ALBUQUERQUE BERNALILLO COUNTY
WATER UTILITY AUTHORITY
Wednesday, November 28, 2012

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A P P E A R A N C E S

COUNCILLOR KEN SANCHEZ, Chairman

COMMISSIONER WAYNE A. JOHNSON, Vice Chairman

MAYOR RICHARD BERRY, Member (Excused)

COUNCILLOR REY GARDUNO, Member (Excused)

COMMISSIONER ART DE LA CRUZ, Member

COUNCILLOR TRUDY E. JONES, Member

COMMISSIONER MAGGIE HART STEBBINS, Member

TRUSTEE PABLO RAEL, Ex-officio Member

MR. ROB PERRY, Admin. Officer, Alternate Member

CHAIRMAN SANCHEZ: Okay. We are ready to go. I would like to call this November 28th, 2012, meeting of the Albuquerque Bernalillo County Water Utility Authority to order. Let the record reflect that Councillor was excused, and all other members should be present here this evening.

Let's go ahead and begin with a silent invocation, followed by the Pledge of Allegiance, which will be led by Trustee Rael.

(Whereupon, there was a moment of silence.)

(Whereupon, the Pledge of Allegiance was led by Trustee Pablo Rael.)

CHAIRMAN SANCHEZ: Thank you, Trustee Rael.

Next item on the agenda is the approval of the minutes. I make a motion to approve the October 17th, 2012, minutes.

COMMISSIONER DE LA CRUZ: Second.

CHAIRMAN SANCHEZ: We have a motion and a second. Any questions?

Seeing none, all those in favor, signify by saying yes.

ALL MEMBERS: Yes.

CHAIRMAN SANCHEZ: Opposed, no.

That carries unanimously.

(6-0 vote. Agenda Item 3 approved.)

CHAIRMAN SANCHEZ: Next item on the agenda is proclamations and awards. We have none this evening.

We are now under public comments. Ms. Jenkins, how many speakers do we have signed up this evening?

MS. JENKINS: Eleven.

CHAIRMAN SANCHEZ: We have 11 speakers that are signed up to speak. We will allow you two minutes, and a warning bell will ring at one minute and 30 seconds, and a second bell will ring at two minutes.

And do you want to go ahead and announce the first three speakers.

MS. JENKINS: Sandra Hahn, followed by Dave McCoy, followed by Rob Gilkuson.

CHAIRMAN SANCHEZ: And once your name has been called, we have some seating room here in the front, so be prepared to speak.

MS. HAHN: Yes. Thank you very much. I didn't know I was going to be called so early, but thank you for this important water meeting.

You know, I am convinced that this poisoning of our water in the Southeast is with a deliberate intention from the powers that be. And it is a form of population control. This water contamination is

only happening at our low income, Section 8, Medicaid, Medicare recipient neighborhood International District, which we also vote blue. And I think this means it's a slowly but surely way to kill us off, the population who receive disability, Social Security and public assistance and food stamps.

You know, the wealthier Northeast Heights and the other economically privileged neighborhoods could care less about this and they're very nonchalant, because it's never going to be their problem because their neighborhoods will never be affected like this. And, you know, I think they treat the Southeast International District as a bunch of illiterates, ignoramuses that can't read, write or spell, and if we do figure out that our illnesses are coming from water toxicity, we would have no means of fighting back or even finding out or knowing what to do.

And we're being talked out of suing the government, and begging the Air Force base not to take away their jobs. You know, giving jobs, it's great, but if they pollute our environment, they need to change their behavior.

And, you know, many of us are retired school teachers, community college professors, social

workers, and, you know, some of us, like myself, know how to read, write and spell.

And I have been feeling ill and sick because of this water, getting severe headaches and illnesses, and I can taste the petrochemicals, the leftover jet fuel of spills from the Air Force base, you know, and I talk to other community neighbors that have been getting sick also. Thank you.

CHAIRMAN SANCHEZ: Thank you, Ms. Hahn.

Next speaker.

MS. JENKINS: Don Schrader, followed by Joseph Wechsler, followed by Judy Cowell.

CHAIRMAN SANCHEZ: Welcome, Don.

MR. SCHRADER: Good evening. Tomorrow is not guaranteed to any of us. Life is short. Death is sure. If I had my life to live over, knowing what I know now, I would aim to do many, many things differently. In my final moments, what will I regret most that I did? What will I regret most that I failed to do? What will be history's verdict on me after I'm gone? What will those who knew me commend or condemn in my life?

Members of this Board, ask yourselves now, "Am I doing my damnedest to protect Albuquerque's water from all poisons, especially the 24 million

gallons of Kirtland Air Force Base's deadly underground river of toxic jet fuel? Will my children and grandchildren praise me as a hero of conscience with backbone, or will I be cursed as a spineless political wimp, stupidly swallowing lame excuses and false assurances from highly paid corporate and government bureaucrats? What will my verdict about myself be on my deathbed concerning safeguarding Albuquerque's water for generations to come?"

CHAIRMAN SANCHEZ: Thank you.

Next speaker.

MS. JENKINS: Joseph Wechsler, followed by Judy Cowell.

MR. WECHSLER: Good evening, everybody. I'm just going to make a short statement.

At the meeting on November 8th with the state legislature, a statement was made about the reason we're planning to put water into the aquifer, either by injection or going down through the layers of earth. It's simply not true. You have to have your people study the loss due to evaporation in Abiquiu.

