Northrop - Grumman Bethpage

Bethpage RAB - 4/14/04 - First Iteration

CO-CHAIR KAMINSKI: My name is Joe Kaminski, soon not to be owner of this property. I have been saying this six seven eight fine ten years. Welcome to this edition of the Bethpage RAB.

We have been trying special legs to give this property, we naval air Systems Command, the current owners to the Nassau County for number of years now. In deference to Nassau County, we have only just gotten to point where knows of the hundred five acres, hundred six of them, have been declared clean enough to give to them without any kind of caveats.

legislation

So we have just begun the discussion of actually turning that property over. We turned over other property that was cleaned about a year and a half ~~of~~ ago ~~I~~ when we started on this trek ~~it~~ in 96 with Northrop Grumman closed the place in 90 eight you think the special legs came about, more or less?

Region 1

legislation

What see happened to me, is that they don't' ~~tea~~ think they are taking my money away, my budget away, there is no money for me to keep this place open any longer. For the first couple of years we held it in the hopes of county would take it away

Mark-up by Kelly Carper of TtNVS 9-9-04 Kelly A Carper

we kept it full up running, it cost a couple million dollars a year to keep it open, to keep it running to keep it warm and in all respects that money ran out and has been sitting cold for a couple of years. It is a shame because the money was spent keeping it warm is like lost. So we are still hoping county is going to take it real soon and turn it into something worthwhile.

How far even if the county doesn't take it, I may be with you a whole not longer because the Navy has made a change within the Navy there advertise only except for places like this, like government-owned facility, there is only one Navy command that owns property. I worked at the naval air station Patuxent River, my headquarters it is there big old build, Naval Air doesn't want that air station fair or that building anymore. There is a new command called commander naval installation, who owns all Navy property, all buildings all real estate. Except a few of these GOCO. We are in a dialogue with command air naval installation if the count is not going to take this property, I'm not going to be involved. Because the chief of naval operations has said that my command, naval air

Systems Command buys airplanes and this other guy that runs property. We don't run property, in fact all my office which used to be forty people is down to less than 10. We don't deal in property or facilities any longer. That will happen not withstanding what happens with the county. We have told the people that would cause this people to occur to leave it alone for now if, we have been it a long time if, we have good relationships going on, let us see if we can finish this transfer or post of that transfer before that change occurs but it is in the offing, within six to eight months. No matter what happens. So we hope we can influence your legislators or your count executives to get on with the transfer. Fold be in your best interest to own this property and let the gave I get out of here an let the be developed to something useful for you, get it back on the tax rolls and stuff like with that, we'll go into the regular type things.

That was your welcome. Agenda, you've all read the agenda. Beyond to reread it for you.

There was some problems with the minutes. Was that corrected is everybody okay with

the minutes now.

A MAN: It was just a little odd. They're always odd.

CO-CHAIR KAMINSKI: The minutes went out with classic copy with only half of them and they got redone there was a point in time that we were going to send the transcripts. Did we decide to do that.

MR. BRAYACK: For Bethpage we send the full transcript without the minutes.

CO-CHAIR KAMINSKI: You got the full transcript except the problem with every other page was missing I read it and said I can't follow this at all I called Ed's office and said straighten them out.

CO-CHAIR KAMINSKI: Which is hopefully Bernie have.

I have five of these places all of which are coming to a conclusion right now and I cannot spend my time as much as I used to, on each one. So I have not been even been able to look in detail at the minutes or agenda today. As soon as I stop talking I'll turn it over to Jim and that Jim and be quiet for the rest of the evening.

My effort has been with Shelby Cohen and county attorney and county real estate and outside counsel to try to figure out what's going to happen here. While I've entrusted Jim Colter and his command to take care of the balance of the environmental issues.

For your information, while I'm going through that, naval air Systems Command current owner but maybe not for much longer, if it goes to count then that's fine but it has to get transferred to naval air installations. Jim works for another, Naval Engineering Command, by the sectary of the Navy and chief of naval operation, to do cleanup for the Navy. Jim is like internal Navy consultant that cleans -- they do other neat stuff, real estate agent, reduction consider agent but also cleanup agent for all of the Navy, this area is the northeast.

A WOMAN: Two quick questions on that. Will Jim Colter stay with this project regardless of who owns the project.

CO-CHAIR KAMINSKI: They deal with budget and money and everything regarding the cleanup. Yeah.

Bethpage RAB - 4/14/04 - First Iteration

A WOMAN: The eight acres that will remain as the Navy property, that will be transferred regardless.

CO-CHAIR KAMINSKI: That would probably go to this commander naval installations unless we can work real transfer, state New York interested in early transfer. Would you like to set that meeting up for me, like to talk about early transfer give this place to them, otherwise we don't have to cut this funny piece of property out and have let the county.

A WOMAN: First you have to complete the OU1 remedy out.

CO-CHAIR KAMINSKI: Just kidding.

MR. COLTER: You can transfer without the remedy in place.

CO-CHAIR KAMINSKI: One of the places that used to have government owner contractor operated facility in Toledo, operated by Teledyne, special legs like here to give it to the Port of Toledo, it had contaminated by the Port of Toledo, government of Ohio were willing to take it. Before cleanup. They deeded the entire facility to the Port of Toledo, and Teledyne remained as the tenant.

legislation

Colleague of Jim out of Charleston. Is working on it doing stuff with local college, it turned into a nice operation while the Navy is still doing the cleanup. That concept was rejected here a few years ago when we tried it in New York and Nassau County wasn't interested. That's too bad because they could have had it.

Jim does the cleanup and will continue to do the cleanup. That's what we are here for, the RAB advisory board, on how, and the consequence of that, cleanup operations go, up outreach to the community and let you know how the cleanup is going.

We'll answer the questions you had before and bring you up to date on what's going on now. Jim.

MR. COLTER: Thanks, Joe.

Before we get started I have administrative things I'd like to go over.

At the last RAB meeting we had a couple of questions from some of the members on the one question was could we have like a re-cap of the groundwater issue and how did we get to where we are at today. Its not shown on the agenda, but Steve

Bethpage RAB - 4/14/04 - First Iteration

Scharf from New York State DEC is here and he'll give a brief recap how we got to where we are. The second question that came up was with regards to how effective are the water supply treatment systems especially where there is a potential for a power outage and some other type of scenarios. John ~~monthly~~ Molloy from the Bethpage Water District is here and he'll give a little overview how the treatment systems operate and some of their secondary redundancies in those scenarios do pop-up.

Another item that is not on the agenda is the update of the review of our dry well reports by your third party consultant, which is H2M. Gary Miller and Paul Lageraaen are here and will give us a brief update where they are on that.

Jim, did you get an invite to this year's RAB forum.

CO-CHAIR McBRIDE: No.

MR. COLTER: No.

CO-CHAIR McBRIDE: My schedule has been crazy for the past month, it may have made it in and I haven't.

MR. COLTER: This year's RAB forum is being held in Salt Lake City. Back in 2001, they

had one in Denver, Colorado. Every two three years they're trying to set one up. We'll talk a little about RAB membership every two years we'll review our roles see who still is interested in being a RAB member, who hasn't come and who needs to be taken off membership also you can review your co-chair if you so desire. The co-chairs are invited to go to this RAB forum.

MR. COLTER: It is paid for by the Navy. So we'll talk about that at the end.

And anyone from the RAB can go in the co-chair's place.

As I understand it, it was pretty informative last time.

CO-CHAIR McBRIDE: The last one that I went to, in all honesty, in Denver, is where we got the information. We made the contacts with the people from the Navy that were able to facilitate us getting the third party review. Also all the presentations they put together for all the co-chairs from around the country which is first class, good informative information, on-site assessment, all different types of remediation, you pick and choose different conferences that you

wanted to go to. The Navy did a first class job.

MR. COLTER: We'll talk a little bit more about that at the end.

The other thing that I have, Jim, again I don't know if you received this. The Office of the Undersecretary of Defense sent out a draft proposed rule regarding some changes to how RABs work and some of the charters.

CO-CHAIR McBRIDE: No.

MR. COLTER: It is out for draft so you can send in comments. If anyone wants to review this, and send in comments, leave your name with Judy Lamey. I'll make sure you get a copy of this to look at and send in comments.

That's it for the administrative remarks.

What we have been doing, basically, since we've met, back in November, we have been working were our new fiscal year funding. It came in in January. Some of the plans that I alluded to at the last meeting are now coming to fruition. One of those is the design and installation of the GM38 remedy, the hot spot remedy. We have an update on that a little later. One of the things we were able

to complete was the installation of the outpost monitoring wells along the southern boundary of our plume, upgradient of several water supply districts.

So we got those installed. We did some preliminary sampling to see what everything looks like. And we are about ready to install dedicated pumps and these wells will then be turned over to Northrop Grumman for water sampling under a long-term sampling program. As you'll recall the wells are put in to be early warning wells, for possible detections of VOCs into the public water supply.

I'd like to turn the meeting over to Dave Brayack, from TetraTech NUS and Dave Stern from Arcadis.

The Daves, they're going to go over the completion of these wells, where they were at some construction type drawings, and then Dave Stern will go over what we did with some of that data and how we made some cross-sectional views of the subsurface and he'll go over those briefly.

MR. BRAYACK: I don't have a presentation for the projector. I have hand-outs. I believe everyone has seen this before so I'll be

very brief on this and then Dave Stern has some cross-sectional data. Most of the detailed discussion on the cross-section we'd like to wait till after the meeting. They're on poster boards. They're very small. We can address the individual questions at that point in time. Different Dave Jim had mentioned there was a series of four clusters, each cluster had two to three monitoring wells in it. These monitoring are located along the bottom of this figure out. If you start to the west you see there was cluster 41, 42, if you go a little bit east and south, there's cluster 31 and 32. Right next to the Seaford Oyster Bay road, you could see Outpost 21 and 22. And then finally to the east, you'll see three wells, 11, 12, and 13.

These figures were taken directly out of a report that was submitted in March, the RAB co-chair has it. It has been distributed to the regulators. And most the other people, as well.

CO-CHAIR McBRIDE: I was under the impression that any report I received was also going to everybody. That's the way it was working.

MR. BRAYACK: I believe you're right.

MR. COLTER: I think I did send them

to everybody.

CO-CHAIR McBRIDE: Anything that comes to us, there's so few of us, please keep everything going to all the members.

MR. BRAYACK: We did that, you're right.

CO-CHAIR McBRIDE: Thank you.

MR. BRAYACK: As Jim had mentioned, anyway, these were early warning wells, if detection shows up in these wells, there's a possibility within the next five year time period there could be an impact at one of the local water districts. The Levittown Water District, New York Water District, South Farmingdale Water District, they have two different clusters. So those wells were installed they were finished, developed in December. As far as the second page is concerned, we talk about these monitoring wells, I wanted to briefly describe what a monitoring well is.

When we install these, we drill straight down. We use a technique called mud rotary. We drill down to the bottom of the well, we set the monitoring well down, the monitoring well is PVC pipe with a slotted screen at the bottom. The

We are talking about the water supply on Long Island occurring in this area, that is the Magothy aquifer. A lot of wells penetrated into the Magothy. A lot of the wells you're seeing here are represented as sticks. You'll see the intervals for the various well. These wells are wells that have already been drilled or used for informational purposes for cross-section. Show vertical profiles, as I'm sure you know the Navy drilled over a number of years, actually shows the outpost wells that the Navy drilled for these purposes of monitoring the public supply wells. Each out post wells shows you the *lithology of the area of the supply well, with the outpost well, and further up to the north, as you go back further to the side. It ties in a lot of how these wells show vertically and laterally with respect to the sites and also where the public supply wells. You can get a feel for the depth of the well and where they are relative to the screen of the public supply well, which draws in the water supply.

There is a lot of detail on these figures.

CO-CHAIR KAMINSKI: The linear

distance on the cross-section.

MR. STERN: Each inch is 500 feet. There is a 10 to one exaggeration so the vertical foot distance is 50 feet. So there's basically these are stretched in this direction, vertically.

CO-CHAIR KAMINSKI: 50 times time Dave different 500 to 50, so it is a 10 to one.

CO-CHAIR KAMINSKI: What is the linear distance.

MR. SCHARF: Show the miles.

MR. BRAYACK: This is zero, five thousand feet is here.

CO-CHAIR KAMINSKI: Two and a half miles.

MR. BRAYACK: This is about two mile along the cross-section. Some are longer some are ~~sorter~~ shorter. On each of these one, it is a key plan relative to the sites and of major roadways kind of where you are. A lot of gray lobs are larger clay areas we've encountered we -- white area is sort of general mixture of sand and silt. Not differentiated on the cross-section, but there is more to it than that, a little bit. We are look at significant clays, where the wells are, relate to

the clays and to each other.

CO-CHAIR KAMINSKI: You didn't try to correct the layers.

