeah. Although -- and, you know, this my last comment and maybe it's me looking at things differently, but if you give an analogy because quite often people -- with the concept of NPDES meantime between failure and system reliability, and when someone says "Well, this is the first time in 14 years that it failed," I would not get on an airplane if that was the type of reliability, you know, that was being quoted to me.

So my last point is that I think the District recognized the importance and the criticality of having continuous chlorination because, otherwise, we would not have had a plus 1 design, meaning a backup pump with a switch over.

I think you recognized this after the event took place and certainly corrected that and then, you know, that situation to also further it meant how robust your supervisory system is. But the fact of the matter is, you know, you're only strongest at your weakest link, and I think that's what -- that's my questions -- my questions.

I thank both of you for helping me understand and clarify -- all three of you, I'm sorry -- for clarifying my questions.

So, Mr. Harris, um, you had some questions?

MR. HARRIS: Yes, thank you. Um, and I'm not gonna ask questions about the pump. Talked about the pump enough.

The, um -- Mr. Murray, you're the general manager of the facility and the permit is addressed -- the letter from Mr. Briggs was addressed to you.

Are you ultimately responsible for insuring that the provisions of the permit are carried out?

MR. MURRAY: I think that responsibility falls on our chief plant operator.

MR. HARRIS: Oh, okay. You said that you were familiar with the permit?

MR. MURRAY: Yes.

MR. HARRIS: And, um -- so in the permit the discharger must comply with all the conditions of this permit, and I realize there are some areas that are not specified which we have talked about that we did that on purpose.

Any noncompliance constitutes a violation of the Clean Water Act in the California Water Enforcement Action, plus some additional comments. Um, and then at the same time you said you thought the requirement to the offshore or the post spill event monitoring was buried in the document, and it's right in the monitoring receiving plan portion under, you know, receiving

monitoring, where all the locations are located for you to monitor, including -- including where you must monitor in the event of disinfection failure. Even tells you where you have to go and monitor.

So I think I was a little confused by your statement that you were familiar, in your comment, with which portion of the permit is buried. I don't think it's any more buried than any other aspect of the -- of any other requirement that's in the permit. You want to respond to that? My comments?

MR. MURRAY: I will agree with you. I didn't mean to characterize that that had been intentionally buried. I just was going to the point that at that time, it didn't jump out at us. And the way that that particular paragraph is written, to me, it just seems odd where you do all this in the event of loss of disinfection. But my takeaway, still, at that is strangely constructed, but I will concede that that -- it was in there, in the MRP. We should have -- we should have at least known about it.

MR. HARRIS: Okay. I think that's all. Thank you.

MR. WOLFF: So Prosecution Team?

MR. BOYERS: Thank you, Mr. Chair.

I have a few questions for Mrs. Hann,

unfortunately, about the pump. I will try to be brief and quick. I know that we spent a lot of time on that.

I'll start just by noting that, as Mr. Carter indicated, the District's Exhibit C specifies that the District had said to the Regional Board after the event that the cause was suspected to be an air bound chemical feed pump. And, Mrs. Hann, in your report on page 6, you reference an air locking situation.

Is air locking the same as air bound? Do you recognize those to be the same thing?

MR. HANN: Yes.

MR. BOYERS: Thank you.

And in your document, the same document on page 6, you recognize that air locking is a common problem for sodium hyperchloride systems; is that correct?

MS. HANN: Yes.

MR. BOYERS: All right, and that's due to the off gassing?

MS. HANN: Yeah.

MR. BOYERS: And when you say it's a common problem, do you mean that it's commonly known in the wastewater industry?

MS. HANN: I mean that it does occur on occasion.

MR. BOYERS: Do you believe that it is a problem known to wastewater operators and general managers and folks in the wastewater industry?

MS. HANN: I can't speak for operators or general managers, but I know that engineers do believe that it is an occurrence that can occur.

MR. BOYERS: And when air locking occurs, that can result in the failure of the pump to deliver chemical?

MS. HANN: Yes, that can occur.

MR. BOYERS: Even if the pump is still working?

MS. HANN: The pump can still be in operation, but chemicals can cease to be delivered by definition.

