**Red Hill Task Force Meeting #2  
Notes from October 7, 2014**

(Gary Gill, DOH): Opening remarks (10:00 a.m.)

* Individual introductions
* Review agenda
  + Changes to the agenda and corrections to the notes of meeting on 9.3.14
  + Questions from the Navy
  + EPA proposed rule changes

ANSWERS TO THE QUESTIONS POSED TO NAVY IN THE 9.3.14 MEETING (13 questions)

(Capt. Mike Williamson, Navy): Why don’t I take a stab at answering the questions and if the answers are satisfactory, we’ll move on to additional questions. I’m not prepared today to hand over written responses, I have those. I just want to make sure that I have those vetted to my team before we hand over written responses. I think that we can have a good discussion today though. First question, “when will the MilCon contract start to install the water tight doors in lower tunnel to protect the Navy’s drinking water source scheduled?” First off I wanted to address that an oil tight cap has been placed over the well so nothing can get into the well.

(Ernie Lau, HBWS): So the hatch is replaced by an oil-tight hatch? For the public’s benefit, this was a potential direct pathway from the lower access tunnel directly to the drinking water, about a hundred feet below.

(Capt. Mike Williamson, Navy): Yes, so that’s been done. To answer the specific question, we will start this next project in 2015 and expect to have it finished by 2017. It’s a sizable effort which includes fire protection, construction in the tunnel and as part of that the installation of oil tight doors to prevent oil from getting into the Red Hill Shaft.

Can you describe the 3-4 year maintenance cycle in more detail? Right now we have, at any given time, three tanks out of operation for an empty, clean, inspect and repair. I shouldn’t say repair, I should say, “a service life extension,” where we restore the tanks to operation. So in more detail, we have get the contract, to completely clean in inside of the tank and then we go through an elaborate sequence of assembling boom structures to get inspectors in to do both a visual inspection and century inspection of the inside of the tanks to test for wall thickness. We have several means to do that with magnetic resonance and ultrasonic testing to check and identify areas of potential service life extension improvements throughout the tank. And that goes to for the 100’ diameter and 225’ high tank so you can imagine it takes some time to do that. To assess the areas where we might have some wall thinning or welds that may need to be extended. So we’re really looking at this for improvements that we need to make to the tank so that we can extend the life another twenty years without having to worry about the structural integrity of that tank. So a very detailed analysis goes in and based on the number of areas we identify for improvement, we work in concert with contractor, and to the extent that location, the quantity, the magnitude, the size, we then turn to negotiation to identify how much we are going to repair or how much work we are going to do and if there are areas and still money left over, we’ll go beyond that. So we’re taking an eye towards the future every time we go into one of these tanks. So we’ll negotiate that out and then the work will commence and then move on from there. So that’s basically the sequence of operations. We have limited power in there so we have to sequence the repairs of the tanks. So we have the lighting, the ventilation and all of the preventing people working on top of one another because we have constricted areas and a limited boom structures and space so that’s why we take three tanks out. So while we are cleaning one tank, we’re inspecting the next and emptying the next and so on and so forth. So does that answer that question?

(Gary Gill, DOH): Let me follow-up Mike. How many tanks are currently down for this maintenance cycle?

(Capt. Mike Williamson, Navy): Three tanks

(Gary Gill, DOH): including tank 5?

(Capt. Mike Williamson, Navy): Correct.

(Gary Gill, DOH): Can you tell us what the other tanks are?

(Capt. Mike Williamson, Navy): Tank 14 I believe and Andrew, can you help me out with the other?

(Andrew Lovgren, Navy): Tank 17

(Gary Gill, DOH): Can you give us the status for tank 14 and 17?

(Capt. Mike Williamson, Navy): So tank 14 has been cleaned and inspected but we have not started the repair work.

(Andrew Lovgren, Navy): And I believe tank 17 is going through the repair process. But I can find out before the next meeting.

(Capt. Mike Williamson, Navy): So we halted the repair efforts, until we did a forensics on tank 5. So we halted the repairs until we learn exactly what processes, procedures and quality assurance and workmanship issues needed to be addressed from tank 5 before we moved into those other tanks.

(Gary Gill, DOH): So all work is halted in tanks 14 and 17? So 17 was in the process of repair when it was halted and 14 was in the process of cleaning when it was halted?

(Capt. Mike Williamson, Navy): Correct. Let me pull the specifics of what was done on each tank. So it’s important to know that we haven’t gone forward with the specific repairs until we have done the forensics on tank 5. But to the extent that the API 653 inspection inside the tank, I need to get back to you on the specifics for those two other tanks.

(Gary Gill, DOH): Ok. So for the tanks that are currently out of service for the repair, the repairs have been halted and you can get us more detail on that. Can you tell us prior to these three tanks, which tanks have gone through the repair cycle?

(Capt. Mike Williamson, Navy): So I think that’s the next question. So five tanks have gone through this process, tanks 2, 6, 15, 16 and 20 have gone through the service life extension process.

(Gary Gill, DOH): When?

(Capt. Mike Williamson, Navy): That was the next question, ‘can you share what were the findings from the previous API 653 inspection reports… I believe all of those were submitted as part of our Groundwater Protection Plan of 2008. So the process that we went through, the inspections that were done, the repairs that were done, were all shared as part of our Groundwater Protection Plan submittal in 2008. Your team should have that.

(Ernie Lau, HBWS): After the leak in tank 5, you went back and did a forensics on what were the causes?

(Capt. Mike Williamson, Navy): That’s still on going.

(Ernie Lau, HBWS): So eventually you’ll have a report on that ongoing investigation?

(Capt. Mike Williamson, Navy): Yes, we will have information on specifically the 17…. Actually you’re hitting on a question further down now.

(Ernie Lau, HBWS): I’m happy to wait for that question so that we can stay organized. But kind of going back to question #2 about the 3-4 year maintenance cycle, is it the intent that the maintenance be done on the tanks every 20 years?

(Capt. Mike Williamson, Navy): That’s the intent. That is correct.

(Steve Linder, EPA): So tank 14 that has been cleaned and inspected, but yet has not gone through the repairs or improvement processes… approximately how many locations within that tank were identified for repair or service life extension?

(Capt. Mike Williamson, Navy): Steve I don’t have the answer to that. I mean that would be part of the API 653 inspection report that’s generated as part of that contract so I don’t have that in front of me. That’s information that we have shared in the past with previous tanks and so, I can get that information for you, but I don’t have that in front of me. As a reference point, we have identified 600 locations in tank 5 that were areas for service life extension of adding an additional plate and extending the service life for tank number 5.

(Ernie Lau, HBWS): For clarification, when you talk about ‘service life extension’, can you explain what that means?

(Capt. Mike Williamson, Navy): Certainly. So, when we get inside the tank, the tank has plate steel that was put in place 70 years ago. That steel is a quarter inch thick and what we’re looking for when we do the API 653 testing, is ‘where has that steel plate thinned out, whether it’s through corrosion or pitting or through welds or nicks’. So we’re doing a very thorough visual inspection and also using magnetic resonance to essentially look through the metal to identify abnormalities. We’ll use ultrasonic testing to identify where we might have thinning inside the tank. As you can imagine, it’s underground, you can’t see the backside of it so we’re relying on technology to help us identify where we have thinning, where we have abnormalities using current technologies. The threshold is….

(Burr Vogel, Navy): 0.1 inch, sir. It’s what you shoot for once you get in the tank 20 years from now, you want to have at least 0.1 inch left.

(Capt. Mike Williamson, Navy): So there’s been a standard that has been set that identifies the minimum thickness. So when we go in and take a look at it, we’re identifying all of those areas where any thinning has occurred, where any corrosion has occurred and we’re putting an additional plate on top of it to the extent that that plate will not any concerns over the next 20 years until we have an opportunity to get back into it again.

(Gary Gill, DOH): So the modified API 653 standard is such that you are projecting that any corrosion that takes place in 20 years will still leave one-tenth of an inch of steel?

(Burr Vogel, Navy): That’s correct, but that’s not really modified. That’s straight out of the API 653 standard.

(Gary Gill, DOH): So we’re patching it now so that as it continues to corrode, in 20 years there will still be 1/10 of an inch of steel between the petroleum product and our groundwater. That’s the API standard?

