ORIGINAL

RED HILL TASK FORCE

Tuesday, November 14, 2017

9:02 a.m. to 11:52 a.m.

State Capitol, Second Floor Hearing Room

Honolulu, Hawaii

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MR. KAWAOKA: I'm going to call this meeting to order. Good morning, everyone and thank you for coming this morning for the Second Annual Field Constructed Tanks update.

My name the Keith Kawaoka, I'm a Deputy Director for Environmental Health. Before we get started, I would like to -- I think we're waiting for maybe a couple of groups, but we'll get started anyway. Since we have a relatively small group this morning, why don't we introduce around the table starting with my left.

CAPTAIN HAYES: Captain Rich Hayes, Commanding Officer at NAVFAC Hawaii, also Regional Engineer for Navy Region Hawaii.

MR. MANFREDI: I'm Mark Manfredi, I'm the Regional Red Hill Program Director managing all of the work under the AOC.

MR. MONTGOMERY: John Montgomery, Red Hill Program Manager, Mark's deputy.

REPRESENTATIVE LEE: Chris Lee, Chair of the

Energy and Environmental Committee in the State Legislate of the House.

MR. LAU: Ernie Lau, Board of Water Supply.

SENATOR GABBARD: Mike Gabbard (inaudible).

MR. LINDER: Steve Linder, I manage the Underground Storage Tank Program for the US EPA Region IX.

MS. FAIGE: For Karl Rhoads, Chair of the Senate (inaudible) Committee, Jessie Faige, I'm a legislative attorney.

MR. CHANG: Steven Chang, from the Department of Health, Solid and Hazardous Waste Branch. I'm the current project manager for the State of Hawaii on the Red Hill project.

And in two weeks, I can introduce my replacement, Lene Ichinotsubo, a colleague in the Solid and Hazardous Waste Branch, and she's going to do a great job.

MS. PERRY: I'm Thu Perry, Deparatment of Health Public Participation Coordinator.

MS. ICHINOTSUBO: Lene Ichinotsubo, Solid and Hazardous Waste Branch (inaudible).

MS. SETO: Joanna Seto, Safe Drinking Water Branch, Department of Health.

MS. ICHIYAMA: Linda Ichiyama, State

representative.

MR. CHINN: Ron Chinn with Innovex Environmental Management, I'm the environmental consultant to EPA and DOH with respect to the (inaudible).

MR. PALLERINO: Bob Pallerino with US EPA Underground Storage Tank Program of the Red Hill Project Coordinator.

MS. KWAN: Good morning, my name is Roxanne Kwan, I'm with the (inaudible) Program with the Solid and Hazardous Waste Branch.

MS. TU: Lyndsey Tu, US EPA Underground Storage Tank Program.

MR. LA PLACA: Pete La Placa, Remedial Project Manager.

MR. FITZPATRICK: Dave Fitzpatrick, Navy Region Hawaii.

MR. RIGGS: Rock Riggs, for State Senator Mike Gabbard.

MR. SEGUNDO: Jordan Segundo, KITV 4 Island News.

MR. HIOKAMA: Nathan Hiokama, consultant for the Department of Health.

MS. KOETHE: Ann Koethe, Department of Health Communications Office.

MR. TRACY: Joseph Tracy with Intera here on behalf of the Board of Water Supply.

MR. SIGDA: John Sigda, Intera, supporting the Board of Water Supply.

MR. EISELSTEIN: Larry Eiselstein, Exponent, consultant for the Board of Water Supply.

MR. KAWATA: Erwin Kawata, Board of Water Supply.

MR. FREEDMAN: Chuck Freedman, Office of Senator Brian Schatz.

MR. PENAROSA: Kainoa Penarosa, Office of Congresswoman Tulsi Gabbard.

MR. WAKI: Cory Waki, NAVFAC HI Environmental Health.

MS. SAGUIBO: Tracy Saguibo, NAVFAC HI Environmental.

MR. JOHNSON: Jeff Johnson, AECOM Supporting the Navy.

MR. STANLEY: Curt Stanley, GSI Environmental supporting AECOM and the Navy.

MR. SANTANA: Carlos Santana from Senator Mazie Hirono's office.

MR. FLOYD: John Floyd, NAV SUP FLC Pearl Harbor. I'm responsible for the operations and maintenance of Red Hill.

MR. GUTHRIE: Ed Guthrie, DLA (inaudible).

MR. KAWAOKA: Welcome, everybody. There may be others joining us and some of the legislators might have to adjourn soon for a meeting and so let's get started.

So I just want to remind the committee and the audience of last year's meeting. And there are minutes like Thu said, and a report available online, we can give you that website.

Also at last year's meeting, the Navy was asked to provide historical information from my former office, the Hazard Evaluation and Emergency Response Office and look at other information to look at the various field constructed tank sites across the state.

And there were some changes as you recall that by agreement the Navy basically got all of the tanks from the Air Force and the Army. But I think the committee members felt that it was important to have more information regarding these field constructed tanks. They were either previously closed or both temporarily or permanently closed.

So the Navy agreed to do that, and they will present that information today based on all of the information that they collected previously. So, basically, the Navy has primary responsibility for the

majority of these tanks, and they will provide the presentation for today's meeting.

And to reiterate, based on Act 244 from the Legislature, this committee, the Fuel Tank Advisory Committee was formed for the purpose of looking at short-term and long-term effects of leaks, response strategies to mitigate effects of leaks, and provide a method to improve communication between the various services, Navy, Air Force and Army and the State, and the local Board of Water Supply and the public in general in the event of a leak, looking at ground water test results in relation to surrounding areas of the no-tank facilities, implication for shutting down a fuel tank facility, and updating on the progress towards any agreement between the State, effective County and the Federal government.

So the purpose of today's meeting is to review and look at what currently is going on as far as activities looking at the field constructed tanks including Red Hill. So I'll turn it over to Captain Rich Hayes for the presentation.

CAPTAIN HAYES: Thank you, Keith.

Today I would like to start off or plan to start off with updating you on the Field Constructed Tanks other than Red Hill. And then we have a separate

status update brief on Red Hill. While the Red Hill tanks do show on this chart here, I'll do it as a secondary brief.

MR. LAU: Sorry, Captain, to interrupt.

John, could you adjust the focus a little bit. It's either my eyes are getting worse or...

CAPTAIN HAYES: This chart reviews the previous years and it just shows kind of a summary of the field constructed tanks that the Navy is responsible for, here in the State of Hawaii.

We currently have 31 tanks in use and 23 that we have in either temporary out of use or permanent out of use. And I'll provide in greater detail on those as we go through. So a total of 54 tanks that we're tracking in the State of Hawaii.

So, next, we'll talk about the field constructed tanks that are permanently out of use, the first is Kipapa Gulch Field Storage Annex, which was formerly operated by the Air Force and turned over to the Navy when we joined bases.

And also previously known as the Hickam Petroleum, the POL Annex in Kakalaua, that is also formerly operated by the Air Force.

As you can see on the chart or map to the right, the green area will indicate over a drinking

water aquifer, and the pink areas are areas that are not over the drinking water aquifer. And so both of these are over what is known as the drinking water aquifer.

The first annex, the Kipapa Gulch Field Storage Annex consisted of four permanently-closed tanks operated by the Air Force. The tanks were about 2.65 million gallons each. These are underground storage tanks constructed in horizontal tunnels excavated into basalt in the Northwestern cliff base of Kipapa Valley.

They were operated from May of 1943 to February of 1993. There were previous indications of historical releases. Long-term efforts, however, from the closing and including monitoring through natural attenuation, use of enhanced bioventing and various land use controls.

The site was investigated under Comprehensive Environmental Response Compensation and Liability Act, CERCLA. However, remedy was implemented under the State Contingency Plan.

A Record of the Decision and Response Action Memorandum was approved and signed by the State Department of Health on 3 of February 2012. That is available at the Pearl City Public Library, as well as the EPA website for download and review. I believe

copies were distributed to various State agencies at the time that it was signed.

We do, as part of the record of decision, still have action that we're undertaking. There are 17 monitoring wells that are sampled annually. The last test for these wells -- last two tests were conducted on December of 2016 and February of 2017.

With this record and decision being signed in February of 2012 and our actions starting in 2013, we are also coming due for our five-year review which we'll consult with the Department of Health and complete that report as well.

Any questions on that location?

MR. LAU: This information is available in the State's website, correct?

CAPTAIN HAYES: It should be found there. It is available in the public libraries as well as the University of Hawaii's library.

MR. LAU: Is it okay to ask questions...

Captain, I'm not familiar with the water quality data and results from the monitoring wells, are you finding things in the groundwater?