MR. BOYERS: So then it can still be a reliable pump that's functioning properly, but this air lock situation could cause the chemical not to be delivered; correct?

MS. HANN: Yes, that's true.

MR. BOYERS: Okay. And if that's the case and if it's a common problem, I'm gonna ask just the question, wouldn't you agree that because it's common, that it is important to have an alarm that would notify an operator in that situation?

MS. HANN: Yeah, and I think I mentioned that. On new designs and upgraded facilities, that is something

that we considered an important feature. It definitely is a recommendation for those situations that are operated.

There are many situations that it doesn't occur at this point and, um, so I mean -- guess back to your main question, do I think they are important? Yes.

MR. BOYERS: Okay. Thank you. I have no further questions for you. I do have a few for Mr. Hennessy.

MR. HENNESSY: Yeah.

MR. BOYERS: Okay, the report that you prepared, and we'll refer to this as the ABCL report that is District's Exhibit G.

Based on certain data that was taken in January, taken on January -- I'm sorry, samples that were collected on January 6, 2014; correct?

MR. HENNESSY: Correct.

MR. BOYERS: Okay. And basically the sample the total coliform was found to be at a level 160,000 MPN per 100 milliliters; is that correct?

MR. HENNESSY: That's correct.

MR. BOYERS: Okay. And would you agree that there's a high variability, um, in that number? So in other words, it could have been 300 high in; is that correct?

MR. HENNESSY: I would need to look at that data,

and I believe that's in there, um, if you can give me a second.

I do not believe that the data I was provided provides any competent intervals around that estimate. The most probable number, and my -- no, just a result MPN is what was presented there.

MR. BOYERS: So you have no knowledge as to the variability with which that result indicates to us --

MR. HENNESSY: Well, variability is gonna occur in any measurements. For example, um, chemical instruments might typically have a quality standard where it's got to be within 75 to 125 percent recovery for a surrogate if that makes sense. I can't comment directly on what the variability for this result is, though.

MR. BOYERS: I guess my question is, could it be higher?

MR. HENNESSY: It could be somewhat higher, it could be somewhat lower. And I think there's an equal probability that it could be either higher or lower.

MR. BOYERS: And I think you testified prior that, um, if you had had data from the actual event, your report could have been even more refined; is that correct?

MR. HENNESSY: Yes, that's correct.

MR. BOYERS: Would you agree that enterococcus is a more accurate indicator of a risk or harm -- I'm sorry, to human health than either total coliform or fecal coliform?

MR. HENNESSY: Based on what I know from -- yes, from the literature and EPA guidance.

MR. BOYERS: You had no such data on enterococcus when you prepared your report?

MR. HENNESSY: No, that's correct. We had total coliform and fecal coliform accounts.

MR. BOYERS: In your prior testimony, you stated that your conclusions were determined in part on consideration of the permit standards for effluent location; is that correct?

MR. HENNESSY: Yes, that is correct with regards to the implementation of the permit with consideration of an average in time. For example, a single maximum sample or median concentration that's been collected over a long period of time, which is consistent with EPA water quality standards. For example, acute and chronic system criteria.

MR. BOYERS: And I think your report, um, and I'm looking on -- it's 13 of 13 for reference. This is Exhibit G. It's the first, sort of top paragraph.

Um, your conclusion is that the CSD permit limit

for total coliform at 2300 MPN per 100 milliliters, the daily maximum was not exceeded by basically the representative sample; is that correct?

MR. HENNESSY: Was, um, by the 93 to 1 ocean spiked sample, yes.

MR. BOYERS: Okay, um --

So then is it your understanding that the CSD permit limit of 2300 MPN is an after dilution standard?

MR. HENNESSY: I would need to revisit the permit.

MR. BOYERS: Okay, we can do that.

MR. HENNESSY: Yes, thank you.

MR. BOYERS: So the permit -- if you look at -- this is Prosecution Team Exhibit 1, page 10 of the permit.

MR. HENNESSY: I'm sorry. I will need a second to get that.

MR. BOYERS: Sure.

MR. HENNESSY: Can you repeat the page, please?