MR. BRAYACK: Where wells are close together, you could see how much distance there is, several mile or more between the two miles, where you have wells together you can make interpretation where you think clays occur at same elevation in two wells relatively close, you can say likely those clays are interconnected. Its common on Long Island you can drive a hole and be 10 feet away you won't see the same lithology, hole to hole.

The larger patched area? This is widely studied by the USGS and others, that is considered region wide clay bed which confines the Magothy Aquifer, and it is solid and basically an impermeable zone. Not water productive.

MR. COLTER: Any questions?

CO-CHAIR KAMINSKI: 600 feet down to the.

MR. STERN: Yeah, six and 700 feet. It dips as you go further to the south.

CO-CHAIR KAMINSKI: Most production wells are at six.

MR. STERN: Nowadays on Long Island, most production wells are in the deep part of the Magothy, 15 feet below the top of the Raritan unit. If you come up close, you can see a lot of wells are screened at the very same intervals as you get deeper in the Magothy, you get coarser grained material that is more productive. A lot of wells are screened where they are, they produce a lot of water down there. A lot time and effort went through to plot the wells. We tied in the *lithology as best we can. This gives you as best a representation on paper, the three dimensional features of the Long Island geology, hydrogeology.

If you have any questions afterwards, I'll be happy to do that.

CO-CHAIR McBRIDE: Thank you.

MR. COLTER: Thanks, David.

Essentially, what we are trying to accomplish, here, are -- is the implementation of the various components of the groundwater ~~*/TKREUPL~~ ROD that was produced by New York State DEC and then adopted by the Navy. Again the reason the Navy adopted its own ROD was for funding purposes. We have to show our headquarters a legal type document

to say we need to spend this type of money, doing these activities. Essentially, and Steve will go over this in a little more details, the three -- I guess there's three main components of the ROD. One is to contain groundwater on-site, where the majority of the contamination is. That has been done and continues to be done by Northrop Grumman through that *ONCT, which is on-site containment system. The second component is to protect the public water supply from those contaminants that have already passed the Northrop Grumman southern boundary. That is mainly what this is for. This is to do sentry wells, early warning wells, to give the Navy at least a five year window. If any contaminants are found in these wells, then it is likely that a future impact will happen to certain public water supply and gives us a five year window, to take action, to put a treatment system on.

The third component of that groundwater remedy is basically trying to find any hot spots which have been defined as anything over one part per million, which is a thousand parts per billion, delineate it, and try to get as much mass out of that area as possible, to reduce the loading

of the aquifer. That is what I'm going to go over now. Did everyone get a copy? This is basically a schedule of events.

CO-CHAIR McBRIDE: One quick one for you, Jim.

The containment system that is in place now, the one run by Grumman? Has there been any discussions between the EPA with the Hooker site, over the past -- since the last meeting, whether there's -- what the negotiations are between those two? I think you had told us two meetings past, because I was not here for the last one, that there was talk that Hooker, and the EPA, wanted to use the Grumman containment system also from that plume. Does that affect this in any way, what you're going to discuss.

MR. COLTER: No. Not the GM38 area. But the EPA and Occidental Chemical are in constitutional with Northrop Grumman and the New York State DEC on that issue, regularly. The Navy's kind of stayed out of that, out of those discussions. It is basically Occidental Chemical taking responsibility for the amount of chloride portion of the plume. Which could adversely impact

Bethpage RAB - 4/14/04 - First Iteration

Northrop Grumman's treatment system.

CO-CHAIR McBRIDE: That was my concern.

MR. COLTER: There is a whole bunch of different scenarios that have been addressed. Occidental has stepped up to do whatever is necessary. I think Steve has more information on that than I do.

CO-CHAIR McBRIDE: Thank you.

MR. COLTER: Probably get into it. In his presentation, he'll allude to that I'm sure. If not, we'll address it at the end.

CO-CHAIR McBRIDE: I thought it was tied in with what you're about to discuss.

MR. COLTER: No, this is the GM 38 area, the hot spot area, just for reference.

CO-CHAIR McBRIDE: Okay.

MR. COLTER: Is down in this area here. So you can see how far away it is from Occidental.

CO-CHAIR McBRIDE: Okay.

MR. COLTER: As you can see on the schedule, we installed a few vertical profile borings, to delineate what is the one part per

billion hot spot. And those 15 through 18 lines.

We went into conceptual design phase to layout conceptually what this treatment will look like, what properties are we going to impact and we started some preliminary discussions with the Town of Oyster Bay about utilizing some of their property.

Where we are at now, is line 30 and below the actual construction of the remedy. Over the winter time when our fiscal year funding came in, we awarded a contract to Foster Wheeler, formerly Foster Wheeler, now Tetra Tech FW, a subsidiary to Tetra Tech NUS, right now they are working on a workplan to go out and do geophysical studies, take soil samples to design a foundation for a building. They're also -- they're also going to get a surveyor out there, and that is shown on 35. Right now we are talking with the Town of Oyster Bay, to get a temporary right of entry agreement with the town, to allow us access to the property to do surveying and some of this other work. That is a temporary agreement.

CO-CHAIR McBRIDE: There was discussion six months ago regarding possibly

approaching the water district to see whether it could be sited on their property. Any update on that.

MR. COLTER: We gave that at the last RAB.

CO-CHAIR McBRIDE: I apologize for not being here the last time.

MR. COLTER: That was part of the conceptual design, lines 19 and lower, where we went through different scenarios of where we could site this building.

In short there was a lot of legal issues between the Navy that made it impractical for us to either lease or take ownership of water district property. In short, they wanted us to take ownership of it and then give it back to them when we were done. And as Joe alluded to, the Navy is not buying land anymore. We are actually getting rid of it. That posed a problem with us. Spoke to the town of Oyster Bay. As you know we have been putting wells in their highway right of ways for the last six, seven years. They were very receptive to having us utilize some of their land.

So the surveyor should be out there

by the end of this months what we are hoping we are expecting temporary access to be in this week. And get the surveyor contract should be awarded this week. He should be out there. One of the key component of that survey, not only is getting legal descriptions that then our real estate folks will turn into a long-term easement, we also want to have a surveyed area to lay out what we think other treatment plant should look like. We want to conduct a neighborhood workshop. I mentioned this last couple of meetings but because of funding delays and things like that, we haven't really been able to schedule it. If all goes well, I would like to have that neighborhood workshop in July. We'll have to talk to the Town of Oyster Bay, we'll send out flyers, and actually go door to door to some of the folks in that area, to get them to show up to the workshop and we'll put together poster board similar to this but it will kind of have a design aspect to it. Folks can come and walk through and ask any questions they have pan man Jim, July is very bad time to have public meetings with everyone on vacation.

MR. COLTER: Okay.

A MAN: Do it in June before school goes out or after the second week of September.

MR. COLTER: Okay.

June is a problem for me personally. But September might not be bad to be honest with you. I was trying -- I know we have been saying we are going to conduct one and I didn't want to push it back too far but maybe you're right maybe after school starts would be a better time.

A MAN: That is something that the RAB has to discuss especially being.

A MAN: There is so many holidays, September would be good.

A MAN: The treatment facility will be close to people's houses. You don't want a call back later on, saying I never knew there was a meeting and you got this thing down the block from my house.

MR. COLTER: We definitely don't want that.

CO-CHAIR McBRIDE: If you're looking to put a steel tower in the area, it won't be too well received unless the architects really work their magic on it.

MR. COLTER: In that area, if you're familiar with it, it is pretty heavily wooded and we are going to set our building back as far as possible toward the expressway, and keep as much of that buffer as possible. But what we need to do is get that survey of the area and see what it looks like and come up with a proposal.

MR. SCHARF: Jim, it may not be a bad idea to have two meetings, one in July to get feedback and have a follow-up meeting and re-explain in September so you can have answers to all the questions the second time around.

MR. COLTER: That might work.

MR. SCHARF: This way you can keep proceeding with the design unless there is something that is really presented to us as a problem.

CO-CHAIR McBRIDE: Are you looking for the community's input or you're trying to test the waters to see.

MR. COLTER: It's -- it is going to go there. It is not up for vote, or anything like that. It is basically giving them heads up that there will be construction going on in the area, this is what we think it will look like, this is

how we'll try to mitigate the short term impacts, this is what you can expect to hear or not to hear, things like that. It is basically a heads up of what's going to happen in their neighborhood. We've basically run out of options as far as where to site this. In any other area, it's too heavily residential and now you're talking about miles and miles of piping, which makes the project cost prohibitive.

CO-CHAIR McBRIDE: The people in the area who live there, want to have a say in it. If it was in my neighborhood, we would be approaching town officials that there may have to be some concessions on the part of the Navy. They are putting something in someone's backyard that wasn't there.

MR. COLTER: We definitely will listen to the inputs. Like I said, we'll do a conceptual of what we think it should look like. Based on comments, we'll make judgements.

CO-CHAIR McBRIDE: At the timing of these meetings if people have serious comment, is it going to be at the point where it is already too far into the process to accept these comments.

MR. COLTER: No.

CO-CHAIR McBRIDE: That is something from my point of view I would think that the Navy is bound to at least put it to the residents. It will be in their neighborhood so they have an opportunity to have their comment.

MR. COLTER: We have been talking to the Town of Oyster Bay officials. Who is on the RAB?

A MAN: John Venditto.

MR. COLTER: Yes. I've met with him on several occasions. He's walked the site with us. We've met with Steve actually to say this has to happen, it's part of a legal document, we need to do it. He's on board. And it is through his office is where we are getting the easement and things like that. It was at his suggestion that we have this workshop. It is a good idea.

CO-CHAIR McBRIDE: I understand the technical side, I understand your need for it but also I do think we have to insure there is compassion for the people that live in the area, that can have input. If there is something that needs to get changed, I look at what the water

district did if the way of, I guess through the Navy, the treatment facility down by the hospital. And unless you knew that that house was a treatment facility, it blends in with the neighborhood.

MR. MANGANO: Do you have a date for the hearing.

MR. COLTER: It is not a public like meeting it is just workshop. It will be informal, with a lot of poster boards with Navy officials, hopefully Grumman officials hopefully.

Steve will show up and we'll answer any questions. We'll have -- like I was saying before, we'll have a poster session. People can walk through and look at the different posters and things which is essentially going to be a draft design. We'll hear the comments and we'll take the input, you know as appropriate.

MR. MANGANO: What municipal approvals do you need to actually make it come to fruition.

MR. COLTER: All the land we are looking at using is Town of Oyster Bay.

MR. MANGANO: Whatever town process and town officials.

MR. COLTER: Right. Right now.

MR. MANGANO: Do you have the time frame of that.

MR. COLTER: Right now, we are working with the town beginning a temporary right of entry, that's line 35. That is just a temporary permit giving permission for us to send a surveyor in and a driller to get some soil data. Get a surveyor there to survey the area so we can start doing drawings man began July?

MR. COLTER: We were looking at July. Line 39 is the workshop an as Mike pointed out that is summertime.

MR. MANGANO: That is a tough time.

MR. COLTER: That is a tough time. We may move it to September or as Steve suggested, maybe we'll have two workshops whoever can make it in July, we'll listen to some of the comments and we can input them and redo it.

MR. MANGANO: If we can do two, that is a good idea. You get initial reaction of the community.

CO-CHAIR McBRIDE: When people see equipment going into the area, they want to know. I

would ask too that what you really look at doing is very detailed mailing to all the people in the area.

MR. COLTER: Even when the surveyor and the driller are there, we'll put drilling notices out we'll walk the community for the people in the neighborhood to give them a heads up that. Is standard procedure for us.

MR. MANGANO: You'll have a site plan at that workshop.

MR. COLTER: Yes, that is why we need the surveyor to get in there so we can survey the area and put what we think is our idea of where the buildings should go, where the wells are going, what the piping runs look like, there's a lot of utilities in there we have to locate so we don't mess those up so... Our first priority is getting the surveyor in there to do that. And those drawings will be what is used at the workshop.

So we are moving on. We are continuing, we are making progress. Over the wintertime, is a good time when we do all of our plans, and in the summertime, we go out. And do as far as assuming that this all goes well and according to schedule, the first thing we'll do is

actually install the wells. We have done presentations previously on where the, tracks wells are going, and where the injection wells are going. We'll actually be putting those in at the first -- would be one of our first items is it actually putting those in and that will be later on this summer hopefully in July if, if we can we get our access agreements and stuff like that, to get aquifer data, soil data, so we can incorporate that into the design of the treatment building itself and the stripping tower.

So we are making progress. We are not moving very quickly but we are moving forward.

Three main components of the ROD is the containment system that's operating to protect the public water supply, the sentry wells are in and addressing this hot spot area which we're starting to do now. So we are almost there.

At the last RAB meeting we had some questions on we get a lot of information on where we are at today the question came up how did we get here. So Steve Scharf from the DEC offered to kind of do a re-cap of the history of the site, how we got the RODs in place, how we came to the decisions

that we did, to finally come up with the ROD that we are working on.