CAPTAIN HAYES: In the last results, we did from eight of the shallow wells, we did detect methane that exceeded project cleanup goals. And so that would

be an indication that during our project review, we would be able to continue with those actions in monitoring the natural continuation.

Two of the monitoring wells, the basal monitoring wells, indicate TPH levels that would exceed the project cleanup goals. But further testing indicated compounds that were not previously associated with the site, and so they were not interpreted as exceeding the cleanup goals.

MR. LAU: What is the TPH cleanup goal?

CAPTAIN HAYES: I do not have that information with me right here. I'll have to get back to you.

Any other question?

Next, we'll talk about the Waikakalaua Fuel Storage Annex, these were nine permanently closed tanks, about 1.8 million gallons each formerly operated by the Air Force. Tanks were encased on the sides and bottom with a concrete shell, topped with a layer of reinforced concrete. These tanks were operated from May of 1943 to June of 1993. They were taken out of service in June of 1993 and cleaned in 2002.

This site was also investigated under the CERCLA Act, and a Record of Decision was approved and signed by the State Department of Health on 19 October 2009, and with no further action decision required.

That report is also available at the previous-mentioned libraries in Pearl City and the University of Hawaii.

If no other questions, we'll move on to Field Constructed Tanks that are temporarily out of use.

First is the Kuahua Peninsula Submarine Base. And then we have the Red Hill Bulk Fuel Storage Facility Tanks Nos. 1 and 19. The tanks at Red Hill, No. 1 and 19, are over drinking water aquifer as indicated on the map. The Kuahua Peninsula, former Diesel Purification Plant, is not over drinking water aquifer.

For the Kuahua Peninsula Former Diesel Purification Plant, this site consisted of eight total tanks, three that were approximately 20,000 gallons each; five tanks that were approximately 94,000 gallons. These tanks are empty.

They were concrete tanks installed in 1941 and temporarily out of use, last used in 1990. They are included in our 1997 Naval Base Subsurface Oil Remediation Investigation. There was evidence of fuel release, recoverable free product was removed, monitoring indicates the plume is stable. And the State Department of Health approved the action in 2010.

We currently are in our initial design phases for executing the temporary closure actions which would

involve emptying the tanks and capping and securing the previously-closed underground storage tanks. We'll do that to satisfy the temporary closure requirements.

Also, once we begin, that project is under design now. But before we begin any work, we'll provide 30-day notification to the State Solid and Hazardous Waste Branch, prior to start. And upon final closure, we'll submit our report 30 days after completion of all action.

Next is Red Hill Bulk Fuel Storage Facility just talking about Tanks No. 1 and 19. These are steel-lined concrete tanks surrounded by basalt rock. They were last used in 1997 and 1986 respectively, and installed between 1940 and 1943. And these tanks are -- currently, I think we want to have some discussion on whether they're temporarily out of use or permanently out of use.

And we would consider them permanently out of use at this time. However, we have not completed the actions to put them in that category as Red Hill is still an active fuel facility. And so we'll still consider that under the actions that we're reviewing for the AOC to incorporate.

If we were to ever bring these back on, they will have to go through the tank upgrade alternatives.

But at this time, we do not consider them active for use.

I know, Keith, that was a change to the agenda to have a discussion on the temporary out of use and permanent out of use. I don't know if this would be the appropriate time or what further discussion you want to have on that nomenclature.

MR. KAWAOKA: Do we have a definition of permanent and temporary at this point as far as the Navy is concerned?

CAPTAIN HAYES: As far as Navy is concerned right now, we would consider -- I think permanently out of use; however, given what we're looking at for the AOC, we would still like to reserve, depending upon the tank upgrade alternative that is chosen and whatever impacts it may involve to fuel and inventory storage potentially is an option that would still be available.

MR. MANFREDI: So the tanks were -- the Navy submitted the paperwork to declare these tanks permanently out of use in 2007 before the AOC was established.

Now with the review of the tank upgrades and all of the alternatives, there is a potential to potentially bring these tanks back into service in one form or fashion or another. So I would not completely

want to dismiss them and put them in that permanent category.

It will be something that we'll have to address as we go through the steps with the AOC.

MR. KAWAOKA: Any discussion or questions, Meeting Members?

Okay.

CAPTAIN HAYES: The next category, we'll talk about the Field Constructed Tanks that still remain in use, we have two or three different areas. One is the Pacific Missile Range Facility Fuel Farm. It's indicated on the map on the left. I point out that those tanks are not over a drinking water aquifer.

If you look at the map to the right, we have the Red Hill Bulk Fuel Storage Facility, Tanks 2 through 18 and Tank 20. And that is over a drinking water aquifer. And we have the Kuahua Peninsula Red Hill Surge tanks. As previously mentioned, I'll talk about Red Hill Bulk Fuel Storage Tank after this brief.

For the first set, the Pacific Missile Range Facility Fuel Farm. This consists of the nine tanks that are approximately 50,000 gallons each. These are epoxy-lined steel constructed in 1942. All these tanks were inspected in the timeframe of 2011 and 2012 and currently meet the American Petroleum Institute 653

compliance.

They have an Impressed Current Cathodic Protection System, and they go through an annual third party Cathodic Protection Assessment and Survey. All tanks are equipped with visual and audible alarms for spill prevention.

And all tanks are also equipped with a third-party certified Fuels Manager Defense Leak Detection System. Leak Detection tests are conducted monthly. The leak detection system is certified annually.

There is a biennial leak detection testing of the 26 linear feet of underground piping; however, we do have a project as programmed for relocation of this section to above ground. And as previously mentioned, these tanks are not over a drinking water aquifer.

MR. KAWAOKA: I just want to let you know that they are going to be turning on the Capital webcam cameras, and so just to let you know. So we can turn off all the lights.

(Laughter by all.)

MR. LAU: Can I just a question to the captain.

So these are single-wall tanks, epoxy-lined steel, are they unburied or they were constructed

underground?

MR. FLOYD: Yes, they were constructed underground. This is John Floyd from FLC.

MR. LAU: So the single-wall tanks were constructed underground, steel constructed?

MR. FLOYD: That's correct.

MR. LAU: The plan I heard was actually to decommission these and relocate to above-ground storage tanks?

MR. FLOYD: No, there's no plan for that.

CAPTAIN HAYES: Just the piping that goes underground.

MR. FLOYD: There were some smaller tanks at the vehicle gasoline station and we're going to decommission those. That stock is going to be removed to above-ground storage tanks.

CAPTAIN HAYES: Any further questions?

MR. LAU: No.

CAPTAIN HAYES: Next, we'll move on to the Red Hill Surge Tanks. These are four active tanks and part of the Red Hill Bulk Fuel Storage Facility. They're 30,000 gallons (sic) each. These tanks act as an intermediate transfer point for fuel. They are normally empty and used for emergency storage.

They are bare steel encased in concrete tanks,

these tanks were installed in June of 1942. They are also subject to the modified API or American Petroleum Institute 653 inspection. And the only modification is that we can't inspect the outside of the tanks. But, otherwise, they go through the full API 653 inspection.

They last were inspected between 2004 and 2006 and received a 20-year suitability certification. And they are next scheduled for their next inspection which would be 2024 and 2026.

These tanks also went most recently through tank tightness testing last year in February of 2017 and certified tight. And, currently, we're conducting this year's round of tank tightness testing which will involve these tanks as well. No reported releases have occurred from the surge tanks, the Red Hill Surge Tanks, since construction.

And just as a reminder, these tanks were not over a drinking water aquifer.

MR. LAU: I notice that PMFR tanks which are smaller, you have an impressed Current Cathodic Protection System which will protect the steel from corroding or rusting.

Do you have any plans to do this on the 300K-gallon tanks?

MR. FLOYD: No, sir; the difference is the

PMFR tanks are metal tanks that are in contact with the soil.

MR. LAU: They are not encased in concrete?

MR. FLOYD: Correct. The surge tanks that we have here are similar to the Red Hill tanks, they are actually encased in concrete. And the concrete is what is in contact with the soil.

MR. LAU: Thank you.

I heard differing numbers. These are 300K gallons?

MR. FLOYD: Yes, that is the actual show capacity of the tank. We fill them to a slightly lower level that is as a result of our automatic controls to give the valve enough cycle time to shut. I don't have the precise numbers, but, no, we do not fill them to 300K gallons.

And as the Captain stated at the beginning of these briefs, these tanks are normally empty. We only use them during transfer operations, and we don't allow them to get even close to the high level.

MR. LAU: So no chance of overflow or over fill?

MR. FLOYD: We have an active overflow protection system on the tanks. We have an overfill protection system on all of tanks. Once the float

sensor reaches a predetermined level inside of the tank, the inlet valve to the tank will close, and all pump operations will be inhibited.

CAPTAIN HAYES: Any questions on this portion of the Field Constructed Tanks?