(Burr Vogel, Navy): Correct.

(Capt. Mike Williamson, Navy): That’s for above ground tanks, below ground tanks and all tanks.

(Ernie Lau, HBWS): How do you come up with the 20 year extension?

(Capt. Mike Williamson, Navy): So the 20 is the maximum time recommended through the API 653 standard

(Ernie Lau, HBWS): Is that assuming a uniform corrosion rate over the tank walls or… how do you determine the rate of corrosion for this?

(Capt. Mike Williamson, Navy): So the rate of corrosion is part of the API inspection as you know, and so when we go out and take a look at the last time when this tank was touched… the wall thickness and divided by the time inbetween. It’s a simple calculation for the corrosion rate, and so based on the five tanks that we’ve done already, we’ve got a pretty good feel of the corrosion rates that is occurring within these tanks. And I know Steve Linder, that’s a question, you’ve been asking in terms of metallurgy and corrosion rates, and so a lot of that is already detailed in the API inspection reports.

(Ernie Lau, HBWS): Mike, is the corrosion rate that you use to do this calculation, is it based on averaging? Is it based on how many points you look at in the tank and the rates of corrosion at those points and coming up with an average, loss per inch per year rate?

(Capt. Mike Williamson, Navy): I don’t think we’ve aggregated it. I mean we’ve gone within specific points in the tank. So in tank 5, we went to 600 different points in the tank. Some of the corrosion rates are 300+ years before you hit that minimum and in some cases where you have a nick or a weld that accelerates corrosion, we’ve seen that in over 70 years, it’s thinned to a point where we’ve reached a threshold where we’ll put a plate on. I don’t think I have an aggregate corrosion rate for the tanks or an average corrosion rate for the tanks. I think it’s specific to the different areas within the tank but it varies from 20 years to 380 years. In other words, we don’t have uniform corrosion occurring within the tank. It is site specific and I haven’t done analyses to say…, you’re seeing more at the lower third of the tank or you’re seeing more at the upper portion of the tank. I’ve been told that the areas above the fuel line are the areas where we have more thinning because as you have air and oxidation occurring and so on and so forth. And the areas where fuel is in contact in the lower side are actually in better shape than the areas above. That’s my understanding.

(Ernie Lau, HBWS): So Mike, after looking at the inspection reports which are appendices to the Groundwater Protection Plan from 2008. It looks like a formula was used to come up with the 20 year rate and a corrosion rate was used. But you’re saying that the rate of corrosion within the tank, and this is 100’ in diameter and 250’ tall, and when you calculate the surface area, it’s pretty substantial… that the corrosion rates are actually variable and not uniform. So you’ll look at thinnest points on the wall and you put a small piece of steel over that point where you find the wall has thinned or corroded to 0.1 inches or less.

(Capt. Mike Williamson, Navy): Correct. That’s exactly correct?

(Steve Onoue, MVCA): so how thick are the plates that you weld on?

(Capt. Mike Williamson, Navy): Quarter inch

(Steve Onoue, MVCA): So it’s a ¼ of an inch plus whatever was left. So what’s the average size of these plates?

(Capt. Mike Williamson, Navy): Andrew do you have a dimension size?

You want to make sure that the area you’re covering and the surrounding area, where you put the plate on are going to meet the API standard.

(Steve Onoue, MVCA): Also is your corrosion rate different from tank to tank? Where you’re storing different types of fuels?

(Capt. Mike Williamson, Navy): I don’t know that the type of fuel changes the corrosion rate. Certainly the location and the workmanship that was done in those specific tanks, where the steel was drawn from… all play a factor in that. But it is a very detailed point by point look through the tank and it’s a basic calculation.

(Steve Onoue, MVCA): Like the pH of the newer fuels are different than older fuels and you would have to modify your calculations that way.

(Capt. Mike Williamson, Navy): Sure.

(Gary Gill, DOH): Ok, we have 13 questions and we’re only on question 3.

(Andrew Lovgren, Navy): Mr. Gill, can we go back to your question about tank 17? I want to give you the correct information that you wanted. Tank 14 is on hold for the inspection stage and tank 17 is on hold for the repair stage.

(Gary Gill, DOH): So tank 14 has been cleaned but not inspected and tank 17 has been cleaned and inspected but not repaired.

(Andrew Lovgren, Navy): Correct.

(Gary Gill, DOH): Ok thank you for that. I had one other follow-up question before we move on. You say that five tanks have gone through this process, tank 2, 6, 15, 16, 1and 20 that have gone through the modified API 653 process, did I get a timeline when that happened? When did the Navy begin using this modified API 653 process? And related to that, was there any process previous to this modified system that you’ve adopted where the tanks were maintained or is this the first time since 1943 that there was some sort of maintenance protocol applied to the tanks?

(Andrew Lovgren, Navy): Sir, if I can answer that for you, we do have documentation that maintenance had previously occurred before we implemented this modified API 653 program. As far as date when the API 653 procedure first started, I’ll have to go back and get that date for you.

(Gary Gill, DOH): In case Steve Linder couldn’t hear, there was some ongoing maintenance done prior to the Navy’s adoption of the modified API 653 but we don’t know off the top of our heads when the 653 process begun on these other five tanks.

(Capt. Mike Williamson, Navy): So these five tanks did go through the modified API 653 process.

(Gary Gill, DOH): But we don’t know when that begun.

(Burr Vogel, Navy): I’ll give you a ballpark sir, it was around 2000.

(Gary Gill, DOH): So for the past 14 years, the Navy has been applying the modified API 653 process and have concluded that on these five tanks. That answers my question.

(Ernie Lau, HBWS): One last question, Mike this 653 process which is created by American Petroleum Institute for application for above ground tanks, has API sanctioned the use of the API 653 for field constructed underground storage tanks?

(Capt. Mike Williamson, Navy): Ernie, as you know there isn’t a standard for inspecting field constructed underground storage tanks. So what we did was take the current standard for tank inspection and site adapted it to Red Hill and we did that with subject matter experts and industry to help us identify what elements of 653 we would implement and we also took and implemented requirements from our own unified facility criteria 3-T46-T01 to include things beyond what 653 requires and that’s why we document with photographs, containment, piping inside the tanks and other elements that API 653 didn’t cover. So, we’ve worked with industry and we’ve adapted 653 to the maximum extent that we can for the underground tanks that we have. If there is a higher standard out there…. I’m not aware of one, certainly we’d like to go to the highest standard out there. That’s the standard we have right now and we’ve adapted that the maximum extent we can for use inside the tanks. And I open that it to folks to say, is there more that we can do? But I think that we are doing what the industry would require of us to do.

(Ernie Lau, HBWS): Did DOD or the Navy ever go back to API and ask them to review the process and basically certify or approve.

(Burr Vogel, Navy): Captain, I can speak to that a bit. We’ve had conversations. So for starters, API is a standard setting body and these are unique tanks, one of a kind in the world, and if you’re setting industry standards, you simply don’t make a standard that applies to only one facility. It doesn’t make sense. Now our engineers go to industry forums, conferences, and we talked about what is the right way to contain Red Hill and at those conference are the same people who sit on the standard committees. So, while there’s not an official blessing on the API 653 use at Red Hill, the same experts who set the standards have been part of the Navy’s discussions in coming up with this over the past 10-15 years.

(Ernie Lau, HBWS): Just for clarity, Red Hill is one of a kind or… how many of the field constructed USTs does the Navy or DOD have across the nation?

(Burr Vogel, Navy): For this type of construction, specifically here, this is it. Quarter inch steel, 250’ tall, 100’ diameter... buried in rock, all of the characteristics of Red Hill. There’s nothing else like it.

Now I think I know where you’re going… if I can jump ahead a little bit. Why is API 653 applicable here? This is just one giant tank bottom. API 653 has standards for addressing different parts of the tank and essentially, these tanks look like a tank bottom. If you look at an above ground storage tank… all of the bottom standards are really the sections that we pay attention to the most, of course in addition to the piping and other factors.

(Gary Gill, DOH): To follow up with that, and where I think Ernie was going with this, Red Hill is one of a kind on the planet, unless the Russians have something we don’t know about. But there are other underground field constructed tanks in the Department of Defense inventory of tanks. Can you tell whether the modified standard you are applying here to Red Hill is similar or identical to the modified standard that I assume, the Navy or other military institutions are using for other underground field constructed tanks.