If you put 5,000 acre feet in the aquifer, it does not save 5,000 acre feet of water. It only saves about 800 acre feet due to the reduction of the

surface at Abiquiu. It's a complex problem. It has to be studied, and people shouldn't be making disengineering statements. Thank you.

CHAIRMAN SANCHEZ: Thank you.

MS. JENKINS: Judy Cowell, followed by Janet Greenwald.

CHAIRMAN SANCHEZ: Ms. Cowell, if you'd like to, we've got a microphone here on the side. It might be easier for you. Welcome.

MS. COWELL: Thank you. I want to make some suggestions. First, I -- I don't know what is on the agenda tonight, and I understand that it keeps changing at the last minute. It's hard to get. So we're requesting that it be up on the web two weeks before the meeting, if possible. And also if Sandia and Kirtland are going to testify, could the public please have an opportunity right on the spot to respond?

And I have some -- I don't even know if they are going to be here tonight, but here are some questions that I'd like you to ask them. First, did they receive the letter from the water protection advisory board asking them to spend money that was already allocated on the waste that's going down from the mixed-waste landfill and other dumps on Sandia's

land?

Second, how do they arrive at putting a dirt cover over an enormous amount of waste from Sandia Labs, when we all know that water goes down with gravity into the aquifer, eventually it's going to get there? And why wasn't it removed? Why wasn't there a lining? That's what I'd like you to ask them. Why didn't they listen to the evaluations that they had?

And then for Kirtland, when is Kirtland going to have the five-year review that was promised two years ago?

And that's all. Thank you so much.

CHAIRMAN SANCHEZ: Thank you very much for your time.

MS. JENKINS: Janet Greenwald, followed by Paul Robinson.

CHAIRMAN SANCHEZ: Welcome, Janet.

MS. GREENWALD: Thank you. Thank you for this opportunity to speak. I'm Janet Greenwald, co-coordinator of Citizens for Alternatives to Radio Dumping, and a member of Our Endangered Aquifer Working Group and AVAT.

And I have a lot of thanks to give. I'd like to thank the water utility authority for the very astute and caring volunteers on their advisory boards.

I've been working with them and it's been a pleasure.

Having said that, I and many of us feel that the community needs more opportunities for involvement. Interest is high in the water pollution issues that we all are facing now. And we would like to see some members of the grassroots groups and neighborhoods associations concerned about aquifer pollution on these advisory boards.

Several times recently, the water protection advisory board has not been able to vote on issues concerning Sandia because so many members of the board work at Sandia and they have to, of course, recuse themselves at that time. So I'm asking that some process be initiated so that the community can be more involved in these boards.

Thank you very much.

CHAIRMAN SANCHEZ: Thank you.

MS. JENKINS: Paul Robinson, followed by Nancy Bearce and Charles Dickerman.

CHAIRMAN SANCHEZ: Welcome, Paul.

MR. ROBINSON: Good evening. Thank you very much. I appreciate the opportunity to appear before you. I want to talk about the problems that have resulted in Albuquerque's aquifer as a result of several very old spills and leaks that have occurred:

The Kirtland Base fill, Tijeras Arroyo groundwater area, the Tech Area 5, which you'll hear discussed. These are releases that began in the 1950s.

At the time, the Albuquerque aquifer was a hundred feet higher than it is in the places where these areas are located. And the area where the aquifer has dropped, that hundred feet is an area that shows soil vapor contamination from trichloroethylene at Tech Area 5 and gasoline and diesel organics at the Kirtland Base area. And this is an area that needs to be protected, have contaminants removed so that they don't reach the aquifer.

So the challenge of the authority to address these matters is more than just making sure our water supply wells are safe, but that there are releases into the aquifer and the areas that drain to it are remediated so they don't present sources of contaminants.

Because there's no opportunity to provide comment on the presentation by Sandia, identified as Item 10A, I'd like to request an opportunity to make a presentation providing additional information on that matter at the next meeting, if that's possible.

Thank you very much. Appreciate your time.

CHAIRMAN SANCHEZ: Thank you.

MS. JENKINS: Nancy Bearce, followed by Charles Dickerman, followed by Elaine Hebbard.

MS. BEARCE: Chairman Sanchez and Members of the Water Authority, my name is Nancy Bearce. I'm president of La Mesa Community Improvement Association, as well as president of Councillor Garduno's District 6 Coalition of Neighborhoods, that include the International District and the site of the Kirtland spill at this point.

I'm here to ask your support of passage for Resolutions 13 and 14 on the agenda. The authority is here to protect the water supply of all Albuquerqueans, from Placitas to the South Valley. It is estimated now that the jet fuel spill is two to three times the size of the Exxon Valdez spill. The public first was made aware of this in the year 2000, and after 12 years of waiting, it is time for you to pass these two resolutions.

Thank you very much.

CHAIRMAN SANCHEZ: Thank you.

MS. JENKINS: Charles Dickerman, followed by Elaine Hebbard, followed by Dave McCoy.

CHAIRMAN SANCHEZ: And, again, once your name has been called, if you would please come to the front and be prepared to speak.

Welcome.

MR. DICKERMAN: Thank you. First of all, I think it's kind of good that the public gets to speak first to let you know the immediate concerns right here.

Oh, boy, I have mixed notes, but it won't take more than two minutes. There's a lot of evidence -- oh, my main concern is the mixed-waste landfill, the radioactivity there in -- there's a big report that I read by Citizen's Action and Mr. Gilkuson. There's strong evidence, and this has been recognized by authorities, that it's not being monitored properly. I think a review is in great need.