MR. EISELSTEIN: This is Larry Eiselstein. When these surge tanks went under the API inspection, how many areas were found that needed to be repaired? How many repair areas were there approximately?

MR. FLOYD: That is not a question that I can answer at this time. I would have to consult back to the tank assessment reports.

MR. EISELSTEIN: But there were some areas that were repaired?

MR. FLOYD: I can't say but, typically, when we enter a tank, there are some areas of indications that would have to be repaired typically. As to how many, I don't know.

CAPTAIN HAYES: Any other questions?

MR. TRACY: Joseph Tracy with Intera.

Are these surge tanks also being administered under AOC?

MR. MANFREDI: No, they are not.

CAPTAIN HAYES: We will shift over to the Red Hill update brief.

I'm going to provide a timeline in talking about the tanks. Fieldwork started on the tanks on the far left back in 1940. The work was completed on the 20 tanks in 1943. These tanks have also, from that time, have gone through various tank modernization programs in their early '80s. The Clean Water Act was passed and regulation reporting began in 1988.

We started using the American Petroleum Institute 653 to clean, inspect and repair in 1994.

And since the Clean Water Act passed, I think we're all familiar that there has been two reported spills that we have reported, one being the Tank 5, 27,000 gallons that was released in 2014; the other being a much smaller six-gallon spill that actually leaked back into the tank during some work. And we were able to recover all of that but we still reported that as required.

Moving to the right, the Administrative Order on Consent signed in 2015. That's the effort in progress that we're making now with the regulators and various stakeholders to put the AOC actions in effect and get to the tank alternative upgrades and be complete as required by the AOC in 2037.

Today, I'm just going to give a refresher for those who are not intimately familiar with the AOC. The

AOC is made up of eight sections. And I'm going to walk through each of those sections and talk about our status as we go through.

But this covers those eight sections, Prop Section 1: Project Management and Public Outreach.

Section 2: Tank Inspection Repair and Maintenance.

Section 3: Tank Upgrade Alternatives.

Section 4: Release Detection/Tank Tightness Testing.

Section 5: Corrosion and Metal Fatigue Practices.

Section 6 and 7: We combined because of the similar effort and that is an investigation and mediation of the releases and ground water protection evaluation.

And, lastly, Section 8 is a Quantitative Risk/Vulnerability Assessment.

Lastly, we'll go through the TUA Decision process that we foresee as required by the AOC (inaudible).

For Section 1, I want to break each of these down into two different timelines: What we have achieved since the last update last year at this time and what we have kind of current and upcoming over the

horizon.

Since the last update, we have hired a full-time project director, this guy sitting to my left, Mr. Mark Mandredi, who previously was the Region Chief of Staff. And so he's been involved with this since the beginning of this bill in 2014.

Since the last update, we have also held two public meetings. We've held eight status update/working group meetings with the EPA/Department of Health, and other subject matter experts.

The Region -- Admiral Fuller and Admiral Fort have released four stakeholder letters as updates, two videos, and seven press releases. And then we have attended numerous recurring neighborhood board meetings and provided briefs as requested.

This section is pretty much just a general project management overview. But current and upcoming, we do have a Ground Water Modeling Working Group and Environmental update. And that is scheduled to occur this week, beginning tomorrow and run through the rest of the week. We have a team here to go through the latest status on the groundwater modeling.

We have an upcoming Quantitative Risk and Vulnerability Assessment Progress review. And we have another stakeholder letter update coming out, I believe

before the end the new year or at the end of the year.

And then we're anticipating public outreach meetings once we turn in our tank upgrade report which is due on 8 December. And then we have the tank upgrade alternative decision meetings which will be a key milestone for the AOC.

Moving on to Section 2 of the Tank Inspection, Repair and Maintenance, you will see it later in the slide as TIRM.

Since the last update, we have submitted and received approval for two key deliverables: Our TIRM report and the TIRM decision document. This includes improvements in these reports and decision documents, covered improved procedures for quality control and quality assurance, the tank tightness testing conducted annually, covered return to service procedures, updated our contract specifications on tank inspection and tank repair, and also addressed improvements to our construction management and tank cleaning specifications.

Right now, we currently have five, six tanks are under contract. Two separate contracts were awarded to clean, inspect, and repair Tanks 4, 13, 14, 17 and 18. And then we have a reinspection under way of Tank 5 that is currently in progress.

MR. MANFREDI: It's important to note that work is not being executed under all of those tanks simultaneously. We can take three tanks down to maintain the required number of operations. And so once one of those tanks gets put back in service, then the other one that is under contract goes right into immediate work.

And so it was an efficiency that we gleaned from a previous procedure where we would just contract one tank at time. By doing the multi-tank contract, we were able to save some time and money by contracting a bunch of tanks and recognizing that they weren't all be working at the same time. But once one gets put into service, we can start immediately on the next tank.

CAPTAIN HAYES: As Mark mentioned, currently, we have tanks 13, 14 and 17 in progress of that clean, inspection, and repair.

We do anticipate upcoming return to service of Tank 5 in Fall of 2018, pending the results of the TUA inspection. We anticipate work -- upon completion of work on either tank 14 or 17, we'll start work on Tank 18. And then upon completion of work on Tank 13, we will begin work on Tank 4.

And so that will conclude -- if we can go to the next slide. This may be hard for folks to read here

on the projector. But it just kind of covers the timeline that we have right now for the tanks to go through the clean, inspect, and repair site under the current TIRM procedures.

And so it's important to note this does not incorporate the tank upgrade alternative timeline. So once that alternative is selected, and we know the method or the upgrade that will be put in place, we'll rework the schedule to incorporate those upgrades. But as you can see, we currently have tanks 5, 14, and 17 and 13 are underway which is indicated by the red bars that are kind of "today" date, with 18 and 4 next in line to be done.

As we go through the AOC process and we get a decision on the tank upgrade alternative and approved by the regulators, we'll combine those specifications into this time line. And so it will still be a clean, inspect, and repair but the repair will be a much more detailed tank upgrade.

Any questions on this section?

MR. LINDER: Questions. So Tank 5, you are looking at bringing that back into service in Spring of '18?

MR. FLOYD: December 18 is the current schedule.

CAPTAIN HAYES: It's important to note that the contract that we have right now is an inspection contract, and so it does not incorporate any repairs. Once we get the results of the inspection contract, we'll then determine if other additional repairs are required. That could adjust this time line.

And so we went back and followed the previous contractor, WilBros, and the experiences that we had with that contract and that contractor performance, we did not feel comfortable with that.

And we wanted to go back and hire another contractor and go back and do the reinspection -- 100 percent reinspection of the tank. So we're hopeful that that work will indicate that the work was all done satisfactorily that we had the previous contractor do for the warranty of repairs.

MR. MANFREDI: I think it's important to note also that with regard to Tank 5, the inspection that is currently underway, this is above and beyond what was done under the warranty work. And so WilBros, the previous contractor, was required to go back in the tank with a third-party inspector to review all of the previous work that was done and make all of the necessary repairs.

And then as Captain Hayes pointed out, we felt

it would be more prudent to go in to start with this clean slate as if this tank was just taken off line and go back and completely reinspect the entire tank, note any additional repairs, and move on from there.

So we're treating this tank as if this tank was just taken out of service, when in fact it had some repairs and the warranty work and now this additional inspection.

MR. LAU: And, if necessary, additional work will be done.

MR. MANFREDI: Yes, absolutely.

CAPTAIN HAYES: That is not reflected in this time line or return to service date which is fall or winter.

Next Section 3: Tank Upgrade Alternatives.

Since the last update, the Statement of Work for our TUA report was approved. We awarded a contract and had an engineering firm give us more details on the six alternatives. Actually the contractor screened through 33 initial candidate alternatives and narrowed that down in collaboration with the regulators and the subject matter experts to six viable alternatives that are now being studied.

We also submitted our TUA Decision Process document, submitted for review, and we'll cover that

later on in the brief.

Key milestones upcoming. We note that the TUA report on 8 December. It will be important to note that this TUA report will just be a report on those alternatives and how they match up against 18 attributes. It will not be a TUA decision and it will not provide at this time a TUA recommendation.

It will just be a programmatic-level engineering evaluation of those six tank upgrade alternatives. And rating each of those alternatives, three which are single-wall alternative and three that are double-wall alternative against 18 attributes. Other milestones after submission of that report on 8 December will be to schedule a public outreach and comment period.

We'll hold a decision meeting with the regulators. And we will then submit our proposed TUA Decision and again have another public outreach and comment period, which will lead into the EPA and Department of Health's review.

And then upon approval of the alternate TUA upgrade, the Navy, EPA and DOH parties to the AOC owe a brief to the House Armed Services Committee 30 days after that decision.