(Capt. Mike Williamson, Navy): I hear where you’re going but at the end of the day, that’s the tank standard and we don’t have a standard for underground field constructed tanks, you have to take an existing standard and site adapt it the best you can. So I don’t have a specific answer to that but I would presume that that is in fact the case, unless they came up with a new standard that we are not using.

(Gary Gill, DOH): Are there other underground field constructed tanks in Hawaii under your jurisdiction?

(Capt. Mike Williamson, Navy): No. Not that I’m aware of. Andrew?

(Andrew Lovgren, Navy): Everything else we have is above. Those are the only field constructed of that capacity that I have as a field director at Pearl Harbor.

(Gary Gill, DOH): Certainly of that capacity, there’s nothing this big. I’m assuming there are other underground field constructed tanks in Hawaii. My staff is nodding their heads that there are other underground field constructed tanks. I don’t know if they belong to the Navy, the Air Force, the Army, the Marines…

(Steven Chang, DOH): We have a total of 46

(Gary Gill, DOH): We have a list of 46 underground field constructed in the state of Hawaii

(Steven Chang, DOH): There are 20 here so that means that there are 26 more. They’re smaller tanks, they are a few at the shipyard, Pacific Missile Range in Kauai has some tanks which are not under your jurisdication as I understand right?

(Gary Gill, DOH): Ok, so there are other military tanks, none which belong to the Navy.

(Steven Chang, DOH): There are some identified at the Navy at the piers right? There are three of them, or something like that.

(Capt. Mike Williamson, Navy): Ok Gary, if you wanted to share… I mean you’ve documented those tanks, if you want to us to address the inspection standards for those tanks, I’m happy to do so.

(Gary Gill, DOH): Well, let’s get this clear for public information. What I hear is that we have 46 tanks in the state, including the 20 at Red Hill and the other ones of course are nothing like Red Hill, in terms of size of dimension

(Steven Chang, DOH): Some are about a million gallons and some are just concrete tanks, they’re not even steel.

(Gary Gill, DOH): Ok, so maybe this is something we can provide and I think it’s important to keep in perspective, you know what else is out there. Certainly it’s nothing in comparison to size, scale or construction technology that went into Red Hill but it’s important for us to consider those impacts and concerns as well. Ok did I hear Steve Linder on the phone trying to say something?

(Steve Linder, EPA): No not specifically

(Gary Gill, DOH): Ok, the letter questions under 3 deal specifically with tank 5… what went wrong and things of that nature so Captain Mike, maybe you can lead us through.

(Capt. Mike Williamson, Navy): Ok so if we can get down… I think we answered the question c on what the basis for the 20 year life extension….” Describe the characteristics that would describe a visual anomaly”, so things such as gouges at various depths where you’re grinding off slag on a weld on a plate, any corrosion or pitting that is observed in and around or near one of the welds that was done. Any weld discontinuity or defects, and there are certain characteristics that comply with the API 653 standard like we saw a weld that didn’t meet those standards… those are all things that are reflective of the 47 visual anomalies that we saw.

‘What changes have been made to the modified 653 process?’ Well, certainly as technology has improved, we’ve incorporated that technology and as spoke earlier of that ultrasonic testing to measure tank wall thickness as well magnetic resonance testing. And also, we’ve adjusted over the last 10-15 years, based on previous findings within the tanks. So, every time we go through and have a finding within the tank that doesn’t fit with the API 653 standard, we incorporate that for use in future tanks so it’s sort of a learning evolution.

‘What went wrong inside tank number 5 and why?’ Right now, everything that we are seeing is leaning towards poor workmanship on the 17 areas that resulted in vacuum box failures and subsequently, our assessment of pinhole leaks. But we’re in the process… actually the contractor is in the process, of pulling those steel plates off get to ground truth, exactly what happened. So, in a nutshell, it was poor workmanship and poor quality control that were the two primary root causes for what happened in tank 5.

‘What corrective actions have been taken to remedy these problems going forward?’ We’ve taken a whole scale process review of the process by which we install these plates and apply quality control for these plates. Going forward, the Navy has… we’ve enhanced our quality assurance. The quality control for the work relies on behalf of the contractor’s part of our contract. The Navy provides quality assurance. So we make sure the quality control guy is doing his work. And so we have increased our presence so that we have presence full time during the repairs going forward. That includes qualified folks onsite. Right now, before we go in and affect any repairs inside tank 5, we are going through a series of confirmation briefs internal to make sure that we have all vetted the processes and ensure that we have all of the steps in place to make sure that the existing process doesn’t get bypassed or short circuited in any way, shape or form.

‘What are the probable causes for these 17 pinholes? Can you elaborate on that it is an issue of workmanship?’ It boils down to now following the processes that were put in place. So poor workmanship and poor quality control on behalf of the contractor…

‘Can you provide us a report of how each of these pinholes were caused and were they all improperly sanded welds?’ I doubt that they were all improperly sanded welds. I think that you’re going to see a variety of conditions at each individual site. For the public’s perspective, inside the tank, we did a complete visual inspection inside the entire tank. Coming of this visual inspection, we’re looking for gouges, weld defects and anomalies… we identified 47 areas that required further analysis, just from our visual inspection. From there we put an apparatus on top of the repair plate, basically we attach this thing to the wall, we put some soap on the inside of it... like you test a bicycle tire for any air leak but sticking it in water to see if bubbles are coming out. Essentially we put some soap around the outside of the weld plate, we put a box on top, drew a vacuum… if we saw air or bubbles occurring inside this vacuum box, that would lead us to believe that we have an integrity issue within the tank. That’s how we did it. So of the 47, we identified 17 locations where we had some bubbles coming out. So for each of those 17 locations, we’ll remove the plate, we’ll take a look at behind the plate, and we’ll get to the root cause of what happened at each one of those plates.

Jumping forward, down to (k) because we ought to address that now…’Will the remainder 600 patches be vacuum box tested in the future?’ The answer to that is yes. So we will go out and the contractor will now go through… and I think that you brought this up on the last meeting, of hey we have this ratio of failures relative to the amount of anomalies, so to be completely safe and to make sure that we’ve covered down on anything that could possibly go wrong, the contractor will go through and perform non-destructive vacuum box testing on all 600 of the service life extension repairs done inside the tank.

(Gary Gill, DOH): How long is that going to take?

(Capt. Mike Williamson, Navy): I think it’s going to take as long as it’s going to take. I mean there’s no rush. The purpose here is to do it the right way and to make sure that we have a 100% certainty that we understand how many other areas were at risk within that particular tank.

(Gary Gill, DOH): If we could pause right there. I think that there were more than 600 anomalies and I’m not sure that they are all patches.

(Capt. Mike Williamson, Navy): There are 600 repairs or 600 service life extensions.

(Gary Gill, DOH): So each of those areas that is under question is an area that had been repaired?

(Capt. Mike Williamson, Navy): Everywhere we put a plate inside that tank, we’re going to go back and take a look at… every single location.

(Gary Gill, DOH): What about areas that may have been thinned or pitted that weren’t repaired… might have been missed in the repair? I don’t know that you did 600 and some patches…

(Capt. Mike Williamson, Navy): We did slightly over 600 patches. Andrew do you know the specific number… it is 640… something?

(Andrew Lovgren, Navy): I don’t know the specific number

(Gary Gill, DOH): If these are 650 potential areas….

(Capt. Mike Williamson, Navy): No these are not *potential* areas. They were service life extension plates put on. And we’re going to go back and look at every single one of those. It’s important to note that leading up to this, we did the API 653 inspection of this tank and we went from the bottom to the top and assessed the thickness of the walls with detailed visual inspection, with photographs, with all of those things. So, I think that we’ve done a good job of identifying all of the areas that needed to be addressed to extend the service life of that tank out to 20 years. I’m confident that we’ve done that. Now we’ll go back and make sure that every single area where we put a plate inside there, now meets the full criteria of our quality control and is not leaking in any shape or form.

(Gary Gill, DOH): Ok, I’ll follow-up on that later.