MR. SCHARF: Thanks, Jim.

If you don't have one, I made a copy of the presentation that I made. You can -- does everybody have a copy?

My name is Steve Scharf, I'm the project manager for DEC or division of environmental remediation, overseeing remediation of the Northrop Grumman Naval Weapons Industrial Reserve Plant. At the request of the Navy, I put together a review of the whole process that we are operating under.

On the first page, what we are operating under is the federal law Comprehensive Environmental -- CERCLA -- Response & Compensation Liability Act. That was reauthorized as the Super Fund. The DEC has promulgated their own set of regulations, known as the Environmental Conservation Law, which regulates the clean-up of facilities defined as inactive hazardous waste sites.

Just to go through real quickly, when a site is thought to be a hazardous waste site, it goes through a preliminary site assessment. If that shows that there was a problem there, we list it on

the New York State Registry of Inactive Hazardous Waste Sites. If it is a really bad site, we can -- we have the option of nominating it to the EPA National Priorities List. We then go to PRP, and negotiate a consent order. We ask them to do an investigation under that order. We do an IRM. For example, Grumman was identified. They contain the groundwater plume emanating from the site we are talking about here, by putting in a pump and treat containment system and went in almost 10 years ago and been on line since 1998.

The information that is gained in the investigation through a feasibility study is done to screen alternatives, to determine what is the best alternative, to mitigate the problem created by this environmental hazard. And in doing that, we go through a set process as promulgated under the law. Protection of human health, long-term effectiveness, long-term permanence, there's nine criteria that we use to screen the alternatives.

Once we look at all the alternatives and we go through the screen proses, we will put together a PRP and that is put together in the ROD to the site, and once the ROD is signed, then we

move to the remedial decision and remedial action phase.

In addition, some sites, for -- like this one, for example, has a long-term operation and maintenance pump and treat system, which will probably be going on for a long time.

In particular on this side, under the CERCLA process as an inactive site, everyone here has to remember if you go back just ten years ago, this was a top secret defense facility that manufactured aircraft for the Department of the Navy. As such, they had a lot of processes going on that generated hazardous waste.

The other program at DEC that regulates active facilities, essentially is called, the law is called Resource Conservation Recovery Act, RCRA, for short.

If you look -- RCRA regulates the active facilities. So in that case, the naval plant was operating both under RCRA and under CERCLA. Once Grumman had announced that they were going to close this facility with respect to manufacturing, they are -- they still have a presence with engineering and design. Then the site switched from

active permitting, to what is known as corrective action under RCRA. And because the facility had the RCRA permit at the same time the investigation was going on, under the CERCLA process, we sort of delegated that the inside of the buildings would be dealt with under the RCRA program and the outside and the groundwater would be dealt with under the CERCLA program. And we are still operating under that today. In fact, I could spend a couple of hours talking about all the corrective actions that were done on the Grumman facility. All the various plants, Plants 1, 2, 3, 5 are the major ones and Plant 12, where they had to decommission the facility, take out all the equipment and identify those areas where has waste were spilled into the environment and corrective action was necessary.

So for the most part, the corrective action is now complete. It has been a long process. As Joe was telling you, they first announced closure of this plant back in 1996 and here we are in 2004 and we are still looking to finalize the RCRA process for what's happening with the permit to generate, transport and dispose of hazardous waste.

That's the regulations, some of the

state regulations, that we operate under here, and that we are here to talk about tonight.

I'll give you a quick history of the whole plant. In the 1930s, Grumman first moved here from Baldwin to Bethpage to set up their operations here and begin manufacturing aircraft.

In the 1940s, there was a build-up under World War II and they built Plant 3 and 5 with respect to the Navy property. The other properties were Grumman, but Plant 3 and Plant 5 in particular were owned by the Navy and paid for by the Navy and operated by Grumman for the Navy. Hence the GOCO term, or "Government Owner Contractor Operator".

From the 1940s to 1990's, Grumman manufactured an enormous amount of aircraft for the Navy up until the time that closure was announced in 1996.

Since 1996, we have been undergoing the closure under corrective action.

Keep in mind even though the plant was an active facility in the late 80's, the site was listed on the DEC inactive hazardous waste disposal site lists, because of problems in the groundwater. We signed an order on consent with

Northrop Grumman and a memorandum of understanding with the Navy to investigate the two sites. Grumman announced they would investigate their properties but not the Navy properties. The Navy agreed it was at that point that they started to try to unravel how the two were intertwined. This is an unusual site. It is both Navy owned and contractor owned, and all contractor operated. So there were a lot of problems that came up because of that, but I think at this point we pretty much resolved most of that. Even if we agreed to disagree, we are moving forward with the remedy that has been selected for this site.

Under the CERCLA process or RI/FS process, the DEC first placed the Grumman Aerospace facility in 1987. Again, in 1990, Grumman signed an order with the DEC but said they would only investigate their property. Also at the same time, and as the consultant for Bethpage Water District could give us more detail during his discussion, it was found an air stripper was required at the Bethpage Water District No. 6 -- do I have that right, John, the year?

*John John that is correct.

MR. SCHARF: At that time, based on routine sampling as required by the New York State Department of Health, low levels of VOCs were beginning to show up in the water supply. In order to be productive, the water district moved forward with implementing a remedy and then after that point began to enter into discussions with Northrop Grumman, which at the time was Grumman Aerospace, to fund -- reimburse them for what they -- money they laid out for this remedy.

So once the investigation began, an enormous amount of testing went on under the DEC, as a Class 2 site, a number of monitoring wells were installed and a number of source areas on the external parts of the building were identified. Out of that information, two RODs were signed. One by the Department of the Navy for sites one, two, and three, on Plant 3 property. And one by Northrop Grumman for a huge TCE spill right across the street, here, at Plant 2.

Accordingly those recommendations have been or are currently being implemented at Plant 2. Northrop Grumman is operating a soil vapor extraction system to pull out all the solvents that

remaining in the soils. At the same time, it was found that because of the sandy soils in the area, the groundwater was now contaminated and it was imperative that they do something about it and they went -- Grumman went forward with designing and implementing a containment system. That took about four years from the time they first mentioned it to the design, to the construction, and to the implementation.

To get a feel for the time frame here. There's a lot going on, they are closing down, commissioning a 600-acre facility at the same time the investigation is going on, reports are being generated both under the RCRA program, corrective action, the DEC's CERCLA, under the RI/FS program, and thrown into the mix was an Oxy-Hooker Ruco site. Ruco Polymers was bought by Hooker Chemical and Plastics, which was the same company that brought us Love Canal at Niagara. It became the Oxy-Hooker Ruco. It turned out they were running a different type process making plastics, where they were recharging groundwater into these recharge basins that were contaminated with vinyl chloride, they made polyvinyl chloride piping there.

That plume is now reaching, which is what Jim's talking about, that plume is now reaching the Northrop Grumman containment system and we are having to deal with that. Oxy has stepped in and put treatment on the air stream to remove vinyl chloride so it is not emitted into the atmosphere. The *ONCT system went on line. There was an attempt to try to negotiate a groundwater regional groundwater remedy between the Navy, Grumman and Oxy Hooker Ruco and it ~~felt~~ fell apart for a number of reasons. What each does, they came up with their own remedy. Actually Grumman and the Navy got together and jointly funded a study for the groundwater problem, and the single most important part of that, remedy, on that RI/FS process, was the containment system.

What came out of that was the ROD that we moved to, at the bottom, in 2001, where we had realized based on testing the plume was far from the property and beyond the containment system. We weren't sure how far but we knew that it was off-site, based on testing that was done. Given the enormity of the plume, full containment of the off-site plume was not a feasible alternative.

Accordingly, we said what are we going to do? There are municipal wells downgradient that may be impacted with these low levels of contaminant in the groundwater. We came up with wellhead treatment, removal of hot spot, and/or hot spots that may be identified in the future, which includes one area to the GM 75 area, in addition to GM38, which the Navy will evaluate as to the need of additional off-site pump and treat. Jim didn't mention that but that is something that is in the work plan.

Tracking the plume, and having a contingency plan to put treatment on for any well that needed it.

Now the contaminant that we are talking about here, is a VOC. Fortunately, VOCs are easily removed from the groundwater. John ~~monthly~~ Molloy will get into more of that during his discussion. And so we sat down before we signed the ROD with the potentially impacted water district, and said this is the route that we are going to go. They were very concerned, naturally. One of the options that was also put into the ROD was what is called technical advisory meetings, or TAC meetings, which

we are going to have tomorrow morning, to update the water district as to the status of the project post ROD. What is the status? That is some of what Jim talked about tonight: The outpost wells, the sentry wells, on the containment system, there's quarterly monitoring of all those wells.

And you know, how soon might they be affected by the plume that's moving off-site? So that's -- just to sum it up, under the CERCLA process, the remedy that we signed in 2001, was to have the off-site groundwater for the pump and treat, continued operation of the on-site containment system, continued funding for treatment for the Bethpage Water District, and that's because there are three water districts: Bethpage Water District has three wells downgradient, 4, 5 and 6. Six was paid for by Grumman, four was, Grumman paid for -- eventually, but the water district paid for that upfront initially. Plant 4 was paid for by Grumman and Plant 4, by the Navy. The Navy stepped forward to the water district and funded the entire construction. NUS came up with a cost, present worth cost, for the 30 year operation and maintenance?

MR. COLTER: Yes.

MR. SCHARF: That wasn't the case with the other plants built by Grumman. That is still on the table for negotiation between the districts and Northrop Grumman, am I correct? May I say that.

A PERSON: That is correct.

MR. SCHARF: To summarize it all, I have not all been a part of this. It has been a long process of bringing to the present. The Oxy Hooker Ruco site RODs were also signed for that site, to remove the vinyl chloride from the groundwater by a biosparging process, and the remainder of the contaminant, when it hits the Grumman containment system, will be dealt with accordingly by that system. It turns out EPA used our remedy anyway, but they were reluctant to write that in their ROD, but they did. I got a comment letter yesterday on the biosparge design. They still have issues that we have to sit down and resolve. So it is an ongoing process.

Also the main thing is there's another large component. When I say "large", this is only maybe two-thirds of the site, the area of

concern. These are all the monitoring wells that are in the area, starting in the north, Plant 3, and going to the south, by *Central ~~Area~~ Avenue.

Dave, how many would you say, at least 200 wells?

MR. STERN: (Nods)

MR. SCHARF: A number of wells are sampled quarterly. It is a long process. It takes almost a month to sample all the wells, right?

MR. STERN: We sample a subset of those wells, but every quarter.

MR. SCHARF: Every quarter. So it is not an easy task. It is ongoing. It is a big expense but we want to make sure we know what's happening real time with the groundwater and the contaminant as they're moving off-site.

When we signed the ROD in 19 -- in 2001, this was a figure out of feasibility study that was put together by Arcadis, based on some of the real data and a some of the extrapolated data, with groundwater models on the south end of that figure on the left, which is hard to see, is Hempstead Turnpike and the light blue area is low level VOC contamination from operations that were

done on Grumman Navy facilities. And we looked at that. Even at that range -- one thing it doesn't show here, because it has been extrapolated, is the effects of the containment system, which is somewhere to the middle or southern middle portion of the plume, where it is having the effect of cutting off the plume and redirecting it, and the groundwater is starting to clean up. You see it starting to clean up.

One other important task of the ROD that the DEC signed, which the Navy signed their own ROD as well, was predesign investigation, which are also no simple tasks. It was a four or five million dollar project, where the Navy, back in 2002, completed I believe it was 15 vertical profile borings, down to the Raritan clay, which is 800 feet deep, taking samples every 10 feet, and looking at the chemistry. Not only the geology, but the chemistry, of the groundwater. And that was -- all that was incorporated into a model as current data, because we hadn't gone that far south before. When we sat down with the water district, we said we think the plume around Hempstead Turnpike, given the model, some of you may be impacted in ten years and

others in 30. Well it turned out, this one is probably -- it is a little difficult to see, I apologize for that, if you see the middle line across the entire white line, Hempstead Turnpike, lo and behold the plume was much further than we thought initially.

We realized we had to step up the program and get the outpost wells out. Those outpost wells are now complete. In fact, we have to look at, for Plant 1 of the South Farmingdale Water District which is OU -- 1 or 3? Plant 1, outpost well is three.

We have to wait to get Arcadis' data back. Initial sampling shows low level contamination moving to toward the South Farmingdale well. If it does turn up those wells are contaminated, the Department of the Navy will move forward and open up negotiations, with South Farmingdale, to implement a treatment remedy for those wells.