Next section, Section 4: Release

Detection/Tank Tightness Testing. Since last update, the Release Detection Statement of Work was approved and a contractor awarded to evaluate potential Release Detection Systems at Red Hill.

With that, we're going to have three contractors to come in and do field testings of the systems that they propose. Red Hill being unique in that there is no other facility like that, we actually want to do these field tests to be able to have the contractors prove that their systems work. And then we'll be able to choose the best system from those.

All tanks passed annual tank tightness testing in February of 2017. And we currently are undergoing tank tightness testing at this time, anticipating those results coming out about the same timeframe, January or February of 2018.

MR. LAU: Can I ask a question or make some comment. I'm sorry I missed -- regarding the Section 4, John, could you go back one slide.

Section 3, I'm sorry.

I just wanted to thank you, Captain, we noticed recently that the tank upgrade went through a decision process and is actually soliciting public comment and we appreciate the movement toward transparency and allowing the community to get more

directly involved and providing input into this process. So I just wanted to say mahalo.

CAPTAIN HAYES: Let's go back.

The only other upcoming milestone for this slide is that leak detection final report is due in July of 2018.

MR. FREEDMAN: Tank tightness is the integrity of the tank, what is tank tightness?

CAPTAIN HAYES: Tank tightness, we put the tanks -- the contractor will come in and install a measuring apparatus that will put the tanks through a 168-hour test, and hold the tank at a static level, and measure or monitor the level of those tanks over seven days, 24 hours. And so, essentially, it's seven consecutive, 24-hour tests.

And the contractor will take those results and we're able to indicate if there is any leaking. As the test results are proven, the tank will (inaudible) be able to hold a static level to within 1/16 of an inch.

MR. FLOYD: Minimum detect leak rate is one half gallon per hour.

CAPTAIN HAYES: Within a one half gallon per hour over 168 hours.

MR. KAWAOKA: For the release detection, you said there is going to be several methods being looked

at?

MR. MANDREDI: Three different vendors that we're looking at.

MR. KAWAOKA: Each with different methodologies?

MR. MANFREDI: Essentially the same technology but different applications. Each of them are mass-based systems.

MR. LINDER: Different software, different set up on the equipment, mass-based measurement. But each of the vendors does it differently. And they have different claims in terms of their accuracy.

MR. MANFREDI: But none of these systems have been tested in tank size capacity of Red Hill. And so the intent is we bring these three vendors out. The test should be run between January and March.

Essentially, we're on a leak detection test where you draw off and measure a normal amount of fluid from the tank and see how these systems performed.

MR. MONTGOMERY: There is a national working group that normally certifies tanks of smaller sizes but they have never done it for Red Hill specifically, at least (inaudible) which is why the Navy has been working with regulators to actually develop specific protocols that will be tested for all three of them

simultaneously.

MR. MANFREDI: So at the end of the day, what this will provide us is what we do on an annual basis, the tank tightness test, we can install that apparatus permanently and do it on a more frequent basis.

MR. KAWAOKA: So the schedule to choose that one contractor would be when about?

MR. MANDREDI: Well, we'll have interim results once tests are complete in about March of next year. The report is due to us in July. And then this will all feed into the eventual TUA decision as to which apparatus we'll select.

MR. KAWAOKA: So this will be inputted into the TUA decision process.

MR. MANDREDI: Yes.

What it will tell us is that for each of these three systems what their actual capability is within the Red Hill system. And then we'll have that known quantity, and that will form into a TUA decision.

The actual -- it's going to depend on the test results -- but the actual system that we end up procuring and installing, that will go through the normal acquisition process.

MR. LAU: For the system, is the goal to try to detect -- and if I understand John correctly, your

detection limits are one-half gallon per hour, can they detect any lower than that?

MR. MONTGOMERY: We'll find out.

MR. LINDER: What is also important is the frequency of the tests.

So, currently, they do one annual precision test once a year. And along with that, they have an inventory system that is not really designed to be a precision leak detection. But they do monitor inventory fuel levels in the tanks fairly continuously through that control room.

And I think what we're looking at is the ability to essentially run precision tests fairly frequently with currently-installed equipment in the tanks. That would then bound any potential loss that you have. If you have a leak develop and you wait a year to find it, you have a lot of fuel loss but if it's a few weeks between tests...

MR. LAU: Half a gallon an hour over a year is like 4300 gallons per tank, and so you are trying to get even more precise in the detection and do it more frequently? You can't say continuously but more frequently?

MR. FLOYD: With the current-installed system, we would increase the frequency of the tests. So one of

the limiting points of our current method of testing is a spot time test.

MR. LAU: Once a year?

MR. FLOYD: Once a year.

MR. LAU: And the inventory control system is not a leak detection system?

MR. FLOYD: No, it's not. But passively we are able to detect leaks or migrations of fuel through the inventory control system.

MR. LAU: Was the inventory control system the indicater that indicated the January of 2014 leak of 27,000 gallons?

MR. FLOYD: Yes, so it detected it.

MR. LAU: But if it's a smaller leak, you wouldn't be able to detect it?

MR. FLOYD: So, we back it up with our inventory monitoring system, the electronic gauging.

And also we do manual gauging, so we do a trend analysis over time. And that allows us to detect smaller leaks.

MR. LAU: How often is that done?

MR. FLOYD: Weekly, or in the event that we get an alarm or we have an anomaly, they will do what I would call enhanced trend analysis and then we're monitoring every six hours.

MR. LAU: But you are still limited to a half gallon per hour?

MR. FLOYD: No, not with our inventory trend analysis, no. With our monitoring equipment -- the half gallon per hour, that is I believe your requirement, the EPA's requirement of the minimum detectable leak rate.

Our measuring system, we can detect movements one-half inch of fuel where our alarms will sound. It is about 1900 gallons.

MR. LAU: So across a hundred-foot diameter tank, 1900 gallons is a half inch?

MR. FLOYD: Yes.

MR. LAU: It's a drop of a half an inch in fuel level?

MR. FLOYD: It will sound an alarm.

MR. LAU: That is at a release of 1900 gallons?

MR. FLOYD: Yes. However, the fidelity of the measuring instrument is actually one-sixteenth of an inch, so we track it in increments of over one-sixteenth of an inch.

MR. LAU: In the January 2014 release, how many inches did it drop?

MR. FLOYD: I do not have that data currently with me. But we do know that we received alarms, and

the alarm response protocol was not correct and we made adjustments since 2014.

CAPTAIN HAYES: That's all been previously addressed in Section 2 of the report that have been submitted and reviewed by the State -- Section 4 and reviewed by the State Board of Water Supply and we received comments.

And so I don't think we have shyed away from Hey, the system did work and the system did alarm. However, those alarms were ignored. The protocol was not followed.

And as part of Section 2, we had new procedures that are implemented by FLC and how they are monitoring and responding to those alarms, as well as refilling procedures and how it will go through a much more methodical refill.

MR. FLOYD: I'm sorry, sir. That was actually Section 4, I think the title of the report was "Current Release Detection Systems."

MR. LAU: Thank you.

CAPTAIN HAYES: AOC Section 5, Corrosion and Metal Fatigue Practices.

Since the last update, our Destructive Testing Statement of Work has been approved. We have commenced scanning of tanks 14 and 17. And then we submitted our

Non-destructive Evaluation Plan for regulatory review.

Current and upcoming, we have a review of the preliminary NDE or Non-destructive Evaluation Report for ongoing tank inspections with the regulators.

We'll do a Destructive Testing Coupon Selection with EPA and DOH. And then we'll remove coupons from the tanks and test them and then submit our final report in July of 2019.

So those testing coupon selection will be based upon the test results for tanks 17 and 13 -- 14, excuse me, for tanks 14 and 17.

And once we get those inspection results, we'll submit them and work with the EPA and DOH to identify areas within the tanks to select the coupons from for further investigation.

MR. LAU: Would it be possible to have the AOC subject matter expert to be present when the destructive testing was occurring or inspect the coupons once they are removed?

CAPTAIN HAYES: Certainly, once the coupons are removed -- I would have to make sure that if anybody is in the tank at the time that the coupons are being removed -- there are safety considerations.

MR. LAU: I understand.

CAPTAIN HAYES: So I wouldn't want to have a

large audience in there. But, certainly, as part of the AOC, everyone would have an opportunity to see that coupon.

MR. LAU: I assume that the coupons go out through that ten-foot opening.

MR. MANDREDI: It's the only way.

MR. LAU: So we would be able to be there when the coupon actually comes out of the tank, would we be able to inspect it?

CAPTAIN HAYES: We will make sure you have...

MR. KAWAOKA: For some of the members of the audience who may not understand what destructive and nondestructive testing is, you want to speak to that, kind of describe what this is?