MR. BOYERS: Yeah, it's page 10. This is under heading 4A 1 conventional pollutants that I'm looking at, and it says conventional pollutants, "The discharger shall maintain compliance of all effluent limitations at discharge .001 with compliance measured at monitoring location EFF-001." Do you see that?

MR. HENNESSY: I do see that.

MR. BOYERS: Do you know where monitoring location EFF-001 is located?

MR. HENNESSY: I do not right now. I believe that I was -- may I clarify that my, um, evaluation was for what was happening in the environment, not within the plant. If that is a within plant standard, um --

MR. BOYERS: So would that change the conclusion in your report that I just referenced, that there was no effluent condition violation?

MR. HENNESSY: I don't know the answer to that right now.

MR. BOYERS: Okay.

MR. HENNESSY: Sorry, I was -- if you will give me one second here.

MR. BOYERS: I'd be happy to.

MR. HENNESSY: No. I stand by that the -- I believe that the 93 to 1 dilution applied to that sample point.

MR. BOYERS: Okay. I'm gonna direct you to the same exhibit. This is attachment E of the MRP, page E3, and I'm gonna read -- this is where the monitored locations are specified.

"Discharge .001 effluent monitoring location in EFF-001 monitoring location description." Do you see

where I'm reading?

MR. HENNESSY: Yes, I do.

MR. BOYERS: Can you please read the monitoring location description for us?

MR. HENNESSY: "In Table E1 location where representative sample of effluent discharge through the ocean outfall can be collected after treatment and before contact with the additional wastewaters or the receiving water."

MR. BOYERS: Does that inform you as to where the monitoring location is required in the permit?

MR. HENNESSY: Yes, that does.

MR. BOYERS: Does that then change your conclusion that there was no effluent limitation violation that would be calculated from this representative sample?

MR. HENNESSY: In this specific case, I believe that, um, that that .001 and the 9200, um, or the total coliform would have exceeded that. That's correct.

MR. BOYERS: Okay. Thank you. I have no further questions for Mr. Hennessy.

Um, I do have a few for Mr. Von Langen.

MR. VON LANGEN: Peter Von Langen, Central Coast Water Board Staff.

MR. BOYERS: Good afternoon.

How many facilities, roughly, do you deal with in your employment at the Regional Water Board?

MR. VON LANGEN: Probably enrollments plus individual permits, over a hundred.

MR. BOYERS: Over a hundred. Um, and so you're involved with the drafting of permit provisions; is that correct?

MR. VON LANGEN: Yes. I'm involved in the review of the draft permit provisions.

MR. BOYERS: Do you know every provision in every one of those permits?

MR. VON LANGEN: No, I don't.

MR. BOYERS: Okay. Let me take you to your communications with the District related to the indication that there was no need to sample.

Can you please give us a recollection of your first communication with the District?

MR. VON LANGEN: The first communication I would have had with the District, based on my phone log, was on the 4th. They contacted me and left voice messages on the 3rd. We had a hearing in this room at that date and on the 4th, they sent me the E-mail under Exhibit C, saying that they were reconfirming that there was a violation.

MR. BOYERS: Okay. And at that time, do you

recall indicating to them that there was no need to perform monitoring?

MR. VON LANGEN: No, not at that point.

MR. BOYERS: Okay, when was your next communication, that you recall?

MR. VON LANGEN: Um, based on my phone log, I got a call from them -- from Mark Bennett later that day, and I have a phone log from Craig Murray on, I believe, the 22nd of October.

MR. BOYERS: And what did your phone log indicate?

MR. VON LANGEN: Um, the one with Mark Bennett was mainly just the report of the disinfection loss with the 201,000 false gallons of non-disinfected effluent that applied to shellfish parties, that they left messages for them and that they contacted other agencies.

MR. BOYERS: Did your notes indicate that you informed them that there was no need to perform monitoring?

MR. VON LANGEN: No.

MR. BOYERS: Is it your practice to make a notation of the extent of your communication?

MR. VON LANGEN: To some degree, yes.

MR. BOYERS: Okay, what's your next recollection

of your communication with the District on this issue?