I just have one more sentence and that will be it.

The Department of Energy environmental management promised an independent expert review in 2010, and they haven't done that. And I think it needs somebody to look into what's going on. My personal feeling, it's not being monitored properly.

And that's all I have to say. Thank you very much.

CHAIRMAN SANCHEZ: Thank you for coming down. And thank you for your time.

Next speaker.

MS. JENKINS: Elaine Hebbard, followed by Dave McCoy, and Bob Gilkuson.

CHAIRMAN SANCHEZ: Welcome, Elaine.

MS. HEBBARD: Good afternoon. As an aside, with Ms. Cowell's comment, the Denver CAC, customer advisory committee, that was used by Mr. Roth when he set this one up, allows for more citizen participation in its associates groups, so it might be something to consider.

I'm here not to talk about water quality, because I think that you've heard a lot about water quantity, which impacts water quality. As you know, it's been really dry and it looks like it's going to continue to be dry. The projections look like we will have less water precipitation through next May.

So we have a couple of different goals that we set out for ourselves. One is the annual operating plan that says how much we're going to pump, and that runs from April 1st to May 31st. We've already exceeded it and we have five months to go. Just alone in October, where we said we were going to pump 933 acre feet, we pumped well over 8,000, more than nine times.

So under the drought management strategy,

when we are exceeding our pumpage by more than 140 percent, then it kicks in certain strategies. And I don't see anything on the agenda talking about how dry it is, talking about how much we need to perhaps take some action.

Yes, we've kept our usage about equal, and that's that last slide in your package, but the difference between the groundwater and the surface water portion of that is what's important to also look at. So in addition to taking some action, and I think that there could be some work by the board, also updating the model and putting the interactive water model onto the web, would allow all of us to sort of try some different options and alternatives as we're looking at our new GPCD end rate decisions.

Thank you. Any questions?

CHAIRMAN SANCHEZ: Thank you.

MS. JENKINS: Dave McCoy, followed by Bob Gilkuson, then Jim McKay.

CHAIRMAN SANCHEZ: Welcome, Dave.

MR. MCCOY: Good evening. Citizen Action, Dave McCoy.

I've got some handouts down here, but they haven't been handed out. The water utility authority should not assume that Sandia is presenting accurate

information about the safety of the mixed-waste landfill dump. Citizen Action expects to receive the same amount of time on the authority's agenda for a presentation on this matter.

The dump has never had a reliable network of groundwater monitoring wells. The dirt cover over the waste will not be protective of the groundwater. Numerous documents from the administrative record, recent documents received in our Freedom of Information Act lawsuits and the report of the EPA office of the inspector general bear this out.

The water utility authority should send a letter to the NMED requesting that before any approval is given for the long term monitoring and maintenance plan, one, the five-year review that was ordered by the May 26th, 2005, order for the feasibility of excavation of the dump must be performed by Sandia Labs. And secondly, an evidentiary public hearing must be held.

The question the water utility authority should be asking Sandia Labs is when does Sandia intend to excavate the mixed-waste landfill dump to protect Albuquerque. Some of the poisons that are in the dump one mile from the Mesa del Sol children's park include the following: Presence of

radionuclides, 119 barrels of plutonium and americium waste; tons of toxic metals; over 40,000 pounds of depleted uranium; 204,000 gallons of reactor wastewater with hexavalent chromium; PCBs and solvents such as TCE and PCE; migration of tritium has occurred to at least 100 feet.

The DOE Hanford experience has shown that waste often finds the means and mechanisms for extensive migration into the environment. Albuquerque has already experienced enough contamination. The water utility authority should demand cleanup of the mixed-waste landfill dump now. Quit fooling around with this thing. It's a very dangerous dump.

Thank you.

CHAIRMAN SANCHEZ: Thank you.

MS. JENKINS: Bob Gilkuson, Jim McKay, and Madeline Perotti.

CHAIRMAN SANCHEZ: Welcome.

MR. GILKUSON: Thank you for this opportunity. My name is Bob Gilkuson. I'm a technical expert with 40 years experience on these issues. I support the comments made by Dave McCoy.

I request -- I have prepared a 30-page hand out for this meeting, which I'm leaving here. I request an opportunity to make a presentation of the

material in this handout at a future meeting.

In addition, I request for the board to establish a technical expert panel to investigate the issues in this memo, and also, in a comprehensive case history report that I wrote with Dave McCoy back in 2010. We need to pursue the overall failure of the groundwater situation for the Sandia mixed-waste landfill.

I have performed a comprehensive study of this situation and invested thousands of hours of time, and I know that I am comfortable with the statement that there is an overall failure of groundwater protection strategies at that disposal site.

Thank you.

CHAIRMAN SANCHEZ: Thank you for your time.

MS. JENKINS: Jim McKay, followed by Madeline Perotti, followed by Joan Brown.

MR. MCKAY: Jim McKay. I've been up here few times. You know, some of us that have been paying a lot of attention and putting all our time into this for some time, counted it as progress when you stood up at the last meeting and said you're symbolic. Progress, because it seems like a starting to come out of the FOG as to the reality of the severity of this

jet fuel spill.

And we hear things like -- you know, myself and Dave McCoy and people that have put the time in, so we know what we're talking about, I've heard Mr. Johnson say it, I've heard other people say it, that we're scaring people, you know, one after another, after another.