One thing I left out, I'm saying the Navy is doing this and Grumman is doing that. Well, it sort -- there is some agreement and some disagreement. We have all aspects of this project

either being taken care of by the Navy, who stepped forward to take care of off-site issues, anything south of the containment systems. They told Northrop Grumman, you keep monitoring and operate your pump and treat system. That's been an ongoing discussion between the Navy and Grumman and they still agree to disagree but I certainly hope that somewhere in the near future that that will all be resolved.

A WOMAN: Can I ask a question. The east side of that plume, is that near 135?

MR. SCHARF: That is correct.

A WOMAN: The lower portion.

MR. SCHARF: If you go to the next slide.

A WOMAN: Right on top of my house.

MR. SCHARF: I've taken the slides from some of the presentations that Arcadis made for the Department of the Navy at previous RAB meetings, and also at those TAC meetings. One thing you have to appreciate, you can kind of see the three dimensions, that once you get south of Hempstead Turnpike, but even before that, these chemicals are sinkers and they're moving -- they are moving down

at a less degree than they're moving out. But they're not in the shallow groundwater.

A MAN: Is that good or bad.

MR. SCHARF: It is not going to impact your home.

A MAN: It will impact our wells.

A MAN: Don't dig thousand feet deep.

A MAN: First notice that's on the list. Have they been notified.

MR. SCHARF: They had a private well there for irrigation or.

A PERSON: The *New Island Hospital.

MR. SCHARF: Yes.

MR. BRAYACK: They have a well for non-contact pooling. They pull the water out and put it right back in and it gets tested all the time. It turned up clean every time.

MR. COLTER: We put a test boring on property. We sat down with them.

A MAN: They just expanded their facility.

MR. COLTER: They know what we are doing and they gave us permission to come on their property to drill a well.

MR. BRAYACK: All the groundwater in this area is not contaminated. If we show boundaries, when you put wells in, you find clean wells as often as you do dirty wells.

MR. SCHARF: I'll say this much too, for everybody else here. I'm just scratching the surface, here. There is so many things going on. For example, Grumman was pumping between five and 20 million gallons of water a day for various processes. A lot of that acted to contain some of the chemistry. Also acted in terms of recharging it, it was pushing it down further. We have a much better handle on what is happening now than we did years ago back. As we move forward with these remedies, in fact the remedy that Jim was talking about earlier GM38 D2 remedy was pushed for by the water districts, especially Bethpage. You have hot spot areas near our wells, and we have treatment systems designed to handle so much concentration, and we are concerned that this may blow us out of the water. So we looked at that and we agreed and added that in as one of the remedies. So that gives you an appreciation for the depth of the problem. And it doesn't -- but as I said, we are starting to

see the aquifer clean-up especially in the area by Central Avenue. And obviously we've worked on cleaning up all the sources. Now as we enter the long-term operation maintenance and monitoring phase, we have to confirm that. In light of protecting human health and the environment, we need to step up and make sure that none of these -- something being impacted we put the outpost wells and treatment.

And another thing that was written to the ROD at the direct request of the water district, is that we put in a treatment system that can produce water that is non-detect. Not such a certain state standard president we looked at that and got Grumman and Navy to agree based on current analytical ~~metal odds~~ methods which it is down to 500 quantitation ~~tie done~~ down to the parts per trillion, half a part per billion range. So that's good. That's low. If -- I don't think if the near future they're going to examine up with metal odds that do much better than what we have now that being said that's how where we got to today with the groundwater recommend along the way there are other issues that have come up with Grumman and in organics in the groundwater

so we've added all' an under the RCRA cleanup to monitor to make sure areas that were cleaned up for in organs, chromium cadmium that they aren't impact G W. We agreed under the CERCLA program it take the responsibility for all that.

CO-CHAIR McBRIDE: Steve? I guess between you and Jim there is that one other area we haven't spoken about in a while where you were doing the vapor, extraction and site and you were going to have to scrape up for after the contaminant, is this tied into the groundwater or dealing with the separate issue?

MR. COLTER: That's Navy an is main contaminated site on the property. Mainly contaminated with VOCs and PCBs. That was our main source area, which was contributing to the groundwater contamination.

CO-CHAIR McBRIDE: Right.

MR. COLTER: That is why we went in initially with the air sparging soil vapor extraction system to clean up as much VOCs as we could so that this doesn't ~~post~~ pose a problem with disposal when we dig up the PCBs that has been completed and we are actually one of the things I

didn't update you on is we are now in the design phase of a soil excavation plan for that. To dig up the PCBs. So our source area, as far as continuing to contaminate the groundwater has mainly been cleaned up over 90 percent.

CO-CHAIR McBRIDE: Question came, up over time we stated there are no contact surface areas where a person could be exposed to PCBs. In that are where you've done that extraction, if a person were to walk on that soil, is there any contact concern, any pathway from health hazard?

MR. COLTER: Mainly it is subsurface PCB contamination. I don't think we have surface contamination, Dave ,is that's right.

MR. BRAYACK: There is low level surface contamination. It has been partially delineated. It is fenced off.

CO-CHAIR McBRIDE: From a point of dust moving into other areas.

MR. BRAYACK: When we first did the investigation we collected eight or 10 samples and the majority of it wasn't too bad. It needs to be addressed for living there. We found one area that has elevated levels of PCBs and within a couple of

months, we put a soil cover on that as an interim step basically.

MR. COLTER: We'll come back and dig it up.

CO-CHAIR McBRIDE: Is the whole area with the soil cover.

MR. BRAYACK: Just the one hot spot. It was the fence line.

MR. COLTER: Its the east end of the plant. It is within the fenced area.

MR. MANGANO: We are talking about that part the Navy is retaining title to.

MR. COLTER: Right. It is pretty well vegetated, actually. Like I said, most of it is subsurface. It was an industrial leach field so mainly what we are finding is eight to 10 feet below and some areas, even deeper.

CO-CHAIR McBRIDE: Has official, has assessment really been done to, if anyone on the other side of that fence line were to say, am I possibly exposed to any of these PCBs or the dusts.

MR. COLTER: Back in 1994 we sampled yards adjacent to the Navy property for that reason.

CO-CHAIR McBRIDE: If a person came

to you now, and said I'm walking on the other side of the fence if, what sort of assurance could you give them that they're not being exposed.

MR. COLTER: We did an assessment as part of our remedial investigation, with the resident, 365 days a year and the on-site worker and the risk assessment for the surface soil contact for the on-site worker, there was no incidental risk within that EPA risk range, that EPA says is satisfactory.

MR. MANGANO: Is there a time line now for that particular piece.

MR. COLTER: We are in design right now. We should have -- I'll have an internal draft in about a month or six weeks. We'll have -- if we decide to go forward with full excavation, we'll send it to the regulators for review probably in two, two and a half months. We'll get those -- we'll hopefully get comment and things, and revise it. The budget for that isn't identified until fiscal year 2006.

MR. MANGANO: Is it you're developing an actual plan and then you need to get it funded.

MR. COLTER: --

MR. MANGANO: Then you'll have a finite timeline?

MR. COLTER: Because we are coming close to 05, the 05 budget is already set, so, you know, we are actually -- unless somebody falters and fails to implement a big project, then money may become available in 2005. But I have to look, the Navy has to look at the design and the cost of this and the constructibility of it. As I said, in some areas we are down 35 feet and we have to question if there is a need to take an action at 35 feet or not, based on concentrations and things like that. Our ROD says right now, remove everything to 10 parts per million.

MR. MANGANO: That takes you to 35 feet.

MR. COLTER: In columns. It is really weird how this stuff got down there. It is not 35 feet over the whole area. It is just in certain spots. If it becomes too cost prohibitive, we may have to go in with an explanation of significant difference for the ROD and that will take several months to do. Then that, if we are successful in that, if we choose to pursue that line

of action, then that puts us into the 2006 time frame from implementation. One way or the other, I'm looking at 2006 as pretty hard to get something done out there as far as getting rid of most of the PCBs. Whether we go down to 35 or 55 feet is still up in the air.

MR. MANGANO: The remediation plan on the remaining property that is scheduled for transfer to Nassau County. Jane Hodack (ph) was going to be here. She's an attorney with Nassau County, she's an environmental attorney. I know Nassau came up at planning meeting and had question or comment. How does that affect the timeline?

MR. COLTER: The remediation is complete for the 96 acres slated to go to you, that is our finding of suitability to transfer everything has been done that needs to be done. You can have that property at any time to do commercial industrial type work.

MR. MANGANO: As we move toward transfer she's going to have -- I was hoping she would be here tonight but I believe she had several questions that she wanted to raise and have answered or addressed prior to the taking of the property.

MR. COLTER: We met with her two weeks ago and she laid out her questions and her main question with respect to what I do, the remediation, is the use of the decon pad, that we call it, which was the former -- it was a former RCRA permitted drum storage pad, secondary containment. Anything that spills on there can't get released to the environment. Then you can powerwash the concrete, everything goes into a contained sump, so it is a good facility to decontaminate equipment, which is what I need to do.

MR. MANGANO: You want to continue to use that decon pad that you're referring to.

MR. COLTER: Correct.

MR. MANGANO: Throughout at least the 2006 process.

MR. COLTER: She asked us to look if we could get rid of it sooner could we move the decon operations somewhere else.

MR. MANGANO: It comes right out.

MR. COLTER: We are asking for an easement to utilize it. We owe her an answer but in short the answer is her one big concern was when we start digging up the PCB. At Site 1, how are we

going to eliminate or mitigate the potential for those contaminants to go into the storm drain and then into the recharge basin? And we are going -- the storm water management plan will address that. That will not happen. If we don't use the decon pad, to decon the dozers, the trucks, and things like that, and we have to construct it near Site 1, then you introduce more of a risk. As I said that decon pad, it is a former RCRA facility which had to be designed in a certain special way with all the safeguards that will ensure that all of the decon material, that we scrub our equipment with, and scrub our trucks with and our dozers with, doesn't get released anywhere except into that sump. Then we pump the sump out and test the water and dispose of the water accordingly. So, you know, she asked us that. We looked at that. I owe her an answer. But basically that's going to be the answer, yes, we would like to use it throughout the 2006 remedy. Just to eliminate her big concern of releasing PCBs from decon water into the environment.

MR. MANGANO: It has a bearing on what you can practically do with the property if you

come up with site pan to reuse the property.

MR. COLTER: This is just me talk and we realize the potential implication toss market ability but our mandate is to clean up the property and to do it in a way that minimizes any potential risk of releasing the contaminants we are cleaning up into the environment. And that's our best area. That thing was specifically designed for that purpose is to contain contamination when you clean equipment. It is in our best interest and the county's interest to use the facility not to construct it somewhere else where -- where it is not designed to do that.

MR. MANGANO: I don't want to get ahead of us. It begs the question why take the property, then you can't use it.

MR. COLTER: Yes.

A MAN: Began when you look to reuse. Should we really take the property if you're not going to be able to reuse it?

MR. COLTER: Nods.

MR. MANGANO: I'm sure she'll be in touch and some of the questions are more technical.

CO-CHAIR McBRIDE: To follow-up on

that Site 1 area. Since you're not looking to excavate you're saying even though there are low levels at surface what sort of low level are we talking about would it be feasible at this point to put as you did on the hot spots, put a soil cap on it fuel 2006.

MR. COLTER: It is a big area to dig that soil. The low level we are talking is one to ten. One is a residential cleanup number. Ten is the industrial cleanup number. As everyone knows the reuse of this property commercial industrial we cleanup to 10. So what I'm talking about is, you for, in those areas where we do have surface contamination as Dave Brayack said, that is minimal. It is might earn one but less than 10? Most of our over10 is down deep so adding a soil cover in the whole area, which is about an acre and a half and then to come back and dig it up for the chemical that is on the surface, is really not a good expenditure of money to do that.

CO-CHAIR McBRIDE: Steve, from your point of view, do you see any concern if any of the ~~rest dents~~ residents were concerned about that soil being contaminated on the surface? If something should

be done or ~~donor~~ is it adequate right now?

MR. SCHARF: Are you talking about Site 1 or areas two and three.

MR. COLTER: Site 1.

MR. SCHARF: Site 1, actually the DEC is now promulgating those very cleanup standards for industrial use and commercial use and residential use. Right now the only thing we have is one parts per million, unrestricted totally. One PCBs. If it is more than that, we look for a soil cover and then if it is ten below then we restrict it saying okay, it's -- you can't use this for residential use.

But the ROD that was written will address contamination of PCBs when the DEC will review that when it comes in and we'll make sure that it will meet whatever the current standard is, which is actually under change right now.

CO-CHAIR McBRIDE: Right now, I was driving through the area,there's a residential street and homes right across the street. If anyone were to question, is there a health concern in the way it is sitting right now, if I could assure them that there is none.

MR. COLTER: The only transport

mechanism as you said would be dust. The area -- we could take a look at -- I don't have datea with me but I could take a look at where our surface contaminants are, the concentration. We'll have our internal risk people do a risk assessment for inhalation for the next RAB meeting. It is heavily vegetated so the threat of dust is minimal. Add to that that area is probably one of the areas where we don't have surface contaminants. If we do, they are between one and ten. The risk aassessment will show there is no risk to inhalation. But we can show it.