MR. VON LANGEN: Um, it's going back two and a half years, but I remember first noticing in the permit while -- a year later with Leo Sarmiento and Jim Fisher, that there was this -- remembered that and then later on, I recognized at some point I had a conversation with the Carpinteria Sanitary District about the beach sampling and the vague language in the permit about how long the disinfection meant each monitoring.

MR. BOYERS: And is it possible that that conversation took place weeks after the event?

MR. VON LANGEN: It's possible.

MR. BOYERS: And is it possible that your indication not to sample was a result of there not being a need?

MR. VON LANGEN: Yes, I would have based that on, basically, that there wouldn't have been anything to really measure at that point.

MR. BOYERS: So to the best of your recollection, um, is it your testimony that you more likely than not did not indicate to the District that they did not have to sample? That was a bad question, let me re-ask that question.

Is it your testimony that you did not inform the District that they did not have to sample until weeks

after the event?

MR. VON LANGEN: It may have been. It may have been sometime that week later, but it was after -- I would believe that it was after the fact that there wasn't anything to collect right upstream this charge had occurred previous days.

MR. BOYERS: Thank you, I have no further questions for you.

Um, I do have just one or maybe two questions for Mr. Murray.

Mr. Murray, um, you testified that you surveyed five or six of the wastewater facilities in the region and asked them whether they had this low-chlorine dosage; is that correct?

MR. MURRAY: That's correct.

MR. BOYERS: And that the majority of those did not have such an alarm?

MR. MURRAY: That's correct.

MR. BOYERS: Can you -- are you aware of how many wastewater facilities that have disinfection lie within this region?

MR. MURRAY: I should be, because I've looked at the record, the file for every one of them, um, here. It's well north of 2,000, I would say.

MR. BOYERS: Okay. Did you contact any -- well,

let me ask it this way: How did you come across -- how did you decide on the wastewater facilities that you would contact, out of those 2,000? How did you decide that?

MR. MURRAY: Well, I participate in a group meeting with agency managers from throughout Santa Barbara County, maybe once a month. Sometimes it involves managers from Ventura County, sometimes from San Luis Obispo County.

So I just have a network of colleagues, and I called those ones that I felt had similar situations to us in terms of ocean outfall or --

MR. BOYERS: Did you have any knowledge before you made the contact, whether they had a low chlorine alarm or not?

MR. MURRAY: I did not.

MR. BOYERS: Thank you. I have no further questions.

MR. CARTER: If I may, given the fact that -- if I -- if I may, given the fact that the Prosecution stipulated as to certain facts regarding Mr. Von Langen, may I be allowed to ask Mr. Von Langen a few questions in light of the fact that the Prosecution attempted to violate that stipulation?

MR. WOLFF: Violating is a heavy word, so let me

go across to our Counsel.

MR. OKUN: The proposed order does include the stipulated language. I agree that the discharger should have the opportunity at this point to ask Dr. Von Langen a few questions.

It won't really matter either way, unless the Board is proposing to reject the stipulation as to that paragraph and change.

MR. WOLFF: Okay. And we'll restrict that to the testimony that was just presented.

MR. CARTER: Correct. Just redirect on those.

MR. WOLFF: Okay.

MR. CARTER: Doctor, may I ask you a question? We'll share the microphone.

MR. WOLFF: Okay, not too close.

MR. CARTER: Um, are you saying you did not have a conversation?

MR. HARRIS: You're gonna have to get closer.

MR. CARTER: I apologize.

Are you saying that you did not have a conversation with Mark Bennett or anyone with the Carpinteria Sanitary District about sampling or not sampling within the days -- the first few days following the incident?

MR. VON LANGEN: I'm saying I may have had a

conversation after the e-mails were sent, I believe on the 4th, but I don't recall at that point talking about the beach sampling. But this is going back two and a half years. But at that point, it wasn't right after the event.

MR. CARTER: A day or two later?

MR. VON LANGEN: Yeah.

MR. CARTER: Okay. No further questions. Thank you. Thank you for the indulgence.

MR. WOLFF: No problem.

MR. HARRIS: So I have a question, and maybe it will help all of us in terms of relevance, of Mr. -- Dr. Von Langen whatever he said, whether he did or not, and that is -- I'll direct it to Mr. Murray.