(Capt. Mike Williamson, Navy): I’ll go onto (j), ‘How will the inspectors know from the inside of the tank, how much corrosion has happened outside the tank?’ Again, it’s the technological tools that I’ve mentioned already. And we’ve talked about k. Are there any questions on the lettered items?

(Gary Gill, DOH): I do want to follow up on that point, because you talked about visual inspection, photographs, magnetic resonance…. Can you explain what is magnetic resonance? How confident are you that you are using that those three techniques, which are the ones I’ve heard about using… visual, photographs, magnetic resonance, would have identified accurately, the more than 600 places that needed patching… inspecting all from the inside, knowing that you can’t do a visual or any other kind of inspection from where the actual decay or pitting of the steel is taking place.

(Capt. Mike Williamson, Navy): I see you’re testing my mechanical engineering background here. The essence is that when you have an abnormality in a piece of metal, you get different potentials when you have an abnormality and that can be detected when you have magnetic resonance. And so, it’s an industry standard, it is… I don’t know if it’s completely foolproof but what it will tell you is that you have discontinuity in that particular area, whether it’s some pitting that’s occurring, whether you have a void, that will be detected through magnetic resonance.

(Gary Gill, DOH): Let’s just say if the steel is quarter inch, uniform, non-corroded, non-pitted, but there’s a tiny needle sized pinhole in it, would magnetic resonance identify that pinhole in an otherwise pristine steel?

(Capt. Mike Williamson, Navy): Yes. That’s what it’s intended to do because there’s a lack of continuity so you’ll see flux lines in the magnetic resonance which will identify that.

(Gary Gill, DOH): And so the entire interior surface of these tanks was tested to that degree? 200’ high, 100’ from the ground… I don’t know how many acres of steel that is to find a pinhole.

(Capt. Mike Williamson, Navy): Well, we weren’t looking for pinholes when we inspected the tank initially. We were looking for wall thickness… degradation of wall thickness. So it’s a combination of magnetic resonance testing, ultrasonic testing… a couple of different methods of ultrasonic testing methodology. So there’s methodology, a work plan that was laid out that describes how… and the approach that would be taken, to inspect the inside of the tank and assess the remaining service life and wall thickness.

(Gary Gill, DOH): And now I’m hearing ultrasonic too, that’s a new technology.

(Capt. Mike Williamson, Navy): No, I’ve mentioned that before.

(Gary Gill, DOH): For right now, I’m just trying to make sure that we’re all clear on this… visual, photographic, magnetic resonance, ultrasonic testing… anything else?

Burr: Ultrasonic thickness testing and ultrasonic sheer wave testing. I couldn’t tell you what ultrasonic sheer wave testing does but it is part of the protocol.

(Capt. Mike Williamson, Navy): Thank you

(Gary Gill, DOH): Ok

(Steve Linder, EPA): So did you do any eddy current testing of the steel wall. I thought I’d throw that in.

(Capt. Mike Williamson, Navy): Well, eddy current testing does basically the same thing as magnetic resonance testing. It identifies discontinuities in the metal and the framework. They are two different ways to assess the continuity of a weld or of a homogenous plate steel… correct?

(Steve Linder, EPA): Correct. So I have kind of a general question in terms of selecting the equipment and the technology to do this testing and the procedures, did you do any feasibility studies on looking at different techniques and comparing the results from those techniques to see which one would give you the best resolution?

(Capt. Mike Williamson, Navy): That’s a great question Steve and the question was asked earlier what improvements have you made to the API 653 and I think that as technologies progress, we’re taking and requiring out contractors to implement the most current technology. So, have we assessed that? I’m not so sure that we have. But I think that we have requested the latest technology to be used inside the tanks so that it benefits the contractors, it benefits us and it benefits everybody if they’re using the latest technologies. So I think we can have a good intellectual conversation about that, whether or not the items chosen are the latest technology but I think that there are two different ways in some cases to achieve the same outcome and to identify if you have an anomaly inside a plate of homogeneous steel… so you can use eddy current testing or magnetic resonance testing. So, are we using the latest and greatest, I don’t specifically know that but you know, that would be a good conversation to be had.

(Steve Linder, EPA): And then I get the other part also that is… there’s the technology and then there’s the implementation and the opportunities for human error. So I think that’s something maybe in the future we could learn a little bit more about, in terms of what you’re doing to further minimize human error. It sounds like a lot of this work… these are custom tanks, it will relies on skilled people to basically weld properly and align equipment properly and things like that so I’m just interested in hearing about improvements.

(Capt. Mike Williamson, Navy): You know part of it is laying out in advance what the plan is. What are your sequence operations, how do you employ this technology, who… and folks clearly are certified and that’s required in our contracts, and who can operate and sufficiently train to use equipment so those are all safeguards within that that process so… to get to your point of minimizing potential for human error.

(Gary Gill, DOH): We’ve been talking on question 3 which nearly entirely deals with the status of tank 5 and what happened. I just want to see if there are any follow-up questions on tank 5 and its status before we move on to some of the other questions on the list.

(Ernie Lau, HBWS): I’m sorry, one more question. Mike, I hear what you’re saying on the service life extension which is basically a steel plate that is patched onto a portion of the existing steel plate that may be corroding, the walls are thinning because of corrosion… You know that’s kind of a reactive approach, are you also doing some proactive measures such as corrosion control systems like cathodic protection with sacrificial anodes. Something that will actually reduce the rate of corrosion as opposed to having to deal with the corrosion on the tanks.

(Capt. Mike Williamson, Navy): I understand. We do that on ships. That’s how we can have ships that survive so long in the salt water environment without corroding through. I would have to get back to you on the feasibility of doing something like that on the inside of these tanks. I think that is something that is an opportunity for discussion on improving the condition of the tanks and to ensure that we don’t have accelerated corrosion into the future. So I think that’s an area worth further exploration.

(Ernie Lau, HBWS): But just to be clear, right now there’s no cathodic protection inside the tanks.

(Capt. Mike Williamson, Navy): There’s no cathodic protection inside the tanks. Correct.

(Gary Gill, DOH): The public may or may not be aware about cathodic protection. It’s a technology used to reduce the corrosion of pipelines often, so there’s a magnetic field that will often will be generated in the steel pipe and it leads to electronic erosion of the pipe, causing a leak. And while it’s been used on pipelines all of the time, it has never been used in a tank like this and has not been used in these tanks. It’s not clear whether it would work or not.

Ok, so we’re going to move on.

(Capt. Mike Williamson, Navy): Ok so number 4, ‘Is there mandated or automatic stops?’ This has to do with the filling protocol. What should you do in the future for filling protocols? Right now, that’s an area we’re taking a hard look at. And so, what lessons did we learn with filling tank 5? What should we do in the future in terms of filling protocols? Should we have more stops and validate that, in this case the suggestion was a 50’ stop, and then an 80’ stop and then a 100’ stop… so we’re taking a hard look at that process to make sure that as we go through the filling protocol we follow the existing filling protocols that we have and so based on tank 5, we’re taking a hard looking at future filling protocols. And to have stops along the way. That’s a work in progress, we’re not quite there yet but certainly that’s on our list of issues to tackle going forward to make sure that…. In this particular case, could we have caught this and reduced the 27,000 gallons? There’s a possibility that we could have and so we’re going to explore that with any future filling protocols. So we have that on the list of items to look at.

Number 5, ‘Can we get the data from the soil vapor monitoring, for example locations and the fluctuations over time?’ I believe Gary that we sent you our vapor monitoring results, and historic results on our letter in 9.9.2014. I think we’ve forwarded that to you. Aaron, do you want to comment on that?

(Aaron Poentis, Navy): All of that information has been provided to the department.

(Steven Chang, DOH): There’s a summary that has been provided to us.

(Aaron Poentis, Navy): As the information is collected, we make it available to the department.

(Gary Gill, DOH): Ok, does staff want to follow-up on that at all?

(Steven Chang, DOH): We can make that available and put it on our website.

(Gary Gill, DOH): Ok, so the Department of Health has received the data on soil/vapor monitoring. What’s the time period that we have received…

(Capt. Mike Williamson, Navy): We gave that to you on the 9th of September.

(Gary Gill, DOH): I mean the data is from when to when?

(Steven Chang, DOH): From the first dates of when they started doing soil/vapor monitoring. There’s a summary sheet for each tank showing the results over time.