CO-CHAIR McBRIDE: I know there is questions about the community park with dust and all that should still extend over here. If they're talking about sure it is a different area, not something part of the RAB but it would seem as though it would be a logical question that ~~residence~~ residents may ask that question and I think it would be the right thing to have an answer for them from the Navy.

MR. SCHARF: We refer those questions to the health department in terms of public health unfortunately they're not here tonight.

MR. SCHARF: We can go back through

and take a look at those numbers when the design comes in, we'll go back and bring up the historic data about PCBs and make sure they address areas of concern that have to be addressed.

CO-CHAIR McBRIDE: Thank you.

MR. COLTER: Okay.

We've gone over how we got here, we've gone over what we've done. Where we are at. We know that our main goal is the protection of the public water supply from those contaminants that have already left the Navy and Northrop Grumman property. And we addressed that through water supply treatment systems. At the last meeting there was a question from the community member, what assurances are there that these treatment systems continue to operate with certain scenarios such as a power outage or other unforeseen circumstances really that is not a place for the Navy to answer. So we asked John Molloy, from H2M, who represents the Bethpage Water District, maybe to say a few words about how the treatment systems operate and what contingencies are in place.

MR. MOLLOY: Good evening, everyone.

My name is John Molloy. I'm the

president of H2M. We have been the consultant for the Bethpage Water District for a number of years and in the early 90's, I guess up to about four years ago, I was the guy from the office that went to all the meetings with Bethpage, on their normal routine operations, and I was and have been party to this thing now for, I'm now fully gray. When I started, I know was at a minimum prematurely gray. I have been actively involved with this for probably a dozen years myself. And it is still ongoing. By way of a little description, up there earlier in one of the slides, you saw this huge blob emanating from the Grumman site that went all the way down to Bethpage. All the way through Bethpage right up to Hempstead Turnpike.

The Bethpage Water District has three production facilities in that area, right within that plume as described there.

We have been as a district, the district has adopted for a long time now a policy that they won't use water that has contamination. A little earlier it was presented, plant six the treatment went in in 1990. In fact it was years earlier than that that contamination was found there

and the well was taken off-line. What the district has done is when ever there's been any evidence of anything, they have taken wells off-line and they have done what they needed to do to clean up the water, spending district monies and then doing what they needed to do to get that money back. And that's been an ongoing process now for a dozen years plant six which was the first one that was hit has two wells. We had installed a treatment system based upon what was known at the time and contaminant levels at the time. Very little data was available. During that time frame virtually all the work that was being done was being done on-site. We were deeply involved with Grumman and DEC in this kind of back and forth counter way of saying if we need to go off site we need to go where the plume is, we need to see how far it is. We collectively then moved ahead through a whole series of installing monitoring wells in that whole network you see out there, came well by well, step by step, push by push.

But we did install a treatment system at Plant 6 before that went back on -- before we put water back out into the system from that well. At

Plant 4, which is on the east side of the plume, probably not far from where you live, is right along the Seaford Oyster Bay, you see it as you drive by, you see the big silver bullet there, that is a counter current pack tower. We have two wells. We installed -- the district installed the treatment there before there was contamination in the wells at all, because we just felt it was coming, it was coming our way and we want to have it there before it hit there. As its turns out we were right. We already had the treatment system there and operational before anything hit us.

The last of the three sites, that are within the plume area, is the one right just north of the hospital it was referred to a little earlier as the one that we put in a residential looking building that is a very effective and efficient treatment system that is in that building, that one there, the plume is I think riding on top of the well. It may be one of those areas that has a lens of clay there so the contamination is not getting down deep enough there.

Was a case where treatment system was installed before the problem hit. The case of Plant

4, there was an agreement with Grumman man where the money came back. In the case of Plant 5 the Navy came to the table, the district actually did the job and based upon the public bid that is we obtained, we negotiated, I remember going down somewhere near Philadelphia, to work that out, to develop an agreement to repay the district for its capital investment as well as for 30 years. This process is continuing. Internally, I passed the baton to another engineer, and who doesn't have quite as much gray hair as I do, he's on the same technical advisory committee, and he will be there tomorrow representing Bethpage in our ongoing work with the district, of staying on top of this whole situation, as we have for the last dozen years. That is just your water district's role in keeping this thing going, and going in the right way from their point of view.

I can remember the 38D from -- I don't want to say how many years ago pressing for. I'm anxious to see that thing installed and operational. It may not have a bearing ultimately on Plant 5 for Bethpage but certainly putting that offsite treatment system in play will pull a lot of

contaminants out of the environment. Even if they pass by Bethpage, they are already moving south of the Hempstead Turnpike. They'll end up hitting the South Farmingdale wells and I think you alluded to that additionally.

I understand some questions came up at the last meeting regarding how do you do treatment at the district? How does the district operate it? What type of safeties are involved? So let me address that a little bit. I'll talk in general terms but this is true of all three of the stations that I have. One of the stations has two wells. Another station has one well and the third station has two wells. So we have three plants that treat water that are within that plume area. In each case, we have what's called a counter current packed ~~PAC~~ tower. It is a very simple and I guess in engineering often times the simplest approaches are the most elegant approaches it is based on principals of chemistry, if you run air counter-current to water the contaminants much prefer to go into the air phase than into the water phase. You will take contaminants out of water phase and put it into the air phase. And these

plants are now all designed to handle up to 600 parts per billion on the raw water side. If the contaminants in the well got that high, we can bring them down do non-detect.

In the case of a two-well site? Means the treatment system there could take two wells simultaneously, and bring it down to the point of non-detect.

In the case of the one-well site, the same thing is true for one well.

Now let me talk a little bit about what we see in the wells in the raw water.

Plant 6 that has two wells, has always been the one that has -- has had the highest values in it. It was the first one that was impacted. The shallow well air, general point of view is run 2 to 300 parts per billion. In fact it is maybe sliding a little lower. The deeper well on that site is relatively clean. It has always been clean. The shallower well essentially in effect screens the deeper well. These wells across the board run anywhere from 500 to about 700 feet deep. Generally speaking.

That's Plant 6. So you have a feel

for what the numbers are.

The shallow well is about 200 parts the deeper well, there, really nothing in it, and if anything, it is one or two parts.

Plant 5 I mentioned earlier, has nothing in it. Maybe the clay is confining it, but who knows. We have more than enough there to handle virtually anything that comes by, at least we would expect.

Plant 4, similarly, has contaminants in it now to six, but they are relatively low. When I say "low", like in the teens. We can handle in 600 down to non detect. The teens, there ~~is snow~~ is no issue, no problem.

Let me talk a moment or two about testing. Besides ~~have~~ having an engineering company and we do the engineering, we also have long done the laboratory analytical work for the Bethpage Water District. So I'm familiar with the programs of what goes on analytically. Each of these wells, and I'll focus in on the kind of Grumman/Navy related items. On volatiles on any of these plants we sample the raw water, the water out of the well, and the treated water, once a month. So it is a routine

monthly test. And we do that for the volatile organics. And just so people are aware, when you're running samples from wells that are this deep, things don't jump and change in major ways. You will notice trends over time. So the monthly sampling frequency is more than adequate to deal with are you there looking at it often enough.

The testing that you do for these volatile organic compound, *trichloroethylene, the treatment, and all the kinds of thing you've seen and talked about, limited detection is half a part per billion. The drinking water standard is five. You're considerably away from where the drinking water standard is.

We also routinely do all of these wells for heavy metals even though the probability of any of that thing getting that far away that deep down in these wells, is highly remote. But these wells are all routinely sampled for the heavy metals.

Probably even more remote but nevertheless part of what is done routinely not at the same frequency is each of those wells are routinely analyzed for PCBs. We do pesticide PCB

scans there's oodles of data for pesticide in the wells and --

CO-CHAIR McBRIDE: Never found anything.

MR. MOLLOY: Never found anything and the probability of finding anything, is way, I don't think you'll ever find it unless somehow another water was coming down from the surface and there was a problem with the well construction.

MR. SCHARF: The state health requires those tests at your discretion to insure potable water.

MR. MOLLOY: There is routine requirements and Nassau County, Suffolk County is fairly similar, the testing is probably more intense than you'll find anywhere. There is a good pattern of testing. In addition to having the district testing, a New York State approved laboratory for these tests, the county health department also comes out here and spots and does their own testing so there is other spot tests that go on and the data from us and -- is consistent.

I wanted to give you a little flavor for where the numbers are. And the water that is

going out to the system is, you know, crystal, it is excellent. There are no issues at all with the water that is being delivered to the customers.

With respect to the treatment system again, it is a count to count PAC tower. It is simple device. All you do is you have a cylindrical tower typically 10 feet in diameter, it has a packed media ~~*backed *metio (meter?)~~ In it. Very simple. It looks like a wiffle ball for want of a better description, that your kid will play with. It is a piece of plastic that allows water to cascade down and you have a film that develops over the plastic. When I say a film, the water kind of coats the surface and it is trickling down this huge tower and it will have a bed of this stuff probably somewhere between 30 and 40 feet deep. So water comes in at the top, the typical well is about 1,200 gallons a minute and it will be spread out over the top of this tower, and it will trickle down, cascading all the way down to the bottom. As the water is going down, air from the outside is going up, counter-current, in the opposite direction as the water. So physically and mechanically the device that is used and the principles of the chemistry are

very well-known. They are direct and unchanging. It is unlike carbon, which is used in other places, that has a life, the bed gets absorbed and you have to take the bed off-line and regenerate the bed. The treatment device here is simple, straightforward and works very well and is extremely predictable, and reliable.

The district's water sites all have emergency power, so you know, if LIPA is down, KeySpan is down, no matter who is down, the district can run its own emergency power on any one of these well sites. And it is adequate to power with the need to run. And they have self-contained power so they are not relying on someone else for what they need it power their emergency equipment.

The operation, as I said from a treatment point of view, is rather simple and straightforward. But it does depend upon a few essential things. You don't want to run the water through the tower unless air is running up the other way. And that is a concern. So there is a control, a safety that ensures that the first thing that goes on -- when the system says I need a well. And there's a matrix board, and there's a program to say

what goes on, based on need in terms of the system. But when a demand goes on for a well, say -- say at Plant 5 if, we need Plant 5. You know the first thing that goes is if we need five, the well five cannot start unless the blower motor is energized. So the first thing that happens is the blower motor is energized so the well can not start until the blower is on. The initial phase of any operation when you start off a well, is the first thing that happens, it has a blow-off cycle so the first thing it does is go back into the ground before it goes into the system. So that is one level of safety. You can't run the well unless the blower is on.

There is a second safety. When the blower is running, there's -- there's a switch to make sure that actually the blower is pushing air out. Because, you know, blowers run on pulleys that are driven by a motor. And if that breaks, you can have power to the motor and the motor is spinning but no -- again, there is no air moving. So there is a second safety that relates to that.

Actually, there is a third safety not only do you have you to have the motor on for the blower and have you to have air coming out of the

blower housing but you also have to have pressure. Because in between the blower and the tower, it is manifolded and it is possible because that is not a hard pipe manifold, it is a soft pipe manifold, that if that ripped or disconnected, you could actually have the blower running and through a rip or a tear, the air could be moving outside. So you want to make sure not only do you have all of that -- so each of these have triple safeties. All of the plant sites, are visited a couple of times a day by the staff. They end up having a tower where they go around checking their own operations, just to make sure things are operating and functioning properly. I think that pretty much summarizes the routine operation of it. There are other things that happen at the plant. I'm not sure your question addressed this, but in -- when you run any plant there are other things that are going on. Any water district supplies chemicals. You add chemicals to the water, the water comes up from the ground acidic, so you add caustic to adjust the pH and when you add in chemicals we -- you also have safeties that are related to this. Here, you end up having an analagous system of multiple safeties. In this

case, in order for the chemical pump to go on, it can't be -- you can't energize the chemical pump unless the well pump is on, because you don't want to be pumping just chemical into the system. You also, in order for the chemical pump -- to go, you also have a pressure sensor at the well. So there has to be pressure at the well head in order for the chemical to go on. There's a flow meter. So there are multiple safeties.

In the case of caustic, there is also an analyzer and if the analyzer says the pH is out of range, it will shut off the pump. So you can't pump. So there are multiple levels of safety that is related to all the elements of the operation, and that pretty much summarizes the story of how one deals with these kind of issues. Again, going back to a broad general point of view, your district here in Bethpage, as with many others, if you want to call it a zero tolerance policy. They pull this stuff off-line and deal with it. They don't wait to find someone that has the money or wait four years to argue with someone you got to pay for something. They deal with it -- their first level of responsibility is public health and safety.