There's language in here that says the operator's responsible for understanding the content of the permit. Um, this is a federal -- federal permit that the state administers and, um, given, I'm sure, your experience with contracts and the like, what, um, which one is enforceable, something a staff tells you over the phone about a particular permit or the permit itself?

MS. OKUN: The stipulation obligation to comply with the permit notwithstanding staff direction, to the contrary, I don't think we need to pursue this line. The Board can consider all the evidence applying the

factors.

We've had enough testimony on who remembers what.

MR. HARRIS: Okay. I agree, and my only point was I don't think in my own personal opinion, and Dr. Von Langen said, I don't think this is what the permit -- what matters. And it says in the permit you shall monitor if you have a disinfection upset or a spill.

MR. WOLFF: Okay. So Prosecution, please continue.

MR. BOYERS: I have no further cross.

MR. WOLFF: Okay. So then we move to closing arguments, but I do not have any testimony card, so I just want to make sure there was not an oversight from anyone in the audience.

Okay. So therefore, please proceed, and five minutes. Thank you.

MR. BOYERS: Thank you, again, Mr. Chair.

So in his opening statement, Mr. Carter asked this Board, "Why are we here?" Well, I'm gonna tell you why we're here. We're here because there was a violation of the District's NPDES permit, a significant violation.

They agree there was a violation. The violation

was a 300,000 gallons of undisinfected secondary that, in our opinion, caused a reasonable amount of harm and was something that they could have controlled, and probably should have controlled, that we thought warranted a penalty in this case.

And when you're deliberating, I ask you to ask yourselves, what's the message that we want to send to the regulation committee? Is this a violation that we want to turn our heads to and say, "Yeah, this type of action in our region is fine." I don't think you do.

I think you ought to look at the facts, look at the harm, look at the culpability and ask yourself, you know, what is the right penalty? And the penalty on the table is 96,775, which sounds like a big number, but, of that, keep in mind that 15,000 is for MMPs. There were five events. The parties even stipulated to that, and 22,000 is for the staff costs, so we have just under $60,000 the Prosecution Team is proposing as a penalty for this violation.

Now, the statute, as we've talked about prior to considering a number of factors -- figuring out what the right penalty for this violation is, the extent of harm, the gravity, the ability to pay -- they are all filled out in the statute. And the Enforcement Policy does a nice job of calculating certain multipliers

you need to go through in coming up with the right penalty amount. There was really two of those multipliers that are really the cause of this issue, and those are harm and culpability.

How much did this discharge harm or potential for harm -- it's important to catch that description. It's not actual harm that we have to prove. We have to consider it's also the potential for harm. How much harm or potential for harm was there to the beneficial uses? And the beneficial uses need protection whether they are being used or not; right?

So it doesn't matter if somebody is actually swimming or actually harvesting shellfish. Those benefits need to be protected whether somebody's using them or not. So how much harm with beneficial use?

And then second, how much blame should the District bear for this incident? Those are kind of the two issues.

So with respect to harm, as we just talked about, it has its own representative sample of what was discharged is 68 times the effluent limitation for total coliform. Okay?

Even after dilution, as you heard Mr. Buffleben, the discharge would have violated the team water limit,

certainly for shellfish and probably for Rec 1 as well.

We talked a lot about fate and transport. In our opinion, the fate and transport model that was used by the District was flawed, and it assumed that the plume had diluted the safe levels much more quickly than what had actually occurred.

Now, given those facts, the Prosecution Team recommended a conservative factor of 2 for harm or potential for harm. This is a below moderate consideration, and it basically means that the impacts would be reasonably expected and harms of beneficial uses would be minor.

So turning to culpability. Let's remember that this is a discharge that could have been prevented -- certainly, if not prevented entirely mitigated to a certain degree. A very large degree. There should have been a low chlorine dosage alarm.

You know, um, you heard from our expert Mr. Sarmiento, that that is the industry standard and whether the wastewater manual applies directly or not certainly is analogous in informing the discharger whether they should be concerned about this process; right?