(Gary Gill, DOH): Yea, but the data is from what year to what year?

(Rich Takaba, DOH): 2008

(Gary Gill, DOH): So starting from 2008 is when we have soil/vapor monitoring. And for those who are following, soil vapor is a way of seeing whether there’s any product in the bedrock around or beneath those tanks right? So if there were a spill, even if you can’t get free product, the oil or gas itself, you would find the vapors from these boreholes in the bedrock around the tanks. And they could potentially be a telltale sign of either the presence of product, either historic or recent spills…. Ok? So that data is available to us.

(Ernie Lau, HBWS): So Chair Gill, could I make a suggestion on this data? If you could graph, trend it out, maybe in graphs so it will be a little easier for the task force members to understand, rather than just a bunch of numbers.

(Steven Chang, DOH): It’s a graph. They plot out a graph showing that it kind of fluctuates. And in the case of tank number 5 we see a peak right in the December period.

(Ernie Lau, HBWS): So in the vapor monitoring wells…bores, you saw a peak after the reported leak?

(Steven Chang, DOH): Right

(Gary Gill, DOH): So the question is… for task force members, can we provide the data and make it available to members here? And I don’t see why you can’t. So let’s make sure that gets out to task force members between this and the next meeting, either available online or whatever way is best to circulate.

(Capt. Mike Williamson, Navy): There’s a monitoring well number 2 in the vicinity of tank 5, were there elevated soil/vapor and/or water monitoring after the January release. What were the results for that period and what was it historically and the answer is…. We did see some elevated sample from the groundwater monitoring number 2 in the vicinity of tank 5. We provided those and the historic results to you, I believe, also in a letter on the 9th of September, 2014. I think it’s important to note that we saw a spike back in 2008 at that well site 2, a spike in TPH(d) in total petroleum hydrocarbons diesel and we’ve been taking quarterly samples at this location since 2005. We’ve seen one spike that reached the action level, which we’ve shared with you and we saw another spike that reached the action level in January. It has since gone down to below, much below action levels since. I only share that with you for you to understand those results.

Number 7, what are the results from the monitoring wells, including Navy’s drinking water source that you have collected. Can you provide us the data from the time that you started collecting this data to now? As you know, we’ve been submitting quarterly reports.

(Gary Gill, DOH): Sounds like we lost EPA but now they’re back. Sorry about that disruption.

(Capt. Mike Williamson, Navy): So number 7 it’s safe to say that we’ve been sending and you’ve been receiving and confirming the quarterly water sample results, again dating back to 2005.

(Ernie Lau, HBWS): Gary can I also request that… that’s a lot of information on data if there could be some trend graphs developed by the Department of Health staff. Sorry to give you more work here but to make it easier for the task force members and the public to understand what’s in that data.

(Capt. Mike Williamson, Navy): So all of that data is all graphed Ernie. I mean that’s how I reviewed it.

(Ernie Lau, HBWS): We’ve gotten copies of some of the data and it looks like it’s in spreadsheets or pdfs, un-graphed. MY suggestion is to make the data easier to understand and comprehend the data.

(Gary Gill, DOH): So the request is on both items 6 and 7, the data that we have regarding soil/vapor and ground water monitoring, to provide that in graphic form for the members of the task force. If it’s not in that form now, we’ll try to put that together for members of the task force.

(Steven Chang, DOH): We’ll work with the Navy, if they do have that, we’ll try to get that from them.

(Capt. Mike Williamson, Navy): Question 8, ‘What are the historical fuels that have been stored at the facility?’ So essentially, three types of fuels: diesel fuel, fuel marine, F-76, JP-5 and JP-8. That’s the three types of fuel stored in the facility.

(Gary Gill, DOH): But historically, there was aviation fuel?

(Capt. Mike Williamson, Navy): Well, JP-5 and JP-8 are aviation fuel?

(Gary Gill, DOH): But there is AVGAS earlier on right?

(Steven Chang, DOH): Sometime in the 60’s AVGAS was stored there right?

(Gary Gill, DOH): So just thinking back historically, a more volatile gas previously had been stored in the tank.

(Andrew Lovgren, Navy): Yes in 4 tanks, those tanks are 17, 18, 19 and 20, designated for aviation, high volatile fuels that were stored in those 4 tanks. I have to look back on my records if I can obtain some information on those 4 tanks to give to you but I don’t have anything off the top of my head right now.

(Gary Gill, DOH): But storage of AVGAS in those 4 mauka most tanks, was terminated in the 60’s, is that what I’m hearing?

(Steven Chang, DOH): Looks like there might be a 4 year period where supposedly it was stored. There was also some reference about some motor gasoline also.

(Andrew Lovgren, Navy): Let me go back. Because those are from our historical documents obviously so I have to verify the specific dates but it was obviously prior to 2000. And all of the volatile fuels were held in those 4 tanks but I need some time to find the specific dates.

(Gary Gill, DOH): As of now, there are 3 kinds of fuels stored, and only 3 kinds of fuels stored.

(Andrew Lovgren, Navy): Correct. That’s F-76, diesel fuel marine and two jet propellants, JP-8 and JP-5.

(Capt. Mike Williamson, Navy): Question number 9, past and present reports on studies of fuel storage facility and the oily waste disposal facility, I think on this one, there were 6 reports generated dating back to 1996 which were a verification of removal action and then a report that wrapped up those 6 reports in 2007 in a technical report. I have here that we received a report from you, the Department of Health back in 2005 basically saying that there was no further action required on that oily sludge pit facility as well so… I can provide the specific reports but there were 6 reports going back to 1996 to 2007. You already have those reports.

(Ernie Lau, HBWS): If it hasn’t already been given to us, can I get copies of those reports?

(Steven Chang, DOH): I think they were done under the CERLA program because they were part of the Superfund site so I believe the HEER office oversaw the operation and the work done on the oily waste disposal site so… we can work with them to get their files.

(Gary Gill, DOH): Ok, so the oily waste disposal site was reviewed by the Department of Health but not by our underground storage program but by our emergency response program and the site was certified and closed and we have those reports previously to this most recent January spill from Red Hill. So a separate action.

(Ernie Lau, HBWS): So I understand that one of the groundwater monitoring wells, that was done for that site was still being monitored for water quality data that the Navy is reporting to the Department of Health.

(Aaron Poentis, Navy): And those results are submitted to the Department of Health.

(Gary Gill, DOH): So reports on one of the wells from the old oily sludge pit are part of the quarterly reports that we receive as the Navy’s ongoing monitoring of the Red Hill facility. And that data is available.

(Capt. Mike Williamson, Navy): Ok, number 10, ‘What types of feasibility studies have been performed regarding upgrades and release detection and secondary containment for the facility?’ So we did some market research in 2008 and we have market research ongoing here now in 2014. We conducted a study on secondary containment back in 2008 and we have a group of folks that are reevaluating that study right now. Steve Linder, to your point, sort of pressing the edge of technology to see what’s out there and what can be done with secondary containment. Let me just say that we, the Navy, understand and believe that the future of Red Hill will have secondary containment. It’s just a matter of when technology is available that supports tanks of this magnitude and size and configuration. So we’re interested in understanding where technology is, encouraging technology to catch up with us and we see secondary containment in the future at Red Hill. Exactly when is dependent on the technology and the evaluation of the technology so we don’t have an unintended consequence of putting secondary containment in, only to compromise the integrity of the tank, etc… So we need to make sure that we have vetted that all the way through and have a solid solution going forward. I mean make no mistake about it, we see secondary containment in the future of Red Hill.

Ok so, number 11, ‘Can you provide us with site characterization reports and findings including groundwater modeling studies and findings from groundwater monitoring wells and soil/vapor…’ So I think that we have submitted 4 reports to Gary, your organization, additional site characterization studies back in March 1999, final investigation report in 2002, final technical report in 2007 and reevaluation of the tier 3 risk assessment of the groundwater monitoring proposed action in May 2010 so we submitted those documents to you for your review. Of course we’re working with you and EPA to figure out the next steps in site characterization and I know that we have an ongoing dialogue in that regard as well.

(Gary Gill, DOH): That’s basically a question of where’s the contamination, what direction is it going if it’s going anywhere.