This financial crisis was a massive problem. People who live here, they've had their -- retired people have lost 50, 60 percent of the value of their homes, their 401(k)s have evaporated. It was flawed. We've sunk more than one and a half years, the entire GDP of the United States in the bailing out of the guys who pulled this off. And that's why we get zero interest rates when you read the newspapers every week, that PERA and all these other state finance entities are going belly up. The state is broke. And it's no wonder.

And now we're hearing about how the board and the people behind it that work for you are worried, where are we going to get the money, where are we going to get the money for this and that just for a lousy monitoring well at Ridgecrest 5. You know, we've heard some of these other things, and it appears now the Air Force is not going to pay for

that, that it's going to be put on the taxpayers' back here.

What we've been saying for quite some time, and it's really getting serious -- you guys talk about we have time, we have time, we have time. It's been 50 years. We need a summit meeting. We need five, six days taking drinks from a fire hose with all the experts that the Air Force has been telling for decades when these people knocked on their doors and told them --

CHAIRMAN SANCHEZ: Bob (sic), your time is up. Thank you.

MR. MCKAY: That they told them to go away or they'd fire them.

CHAIRMAN SANCHEZ: Thank you.

Next speaker.

MS. JENKINS: Arlene Perotti followed by Joan Brown.

CHAIRMAN SANCHEZ: Welcome.

MS. PEROTTI: Good evening. I'm sure that you folks share our extreme anxiety about the water for Albuquerque. And I think the issue of saying it costs too much to put the kind of money is not sufficient reason.

To have quality water and to have the

quantity that we need, which is not looking to good with the San Juan and Chama, it's going dry, the Rio Grande going dry, I think we really need to put the money where we want.

I would like to talk about the Sandia landfill. I don't think it's sufficient to say that we're going to have -- I went to a hearing and they were talking about monitoring and managing the Sandia landfill. I say get it out. No monitoring, no management. Get it out so we don't have problems.

The second thing is, with respect to the Kirtland Air Force spill, I was at the meeting last night, and I'm also looking at the report that you folks had, I'm concerned about different kinds of information that are being spoken about. One of the things that they talked about last night was soil vapor extraction.

Well, how much can -- of the pollution can be done by soil vapor extraction. There's real deliberation and nobody seems to really agree with what that's doing. The Army civil engineers last night were saying -- yes, they've commented on things, but those comments are not available to us. Those are all in secret.

So I really believe that we need a summit.

And I think it's not just the groups that have vested interest, like the Air Force and the Pentagon and people, but I think the people --

CHAIRMAN SANCHEZ: Ma'am, your time is up. Thank you very much.

MS. PEROTTI: Summit, please.

CHAIRMAN SANCHEZ: Appreciate it.

MS. PEROTTI: Thank you.

MS. JENKINS: Joan Brown.

CHAIRMAN SANCHEZ: Welcome, Joan.

MR. BROWN: Good evening Chair Sanchez and water authority. Thank you very much for giving your time to this really important service and leadership. And because it is such a significant leadership, without water, we have no life, we have nothing in this area. And we're at a point where I think that we're facing critical issues of quantity as well as the quality of our water.

So I am a citizen and I basically just want to say that I'm very concerned about the situation. And I do believe that the mixed-waste landfill needs to be addressed and not just do monitoring all the time, that it needs to be really addressed and get rid of that, those toxins there.

I also want to say that as we face more and

more climate change, we know our river is dry, we don't have the water that we really need to protect our aquifer. And at this point, I believe the Kirtland fuel spill is a huge disaster just seeping its way to a moment of no solution in sight. And so I really beg for you to take critical action on that.

I feel that we're very blessed to have a lot of citizen experts who have, in their professional lives, worked with water, worked with toxins, worked with these issues, and I think it would behoove us to draw upon their expertise in a very, you know, public kind of way to receive their information and to address this issue.

So, again, thank you for your work. And I just beg you to take this moral, ethical issue very seriously. Thank you.

CHAIRMAN SANCHEZ: Thank you for coming down this evening.

That concludes general public comments. We will now go to the next item on the agenda, and that is the announcements and communications.

The next scheduled meeting, given the holidays, the next board meeting will be held on January 16th of 2013 at 4:00 p.m. in the Vincent E. Griego Chambers.

The next item on the agenda is introductions. It's going to be the first reading. We will not vote on this item this evening. And basically, I am sponsoring this legislation. And one of the things that I am looking at doing is forming a finance and audit committee for this board.

The board would meet monthly. We would look at some of the audit functions. And one of the things that I would also like to look at would be bills that are being introduced. And it would go to the finance committee to look at some of the expenditures and cost. I think it would bring more oversight to this board with some recommendations to the full board.

Also, we are breaking away from the city's accounting system. And I think it's important now that we are leaving the city's accounting system that we form this finance committee and meet more frequently so we are understanding of what functions we are doing and what's going on, especially with our finances.

I've also requested that Director Sanchez also bring in an internal auditor to look at some of the functions going on within the water authority that would present issues in the finance committee and also to this board. I just feel this -- there's so many

issues that we confront and deal with here that have a huge financial impact on the ratepayers and the citizens of this city that we need to look at this a little bit more closely. And I think with the finance committee, that would work out fine.

The committee would be comprised of the chairman, the vice chairman, and then the chairman would pick one of the other members to serve on that committee. But I think it's paramount and I think it's critically important that we form this financial and audit committee.

Any questions?

COUNCILLOR JONES: Mr. Chair.

CHAIRMAN SANCHEZ: Yes, President Jones.

COUNCILLOR JONES: Mr. Chair, the internal auditor that you're talking about, is this a position that we already have in the water authority? And if not, how is it to be funded and to whom will that position answer?