CAPTAIN HAYES: So currently with the nondestructive, the contractor uses a low frequency of electromagnetic testing which he'll scan over every square inch of that tank. And that gives him some data which he's able to go back and analyze. And that scan will detect any anomaly or thinness in the walls.

The contractor, as a secondary procedure, will then go in areas that are identified as a concern and will go in and retest those with another ultrasonic test just to validate what the previous test had indicated.

And then we'll take all of those results and

we'll sit down with a regulator and AOC party and SME and identify areas of concern. They will then go in and destructively cut a coupon, a section of that tank wall out, pull that out from the tank, and let the Board of Water Supply see it as soon as it comes out. And then we'll send that tank section off for further testing.

So that's the difference between -- the non-destructive is more of a -- it doesn't destruct the tanks, using electromagnetic and destructive portion actually removing a section for testing.

MR. LAU: Captain, is that plan on more than one, and on how many locations for the destructive testing?

MR. MANDREDI: Right now, Ernie, we're looking at just one tank. It's going to be dependent on what the test results are from all of scanning, whether we need to go into another tank or not.

We're looking at nominally 12 locations, 12 coupons. But that, too, will be dependent on what the scanning results tell us, whether we need to take more or less. I think we're looking at 12 one-square-foot coupons.

MR. LINDER: The EPA and DOH are hiring experts to look very carefully at the precise procedures that the Navy and their consultants are using to

understand how this data is collected and make sure that we're comfortable with the scanning process.

And then we're going to want to look independently at the scanning data to give essentially our guidance on what is appropriate in terms of size and location.

And I think you know there is opportunity for you all to participate in parts of that; however, there are some aspects of it that are --

MR. MANFREDI: It's procurement sensitive and the issue boils down to is all of the test data that is collected from the scanning is procurement sensitive because that same data will be used to negotiate which repairs get accomplished.

And so it's all part of the ongoing contracting process.

MR. LAU: We're fine with just whatever you can share with us that is public information.

MR. MANFREDI: Sure.

MR. LAU: We're not going to sign any nondisclosure agreement to maintain transparency for our community. We encourage greater transparency in this process, of course, because this is a very important project for our community.

MR. MANFREDI: We recognize that and we looked

at this from every conceivable angle, and that is essentially what it boils down to.

MR. LAU: Thank you.

CAPTAIN HAYES: Next is Section 6 and 7. And this is an area where we have done considerable work since the last update.

Since then, we have the Work Plan that had been approved. As previously mentioned, we have a Groundwater Modeling Working Group that has been established and meets frequently with various regulators and subject matter experts to include the Board of Water Supply, the USDS, DLNR, and the Water Resource Management Team.

We added hydrologist specialists to our environmental team. With them, we've been able to accelerate our environmental efforts, installing additional wells, doing biodegradation testing, seismic and geophysic logging.

We submitted nine derivative deliverable reports. And basically those reports, because it's such an all-encompassing section, we broke them down into chapters of the Groundwater Modeling Plan, so it would be easier for the team to review and provide comment back on.

Since the last update, we have installed two

new monitoring wells. We have begun a synoptic groundwater level monitoring study, and we have conducted split groundwater sampling testing with EPA and DOH.

Upcoming, following this meeting for the rest of the week, we'll have the groundwater modeling and the working group will meet and continue going over our progress.

We have a couple of other plans that are due: A Sentinel Well Network Development Plan, a Risk-based Decision Criteria Development Plan. And we'll also go through some Interim Modeling Reports that will be used to ultimately form our Tank Upgrade Alternative decision.

That will involve installation of additional monitoring wells, we're currently looking at four additional; conducting a seismic survey, doing our biodegradation analysis, as well as the capture zone analysis beneath the Red Hill facility.

And we also will submit our Ground Water Flow Model report, Contaminate Fate and Transport Report, and then there's a final Ground Monitoring Well Network Report.

So the two figures off to the side, some of the analysis that is ongoing -- the top figures are

various slices, if you will, through the Red Hill facility using known data from either geological borings, from monitoring wells or bore results when drilling those wells.

And we're trying to determine the various subsurface geology in and around the tanks that will be used to form our ground water modeling model.

And then the bottom one is just a different view of one of those slices, kind of looking at those geological formations in and around the tanks.

Next slide. This is an overview of kind of where we stand with our monitoring wells. I mentioned that we have some seismic testing ongoing. And right now, the blue dots, we have eleven monitoring wells that are installed.

And we're working on completing No. 11 now, the Red Hill Monitoring Well 11, which is on the prison site. And then we also have -- you see the purple dots, other areas that are identified for the installation of additional monitoring wells. Those are all off of Navy property with the exception of -- to the bottom, you see, No. 15, and No. 19.

And so, before we can proceed with installing those wells, we need to execute real estate agreements with various entities, some of those are the City and

County and Board of Water Supply of year 17 and 18 on the upper part of this attachment.

Well 16 and we got four identified options and that is in the quarry site. And I'm not sure if we're going to be able to get approval through the quarry operator to install those wells due to their operations in that quarry.

We do have Red Hill Monitoring Well No. 12 which is the City and County or prison.

DOT, that's Queen Emma land and so we're in discussions with them for access to that parcel to be able to install.

And also identified on here, you see yellow lines identified as "Transect." So those are when the contractor will go out with some seismic apparatus and will conduct seismic testing, basically drop a weight on a metal plate as they slide across that transect.

And with that, we will be able to get subsurface information and data that will then be used for feedback. As you recall, the previous figures that I showed, kind of showed what the geology is beneath the ground.

Question.

MR. SINGDA: This is John Singda from Intera. I wanted to point out, I think it's a very good thing to

have the monitoring wells coming on line in Halawa Valley because that is the area that the Board of Water Supply is curious about.

And I'm just wondering since the last update, what does the Navy now understand about the direction and the ground water flow since the last update?

MR. MANFREDI: Well, that is still a work in progress, we're still collecting the data. Probably the most substantial piece of information that we have is through the geology that we have seen from our new Monitoring Well 11.

We have got indications of saprolite extending to about 80 feet below the water surface, which is at least a data point that would indicate that we have some barrier there in the South Halawa Valley that would restrict flow from the Red Hill side towards Halawa Shaft. That is probably the single biggest piece of information that we have been able to glean since we last talked.

MR. SINGDA: Again, given the upcoming TUA selection decision, the information that you have now is going into a model that I saw on the earlier (inaudible) model. And I guess how is the Navy dealing with the uncertainty about which way ground water is flowing and its rate between Red Hill and the Halawa tract going to

be treated when you're making your decision?

CAPTAIN HAYES: So I think it's important to note that is not a one-time milestone TUA decision that is upcoming.

The AOC incorporates five years -- every five years, we'll look at that. Certainly, we'll take all of the best available data that we're able to get before a TUA decision process. But we'll continue this effort of increasing our monitoring wells and our gathering data.

As we go through the life of the AOC, that data will all be fed in to improve our understanding of the subsurface, events that are occurring, how that ground water is moving.

As we go through and make alternatives, we owe it to the AOC to continuously review those tank upgrade alternatives and make sure and incorporate the best available and practical technology.

And so we're not limited by the technology that we know today. Five years or ten years down the line, there could be either new data that is present or new technology that comes on line. And I think the AOC was drafted with the intention of being able to incorporate that.

And so we're taking a very aggressive stance, I know you have been involved with our working group

meetings. And I'm sure you will be participating in the rest of the week, but we're taking an aggressive stand to give us as much data as we can. That is why we brought on the hydrologist earlier this year to give us the best understanding as we can at this time.

But as Mark has indicated, Monitoring Well 11 did give us some indication of a potential barrier that exists at least in that location. But it was consistent with the Halawa and the deep monitoring well, at least the geology that we saw between those two locations. And as we continue to take the monitoring wells and the geological borings, that data will be fed into our model.

The last section, Section 8, this is a Quantitate Risk/Vulnerability Assessment. Since the last update, the Statement of Work for this section was approved. Phase 1, the QRVA, the Quantitative Risk Vulnerability Assessment, that contract was awarded and that section or phase will focus on the internal events, i.e. equipment failure, or human error.

Current and upcoming, we'll have a technical review and status update for the QRVA. We'll do an interim qualitative assessment of empirical data that is available, we'll complete that Phase I, and we'll move on to subsequent phases.

Phase 2 will be an internal and external fire and flood analysis. Phase 3 would be a seismic analysis and then Phase 4 would be other or additional external events such as storm, chemical spills, airplane crash in or around the site.

That wraps up each of the sections of the AOC. And so before moving on to the TUA Decision Process timeline, I just want to stop and see if there are any questions on any of those sections that I covered.

MR. TRACY: Joseph Tracy of Intera.

Do you mind going back a couple of slides, I thought I could read this but I can't (inaudible), geologic -- one more back.