(Capt. Mike Williamson, Navy): Is there contamination, where is it, to what extent, what areas does it encompass, how fast is it degrading, all of those issues.

Number 12, ‘Was there an increase in petroleum contaminant concentrations in monitoring well number 2, the monitoring well closest to tank 5 release in January?’ Clearly there was but again, it has dropped down to historic levels since. You have that data.

(Gary Gill, DOH): So we saw a spike in petroleum concentration in well 2 which is the closest to tank 5 after the January release but it has dropped down to historic levels. Now historic levels still show contamination?

(Capt. Mike Williamson, Navy): They show below the action level and they show the presence of organic compounds from petroleum constituents which have been persistent that’s why we put in the groundwater monitoring wells and the groundwater monitoring plan in place with action levels at each of the wells back in 2002 and 2005.

(Gary Gill, DOH): So there is persistent contamination at that groundwater well beneath these tanks, which is historically normal but still contamination, although below action levels.

(Capt. Mike Williamson, Navy): Correct

Ernie: Gary, can I ask your staff to confirm this, whether the data for groundwater monitoring well 2.. is that for TPH-diesel? If it’s dropped below action levels.

(Rich Takaba, DOH): It’s actually over.

(Ernie Lau, HBWS): It’s over the EALs?

(Rich Takaba, DOH): It’s actually not that hard to explain but the action levels that we use from the HEER office for drinking water and TPH-diesel is 100 ppb and it is going down on the last monitoring it was 1200.

(Ernie Lau, HBWS): 1200 vs 100?

(Rich Takaba, DOH): But that 100 ppb is really a drinking water… so we have 1200 at MW2 by tank number 5, then we have another well MW1 and then 5 and those are below the 100 ppb. But it is isolated in that area. And it seems to be… not moving towards the Navy’s pump station.

(Ernie Lau, HBWS): Rich, thanks for that information. In the course of monitoring well number 2, which is right near the bottom of tank number 5, since that data started to be collected… I’m not sure when… 2005 or 2008 to the present, has it ever dropped below the 100 ppb.

(Richard Takaba, DOH): I don’t think so but when it was out for the maintenance cycle, it went down to maybe 200 or 400 ppb.

(Capt. Mike Williamson, Navy): Yes, it has been persistently been above but well below the site specific Groundwater monitoring plan action levels for that particular well… so consistently has been below. I mentioned previously a spike back in 2008 that went above the action level. It was reported, it was monitored and it came back down the following sampling cycle. So we don’t have an explanation of why it spiked during that period. And I share this with you because there’s movement in and through the hill and the only conclusion I can draw is that there is something in the beneath, in the vicinity of well number 2 but I draw that analogy only to suggest that until we complete the site characterization, and we’ve got a full assessment… and again I’ve got some good news to share about our plan for free product recovery potential, until we get to that point, we don’t know for sure what caused the spike in January. We suspect and with a lot of certainty that it was because more fuel got into the ground but we don’t know absolutely for certain until we are able to complete our site characterization.

(Gary Gill, DOH): I just want to be clear because we throw these numbers around… So, Rich so the Department of Health has a federal standard for TPH in drinking water?

(Richard Takaba, DOH): I don’t think that there is one. These are Roger Brewer’s numbers.

(Gary Gill, DOH): Ok, so it’s the Department of Health’s standard of 100 ppb total petroleum hydrocarbon as diesel. Less than that 100 ppb, the Department of Health says would be safe in drinking water.

(Richard Takaba, DOH): Or above a drinking water aquifer.

(Gary Gill, DOH): So the Captain was talking about a site specific action level. What is that site specific action level that we are talking about?

(Richard Takaba, DOH): I think that he’s referring to the 2008 Groundwater Protection Plan which may have allowed a higher amount but you know… in Roger Brewer developing the action levels for the Department of Health, they are continuously being reviews. There were major revision in 2010 and 2012. And the Navy is revision the Groundwater Protection Plan so I think these will be taken into consideration. But you also have to look at the lateral distance but it is above a drinking water aquifer.

(Gary Gill, DOH): so the average contamination, diesel in well number 2, which is nearest to tank 5, ranges from in the 800-1200 range.

(Richard Takaba, DOH): Well, since January it’s ranging from 2000 to 5000 to 4000. Now it’s 1200.

(Gary Gill, DOH): So it’s in the thousands? Ok. So we have very measurable, persistent in the thousands…. Parts per billion in diesel contamination in the groundwater under tank 5, which predated this recent spill. We saw a spike at this recent spill but historically, we’re seeing 100s or 1000s of parts per billion in that well. So just to be clear, although it has spiked up and down, there has been, for years since 2008, this well has shown consistent contamination of the groundwater under Red Hill.

(Ernie Lau, HBWS): And we don’t see contamination before 2008 because the well was installed in 2008?

(Gary Gill, DOH): Right.

(Capt. Mike Williamson, Navy): So the results of the samples from the wells… down gradient, as I understand, have been consistent over time. They have not spiked as a result of the even in January so what that leads us to believe is that it’s not migrating right now. So again that’s why the Groundwater Protection Plan was put in place, to understand if there is in fact a migration through the groundwater in the direction of the drinking water. So to that point, if I can talk for just a moment about two additional wells are being installed as we speak, and will be placed into operation by the end of the month… two groundwater monitoring wells to the north to expose, you know a concern that Ernie had in the direction of the Halawa Shaft.

(Ernie Lau, HBWS): Also to the south are the Moanaloa wells.

(Capt. Mike Williamson, Navy): So that was a concern that there may be a groundwater movement to the north and so we’re uncovering that blind spot. We’ll have those monitoring wells as part of a defense of depth around Red Hill to understand if there’s migration in that direction. We’ll have that. And also I wanted to share with you that we have a work plan in place and you and I have talked for quite some time about how can we get in and potentially recovery any free product that might be in the vicinity of tank 5. And so we have a plan in place right now to essentially bore, a minimum of 12 quarter inch holes around the base where we have likely areas where we have fuel, that according to our experts, that we might have some separation of that interstitial space between the concrete casing around the tank and the steel plates inside the tank to identify where most likely we might have free product. So we will drill and tap quarter inch holes. We will assess any material whether it be water or water/fuel or fuel by itself coming out of the tank and we’ll capture that and if we get nothing, we’ll put our vacuum box on there and try and draw material out. And so that effort is subject to handful of confirmation briefs, we expect to start in the next two weeks or so. I hope to be able to report to you, as soon as we are able to find something, you know what we are finding to the extent that we are finding and the extent that we can recover.

(Gary Gill, DOH): Captain, you know I volunteered to do that work myself to save you guys money. Now it looks like you’re doing it.

(Capt. Mike Williamson, Navy): We’re doing it.

(Gary Gill, DOH): So at what levels are you going to put in these 12 holes?

(Capt. Mike Williamson, Navy): So the intent right now is to, when we have experts look at it, where you have deflections inside of the tank, where you might have those interstitial spaces, where you’re most likely to have fuel, our going in position is that the tank obviously through gravity is going to flow down to the areas of interstitial spaces near the bottom of the tank. We had a very robust discussion about, how some folks wanted to drill holes higher in the tank at first and see if we had any fuel. But right now what is most likely and giving you the best chance of recovery if you start at the bottom of the tank and work your way up. So that’s the direction we’re heading.

(Aaron Poentis, Navy): I believe that the 12 holes are throughout the tank plus at the 17 areas where we have anomalies.

(Gary Gill, DOH): So within two weeks, we will find out hopefully if there is any free product or oil and water mix that is contained within the steel and the concrete.

(Capt. Mike Williamson, Navy): Correct.

(Gary Gill, DOH): And drill a hole, if there is something there, it will flow back into the bottom of the tank.

(Capt. Mike Williamson, Navy): that’s our going in position. I know that we have ongoing discussion with regards to the site characterization, and where we might drill holes from outside of the tank to assess the site and characterize the extent to where this 27,000 gallons may have gone. I know that there’s some concerns with that and so by assessing from inside the tank, it will help inform us as to the next steps to the site characterization.