The permit also says to have safeguards, take all reasonable steps to minimize discharges. We can't

publicize that for them. They've got to look at that them themselves. And as Board Member Counselor talked about, you got to look at the processes, the protective measures that need to be taken to prevent this. This is an important process. This chlorination is an important wastewater process. And it should have been better.

So given that this was a preventable discharge that likely caused the income minor amount of harm, the prosecution is recommending your approval of the $60,000 penalty we're recommending. Thank you.

MR. WOLFF: Thank you.

MR. CARTER: If I may, we have a PowerPoint presentation, if we can?

MR. WOLFF: Yes.

MR. CARTER: If I may approach, I have additional copies.

MS. OKUN: While you're getting those passed out, I just wanted to ask whether all the PowerPoint presentations today are someplace where the advisory team can have access to them for the record. Are they all on a shared drive?

MR. CARTER: I can leave my thumb drive. It was loaded onto the laptop.

MR. OKUN: Thanks.

MR. WOLFF: Okay, please proceed.

MR. CARTER: Thank you very much for the opportunity, I appreciate it. I'll try to be brief, but five minutes is brief enough. I apologize for some of the delay we've had.

Again, I still ask the question, it's still a valid question, why are we here? And it has not been answered. Not by the Prosecution. Not by anyone.

I'm not trying to minimize this violation. There was a violation. It's just that why are we here when all the factors, when you look at the State Enforcement Program, when I tried to minimize the 300,000 gallon event.

However, in every MMP there's a discharge violation. You could have an MMP where there's a million gallons of discharge.

We're not dealing with secondary sewer overflow. We're dealing with non-disinfected secondary. We're not trying to minimize that, but the Prosecution's case rests on two things: One is harm and two is failure to have an alarm was a major deviation. We would submit that the region has not proven that there was any potential harm or actual harm just to the area. We see a lot of evidence to the contrary.

Go to the next slide, please.

One of the primary things that we have to look

at is the Enforcement Policy. The Enforcement Policy would show that you would have to establish the distance prior to violation or not. This would be one of the first cases this Board has seen where this type of violation has been brought as an ACL discretionary penalty. I cannot think of one. Prosecution has not identified one. Mr. Murray has identified this would be the very first time this Board would assess a discretionary ACL against a violation that is typically viewed as either no violation or as an MMP.

We find that this is an extraordinary event and we ask you to reconsider and, in fact, we ask you to dismiss the ACL proposal and rather impose an MMP as the District is stipulating to that.

We can move to the next slide, please.

Looking at the enforcement factor, you look at the class of the violation -- you've never heard what the class of violation has been. No one ever identified the history of the District extent history.

Next slide, please.

You can see the history of the District. Look at that slide. Look where the District is on the far right in comparison to these other violators extent history of violation. When you compare it to other loss of disinfection events, you can see all these other,

um, operators public penalties that have had similar violations that received either no violation or no enforcement taken, or they would be MMP.

Next slide, please.

We -- next slide, please. These are the slides that we indicated from Mr. Hennessy, which is the no harm or potential harm indicator.

Next slide, please.

With respect to sentencing factors, I think the important parts with respect to harm. We indicated that the score of harm related 0 or no more than 1. With respect to the physical chemical, we posed a negligible threat or at most, a minimal threat.

Going to the issue of an alarm. We believe that the testimony or the suggestion that this is standard industry program, certainly for a facility of this age, is not -- is not accurate. The line on 1981 study for protocol is not how you establish Industry Standard.

It -- and we also pointed out nowhere there's been no NOVs, no suggestions that the District's monitoring or chemical disinfection system was in anyway deficient. Not at all.

Next slide side, please.

With respect to the other factors dealing with

cost of investigation, we're not sure what the District was doing over these number of years, since we established in Exhibit J within a matter of days -- in fact, a matter of hours, what the violations consisted of was well-known to the District, whether it was just the pump or other parts of the pump. It was clear that the pump was the problem, and there was a certain amount of -- certain amount of discharge involved.

Not a lot of mystery here. The District has never denied that, and I don't think -- we're prepared to pay reasonable cost, but we don't think the District should have to pay the amount of cost that has been suggested. Not for an event like this. That normally would be handled as an MMP.