So they'll deal with a situation and then go after someone to pay for it. And the dollars you're talking about here, I guess the dollar value is for Bethpage, I'll just put out a very round number, I'm going to say has probably been about 9 million dollars of district related expenses for building these facilities. Which have been either directly funded at one time, the Navy or Grumman, which is kind of a time payment with all sorts of guarantees in case they disappear somewhere along the line, but that is pretty much the story and I'm available to answer any questions you may have.

A MAN: The only thing you're treating for is VOCs not for heavy metals.

MR. MOLLOY: Okay, it is not an issue at all. We sample for heavy metals but I've never seen heavy metals as an issue in a public water supply well. The only metals that have ever been an issue for treatment in a public supply well, has been, on Long Island, has been iron. And we've designed -- anywhere on the South Shore of the Island. We've done it for Long Island Water Corp., New York Water Service, we've done it for South Farmingdale. When you have -- but that's all

naturally occurring iron that's in the aquifer. And iron is not a heavy metal, but it is a metal nevertheless and it is heavy when you put it all together in one place, it's like coal, it gums up your system.

MR. SCHARF: What about manganese?

MR. MOLLOY: Manganese is another naturally occurring metal that feeds to be treated in certain spots. It can be a problem when you're running water through that through a PAC tower. We have one in place in Bethpage, where we treat for both iron removal and air stripping.

MR. GRELLO: What kind of cleaning is done to these towers once they are off-line.

MR. MOLLOY: Because of the nature of the raw water, here, as I think you probably all know, you know, the water here on Long Island is super, super soft. There is very little in it. It leaves little to no deposits on it. It really has been a non-issue. I designed a plant in 1982. In Hicksville, which was like one of the first ones around, which was a stripper plant. I think we changed the media after 20 years. Something like that.

MR. GRELLO: Why did you change it?

MR. MOLLOY: After 20 years, it had like a little bit of kind of iron on it?

MR. GRELLO: What about bacteria growth inside.

MR. MOLLOY: Bacteria growth is a consideration. When you're moving that much air around and you have that much moving? It is certainly a consideration. And those plants are all routinely sampled for bacteria, that is a standard.

MR. GRELLO: Monthly, weekly, monthly.

MR. MOLLOY: Actually your water distribution system is done probably generally speaking two days a week there is somebody out there in the water system going to -- we generally go two places that don't deal with food and we stay away from gas stations. You do a stationery store or dry good store where actually the location is not what is causing the problem that fairly -- when you pick up locations to test water in a water system, you like to go to someplace that is going to be open during the week, so you can get access to it, a place where people aren't going to be bothered or

annoyed if you want to go back to resample it. So generally there is a network of locations that you would have around the community to do samples. There is also routine sampling that is done at the well for bacteria. And there's time series bacteria samples, that you do on the well, raw water and the treated water. Bethpage is a little different than a lot of districts in that it has a chlorination waiver? So it does not actively chlorinate? But it does have an emergency chlorination facility in the event that it needed to.

There are certain things that are incorporated in the design of these plants to try to minimize getting mother nature into the systems? The air before it goes in, will go through two sets of filters. The air is pre-filtered. I remember trying to figure out how to deal with this 20 years ago. You end up having a roughing filter then you have a food grade filter equivalent to what you would have in a food processing plant. So you double filter the air before it goes into the system. Most of these places we avoid by having appropriate mowing strips and not having grass in and around where the blower intakes are, because all

of a sudden the landscapers come around. It sounds silly, but these guys come around, running through the area with their mowers, kicking up grass and soil. And so we do things about how we control the immediate area surrounding it, to prevent that kind of thing. If you take a look at the top of the towers, you'll notice that they have, they go straight up and then at the top where the air comes out, there's like a hood.

A WOMAN: *Cupola.

MR. MOLLOY: What we try to do to it, is prevent wind driven rain from getting in there. And things like birds like to hang out on top and if you get rain and water on them where they are, you don't want to have anything dripping back down. So there's little details that you have to kind of think of when you go through this.

A MAN: What are your chances of digging a new well? If you do that, you poke a hole in the ground, you're going to get contaminants.

MR. MOLLOY: It depends on where you go. We have a well right now, and I'm maybe two or three years out of the direct answer to your question, but the community is fairly stable in

size. I don't see any change in demand. The district has a pumpage cap. I don't know of any real reason why necessarily they might need immediately a new well. But we do have a location right by the park which seems to be away from -- but the odds are, anywhere in the gut of the Island, from -- actually you can go from Queens, because the old Jamaica water supply wells, anywhere, and you can follow a line from there and go all the way east, any of the districts on either side of that line, the spine, the major recharge area, most of them have or will have treatment for this kind of stuff.

A MAN: Say you get a broken pipe near one of those tanks out there, because the pipes, especially the main lines, are only four feet deep? What is stopping anything from getting into those lines and how would you clean it out and how do you clean it out?

A MAN: You have the contaminants right there. After it has been treated, it is going up to those big tanks.

MR. MOLLOY: Well, you know, first of all in any monitoring that we do, you're analyzing

not just with the wells but the distribution system. Whenever you have a main break there's procedures. Main breaks happen all the time. Typical, as you pointed out, typical mains are four and a half feet deep. There are isolation procedures, repair procedures, disinfection procedures and blow-off procedures before you bring it on line. When a main breaks, water is moving in the other direction. The problem comes in when you're bringing it back, when you shut it down and you're bringing it back on line and there are protocols to do that, that they have. Because before we ever talked about this other stuff.

A MAN: What are the protocols.

MR. MOLLOY: I don't know. You know, it is similar to to what I just outlined to you. I would have to talk to the guys that are doing it to be able to detail it. But there are protocols that involve shut down, blow off, disinfection. Bacteria is all around us. Right now, if you took a swab, you'd find it here, you'd fine it there. You'd fine it every where. When you analyze bacteria in water, most of it is soil origin. Typically, time immemorial, when you have main breaks, you have to

deal with issues of preventing bacteria, and you use the same kind of protocols to do that. You swab with chlorine and other stuff, too. But you try to minimize stuff getting in the lines.

A MAN: Do you have a diagram of all the cleaning systems that you implemented. Do you have an actual exact diagram when we have to show the people where we can actually say, this is the system that they have. This is the protocol and everything.

MR. MOLLOY: That is not a problem. I can give you that. I can give you a reduced set of drawings for Plant 5, which will give you a good idea of what it looks like. I'll give you a real set of drawings. If you want a schematic, I can give you a schematic, as well. I'll take care of that for you. I'll get it back through the committee somehow or through you somehow, Jim Colter.

Any other questions?

MR. COLTER: Safe to say, John, you're speaking on behalf of Bethpage. H2M also does the engineering for south Farmingdale.

MR. MOLLOY: Yes, we are the

engineers and have been for -- South Farmingdale, actually was our first water account, and I think it dates back close to 60 years.

South Farmingdale is a client of ours and at tomorrow's meeting, we will not -- one of our guys will not only be representing Bethpage, but we represent also South Farmingdale and New York Water Service, which was another one, there. At least we represent them in this matter and we've done some plant work for them.

MR. COLTER: For all the water supplies that we are concerned with, the procedures are basically the same, is that safe to say?

MR. MOLLOY: For treatment? Yes.

MR. SCHARF: You mentioned carbon. There is a dichotomy, if you go about Long Island to different districts, some districts prefer the carbon approach, others prefer the air stripper approach. Both systems can produce water that is nondetect, potable and safe to drink. H2M is designing a carbon system right now for East Farmingdale.

MR. MOLLOY: We've done both. There are certain application differences. There are

certain time differences. I can get a carbon plant on line quicker, you know East Farmingdale has some issues. They need to get water very quick, I can get it on line.

MR. SCHARF: Upfront, it is cheaper, but in the long run, O & M can be more expensive.

MR. MOLLOY: There are other places where you have volatile organics that might not lend themselves as much to air stripping. You know, they are volatile but they don't work as well. So we've used both.

MR. SCHARF: Based on the design criteria, each has its good and bad.

MR. MOLLOY: Right. It is more expensive to build an air stripping plant, but it is less expensive on an O & M.

In that one particular sense, it's simpler because what will happen with a carbon system is you'll have adsorption in that a certain point you'll get breakthrough where stuff is coming in one end and not going out the other end, not that that can't be overcome and dealt with. But you need to know what kind of loading you're putting on it. Air stripping is much simpler that way. As long as

you're running the air through it, it will do what it is intended to do.

MR. SCHARF: I wanted to make the statement.

MR. MOLLOY: I wasn't knocking carbon.

MR. SCHARF: You may live in an area that has an impacted well and using carbon for a design purpose is a great system.

MR. MOLLOY: Carbon is suitable.

MR. GRELLO: There's more of a chance bacteria and breakthrough with the charcoal systems.

MR. MOLLOY: Each system in terms of bacteria, you got to watch for different reasons, but, yeah.

MR. COLTER: Any more questions for John?

MR. MANGANO: I have a request. The questions and answers that took place tonight were excellent I thought. This is a common, common question for the last nine years. How do I know my drinking water is safe. If the water district would be willing to produce a brochure or pamphlet outlining exactly what you said tonight, it would be helpful to send that to people, so they get an

understanding there's contamination in here, but in your glass of water at home, there it isn't. You got to go through those steps tonight.

MR. SCHARF: The county health department put out this brochure.

CO-CHAIR McBRIDE: John, in all honesty, I've had the same questions asked and it's -- a lot of people don't know what's going on. People ask Jim, do you drink the water at home.

You have bottle of water, it is just because I have a bottle of water, I turn my tap on and drink.

MR. GRELLO: They also need to know the difference between air sparge and the charcoal media method, so there's no less chance of contamination with the air sparge than with the charcoal medium, and also the disclaimer that the bottled water you drink goes through less testing than the water going through your tap.

MR. SCHARF: Don't say likely to be impacted with charcoal. There's two carbon tanks, a primary and a secondary. They test the primary. Once there is breakthrough, they'll change it.

MR. MOLLOY: Carbon is also a safe,

wonderful unit for design purposes.

MR. MOLLOY: I will take that back.

MR. MANGANO: If I could help, we can talk to the commissioner.

MR. MOLLOY: You twist one arm, I'll twist the other.

A MAN: This is a system in place if heavy metals gets to that depth, can you just start it up.

A MAN: Let me mention one other thing while you bring it up. T that somewhere along the line, there was a map that went up there, that you can't read. But if you looked at it, you saw a lot of dots all over the place. There is I don't know how many wells. I've lost count at this point. But there is a routine program for groundwater monitoring. Part of it is to understand the plume bed, it's depth, its breadth and what is in it, we see that data routinely. There is a full, I think you mentioned that earlier. That gives us a good idea what is coming our way. I don't at all expect to see heavy metals as an issue.

You know, they can be treated, just to answer your direct question. I couldn't treat

them today? But I don't expect -- I don't expect at all to see it. And if there were any wild reason to see it, I would see it somewhere else first.

Just one other thing on the data that Arcadis, developed, and they send it out to their lab, the water district takes split samples of those same groundwater. And the data is consistent and it has been for years. But just so that the district can say rightfully to their own customers, that, listen, we are watching over that, as well. Not that we expect anything. We see the data ourselves.

A MAN: Nassau County DPW also has test wells.

MR. MOLLOY: Nassau County DPW has -- yeah, most of their wells are relatively shallow. And it is more for understanding the water table and for hydraulics and modeling. This area is fairly well defined by a model. And at this point, it has been worked on, massaged and you know, with ten years' worth of data, by this point it's a very well-tweaked model. So they do have it fairly well represented. I'm not sure -- these wells that are in this program they are at depth too, so you can

really get a good idea of what is going on with the aquifer system. It is very well-known at this point.

CO-CHAIR McBRIDE: Thank you for your time.

MR. COLTER: Thanks, John. We appreciate it.

MR. GRELLO: Before we get to our last agenda item, I wanted to expand on something that John alluded to earlier in his presentation.

As well as Dave. We talked about community workshop and why do we have to do things in places where we are planning to do them. Believe me, the Navy doesn't want to go out into the community and disrupt them with this GM38 remedy. As you heard from Steve, the DEC is insistent upon it and Bethpage Water District has been insistent upon it, for years. Yeah, it is an impact. It is going to be an eyesore for a while till we finish the construction, but it is something that is needed and is being pushed by your local constituents, so that is going to be a key component. We are not out here because we want to disrupt the community. We are out here because it is the right thing to do and

we need to get it done and your representatives are looking over our shoulders so...

MR. MANGANO: I would like to add what you want to do is explain it to people so people understand what's going on. Workshops are important. When people understand things, they are more accepting. No one wants to be inconvenienced, to be inconvenienced and not understand it is really --

MR. COLTER: Our posters will step you through the process, a lot of what you heard tonight will be in a poster. A lot of different people will explain the different aspects. Hopefully, Bethpage water will be there to back up the need for the system. Hopefully the DEC will be here to back up the need and we'll try to answer all the questions, and give them a little more comfort, like you suggested.