(Aaron Poentis, Navy): I So we had official correspondences with *(inaudiable)* on Friday to talk about the phasing of this effort as Captain has indicated. I wanted to make one note on the bit of good news which is the monitoring well drilling that is occurring to the north. We’ve actually drilled the first well. It hasn’t been developed and we are still on target for completion of this project at the end of this month. We also drilled the second well. And while we don’t have analytical data yet, both corings, at least visually do not show any staining either with current or historical product. So at least for the two northerly wells, it does not seem to be historical or current staining. So those are available, they have been boxed and I believe your staff has gone out to see them last week.

(Gary Gill, DOH): Aaron, I’m a little confused, you said that the first well has not been developed?

(Aaron Poentis, Navy): I So we’ve drilled the well. They’ve taken the rig and reamed it. They’ve installed the casing for the well but it hasn’t been developed, meaning that it’s ready for sampling.

(Gary Gill, DOH): But the first well is drilled and cased, and the second well…

(Aaron Poentis, Navy): I They’ve drilled. They’ve hit water and are in the process of reaming it to install the casing. So we are essentially on schedule.

(Gary Gill, DOH): And both of those wells are projected to be installed and ready for sampling by the end of this month?

(Aaron Poentis, Navy): I We will be, by the end of the month, ready to do baseline sampling.

(Gary Gill, DOH):: Ok, that’s a great update. Thank you. Any questions from the task force?

(Steve Linder, EPA): The fact that they are drilling inside of the tank, are you doing to do any analysis of fuel that comes out to make any kind of determination of it’s from the newest release or product that may have been trapped in from historic releases?

(Capt. Mike Williamson, Navy): That’s a great question Steve. And I believe the answer to that is yes.

(Steve Linder, EPA): Ok, good because I think this was something that we heard anecdotally that even during the repair operation, that there was some indications of fuel behind the steel plates before the repairs were completed.

(Capt. Mike Williamson, Navy): Correct.

(Steve Linder, EPA): Ok, thank you.

(Capt. Mike Williamson, Navy): You’re welcome.

(Gary Gill, DOH): Any more questions?

(Steven Chang, DOH): Question 13, did you answer that?

(Capt. Mike Williamson, Navy): Well, you know,… the lastest site characterization work plan so… that’s in discussion and again the correspondences that Aaron referred to and will help be informed by the exploratory holes inside the tank in the coming weeks.

(Steven Chang, DOH): So are you ready to share that with the task force or…

(Capt. Mike Williamson, Navy): I think we’re real close. We need to our confirmation done but upon completion of the confirmation, I don’t see why we can’t share that with you.

Ernie: Just to clarification, Captain, the site characterization work plan here... I might have been the one to raise the question at the last meeting, is this to look at not just the work in tank 5 but the entire facility and characterize the presence of contamination and the extent of contamination that may or may not exist around the facility through a series of groundwater monitoring wells position around the facility. Is that the…

(Capt. Mike Williamson, Navy): I think that the intent of this particular effort we have going on now is localized to tank 5. So the site characterization is relative to tank 5. It’s consistent with the high levels we’ve had in and around well number 2, which is from a site characterization dating back to 1999 and some staining we saw on the walls, which was the impetus for the groundwater monitoring plan to be installed in the first place. So Ernie, I think what we’re doing is we’re going after the area of highest probability of fuel contaminants in the ground and then we’ll assess from there. So secondary to the site characterization, is the contaminant fate and transport model which is also being developed to help inform where we look in the future relative to Red Hill.

(Ernie Lau, HBWS): I would like to clarify for the record for myself as a task force member, when I look at this site characterization work plan, I’m not only thinking of tank 5, I just want to be clear with you, I’m thinking of the whole 20 tank facility and characterize the site for presence or absence of contamination below or around the facility and how that work plan will be developed to actually determine that once and for all by multiple groundwater monitoring wells. I just want to be clear.

(Capt. Mike Williamson, Navy): You’re aware that there are wells above, upgradient…

(Ernie Lau, HBWS): Mike, I understand there are wells that are currently oriented with the alignment of the tank facility but not really looking to the south, northeast, northwest of the facility so the characterization… I guess I would be more comfortable… would be to look at how you would determine contamination that would be onsite and that migrate off of the site in various directions, following with the groundwater. So, I just want to be clear that’s what I had in mind when I asked that question.

(Capt. Mike Williamson, Navy): My understanding is that we’ve been working together to identify the next location for monitoring wells, which we both agree make the most sense on the north side,…

(Ernie Lau, HBWS): And I think that we’ve been clear on the record that two wells is a good start but it shouldn’t end there and we’re looking at efforts ourselves to help develop more monitoring wells, if we can, at a relatively inexpensive cost. Two wells is a start, but we don’t believe that it’s adequate to characterize the size of the site and the size of the this type of facility of 20 tanks on that ridge. Thank you Mike, we agree to disagree on this.

(Gary Gill, DOH): I’m not sure if we’re disagreeing. It’s a matter of phasing as well and we’ve said it in the past meeting that the Department of Health is urging the Navy to do at least three on north and three on the south to characterize around the Red Hill tank facility as best as we can, whether the contamination that we know is in the groundwater is flowing either to the north or the south towards the Board of Water Supply’s wells. So, we’re at the point of having an agreement to whether additional wells could be placed beyond the two that have already been constructed.

(Ernie Lau, HBWS): Yes, my concern was whether the task force was able to see what this proposed site characterization plan entails.

(Gary Gill, DOH): And I think that those types of things are important to include in the report to the legislature. I’m sure that the legislature would like to know the total number of wells that are agreed to their placement and the timeline to install them… if it’s not more than two by the time of the next legislative session.

(Ernie Lau, HBWS): Ok

(Gary Gill, DOH): Any further comments or questions? The next item on our agenda is 3d, EPA hopefully we have not lost contact for a fourth time by our phone system. Steve Linder from EPA, you’re up to discuss EPA rule changes.

(Steve Linder, EPA): We are still here. Thanks Gary. I’m not sure if my slides are up?

(Gary Gill, DOH): Yes, they are.

(Steve Linder, EPA): And I just realized I forgot to put page numbers. I will start basically going on to the second slide, which is, ‘why new regulations?’ The biggest reason is the Energy Policy Act of 2005 was passed and the way it was worded was somewhat unusual. It required a number of new things to be done, where states received federal monies to help implement their program. Which left a gap in areas that did not receive federal funding such as states that refused federal funding and areas within the United States that are not covered by states, so for example tribal lands. So it was determined that we needed to make some changes. We needed to revise our regulations to be in line with the energy policy act. But we decided that since we were opening up the door to change the regulations we might as well add to them from everything we’ve learned from years of implementing the program in the early 1980s. So we’ll go to, ‘how will EPA’s proposed rule affect field constructed tanks?’ Right now I can only talk about what was publically proposed. I cannot talk about any changes that EPA has made based on public comment. Those are not available yet to the public. The proposed changes included basically lifting the deferral for field constructed tanks to have requirements such as release detection, release prevention, operation and maintenance… a lot of things that are typically required of the smaller scale corner gas station tanks. Essentially we’re proposing that of larger field constructed tanks as well. So we have proposed, annual tank tightness testing, automatic tank gauging systems, we require a demonstration that tanks are sound and if constructed of metal, protected from corrosion, using cathodic protection and compliance with spill and overfill requirements. And then we require demonstration that the material is compatible with the fuel being stored. In the corner gas station arena, we’ve had problems with compatibility on equipment, especially with some of the newer biofuels. We’ve also proposed things like monthly walk through inspections, notification requirements and other operational requirements like financial responsibility.

So, comments that we have received on our proposal… Most state agencies have supported EPA’s proposal. Some industry representatives believe that changes in regulations of field constructed tanks are not necessary because 1) there were not enough of them to be a concern, 2) it would be too difficult to achieve release detection standards for the tanks and the piping, and the only comment that EPA received from the Department of Defense was related to their suggestion of the use of their unified facility criteria as part of the regulation. The unified facility criteria provide essentially, guidelines for planning and design and construction that DOD uses for land based fuel facilities.

So, overview of current status of where things stand… public comments on these proposed regs closed on April of 2012. EPA revised the proposed regs based on comments. Again I can’t share those revisions with anyone outside of EPA at this point and time. Those revised regs are now, as of the end of September at the Office of Management and Budget and going through their mandatory review process. And that process typically takes about 90 days but OMB can extend that process under certain circumstances. You can go to their website and look at all of the pending regulations that they are processing. Why do they do this review? Basically, it comes out of a couple of executive orders that require reviewing regulations before they are promulgated, making sure the agencies are taking into account public comment, looking at alternatives and looking properly at the cost and benefit of the regulations. Essentially, OMB oversees EPA’s regulation creation process.