With respect to economic benefits, Step 8, we believe as accurately pointed out by Board Member Johnston, you would not impose an economic benefit, unless you relate it to the violation. The failure to sample was not charged as a violation, and regardless of what the Prosecution Team says that they included a mention of it as "res judicata," it's just not carried out in water and no pun is intended.

That is not the situation here. Economic beneficial should not be applied to a situation that has not been charged as a violation. It's specifically

cited in the enforcement policy; therefore, we don't believe any economic benefit should be applied.

MR. WOLFF: Could you wrap up your -- we are at five minutes and 25 seconds.

MR. CARTER: I will, thank you.

So in addition to not being applicable, even assuming the Board would apply economic benefit, I think Ms. Cervantez asked some questions about what would it have cost if they would have sent some samples out, maybe a hundred dollars given the high end of it -- a hundred dollars a sample, we're looking at 3,000 or $4,000 tops.

Next slide, please.

We've got our own internal -- our own calculations based on those factors, you can look at those. We believe if the Board were to impose a ACL, it would be on the low end. It would be in the $1600 range or at the most, in the $3,000 range and, therefore, would impose costs that are very reasonable, as what would be necessary to investigate this kind of violation. It is well-known within days.

Last slide please, next slide.

Therefore, our initial proposal. These should be MMPs, all of them or, rather, the Board has the discretion to go do that.

Next slide.

Assuming where the Board were to impose an ACL as we pointed out, we think it should be no more than $3,000, based on factors and the economic benefit as we submit, as well as the $15,000 MMP that we've stipulated to.

We believe that's appropriate given the nature of this case, given the nature of this violation and humbly and respectfully ask you to intercede in this Matter, which should have been resolved a long time ago, just like every other type violations has been before. Not with an ACL, but with an MMP.

MR. WOLFF: Thank you.

MR. CARTER: Thank you, very much.

MR. WOLFF: So at this time we will have a closed hearing session, and I'll have my colleagues come upstairs and we will have deliberation.

MS. OKUN: And, Doctor, we'll be closing the hearing now.

MR. WOLFF: Thank you. And at this time, the hearing is closed as well. I thank you.

(Wherein deliberation was held in closed session)

MS. OKUN: So thank you, everyone, for waiting. The Board has concluded its deliberations. We're going to continue this Matter until the July Board meeting, so that we can send out a draft, um, a revised draft order

for the Board to consider at the July meeting. We will send that out with the meeting notice as soon as we can get it drafted, and this Matter will be continued.

MR. WOLFF: So this will then close today's hearing on the Carpinteria Sanitary District ACLC No. R3-2015-0011.

And Counsel, anything else you'd like to add?

MS. OKUN: Nope.

MR. WOLFF: Okay. So we'd like to thank all of you for this late Friday afternoon and appreciate everyone's contribution to the meeting.

MR. MURRAY: May I ask a question? I'm just gonna be responsible to report back to my Board of Directors. Is there sort of a process or a sequence that I can tell? Are we expected to attend that meeting? Will there be more testimony?

MS. OKUN: The Advisory Team will make some changes to the proposed order that was in the agenda and we'll circulate that, again. You will get notice of that that you can bring to your Board.

I don't know at this point if we're going to allow any additional written comment. I don't think it's gonna be necessary, but there will be a short opportunity to address the Board at the July meeting.

If you're satisfied with the order, obviously, you don't have to attend.

MR. MURRAY: Okay, thank you.

MR. TREMBLEY: And what is the date of the trial?

THE CLERK: July 30, 31.

MR. WOLFF: It will be July 30th and 31st here in San Luis Obispo, on Thursday and Friday.

And any question on the Prosecution side?

MR. TREMBLEY: Do you have any indication, 30 or 31?

MR. HARRIS: I don't know. It depends on what the agenda looks like.

MS. OKUN: If anybody does have schedule conflicts, though, that you know about, if you could let Mr. Harris know that, it would be helpful for agenda planning.

MR. WOLFF: Yeah, good point.

MR. TREMBLEY: Thank you. Thank you very much.

MR. WOLFF: Thank you. I appreciate it.

(Meeting concluded at 5:35 p.m.)