MR. SANCHEZ: Mr. Chairman, Councillor Jones, it's a contract function and it is with an outside CPA firm, Porch & Associates. And they are on board; they're starting to do some work. As Chairman Sanchez had mentioned, they will begin their work over the next few months, and help us as we make this

transition into our own accounting system. And they will interact with this financial audit committee.

CHAIRMAN SANCHEZ: Go ahead and proceed.

COUNCILLOR JONES: Thank you, Mr. Sanchez. So this is a position that we had already -- that had already been contemplated by the administration for converting to our own accounting system and this is simply --

MR. SANCHEZ: Correct.

COUNCILLOR JONES: -- an additional function for that particular position?

MR. SANCHEZ: Correct.

COUNCILLOR JONES: Thank you.

Thank you, Mr. Chair.

CHAIRMAN SANCHEZ: CAO Perry.

MR. PERRY: Thank you, Mr. Chairman. Mr. Chairman, I support your efforts to form this committee. I think that the issues surrounding finances of the water utility authority are very complex, time consuming and it's possibly something that needs to be separately reviewed and dug down into the details a little bit more than we have the opportunity to do with staff typically in preparation for these types of meetings. So, you know, I support that type of initiative.

CHAIRMAN SANCHEZ: And I know that it's one more meeting for those members that will serve on that committee, but I think it's such an important function, especially dealing with the issues that we're going to be confronting in moving over to our own accounting system, that's needed now more than ever been. And we will continue it as we deal with even the introductions of legislation that we can bring forth and back to this board.

Any other questions or comments?

Okay. Let's go ahead and proceed in the next item on the agenda, that is the approval of the consent agenda.

I move approval of the consent agenda.

MR. PERRY: Second.

CHAIRMAN SANCHEZ: We have a motion and a second. Any questions?

Seeing none, all those in favor, signify by saying yes.

ALL MEMBERS: Yes.

CHAIRMAN SANCHEZ: Opposed, no.

That carries unanimously.

(6-0 vote. Agenda Item 8 approved.)

CHAIRMAN SANCHEZ: Next item on the agenda are approvals. The first item is Item R-12-13. It's a

floor substitute authorizing an agreement with the Kirtland Air Force Base for protecting Albuquerque's drinking water and a contingency plan coordination.

And to speak on that issue, we will have Commissioner De La Cruz, Mark Sanchez on the resolution, and Colonel Lanning is also here this evening, and John Stomp.

Commissioner De La Cruz.

COMMISSIONER DE LA CRUZ: Thank you, Chairman. I think it's become abundantly clear to the board that we need to have a way to move forward and to create a spirit of cooperation, coupled with action. And so it's with that spirit that I offer this resolution.

Let me just read a few points that I think are important to make so that not only the board but the viewing public as well as members in the audience can understand what the genesis and what the motivation is behind the resolution.

The jet fuel spill originating at Kirtland Air Force Base has been a source of grave concern for this board for many months. The jet fuel doesn't merely endanger the groundwater in the vicinity of the spill and polluting the aquifer, it also threatens the water authority's 500 million investment in the San Juan Chama drinking water project, which is intended

to protect and preserve out aquifer as a water supply for the entire community.

Fortunately, there's still no contamination -- and I want to reiterate that there's still no contamination from the spill being detected at any of the water authority's production wells. Wells down gradient from the plume are sampled on a monthly basis by the water authority. This board commends Kirtland Air Force Base leaders for taking responsibility for the spill and appropriating 50 million in 2010 to investigate contamination and install a final cleanup system at the site, and assuring us on several occasions that they "own" this problem.

With that said, now is the time for the contingency planning efforts between the water authority and Kirtland Air Force Base to be formalized and the roles and responsibilities need to be determined and assigned to the water authority and Kirtland Air Force Base immediately. This is why I am introducing this second floor substitute for Resolution R-12-13, which I believe merges the spirit and intent of R-12-13 and R-12-14 and allows the water authority to enter into a memorandum of agreement with Kirtland Air Force Base for the purpose of coordinated

contingency planning.

The MOA, which we have for our review, outlines the terms in which the U.S. Air Force has agreed to pay for a contractor to develop contingency plan options and that the water authority will approve and implement in the event a production well or wells are impacted by the jet fuel spill.

The MOA provides the water authority with a reimbursement and other agreed-to expenditures related to the contingency planning effort. The resolution also authorizes the water authority to work with the hydrology experts at the U.S. Geological Survey to determine the best location for early warning wells within the capture zones of the Ridgecrest production wells and to drill these new monitoring wells with USGS drilling crews. These wells will serve as both early warning wells for the contingency plan effort as much needed regional aquifer study locations.

Finally, the second floor substitute for R-12-13 urges Kirtland Air Force Base to step up the cleanup effort of the jet fuel spill and to have an aggressive final remedy in place and be fully operational by December 31st, 2014, which is a full year before Kirtland Air Force Base leadership told this board at our June meeting that full remediation

efforts would probably begin.

Members of the Board, Councillors, Commissioners, I encourage your support to this so that we can move forward.

Thank you, Mr. Chair.

CHAIRMAN SANCHEZ: Commissioner De La Cruz, do you want to go ahead and move the resolution and then move the floor substitute?

COMMISSIONER DE LA CRUZ: So moved.

CHAIRMAN SANCHEZ: We have a motion and a second on R-12-13.

And move the floor substitute at this time?

COMMISSIONER DE LA CRUZ: So moved.