CO-CHAIR McBRIDE: Jim, at the last RAB that I attended there was an actual section of the Navy that comes out and does these brochures with health people? Are you planning to use them. They made a couple of good presentations out there. They were describing their function as similar to

what you're discussing.

MR. COLTER: As far as the workshop.

Oh, NEHC. Naval Environmental Health Center? Probably not. We had somebody here way in the beginning, explaining toxicology in layman's terms, they try to explain risk assessment in layman's terms. They are very good with risk communication. We'll take a look at it.

CO-CHAIR McBRIDE: You may want to consider it.

MR. COLTER: We'll have to see what we are presenting and if it is a risk type of presentation, maybe we'll use their expertise. That is a good point.

All right. Quickly, the last thing, again, not on the agenda, but it has been something that has been ongoing, is the TAPP review for the dry well report. And Gary Miller and Paul Lageraaen are here again from H2M, your independent consultants.

Gary, give us updates on where you're at.

MR. MILLER: As you're aware H2M was retained by the RAB to conduct an independent review

of work done by another consultant on behalf of Northrop Grumman Corporation. Specifically it dealt with two former storm water drywells associated with the old Plant 3. When we were last here in November, we presented our executive summary. Since that time we have finalized our report. We had an opportunity to meet recently with the RAB and go over the report. They had some questions. We've made some revisions and we have final copies of the report.

Without boring you with a lot of the details, we went through back in November, the two drywells in question were part of a larger investigation when Grumman -- Northrop Grumman was shutting down the plant, they investigated all of the various leaching pools drywells and subsurface drain structures associated with the plant. And two of these drainage structures were identified as having been impacted with PCBs. As a result of that vision, a remedial effort was undertaken and the drywells, the two drywells, the soils beneath the drywells and adjacent to the two wells were excavated to a depth of 28 feet. As is normally done, when the excavation was complete, end point

samples were taken at the bottom of the excavations, to determine whether or not all the contamination had been removed. As it turns out there were soils at the bottom of the excavations that contained PCBs that were in excess of the DEC's recommended soil clean-up objective of 10 parts per million.

As a result of those findings, Northrop Grumman hired Ru, to conduct an investigation to look at the subsurface soil conditions and to examine potential impacts to groundwater.

H2M was asked to look at those reports, to determine whether a thorough job was done, whether their conclusions were accurate, and whether some of their recommendations were on target.

The first thing we looked at was the soil investigation program. Ru conducted 17 soil borings adjacent to the two drywells and radiating outward from the two drywells they went down to depths of 68 feet.

A MAN: The deepest, yet.

MR. MILLER: About 54 feet in some places, as the borings were advanced, soil samples

were collected at two foot intervals and analyzed for PCBs.

As a result of that investigation, they did identify subsurface soils with PCB concentrations in excess of 10 parts per million. Soil cleanup was recommended. The majority of those soils were at depths greater than 14 feet. The impacted soils extended radially outwards as far as 30 feet from the center of the dry well.

In looking at all the data, our opinion was that they did a very thorough and comprehensive job in looking at soils. They were successful in delineating the vertical extent of the contamination, as well as the horizontal extent of contamination.

The next thing Ru did, was they installed four of the monitoring wells to evaluate groundwater quality. At each dry well, a monitoring well is installed immediately adjacent to the dry well and then they installed a second monitoring well at each dry well, 75 feet downgradient of each dry well. Once the wells were installed and developed, groundwater samples were collected and analyzed. Ru analyzed the samples using -- two

ways:

They analyze filtered and unfiltered samples. The rationale for doing filtered and unfiltered samples is often contaminants can bind themselves to fine silts that will find their way into the water sample and bias the results on the high side. What Ru found was that they were finding PCBs in all of the unfiltered samples and the PCB concentrations ranged from 1.2 to 12 parts per billion of the class GA water. The quality standard for PCBs, is .09 parts per billion. So the unfiltered samples indicated that there was an impact. All but one of the filtered samples came up non-detect.

From downgradient, it showed 1.2 -- 2.1 parts per billion. Ru went back and took a second sample to confirm that. And they did confirm they found another 1.5 parts per billion of PCBs. They confirmed that there were relative minor impacts to groundwater quality. In looking at their groundwater study, in comparison to the soil study, we felt that the groundwater study was not quite as comprehensive. Although we didn't disagree with Ru's findings and conclusions, it is felt more could

have been done, and in fact we have recommended that a little bit more be done. Specifically, we have recommended that monitoring wells or temporary well points be installed upgradient of the drywells. The purpose for that would be to confirm that the drywells are in fact the source of the PCBs that we are seeing in the groundwater. And there aren't any upgradient sources that we don't know about.

The second thing we looked at, as John mentioned and as we've discussed before, there's a wide network of monitoring wells here on the site, that are looked at routinely, once a quarter. When we looked at some of that data, we discovered PCBs were not being analyzed in those groundwater samples. So we've also recommended that in selecting existing monitoring wells on the site, that are located downgradient of these two drywells, and that PCBs be added to the standard list of chemicals that are looked at on a quarterly and routine basis.

After Ru completed their site investigation, of site characteristics, they conducted what is known as a feasibility study, which would examine the various remedial

alternatives for dealing with the PCBs. They had conducted an exposure assessment between the site characterization and the feasibility study, and the exposure assessment concluded that there really was zero risk in terms of the PCBs, the low level PCBs that were detected in groundwater, because there was not a complete exposure pathway, because of the system that Northrop Grumman has in place, here, to capture and treat the contaminated plume, they felt there really was no potential for PCBs reaching the public water supply.

The exposure assessment similarly found that with regards to soils, there was very little in the way of risk. The soils with the highest concentrations of PCBs are down below 14 feet. We did see some low concentrations, again, that one to 10 parts per million range in shallow soil samples, for the most part the higher concentrations were down below 14 feet. The feasibility study looked at number of remedial operations. One option that they looked at that we always look at, is a no action alternative. That is the baseline, for comparison purposes. Throughout their report, they talked about the no action

alternative. Really that is a little bit of a misnomer. It is the no further action alternative in this case, because a remedial action was taken when the PCBs were first taken and the soils beneath the dry wells were excavated.

Ru Associates, in doing the feasibility study and from our review of the feasibility study, we feel they did a thorough and comprehensive job. We explored the various technologies they looked at. We examined whether there were any new technologies that were out there that were not examined. We didn't find any. The technologies that they felt had some merit were the no action alternative, *thermal desorption, in situ *thermal desporption and excavation and disposal off-site. Those alternatives were further evaluated using the standard criteria dictated by EPA and the DEC. And as a result of that, evaluation, the no action or no further action alternative was the selected remedy.

Again, the no action or no further action alternative, was tied in to both engineering and institutional controls. By "engineering controls", what I mean, is Ru looked at the fact

that there is right now two feet of clean soil that covers the upper surface that there -- that the asphalt around one of the dry wells will be repaired by the cap. The other dry well. Where asphalt doesn't exist, asphalt will be placed to provide a cap. Those, are what we call engineering controls. They also discussed institutional controls in the form of a deed restriction. A deed restriction would prohibit the deeper subsurface soils from being disturbed by future development or construction on the property.

Again, in looking at the feasibility study, H2M came to similar conclusions that the no further action alternative made sense. In discussing these results with the restoration advisory board, there were some concerns raised, regarding environmental easements which include both engineering and institutional controls. Environmental easements are used as sites where it is impractical to remove all of the contamination. In many cases engineering or institutional controls will be adequately protective of human health. And that was the case here.

The Restoration Advisory Board's

concerns with regard to environmental easements, is that there can be some problems. There was legislation passed by -- signed into law by the governor that dealt with environmental easement, by law, now, environmental easements, must be in place with the local municipality, in this case it would be the Town of Oyster Bay and Nassau County. And if a developer or a property owner proposed to do anything with that property that would affect the land use or the development of that property, the local municipality, or the agency that would review that application, and have the jurisdiction to approve that application, would have to forward that application up to Albany to the New York State DEC. The New York State DEC would review that application to see whether it was consistent with that environmental easement.

The problem that was discussed with the restoration advisory board, was the fact that most deed restrictions are put on file with the county clerk or the town clerk. But when you go to get a building permit or a change of land use, that application goes to the planning department or the building department. And often the various entities

within the government, they don't talk to one another. So the only concern we raised and we would hope that Nassau County and the Town of Oyster Bay develop and establish a mechanism whereby when an environmental easement in the form of a deed restriction is placed on a property, that that information is disseminated to those departments that have the jurisdiction to issue the restriction or land permits.

To summarize, Ru did a good job in characterizing the soils. They did a good job in characterizing the groundwater. However, we felt there should be more upgradient sampling done. The drywells are the only source of PCBs in the water. And let's add PCBs to the normal test parameters that are looked at, and not monitoring wells. I don't know how many monitoring wells you sample on quarterly basis. I think we identified a half dozen, six or seven.

MR. LAGERAAEN: Three wells at two depths.

MR. MILLER: In those six wells, we've recommended PCBs be added to the list of analytes.

With regards to the selection of the

no further action alternatives with deed restrictions, we felt that given the planned future use of this property for commercial and industrial use, it was consistent with that future plan for the property, and we felt that that would be protective to human health. So we've issued our ROD.

MR. LAGERAAEN: We do have some extra copies here. Is there anyone on the committee that hasn't gotten a copy, we have them here.

MR. GRELLO: The Navy is receiving a copy, correct.

CO-CHAIR McBRIDE: Since we have the final report tonight, we'd like to read through it tonight. We'll get back to you with questions.

MR. MILLER: After you'd read the report, digested the report, if you have questions, get back to us, we'll answer questions. If we need to amend or expand any sections of the report.

MR. GRELLO: I have comments for the Navy already. Institutional controls do not work.

I have a report here from former State Comptroller McCall. I'll read a couple of paragraphs to you. Do institutional controls work? Not really. An audit of the Superfund program

Bethpage RAB - 4/14/04 - First Iteration

performed by controller H. McCall showed that in many cases institutional controls failed. In part of the audit, the DEC provided a controller with 28 sites that required deed restrictions. The controller's office found five additional sites requiring deed restrictions, which the DEC did not have filed. Also, when auditors checked county clerks' offices to see if deed restrictions were in place, auditors cannot find four of the six deed restrictions. And one of the deed restrictions was not filed at all. For deed restrictions to work, they must be easily accessible by the public that they are meant to protect. This report calls into question the effectiveness of institutional controls to protect people from dangerous toxic exposure. This from Carl McCall, former state comptroller.

This report, is from the Environmental Law Institute in Washington, D.C. I'm going to read some areas I highlighted, okay.

For the protection of groundwater, pavement covers over clean soil and structures located above prevent human exposure. To prevent contact with contaminants, different types of barriers are needed depending upon which exposed

pathways they are intended to block.

Zoning notices, warning easements restrict the covenants, restriction of uses specific resource, such soil and groundwater withholding insurance, certain uses of land, these are all different types of controls. Thus institutional controls have a long history which include both successes and failures. Institutional controls, like most legal tools, operate by inducing humans to modify their behavior. Managing human behavior is an extremely difficult task. None of the institutional controls currently in use or under consideration for future use is fool-proof.

Institution controls have the potential to be either over or under-protective.

But the adage out of sight out of mind applies to ground fuel sites. The residual risk likely will be buried by asphalt or buildings and therefore could be forgotten. Then the slightest carelessness, forgetting to check a record, not checking far enough back in time, or loss of records or institutional memory, could lead to future zoning boards to approve changes, allowing a use that could expose people to substance."

I could go through this and read to you ten times more than I read. All this stuff highlighted in blue all backs that up.

The reason why I'm so concerned about these dry wells and the use of institutional controls is the very fact that that Ru report, had soil , SB1, soil boring one, at dry well 20-08. PCBs were detected above RSCOs, recommended soil cleanup objectives, at 19 milligrams per kilogram, at four to six feet below grade, and between eleven and 41 MG/KGs, at depth 14 to 20 feet.

We keep hearing 14 feet. Okay, we have four to six and 11 feet. Then -- at the drywells. Now we go to drywell 34-07. Same Ru report. Soils exceeding RSCE were encountered at depth, from four to 54 feet. Both drywells contain PCBs more than double the state TAGM for soil at depth of four feet. Anything could happen.

A MAN: Any time you build a building, you need a drywell, because you got a parking lot, you're going to dig, you're going to break the barrier. I don't care where you come from, what you do, you're going to break it. That is the bottom line.

MR. GRELLO: They put in a sign in the parking lot, they dig the post down three or four feet, they'll hit it.

A MAN: Your water, your pipes are right in the ballpark.

MR. COLTER: For the most part, I'd have to look at that. If they got a detection, one detection, they're going to report that they have detected PCBs at four feet. But that doesn't mean there is a big slug of PCBs down there.