I won’t go more into this executive order because we tight on time. So there’s a second executive order that Obama issued in 2011 that added more detail to the process and basically declared that agencies must take into account benefits and costs from both a quantitative and qualitative perspective.

So what can we expect next? Again, these regs went to OMB at the end of September, they go through an interagency review process where these regs are open to internal review by other federal agencies. The overall process takes approximately 90 days. At which point one of three things can happen. OMB can return the proposed regs to the agency for reconsideration or changes. Based on some of the communications between OMB and the agency, the agency can withdraw the proposed rule or OMB completes this review process without any further request of the authoring agency and we would go ahead and publish any final rule in the federal register, so that would be beyond that 90 day point. The best of all worlds, if everything went smoothly, maybe we would have a reg in 6 months-ish. That’s what we’re thinking but again, we don’t know the outcome of this OMB review process is going to be. We also don’t know how things would change in terms of Red Hill. Again in the proposal, there was an implementation timeframes that were proposed that. Nothing goes into effect instantaneously , there is phase-in of different requirements but at this point, all is available is what was originally proposed, not any of the changes.

So I’m going to stop my presentation there to keep it short and make time for any questions people may have. Again I cannot talk about what changes have been made due to public comment. I can only address what was in the original proposal.

(Gary Gill, DOH): Ok Steve, thank you for that. So in summary, EPA is in the middle of the rule making process that could affect the way that underground field constructed tanks are regulated by the federal government, those would include the Red Hill facility. The public comment period is over. The EPA is waiting on the OMB, then is going it will go to internal review. We don’t know what shape the rules will come out or specifically what impact they may have on Red Hill until they do come out. Is that accurate?

(Steve Linder, EPA): I just want to add that we are closer to the end of the rule making process and if these regs do go out and are finalized, states that have state program approval will be required to change their regulations to maintain state program approval. So Gary, Hawaii has state program approval so to maintain that federal approval of your state program, you’ll likely need to make changes to your state regs if these federal regs are promulgated.

(Gary Gill, DOH): Ok, that’s great. Let’s pause to see if there’s any member of the task force that has a question about what was presented.

(Ernie Lau, HBWS): Based on our experience on the drinking water side, the states also have the ability to go stricter than the federal rule. Is that correct Steve? The federal rule sets the minimum requirements and states can implement additional rules requirements after that?

(Steve Linder, EPA): Yes, at any time they can. For example some states are well ahead of the federal regulations for example, California has rules that go well above and beyond those of the federal tank program.

(Gary Gill, DOH): Ok, thank you. Any further questions? We are on point 4 of the agenda with 10 minutes left. This is the meat of the agenda here. Do I have staff that can make a report on point 4… the findings of recommendations and review of a draft report to the legislature?

(Steven Chang, DOH): We’ve just prepared a draft skeleton so there’s nothing in detail yet. It has been circulated. It was sent by email to task force members.

(Gary Gill, DOH): Can you just present it Steve or staff so public knows what we’ve crafted so far. The point is the get a review of the work product of this task force so we want to get feedback from the members to see if we’re headed in the right direction so that we can finalize the report.

(Thu Perry, DOH): We’ve just made a general summary of each of the meetings that we’ve had including the attendance and the notes that we’ve had. Also, a compilation of comments like the list that Ernie gave us in the first meeting regarding the technical subcommittee, etc… all of those would be listed as well. Anything from the public as well will be listed in terms of recommendations, so that’s about it. So right now we’ll have one more meeting and hopefully we’ll put all of that together for the final report.

(Gary Gill, DOH): Ok. So members of the task force, if you have received the email, any comments or suggestions… I assume this will be the body of the meeting to review and approve…

(Steven Chang, DOH): It will be coming up with recommendations to the legislature.

(Gary Gill, DOH): Ok so is there a work product that we want to assign to the members of the task force in terms other than this framework for the letter here. But we can solicit any input between meetings so that we can have a report consolidating people’s suggestions before the next meeting.

(Thu Perry, DOH): I can distribute something before the next meeting.

(Gary Gill, DOH): Ok. So let me just suggest, if we’re proposing the next meeting on November 6, then what I’d like to do is if we give members of the task force maybe ten days from today, if you have any specific suggestion that you would like, even general, or specific wording or recommendations, if you could submit it to our Solid & Hazardous Waste Branch, we will be able to consolidate that and get a draft out for the discussion prior to the meeting on November 6th. So, we’ll have a working draft that we can review and be prepared to discuss it at the next meeting. Does that sound about right? Ok. Any other thoughts or discussion at this point… anybody would like to raise about the proposed findings and recommendations to the legislature?

Alright, again, I’m going to suggest that if you have any written amendments or edits or policy points to make, please submit them to our staff within the next ten days so that we can have a draft work product for review at the next meeting.

That takes us to our next meeting. We are suggesting November 6 at 10am at the same location. We’ll go ahead and schedule that. Any other items for discussion for the next meeting?

(Ernie Lau, HBWS): We will have some recommendations to your staff.

(Gary Gill, DOH): Ok, meanwhile if you have something that you would like as an item on the agenda, please get that to us. We need to post it at least six days in advance.

(Capt. Mike Williamson, Navy): We might have some information to share on the free product recovery. We might have some information to share on the development of the monitoring wells.

(Gary Gill, DOH): We’ll let’s go ahead and put those on as updates on the agenda. That’s a good point to members of the task force and to the public any suggestions you might have before we close…

(Dan Purcell, Public): Yes, looking forward to a solution. I’m curious as to the timeframe of secondary containment. You have a couple of technologies you’re looking at? What would be some timeframes…

(Capt. Mike Williamson, Navy): That’s a great question. So right now, a couple of things to consider… we have an operational need to have a certain amount of tanks in operation at any given point. To that end, we have three tanks based on our current process that were taken out of service at a period of time to extend their service life. And so, it’s taken 3-1/2 to 4 years to cycle through tanks. Based on some of the comments that I made early on, they would require power, they require booms, contracting, the repair work that needs to be done and so on. One of the things that I’ve offered is that part of an ongoing effort with Department of Health and EPA Region IX, we work through… there’s a way forward, there’s a scope of work, there’s an administrative order that we’re working together on is… and we haven’t flushed out exactly what those terms are but I think it would be prudent to, as we go through each cycle of pulling three tanks out of cycle, that we assess technology and the implementation at that point in time when we pull those three tanks out of service. And we have a good robust discussion with subject matter experts that we think this is the technology that we think you should implement at this point and time as we take those tanks out. So if you take that out, it will probably take us 20 years to fold in all of the tanks into a double wall or secondary containment configuration. It’s just a matter of how long it take us to do that while serving our operational commitments here at the same time here in the Pacific. I’m not sure if that answered your question but that’s about how long it would take us to cycle through. What I would say is that the five tanks that we’ve taken out of service for this modified API 653 process, to that extent, we’ve addressed the wall thinning over the 60 years that they’ve been in service so we’ve done a pretty thorough look at the tanks and extended their life out twenty years. So in terms of those tanks leaking in the future… I think we’ve got a high degree of confidence that, with our automatic tank leveling system, with the tank tightness testing protocol, with our monitoring plans, with all of the things that we have in place now that we’ve implemented in Red Hill over the last dozen or so years, I think we have a safe facility going forward. And the secondary containment will only enhance that going forward as well. So I think that if you look at this holistically, we’ve been taking very good measures, good steps to protect the groundwater sources here in Hawaii and make sure that there’s fuel available for the fleet if and when they need it.

We’ve been talking to Steve and looking at it… it could be a tank within a tank, it could be… there’s some discussion about different linings that we could be incorporated in the tank… we’re actively looking at that with active studies to look at current technologies around here. I’m not prepared to talk about the different tank linings opportunities or different tank within a tank structures but again that is evolving quickly over time.

(Gary Gill, DOH): Thank you Dan. Any other questions or comments? If not we are right at 12 noon so I will adjourn this meeting and look forward to you all on November 6th. Thank you everyone for attending.