CHAIRMAN SANCHEZ: We have a motion and a second for floor substitute R-12-13. All those in favor, signify by saying yes.

ALL MEMBERS: Yes.

CHAIRMAN SANCHEZ: Opposed, no.

That carries.

(6-0 vote. Floor substitute approved.)

CHAIRMAN SANCHEZ: And we'll go back to the bill to vote on that in just a minute as substituted.

Commissioner Hart Stebbins.

COMMISSIONER HART STEBBINS: Thank you, Mr. Chairman. And I don't know who wants to answer these

questions. Commissioner De La Cruz maybe or maybe the water utility staff.

I just have a couple -- well, just a few questions about this. So starting with the resolution, in Section 4, we talk about it requires submission of a work for aggressive final remedy, the plan by December 31st, 2013. And how does that relate to the requirements of the performance-based contract that has been awarded to Shaw?

COMMISSIONER DE LA CRUZ: Mr. Sanchez, go ahead and proceed.

MR. SANCHEZ: Mr. Chairman, Commissioner Stebbins, I think when Colonel Lanning comes up, he might be the best one to address that question.

COMMISSIONER HART STEBBINS: Okay. It just seems to me that that was one of the requirements of the Shaw contract, was a work plan for the final remedy. And this seems to be pushing the deadline back. So I'm just wondering, this is part of resolution that we're voting on, what's -- how do they relate? Why would we be duplicating that?

Should I wait for the colonel?

CHAIRMAN SANCHEZ: Did you want to go ahead and call down Colonel Lanning now to answer that question, and then he can speak on the issue?

MR. SANCHEZ: Mr. Chairman, I think Commissioner De La Cruz adequately addressed the resolution, and I think we're getting into the agreement itself and the contingency planning efforts and how it might relate to existing deadlines. So I think Colonel Lanning and John Stomp can kind of walk you through the process that a technical work group went through and how these deadlines interrelate.

COMMISSIONER HART STEBBINS: That would be great. I just want to point out that that is a section of the resolution --

MR. SANCHEZ: Correct.

COMMISSIONER HART STEBBINS: -- not the MOA or MOU.

COMMISSIONER DE LA CRUZ: And if I might, Mr. Chairman, just add that part of the what we're trying to accomplish, Commissioner, is to have the efforts run parallel when necessary. And I believe that as we work through this, that there won't be any duplication.

COMMISSIONER HART STEBBINS: Okay.

Mr. Chairman, if I may continue. Or should I wait? Was that the end of our presentation or do we have more information that might --

CHAIRMAN SANCHEZ: No, that's not the end of the

presentation. We still have the colonel and John Stomp to speak.

COMMISSIONER HART STEBBINS: Great. Then I'll save my questions for them. Thank you.

CHAIRMAN SANCHEZ: Okay. Let's go ahead and have Colonel Lanning come up, and also John Stomp.

Welcome, Colonel.

COL. LANNING: Colonel Jeff Lanning, Mr. Chair, Ladies and Gentlemen. I'm here just basically to reiterate that we do have a memorandum of agreement. We had an initial version late last week that was in fact signed by the wing commander, Colonel John Kubinec, who, unfortunately, couldn't be here today. He's in Washington, D.C.

There was a minor change to that document, which will require another signature. However, the Air Force is ready to sign the memorandum of agreement that is referenced in this resolution.

Unfortunately, I can't speak to the resolution, but I can speak to the MOA if there are questions or concerns regarding the MOA.

CHAIRMAN SANCHEZ: Are there any questions regarding the MOA?

Commissioner.

COMMISSIONER HART STEBBINS: Thank you, Mr.

Chairman.

Thank you for being here tonight, Colonel. So pertaining to the MOA, one of the provisions is Kirtland's participation will depend on the ability of the Air Force Civil Engineering Center to award and administer an engineering services contract.

So are there reasons why that would not happen? I mean, are there circumstances where the AFCEC could not -- I'm just wondering why that provision is in there, if there are some reasons why the Air Force could not get that done.

COL. LANNING: Mr. Chair, Commissioner Hart Stebbins, as I understand it, that language is in there because as we look forward, this is going to be a lengthy process and the length of this process will exceed our current fiscal authorities. And so we cannot put language into this MOA which would exceed our fiscal authorities.

So what we've -- the way we've tried to characterize that is that there's every intention to do that, however, we are -- we are always obligated to maintain those fiscal responsibilities that are provided to us by Congress. And should they not be forthcoming, then that could limit AFCAC, the Air Force Civil Engineering Center's ability to put it

forward.

COMMISSIONER HART STEBBINS: Okay. Thank you.

And, Mr. Chairman, if I may continue.

Under the scope of work, it talks about this plan to be developed jointly. What if there a difference of opinion on key issues? I mean, there are a number of factors. It's not really spelled out here how those conflicts would be resolved. What do you expect that plan to be?

COL. LANNING: There is no spelling out of how those conflicts would be resolved. I anticipate that those would be resolved initially at the low levels as they continue to be worked. If there's continuing disagreements, that we would elevate on our end in the Air Force and working through representation through the water utility authority and work to achieve a consensus, which is the great part about our nation and about this state, is that we work to identify a consensus and then push forward with an agreed-upon solution.

COMMISSIONER HART STEBBINS: Great. Then, again, under the scope of work, I notice there's no requirement that there be an agreement on what the end product is. So as we're putting this -- as the plan is being developed, one issue that has come up

consistently in this whole debate is what's considered clean. Are we going to looking at EPA standards, pre-spill condition? Does that need to be spelled out in this MOA?