Can you please read what those colors are indicating on the top right?

MR. MANFREDI: We're working top to bottom, I think it's alluvium, saprolite, basalt.

MR. FLOYD: And (inaudible) and pahoehoe.

MR. MANFREDI: Okay, thank you.

MR. TRACY: So the water is blue?

MR. MANFREDI: No, it's not water.

CAPTAIN HAYES: We can provide during the work group meetings with a much larger picture of that.

MR. TRACY: Thank you.

MR. LAU: I did have a question, Captain, as

you mentioned earlier about the procurement sensitivity for the test results for the destructive testing when (inaudible).

When you move a coupon, you are basically moving a steel plate and you are looking for how rusty it is especially on the outside of the tank or outside of the wall -- steel plate because you can't see it from the outside. And you are using nondestructive methods to indirectly tell you how much corrosion is happening or how much rust is on the outside. How is that procurement sensitive?

CAPTAIN HAYES: The actual reviewing of the coupon, that is procurement sensitive.

MR. LAU: So we'll be able to see the coupon?

MR. MANFREDI: Yes.

MR. LAU: Without signing a nondisclosure --

CAPTAIN HAYES: Correct. Yes, the nondisclosure -- certainly, we're stewards of the taxpayers dollars.

MR. LAU: Yes, we are.

CAPTAIN HAYES: So we deal a lot with contractors and the contractors have proprietary means and methods in which they do the work.

And so for that Section 5, a lot of that was proprietary and the contractor that is doing the work

does not want his means and methods being put out there so his competitor can be competition against him the next time they do the work.

So there were sections there that were redacted because those were proprietary to that contractor.

As we move forward with the tank upgrade alternatives, there will certainly be sections that cover cost estimating and work to be done. For those entities that don't want to sign a nondisclosure agreement, I won't be able to share those cost estimates with you at risk that they become available to the public and then contractor bids all happen to come in with that same number.

I would like to go back to the bidding procedure and get a fair price from a competitive bidding environment. So that is why some of the items we call procurement sensitive as being mindful of the future procurement procedures that we have to follow to get a contractor on board. And I want to make sure that is fair and the government and taxpayers get the best price possible.

And so that's why we're asking you or asking the entities to sign nondisclosure agreements looking for that procurement sensitive contracting that will be

upcoming.

The coupons, once they are out --

MR. LAU: -- they are not sensitive.

CAPTAIN HAYES: Those aren't sensitive.

The means and method to review them or to extract them may be if the contractor doing it says, I have a proprietary means of removing it.

MR. LAU: Like using a torch and cutting it out.

CAPTAIN HAYES: That wouldn't be proprietary, it would be if you had some testing apparatus.

MR. LAU: But the idea is not all of Section 5 will be proprietary.

MR. MANDREDI: Right now, the biggest concern is the scanned data, itself.

MR. LAU: But the actual condition of the steel plate on the outside?

MR. MANFREDI: It is what it is. And then the results of the constructive testing is compared to what the scans showed to what is actually revealed or measured on the tank. That, too, would not be proprietary.

MR. LAU: I appreciate that. I'm looking forward to my invitation.

MR. LINDER: To also further clarify, the

technical documents like the methods that are used to scan, the detailed technical documents are being provided to the regulatory agencies, the two versions, unredacted and redacted version. The redacted version has the information that the Navy has identified as procurement sensitive information.

And the redacted version basically is blacked out.

MR. LAU: If I could simply request that the regulators of the EPA and Department of Health to look carefully at what is considered procurement sensitive or, otherwise, to allow just only that (inaudible) that fall into that category.

So depending on the regulators of EPA and Department of Health to help produce public transparency for this important issue for our community, understanding the requirements of the Navy.

But EPA and DOH, that is your kuleana for us. Thank you.

MR. EISELSTEIN: Larry Eiselstein for Exponent, I think following along those lines of what might be considered proprietary and not proprietary, one of the important aspects of that methodology is to validate the integrity of a tank to be able to go forward for another 20 years or for another inspection

is the accuracy of that inspection.

And I can't think that the probability of that detection would be considered proprietary. Now how you get to that probability of detection, I think you could argue would be proprietary to the company. But I would think that the actual values with 95 percent reliability, we can detect laws of a certain size.

And so I don't know if you can respond now, but I would think that you ought to be able to provide probability of detection for the various methods that are used to inspect the tank without providing anything confidential.

MR. MANFREDI: So I mentioned to Ernie, yes, to answer your question, the short answer is: Yes, whatever the test results are or whatever the outcome is of Section 5 of the NDE analysis, that will certainly be made available.

SENATOR GABBARD: What process is the Navy planning to use to stay on schedule with the completion and implementation of the AOC work plans?

CAPTAIN HAYES: I think the process is just the AOC has been spelled out as (inaudible) deadlines for each of the sections, and deliverables. In addition to this update, we have very recurring meetings, that would be EPA and DOH to keep us on that timeline.

I don't know that there is any other process other than following the requirements that are spelled out for the AOC and being very mindful of those tasks that are due and making sure that I've got the right resources applied to keep us on schedule.

MR. MANFREDI: I would only add to that, sir, we talk with the EPA. We have weekly project coordinator meetings. And so we do keep a pretty tight -- lines of communication are open.

And so if there are any issues or any hiccups or any potential delays, those are discussed, and we work from there.

CAPTAIN HAYES: We have those discussions across the spectrum at the working level and at my level, and with EPA and DOH and also Dr. (inaudible) and Mr. Jeff Scott, I would say at the senior executive level, to make sure if there are any issues or obstacles that occur amongst the parties, we're able to quickly come to a resolution and then move on.

SENATOR GABBARD: I know I missed some tank upgrade alternatives, you are still on line for the December 8th deadline?

CAPTAIN HAYES: We're on line for the December 8th deadline. However, sir, when I briefed that, I just want to be clear, that report that is due will be a

report and kind of a programmatic-level engineering analysis of the six-tank upgrade alternatives.

That report will not be, at this time, a decision from the Navy on which alternatives will be put forward.

SENATOR GABBARD: No recommendation?

CAPTAIN HAYES: There will be no recommendation.

SENATOR GABBARD: Are you leaning towards one, just curious? (inaudible)

CAPTAIN HAYES: No, we are trying to be open to the whole process and scientific data and the discussion that will occur after we submit that report. As we talked about there is -- we are getting ready to get into that section, but there will be a public outreach meeting. And we'll certainly be meeting with the regulators and subject matter experts that will provide us comments.

But this report on December 8th, I think we may have -- maybe last year during the testimony to the State legislature indicated that the TUA report, it is a report on the tank upgrade alternatives but it is not the decision document for the recommendation.

MS. FAIGE: May I ask a question?

Will the TUA report discuss the expected life

expectancy of each option as the Navy has stated how long it would like to (inaudible)?

MR. MANFREDI: So the answer to that question is it's an indefinite life. As long as we continue to require petroleum products to operate ships and aircraft and vehicles, we're going to need someplace to keep it and to keep it (inaudible) accessible and safe and secure, et cetera.

So, yeah, the way the industry does their tanks, it's not a definitive end state for the life cycle of the tank but what do you need to do to keep it running in perpetuity.

MS. FAIGE: Will that be discussed, each option?

CAPTAIN HAYES: It will be weighed against the 18 attributes, each alternative will be reviewed against either a constructable or testable -- Am I going to be able to get in there and inspect it and get back in to repair it. Does it protect -- to which degree it protects the environment. Does it provide secondary containment or not?

So each alternative will be kind of weighed against those 18 various attributes which will then -- hopefully, we'll select an alternative that allows the Navy to continue to inspect, prepare and modernize

throughout the need for the facility.

MR. MONTGOMERY: The rating for each one is consistent. So for the shelf life of the TUA, it's 40 years and 20 years for (inaudible).

But they are going to be rated equally, it's not going to be one (inaudible) and how much less will it last.

CAPTAIN HAYES: So right now we're putting the tanks through I mentioned the API 653 certification which gives us a 20-year life cycle or 20-year certification to operate. And we want to make sure that whatever tank upgrade that is selected, we can still do that inspection to get that certification of the tank extended for its life.

MR. MANFREDI: So it doesn't mean -- the testing procedures, the API 653, it's a 20-year life cycle. It doesn't mean that the tanks will fall apart in 21 years. There is a huge factor of safety that is built into these requirements so you would never reach a point where you will get a deterioration of the tank within that 20-year cycle.

MS. ICHIYAMA: I have a question about (inaudible) going on at the same time. For example, the destructive testing, what is going to happen after the TUA report comes out? So how are you going to factor in

the (inaudible) testing alternative?

What if you find out, you take out the square from the tank and you are like options 1, 2, 3 are out because of the condition of the steel. (inaudible) What will you do then?