MR. GRELLO: It's in the Ru report and it still exists.

MR. COLTER: I agree with the institutional controls. We have come a long way. Over the next decade knowing the shortfalls you've just outlined and we have a group down in D. C. that is tasked if we are going to use these institutional controls, how are we going to guarantee.

MR. GRELLO: Who is going to administer it?

MR. COLTER: There is a few different programs that we are testing. We were testing one in the state of Pennsylvania, setting up a trust fund to pay the State of Pennsylvania to administer

and check routinely these things. So it is a problem and we are working at the.

A MAN: Especially with the sewer system. Now we are dealing with a sewer system. We're going down 20 feet with a sewer system.

MR. SCHARF: Before we even talk about what we are or are not going to leave, there is a ROD in place for OU1 for soil and PCBs. And if there's -- we go back and review all of the data, once we get into the design phase, which is coming up shortly, in fact I'm not going to handle that project. If the Navy is going to recommend an explanation -- something very deep and we leave that PCB concentration because we can't get to it, they had to do shoring down to 28 feet and even then it was expensive to get that deep if there's a problems a four neat when they do the shallow soils that is a very good point, good point, at four feet you can get that. It has to go. It is above the indicate soil cleanup criteria.

MR. MANGANO: To put it in perspective, while you're on that depth subject for the property that's found in the FOST, what would be the shallowest depth of contaminant that is being

allowed? I ask this question, because really the property is going to be redeveloped. There is going to be construction. We don't know what ultimately it will be, but in the next several months, we may have a better idea and my gut reaction is there is going to be a lot of construction. What depths are we at? Is the 28 feet to the lowest?

MR. COLTER: Well, if you look -- at the Navy Environmental Baseline Survey, and we talked about this at the meeting a couple of weeks ago, we have that big map of ~~Plane~~ Plant 3, there are various steps. Grumman went in and dug out a hole to 18 feet and took twenty confirmation samples. One confirmation sample came up above TAGM, not a big deal. One out of 23 go to the DEC. And one out of the 20, 20 feet, 18 feet down, is not a risk. Can we backfill? DEC says yes, backfill. We've called those out in that plan. So there's various steps. The plan began at a four-foot depth control. There's 200 AOCs that they dug.

A MAN: When you take the test, how long before it comes back to you.

MR. COLTER: Two day turnaround, a week turnaround.

Bethpage RAB - 4/14/04 - First Iteration

A MAN: You dug a ~~hold~~ hole and it is exposed so it is exposed to people.

MR. SCHARF: Just understand that DEC oversaw the work that Ru did. They reviewed the work plan with the health department and approved the work plans they did. And it was confirmed by H2M, they did an adequate job of characterizing the lateral and vertical extent of the contamination. They made their recommendation, and my response to their recommendation was that we did not concur with that recommendation. Rather we transferred the responsibility of the PCBs in those two drywells that were discovered by the close-out on under the UAC to the Site 1 ROD. So the Navy is going to take care of that on a site-wide basis uniformly, now. So anything that they're going to have to leave that's above the recommended soil clean-up objective, they have to go through the explanation.

Therefore, it will all be addressed at that time.

A MAN: They are going to start generating a lot of dust and all that stuff okay, they are going to go down, they are going to start digging. Are you going to put the bill on the

company that is going to come in.

MR. COLTER: Let me explain that. If you're going to develop this area and you take soil off of this station, it is just prudent. Any disposal facility is going to require you to show them what you're bringing onto their site.

CO-CHAIR McBRIDE: It is by law.

MR. COLTER: There is a possibility, if we go down deep enough in some areas, we encounter one of those confirmation samples but have you to be exposed to that for well over like 250 days. The one-time incidental exposure is absolutely no risk whatsoever. So -- we've said that all, but the nine acres, is free of contamination with the exception of a hit here, a hit there and a depth here and a depth there.

A MAN: That is my point.

MR. COLTER: It is not wide spread. Northrop Grumman did a pretty good assessment, and we followed that up.. Can we give you a 100 percent money back guarantee, no, that is not the way the program is set up. We didn't grid the plant out on five foot intervals. In the unlikely event that you guys are developing and you hit a source of

contamination that we missed, there's CERCLA covenants that goes with the deed. It is federal law that says in that instance, the Navy comes back and addresses it.

That is in the deed. It is in the federal law and we can't get around it. The first thing we would do is make sure it is not something that happened post transfer. Barring that, we'll come back, budget it, and take care of it.

MR. SCHARF: Under the FOST, that has been mentioned here, there are certain areas that within Plant 3, they can only dig so deep. When they were doing the corrective action I covered earlier. They were inside the building. As they were digging down, and they did confirmation samples, they found areas down deeper that had elevated inorganics and contaminants, but they deed restricted that also. So the building itself in certain areas has a bunch of deed restrictions that are going to run with the deed. So anybody that's going to tear down Plant 3 and redevelop that area specifically has to do a very comprehensive testing program before they do that, because there are restrictions that are running with that deed.

MR. GRELLO: The reason why I'm concerned with the two drywells is guy is going to be working -- I'm in the construction trade. He's digging footings for curbs, he's running piping for storm drains. He's going to bring that PCB mud that is in that four feet, home on his shoes, into his car, and his children are going to be breathing that or eating that when they drop the Cheerios on the floor and pick it up. If it is at four feet, it should be removed.

MR. SCHARF: That is correct.

MR. GRELLO: We are not talking going down 28 feet.

MR. COLTER: We'll take a look at it.

MR. SCHARF: We agree.

MR. SCHARF: The Department of the Navy, in their design, will go through all the data that is available and make sure it will be addressed, cleanup standards will be addressed.

MR. COLTER: As far as -- and we have to look -- Grumman dug down to 24 feet, supposedly got everything, and backfilled everything with clean fill. So we have to take a look at that.

A MAN: We wanted to make sure,

horizontally, how far does it go out? That was just outside the excavation.

A MAN: They were 10 foot intervals.

MR. COLTER: If they're addressed outside of the excavated area, that is what we address under our ROD.

MR. SCHARF: When we first developed the work plan, we developed how to tackle the problem. And --

MR. COLTER: There's a significant difference at depth, because, yes, our ROD says we'll clean up everything above ten, but we also have a duty. The taxpayers' money is what we use to clean this up. So if we are going to spend, to go down 50 feet, if we spend six, 7 million dollars and really there's no risk to anybody, Congress is going to question that, that decision. So we have to be real careful in how we spend the money and that we also protect the environment and human health, too.

CO-CHAIR McBRIDE: Jim, separate question. The report that was issued by H2M. Since it was paid for by the Navy, is there a restriction as to whether we can give copies to anyone who is interested?

MR. COLTER: That will go into the information repository.

MR. MANGANO: If someone asks us to get a copy, does it have to go through the Navy to get released?

A PERSON: We have spare copies.

MR. SCHARF: This was something done by the citizen's group and it is a releasable document.

CO-CHAIR McBRIDE: As far as you're concerned, if somebody else wants to read this report, does it have to come through you first?

MR. COLTER: No, we'll put a copy in the library and we'll have several copies and give several copies to Jim.

MR. SCHARF: There's two things, I'd like to commend H2M for doing a thorough job of reviewing the reports that were generated on this part of the project. And I'd like to commend the Navy for funding this part of the project. I think it was helpful and helps to substantiate what we are going to do at this site, the remedial work that needs to be done.

CO-CHAIR McBRIDE: We were very

pleased on the work we did with H2M, was very professional.

There are two recommendations that H2M did make in the report. What's the procedure now for getting a response back from the Navy as to whether or not those recommendations will be accepted.

MR. COLTER: We'll take a look at them and see how they play in our overall scheme and we'll make a decision.

MR. MANGANO: By the next RAB, in other words.

MR. COLTER: Maybe not the next one, but the one after that. We'll look at it, the one recommendation in there is for Northrop Grumman. They are the ones that do the quarterly monitoring so we'll have to see how the DEC is going to play into implementing that one. That may be a bit of a problem to implement from the Navy side, because Northrop Grumman is doing that work as per our agreement.

Investigating a little bit more groundwater, I don't see that as an issue, because we are going to be doing some work. I didn't bring

it up at this meeting but at the next AOC 22 meeting, former Fuel UST site, we have a vendor out there that claims they have a process that can clean that soil up in 12 months. So we've presented it to the DEC to see if it is something that is feasible to do. They look favorably upon it and that vendor is putting together work plan, at the next RAB we'll actually present what they're going to be doing to clean up the soils. Part of that is groundwater monitoring in that area. So.

CO-CHAIR McBRIDE: Okay.

MR. COLTER: To put a few more wells in that area at that time, shouldn't be a problem.

MR. MANGANO: So I have the process. We went through the expense of getting this report to get some more recommendations. The process is this report -- who comments on it, the DEC?

MR. COLTER: Whoever --

MR. MANGANO: Who do we officially present this report to so it gets commented on, like.

MR. COLTER: Should go to every member of the RAB and regulators on the mailing list and anyone is free to comment on it.

MR. MANGANO: Who's the decision makers?

MR. COLTER: Is there a budget left to incorporate comment.

MR. SCHARF: That is a good point.

A PERSON: I don't know how many copies, how many people are actually on the board.

CO-CHAIR McBRIDE: The board is here.

MR. MANGANO: My question went to getting a response to this.

CO-CHAIR KAMINSKI: We are going to respond to it.

MR. COLTER: I don't know.

MR. MANGANO: Do you coordinate also with Northrop Grumman in D. C., in getting these answers.

MR. COLTER: We will. That recommendation, I'll have to talk to Steve about to say, you know, how are we going to do this, or can we do this?

MR. MANGANO: For the next agenda, you'll give us an update on the process of actually getting an answer?

MR. COLTER: (Nods)

A MAN: So it is an official item.

MR. GRELLO: Jim, in the grand scheme of things ,adding PCBs as another parameter in testing is minimal cost. I don't foresee that as a problem, adding that parameter. When we are talking and adding upgradient monitoring wells, it is common sense, we should have upgradient numbers coming in. For all we know these chemicals could be coming from Hooker and Grumman is paying for them. There could be something across the street where the farmers market was. We don't know.

MR. COLTER: IR Sites 2 and 3, remember, are on the other side of Plant 3, on the north side. We have plenty of data up there on PCBs and groundwater, and -- or the lack thereof. There is upgradent data for the site. I'm not sure where we are talking.

A PERSON: Based on what we looked at, the drywells are very likely the source of what they saw in groundwater.

MR. GRELLO: They were mixed with solvents. That is why they spread so far.

CO-CHAIR McBRIDE: Joe, can you coordinate with H2M to have this mailed out

(indicating) to the people on the mailing list, so everybody has it.

A PERSON: If someone can provide us with the mailing list.

MR. COLTER: I could do it.

I'll put out a distribution letter from the Navy and send it to you and you can -- what I'd like to do, though, everyone that has one.

CO-CHAIR McBRIDE: We have them. The RAB has it.

MR. COLTER: The people that don't, is the DOH.

Has everyone signed in.

Everyone who signed in will get a copy of the distribution letter but not the report.

MR. MANGANO: So we have an updated list, the names and addresses get them to Jim McBride so we have.

MR. COLTER: Yep.

CO-CHAIR McBRIDE: Are we at the last order of business.

MR. COLTER: That's it for me.

CO-CHAIR McBRIDE: Can I just, I've said in the past, we started the RAB three years

ago, if anybody else on the committee would be interested in assuming the position of co-chair, I think it is only fair that it is offered to everybody on the committee.

CO-CHAIR KAMINSKI: You get a free trip to Salt Lake City.

CO-CHAIR McBRIDE: Everyone's been extremely helpful and again, for fairness, it has to be opened up to everybody. I would like everybody really to consider it. And if anyone is interested, please.

MR. COLTER: How about at the next meeting we bring nominations to people that want to do it. Let us know if you still want to do it. If not, I guess somebody has to pick it up.

CO-CHAIR McBRIDE: I think we should in fairness open it up to everybody.

MR. GRELLO: Don't you have to send notification to the rest of the members.

CO-CHAIR McBRIDE: This is the membership of the RAB.

A MAN: This is it.

MR. COLTER: Anybody else you know in your neighborhood that is interested.

MR. MANGANO: My own comment hope you have -- you have been here as the president. It has to be somebody that has attended regularly. To bring in a chairman in, starting over, it doesn't make sense. I would think, you could be a member. Maybe you can bring somebody on as a member, but to be the chair.

CO-CHAIR McBRIDE: I'm willing to assist and to stay on, but I think it should be opened to everybody.

CO-CHAIR KAMINSKI: Closing remarks, then, from me?

I want to thank the presenters, especially John -- everybody else who is on the payroll. John came up as a volunteer. I appreciate that. It goes way beyond what RABs usually do.

CO-CHAIR McBRIDE: Good night, everybody.

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