COL. LANNING: Mr. Chair, Commissioner Hart Stebbins, I believe that's part of the process that the MOA lays out, is for those discussions and for that, exactly for that kind of discussion to go forward, for us to be able to engage in that dialogue and to determine exactly what those levels need to be and come to a consensus on that in order though scope the problem and be able to develop a contingency plan, as appropriate, and as agreed upon by both parties.

COMMISSIONER HART STEBBINS: Thank you. Because I noticed that there are some very specific deliverables that are spelled out. And maybe I should ask our water utility staff.

This is an issue that has come up repeatedly. Is this something that we need to put in the MOA, what that final -- what the definition of the final product is? I mean, we're talking about remediation, basically, if it reaches the wells, how is it going to be cleaned up. Do we need to spell out, so we have an agreement, what is the standard for clean?

MR. STOMP: Mr. Chairman and Commissioner Hart Stebbins, I think the purpose of the agreement is to develop a contingency plan for alternative water supplies.

In our view, alternative water supplies means water that meets the standards that Ridgecrest Wells 3 and 5 are providing at this time. We have, under the agreement, the opportunity to agree -- the MOA states that this contingency plan will be mutually agreed upon by both entities, us being the ones holding the end product in terms of being able to supply the water to our customers.

So you'll notice in the MOA it also talks about going out for public comment. Because we can't just lay out the plan. We need to go out to the public and talk to them about what are these alternative strategies and whether or not the public is going to accept -- for example, one of the strategies would be treat the water, remove the material and serve it right back to our customers.

Is that direct use going to be acceptable to our customers? We don't know that. We need to ask them that question. Should we reinject it back into the aquifer, where should we do it? There's a lot of different supply alternatives. Should we increase

surface water use, should we drill new wells and shut off Ridgecrest 3 and 5?

There's a lot of questions that we don't answer, but out point of the MOA is that we are going to get an equivalent water supply in exchange for any damage or contamination that might reach these wells. So right now, these wells have a certain water quality which is significantly better than the drinking water standard, as you know, and we would say that this alternative water supply, substitute water supply, whichever you want to call it, would at least meet that minimum standard.

COMMISSIONER HART STEBBINS: Okay. So remediation at the wellhead could be just one option for replacing the water supply? It wouldn't be a replacement, but that might be one alternative, and you're going to look at other ones. What could some of those options be?

MR. STOMP: Well, Mr. Chairman and Commissioner Hart Stebbins, I think that we need to make sure that the public and everybody on this board understands that we're not talking about remediation of the jet fuel plume. We're talking about an alternative water supply in the event that those two wells get contaminated.

And so we could treat right there -- we call it wellhead treatment. We could treat right there. We would have to have land. There would have to be a lot of public input as to whether or not they're going to accept that as the water supply. It is not the remediation technique. It's not the remediation solution. It's a water supply solution. We could drill new wells.

When the San Jose Superfund site in the South Valley -- they damaged and destroyed several wells down there. We replaced those wells with alternative wells in different locations. That could be another alternative strategy. We could wellhead treat and then reinject the water back into the aquifer. That's often used as a remediation technique to push the contaminated water towards the remediation technique, the pumpetry, whatever you do, and you could inject from the backside and help force that pressure towards the -- there's a lot of alternatives that could happen, but remember, we're talking about the water supply, which is why we're so concerned about not just the wells but what's going to happen beyond the contamination.

And this contingency plan is intended to try to plan for that well in advance, if you see the early

warning systems in there, well in advance of it getting to our wells.

COMMISSIONER HART STEBBINS: Thank you. I appreciate that explanation. That was not clear.

And let me just ask one more question. Can you answer my question about -- in this resolution, we do have language that says: We request Kirtland to submit0 a work plan for an aggressive final remedy for cleanup of the spill, the vadose zone and the groundwater by December 31st, 2013.

Is that not already covered by the performance-based contract awarded to Shaw?

MR. STOMP: Mr. Chair and Commissioner Hart Stebbins, my understanding is NMED has placed a scheduled deadline on them to submit that plan. We're asking them to do it a year in advance of that scheduled deadline by NMED.

Shaw's performance-based contract is to get a remediation plan in place by some certain date, of which I wish I knew that exact date off the top of my head, but I don't.

But I believe what we're saying is: We believe you have enough technical information with this information and the future wells that you're going to be drilling to develop this plan a year in

advance.

If that's not in Shaw's performance-based contract, we're hoping that Kirtland and the Corps of Engineers would support, along with NMED, would support that effort because we need to move quicker. I mean, this contingency plan is to protect the water supply, but the longer we wait, of course, the more aquifer that's getting contaminated as we wait. So we're saying let's go to the contingency plan, let's get ready to look at the water supply, but then let's also see if we can speed up to remediation plan, too.

COMMISSIONER HART STEBBINS: Great. Thank you, John.

Thank you, Mr. Chairman.

CHAIRMAN SANCHEZ: CAO Perry.

MR. PERRY: Thank you, Mr. Chairman.

And thank you, Mr. Stomp, for that explanation. I support the resolution on the floor substitute and I certainly applaud Commissioner De La Cruz's effort to come up with this particular direction and statement of policy by the board.

For quite some time we've heard folks from the community take the time out of their lives to become knowledgeable, get educated and engage in this issue. And they certainly have the right and I

applaud them for doing so as well. And it is difficult when folks have very lengthy technical opinions about some of this stuff, and a lot of them have the background to give that. And sometimes it might seem that we're not listening loud enough.