CAPTAIN HAYES: Certainly, we'll take the initial TUA decision, we're going to take all of the best available data that we have.

And as I mentioned previously, that is not a one-time decision snapshot. As we continue to get data, if something comes in and finds that the decision we made didn't completely factor some data, we'll certainly reevaluate that. But to say we want to get to a point that we were able to get an initial tank upgrade alternative selected without the AOC process or public would allow me to say, hey, I need to continue getting every piece of data available (inaudible) before making a decision.

We want to take the best scientific data that we have and make the best decision at that time. But then if the AOC does not allow for a process to reevaluate that TUA decision...

MS. ICHIYAMA: That would be five years later, right? (inaudible).

CAPTAIN HAYES: Certainly, if something came

in that is very eye opening and showed we had made or misunderstood a decision, we'll not wait for that five years to reevaluate. I don't think the regulators would allow us to ignore that data for five years.

MR. LINDER: I can tell you from the EPA perspective, the Navy is required to come up with a proposed (inaudible) if DOH will accept it or reject it.

In order for a decision to be acceptable to us, it has to be structured in a way that takes into account certainty in a (inaudible) manner and also has contingencies built into it. And so, for example, if data comes back from destructive testing to say that nondestructive testing does not work very well; we assumed that it did, but it didn't, that would be a game changer in terms of what the right answer is for a tank upgrade.

And I think you also need to keep in mind that once the decision is made it takes years before that upgrade is actually constructed and done. Several years.

The contracting process takes months before you actually get a contractor to be able to start doing work.

And so there is going to be opportunity to structure the decision in a way to build in appropriate

contingencies and address uncertainty.

MS. ICHIYAMA: So my comment, I don't want to get stuck in a loop or like do the testing -- or are we putting the cart before the horse by doing alternatives and then doing testing? And then we'll have to come up with more alternatives and more testing comes and more alternatives, you see what I mean?

CAPTAIN HAYES: I don't think we'll come up with more alternatives.

The decision -- this report that comes out is not going to be something that I can take and put on the street to award a contract. As Steve mentioned, I'll have to get it to an architect or engineering firm to design it. It takes generally 12 to 18 months to put a contract out to bid.

And so if during that time, something else came in that was drastically changed, assuming it doesn't change the TUA decision, we would still have an opportunity to change that contract design to incorporate, or beef up, or add in different measures as we're proceeding towards a construction contract award.

MS. ICHIYAMA: One more follow up on the 18 factors. Is cost one of those factors?

CAPTAIN HAYES: Yes.

MS. ICHIYAMA: Will you be able to share

estimates in light of what you shared about the procurement?

CAPTAIN HAYES: We can share -- the federal acquisition regulations allow me to share cost estimates within ranges. And so I can say this construction contract will be between 10 and 20 million. And this one will be between 20 and 50 million. I don't know exactly the ranges, but I'll be able to share those ranges.

But because of the sensitivity and not wanting to give exactly what the government's estimate is to the bidders, I won't be able to give you a close dollar amount. But it will be in the ranges.

MS. ICHIYAMA: Will that be in the December report?

MR. MANFREDI: No. The December report will have -- that information because it's finite, it will be redacted. But we'll be able to say publicly what the ranges are in orders of magnitude.

CAPTAIN HAYES: What we do with public outreach after the report, we'll have it broken down into different ranges. We may need to look at -- you can look at within the report the section that says each TUA is within the range that is allowed within the federal acquisition regulations.

MS. ICHIYAMA: I think that would be good to know, the ranges.

MR. LAU: If I can follow up on a response, (inaudible) you refer to the Red Hill Bulk Fuel Storage Tank Upgrade Alternative decision process, there actually is a list on there, I think it looks like 20 attributes instead of 18. It does include Item 20, Tank Upgrade Construction Cost Estimate.

So this document is on the EPA's website and it is available to take public comment right now?

MR. MANFREDI: So Ernie, just real quick, it was 21 attributes. Since our last go-around with the contractor, it's down to 18, some of them were consolidated.

MR. LAU: Will the decision document on the website be updated?

MR. MANFREDI: Yes, we can do that. But in a couple of weeks, you will have the full-blown report that will have the attributes.

MR. LINDER: The decision process, we haven't provided that on our website at this point (inaudible).

MR. FLOYD: So, I wouldn't necessarily call this document the final decision process. It would probably evolve further before we get to the decision process.

MR. LAU: Will it continue to be -- because I look on the footnote of the first page (reading document.) It doesn't give a deadline.

Will that continue to be circulated for public comment?

MR. LINDER: I say, yes, and as was mentioned earlier in the discussion, we're going to get the TUA report, we're going to be getting some other additional reports.

Our plan right now is to have a public information workshop to discuss these reports and answer people's questions about these reports including this proposed decision process probably sometime in February or March of 2018 before we get into the decision deliberations with the Navy.

And then once they come out with their proposed decision, the regulatory agencies intend to have another public meeting that would be more of a traditional public hearing to take people's input on what the Navy is proposing and what our response should be to that proposal.

MR. LAU: I guess if I could just make a simple request, it's very difficult to comment on a document that is in a continuous state of change.

So if you have a public meeting coming up at

the end of January or early February and this decision process document that's currently available for public comment goes through different changes or revisions, how does the public know what is the latest version of this document on the website?

CAPTAIN HAYES: I don't know that the public meeting is intended to comment on that decision process as much as it is to look at the TUA report and TUA alternatives and those attributes that were identified in the report.

MR. LAU: So kind of help me to understand, I guess, how this decision process document that is out there right now gets to the timeline there?

MR. MANFREDI: I guess I don't follow your question.

The decision process, this outline that we have up here is essentially the process, this document in schematic form.

MR. LAU: So that schematic on the Power Point is the same as what is described in this draft decision process document that is currently on the EPA's website?

CAPTAIN HAYES: Yes, that was the intent. And now that you got it there before you, we'll run through the test to see if it matches. (inaudible)

It's our intent to submit that report on the

8th of December. And we'll get that to the regulatory agency for review, and we'll post it on the website for review by all.

And I'm sure if there is any initial comments, we'll provide feedback and we'll provide that update before scheduling and calling a public outreach meeting and to gather comments as well.

At the same time, we're still collecting data from all of the sections -- the nondestructive testing and Section 6 and 7 -- all of the data that we can get to make an informed decision. And sometime in that March timeframe, we'll be holding decision meetings with the regulators and subject matter experts. And that is due 60 days after the TUA report is approved by the regulatory agencies.

Senator, back to your question about the process, the AOC already has -- We did not know the exact dates, but we set milestones that they want approval of these documents received 60 days after. So within 60 days of getting approval of our TUA report, we get out that decision or recommendation back to the regulatory agencies.

They will then, in turn, as Mr. Linder mentioned, hold another public comment period very similar to that of an environmental impact statement,

add those comments in before they make their recommendation or approval of our recommendation.

And then at that time, we'll go forward to brief the -- the timeline of this also fits in kind of what the budgetary timeline that will be required for us to get these projects programmed and put in for eventual execution.

MR. LINDER: I think one other thing to point out is when we get to that point where we're entering deliberation on the decision, we expect to have additional information in front of us and not only this tank upgrade study but the alternative location study (inaudible).

There may be other pieces that are not completely done or the destructive testing may not be done yet. But there would be a lot of additional information that we don't have yet at the time -- sometime in the February or March time frame of 2018.

MR. LAU: If I could just request to make public outreach effective, the public needs to have maybe something to review ahead of time, information before them, so they come to the meeting more informed and they can ask or formulate their questions prior to the meeting.

And so if I could request if you are going to

discuss different sections to the AOC that you have some publicly-available information that you identify to the public in your outreach, so they can review that, and that the format of the meeting to be used will be more effective in soliciting input and allowing people to ask questions. And I think the community would like to ask questions but may not be given the opportunity to do that given the format of these meetings.

So it's something to consider to make public outreach effective.

MR. KAWAOKA: Okay, any other questions or comments?

CAPTAIN HAYES: Just to wrap up, I want to reassure that from all of the test results that we have taken, the water is safe to drink. The Navy is committed to ensuring that through this AOC process and going into the future. We do that through our routine water sampling and testing.

As indicated, the tanks most recently passed their annual tank tightness testing. And the next annual update is ongoing as we speak now. And all of the tanks that have gone through this year's test have passed and we will certainly have the final report of that available to the public when completed.

We feel that the AOC process is working and it

holds the Navy and DLA accountable through public outreach meetings or through update meetings such as this.

And we have also met, Senator, to answer all your questions, we have met or continue to meet all of the deadlines specified by the AOC.

As I mentioned, we're not stopping our clean, inspect and repair program as we wait for decisions to be made through the AOC. So we're still continuing to clean, inspect and repair a set of tanks right now.

And at some point in the future when a decision is made, that process or procedure will be folded into our inspection program.

And we're continuing to work on Tank #5. And we know that we have made mistakes in the repair of that. And we held that contractor accountable through the warranty period. But we're now in that second full inspection, and so I can provide with certainty that tank is ready to return to service and scheduled in late fall or early winter -- or late fall of 2018.

And as we previously mentioned, the TUA report will be submitted on the 8th of December. And then we expect that decision as it goes through the process, through public comment and regulatory approval to be made in the August timeframe of 2018.

So that concludes what I brought today unless there is any further questions.

MR. KAWAOKA: Okay. Thank you, Captain Hayes.

Any questions from the committee?

MS. PERRY: We have a couple of committee members that came in late.

MR. CHENET: Robert Chenet with the Department of Land and Natural Resources.

MR. CASEY: Patrick Casey with the Commission on Water Resource Management.

MR. ONOUE: Steve Onoue, Moanalua Valley Community Association.

MR. KAWAOKA: By the way, these will be posted on the website, too, as well as the minutes or the recording.

Okay, I think there was a lot to throw at everybody. I'm not involved day-to-day, but the ones that are involved day-to-day are certainly into all of this. But I think the question was raised earlier about there is a lot going on and there is real complex work that is going on. And great progress has been made I think from the past year.

And the question that I want to pose to the committee is: Is this forum a useful forum to discuss field constructed tanks in general. You heard the

presentation from the Navy on the other tanks, the non-Red Hill tanks, as well as Red Hill tanks.

Do you think this forum would be useful to discuss Red Hill, which is primarily the focus of this. But you can certainly have the field constructed tanks portion. I'd guess the need to relate more on an (inaudible) basis of what is going on since and what progress or issues have been coming up and the focus on Red Hill for this forum.

And I don't know if you recall last year that we had this meeting and, shortly thereafter, we had a public meeting. And so we're trying to increase the outreach and the transparency and the ability of the public to provide their input.

I'll just open it up to the committee, if you think this forum is a useful forum to discuss Red Hill matters on a technical and also on a public basis?

MR. LAU: Keith, thank you for the opportunity in the agenda to bring up this discussion.

All right. There's a few things, I think this committee should again -- and I may have said this last year -- but I think the importance of this issue to the community and to our island's drinking water requires that this committee should meet more than once a year, even quarterly to get some updates and be able to share

what is happening with the different projects, not only Red Hill but the others locations, too.

It's an opportunity for the community to come out if they would like to or our elected officials to be present. And so I think it's a great way, but I would recommend more than once-a-year meetings.

Also, I would like to request or suggest that we should -- especially the facilities that even though they are PLU or permanently out of use, if it happens to be over a drinking water aquifer on Oahu, for example, the Kipapa Gulch storage facility and Hickam Field Annex, Waiakalau (phonetic) that it actually would be a great opportunity to have the committee and anybody from the public to actually go out and go on the ground and see what this facility looks like and what is being done to remediate or monitor the contamination (inaudible).

I'd also like to request that the committee form the use as a way to -- once the TUA report comes out or the TUA decision is made, I know that until the National Defense Authorization Act for fiscal year 2017, the committee and Armed Services and House of Representatives that there is a briefing requirement that the Captain mentioned earlier that is a briefing between the Armed Services Committee and the House and Congress be held within 30 days of the decision of the

TUA upgrade.

We'd also like to request that that same briefing be given to this committee and to our elected officials here in the State of Hawaii because it does cover the different alternatives and specifically with the issue of cost replacement or relocation.

And so these are all different factors that Congress -- I guess the committee is asking -- because they are also accountable to how taxpayer funds are used to support our events.

So I would like the same briefing or form of it. I'd like to request that be done for this committee, of course, after the House gets their briefing first.

MR. KAWAOKA: Comments?

CAPTAIN HAYES: Certainly, I'd want to do it after. We could defer to Congress to get the first and full -- you'd probably get me in the beginning. I probably won't be able to get the Secretary for the Navy but we'll try our best, we'll send out invites.

MR. ONOUE: When we have community meetings, we need to have it as open and constructive so people can voice their comments. I think the last one was pretty good. We didn't have as much protest and people kind of focused on exactly what was being done and where

they were at and what they can expect.

And I think that that is very constructive. The other things that they had with some of the committee meetings where they were all kind of issues that were coming up and not really directed at Red Hill. So I would like to keep that similar format that you had and that was good and this is what we're doing. This is what it is and have your experts here to explain to the public what is being done and what they can expect.

The last one was pretty good. We didn't have a lot of people talking about all kinds of other issues that kind of didn't relate to the project. They have to stay on point. Some of the comments that were received earlier were kind of outside of the issues of the Red Hill fuel tanks.

MR. LINDER: We got some mixed feedback. Some people liked it; for some people, they kind of liked to have a place to address the whole audience and hear each other's comments so maybe a hybrid approach.

And the other thing was we had a problem with the noise because there's a lot of people there, it got noisy. But we'll see what we can do.

MR. KAWAOKA: Other than the Congressional and the State representatives, you represent a significant part of the neighborhood. And the rest of us work on

the project.

MR. ONOUE: The comments from the community were that they got a better understanding of the facility. I think that there are some community members that would like to see the facility.

And I think if they were able to see the facility in its entirety that they would understand the magnitude of what you are talking about, it's not something small like this, it's huge.

And there are a lot of things that the community can get behind to help this process move along with the understanding that you know it is a significant asset for the islands. And it is something that is not going to go away. And we have to do our part to help everybody get in line so that they can work together to make this happen. Whatever needs to be done, go through the process, and get it done to ensure the safety of everyone.

And then, of course, No. 1 is keeping the water safe and keeping our national readiness for our forces here in Hawaii. Those are all things that need to be done to work in harmony. If the community can get behind it and see what it is, they can understand it a little bit better.

Certainly, when I went through that facility,

my understanding increased a lot in terms of what I saw there. Before then, I wasn't sure what it was. But that tank is huge. And if you have to inspect every square inch, it's going to take a long time because it's a big thing.

Why does it take so long to inspect the tank? Why is the tank out so many years? How come they can't get it done within two years? Is it possible?

So, you know, if they can understand that and we focus on that portion, not so much just the bad stuff but some of the good stuff that goes on, that is always very helpful.

MR. KAWAOKA: Well, thank you for that.

I think as far as seeing the (inaudible) working with the Navy, I'm sure they will accommodate those kind of requests, as well as the Board of Water Supply. So thank you for that.

And I would like to use this forum as sort of a way to create awareness of transparency of what is going on and better focusing in terms of what is the progress going on or nonprogress going on; to be able to see all of the work that is going on at any one time, I think is complex but I think it is doable, and so I think we'll try to work on that.

Any comments or questions from the audience?

CAPTAIN HAYES: I would just like to thank everybody for coming today and I thank the committee members.

The Navy, we certainly do take this seriously and we welcome the transparency and the dialogue, and certainly do not shy away from our responsibility or being held accountable for fixing and upgrading the Red Hill facility because it is a very important mission or provides a very important work finding capability to our national strategic defense.

So we look forward to continuing to work with all parties and to do everything that we can to ensure the continued safety in the environmental resources and the drinking water that is out there.

And we thank you for the opportunity to come today and provide this brief. And certainly if those other outreach opportunities come up, we are willing to provide those updates to the public as requested.

MR. KAWAOKA: With that, we stand adjourned.

(Whereupon, at 11:00 a.m., the proceedings were adjourned.)

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C E R T I F I C A T E

I, CAROL E.M. SUGIYAMA, C.S.R., for the State of Hawaii do hereby certify:

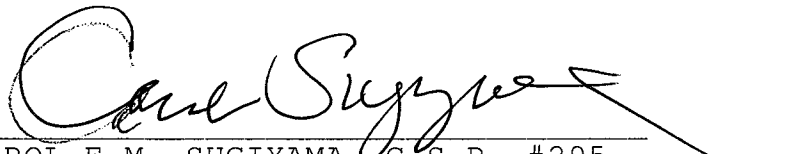
That I was acting as shorthand reporter in the foregoing matter on the 14th day of November, 2017;

That the proceedings were taken in machine shorthand by me, and were thereafter reduced to typewriting under my supervision.

That the foregoing represents, to the best of my ability, a correct transcript of the proceedings had in the foregoing matter;

I further certify that I am not counsel for any of the parties hereto, nor in any way interested in the outcome hereof, and I'm not related to any of the parties hereto.

Dated this 10th day of December, 2017 in Honolulu, Hawaii.



CAROL E.M. SUGIYAMA, C.S.R. #295
Certified Shorthand Reporter