But it's a very complex issue. And I think this particular resolution is excellent policy by this board to adopt because what it does is it deals with the long term issue about trying to make a plan. And we've heard presentations from New Mexico Environmental Health division in EPA, and this board, as well as I hope a lot of the folks that are interested in this, understand that this is a long term project; that the regulatory process itself as far as what takes place from the regulators at the state and the federal level involve a very extensive protracted process. And right now we're in characterization; the next step is remediation.

And I hear people say, "Well, I'm not so sure that vapor extraction is the right approach, if pump and treat is the right approach," and the like. And I don't think anybody is sure. Because those particular opinions are subject to scientific and engineering opinions. And I think the process itself is a pretty good process to get the technicians with

the expertise and the regulators with the expertise to review the proposals that are submitted by the polluter itself, Kirtland Air Force Base, the United States Air Force, the user of the water, the water utility authority, that's an aggrieved party, and to try to come up with the best plan.

What this particular resolution does is it brings about the policy seriousness of it, it sets some timelines, it deals with the immediate problem about emergency contingency planning. I think that was an excellent addition, and the details of it have been honed down. I appreciate Colonel Eddy coming tonight and explaining the position of the Air Force as it relates to that, Mr. Stomp explaining that that's a water supply problem. It isn't a plume problem.

I sit back so often and I hear legislation that's proposed up here and the public trying to understand it. And sometimes it's just -- it seems unclear as far as what the actual issue is. And I think that that approach, by trying to attack the longer term plume problem, the regulatory overlay of that, the fact that it's a long term problem, also addressing the emergency contingencies that are necessary is a good approach. That's good policy for

the water utility authority of Albuquerque and Bernalillo County.

I support it. I think it's a judicious, thoughtful response, and I appreciate the hard work of Commissioner De La Cruz in it.

CHAIRMAN SANCHEZ: Thank you.

Commissioner Johnson.

COMMISSIONER JOHNSON: Thank you, Mr. Chair. And I guess I'm going to echo -- I'm not even going to echo. I'm just going to ditto some of those comments. I, too, support this. I appreciate the work that Commissioner De La Cruz put into this floor substitute. And I also appreciate the work that we put into the agreement.

I think the Air Force is coming to the table and giving us some authority that we really didn't already have. And this sets up some input, some formal input into how this problem will be tackled and be addressed.

And I also appreciate Commissioner De La Cruz's inclusion of some of the other language from Councillor Garduno's proposed resolution. I think it's a good compromise. I think it's something we should pass and now we have somewhere to go forward. It at least provides us with a roadmap to how we're

going to work together with the Air Force. So I very much appreciate his work. Thank you.

CHAIRMAN SANCHEZ: Thank you, Commissioner.

I have one comment. I will also be supporting this floor substitute. I think it is vital, it is important to the city.

One of the concerns that I have, Colonel Lanning, is one of the things that we deal with is, you know, we've got this serious, serious problem. We see every two years we have a new colonel that comes into Kirtland Air Force Base, and once the colonel gets his hands wrapped around this issue, then they're gone. So I hope with this MOU in place that if any of you leave that we can continue on with this plan, because I think it's vitally important. And that's, I think, a big concern for this community and this board, is we've seen colonels come and go. And it would be nice if they would stay for a longer period of more than two years, but it seems like two years is the standard for the Air Force before they're gone again.

But I think that you've done a good job in working with the water authority, in working with this board in trying to come up with a viable plan that is going to -- that will be safe and be beneficial to

this community.

COL. LANNING: Thank you, Mr. Chair. And it is a priority of my boss, Colonel John Kubinec, to make sure that we have good continuity. That's one of the reasons why he asked me to come down here in July, when I had been on the job for about the week or so, as one of the new colonels.

If all things transpire according to plan, I will be here after he has departed in order to provide that continuity and to make sure that his successor gets a good handoff from me. We should have about 12 months of time in order to make sure that that transpires. And we are committed to doing that, to making sure that the base leadership has a good solid understanding, a good working relationship with the water utility authority.

I think it's been mentioned here before, some discussions about authorities and who has the ability to do a variety of things. And one of the commitments that we have at Kirtland Air Force Base is to strengthen our ties with the water utility authority, and this memorandum of agreement is one of the ways that we are trying to do that to make sure that we recognize the importance of the water -- the owner of the end product as we try to deal with our

pollution problem.

CHAIRMAN SANCHEZ: Thank you, Colonel.

Any other questions?

Commissioner De La Cruz to close.

COMMISSIONER DE LA CRUZ: Thank you, Mr. Chairman. I want to thank everyone for the kind comments. But more importantly, I want to thank staff for partnering with me in this resolution. It takes a small village, and so thank you. And I urge approval.

CHAIRMAN SANCHEZ: We have a motion and a second for R-12-13 as substituted. All those in favor, signify by saying yes.

ALL MEMBERS: Yes.

CHAIRMAN SANCHEZ: Opposed, no.

That carries unanimously.

(6-0 vote. Agenda Item 9A approved.)

CHAIRMAN SANCHEZ: The next item is Item B, R-12-14. Councillor Garduno is not present this evening so he asked that I defer this item. I move deferral until the next meeting.

COMMISSIONER DE LA CRUZ: Second.

CHAIRMAN SANCHEZ: We have a motion and a second by Commissioner De La Cruz. Any questions?

Seeing none, all those in favor, signify by saying yes.

FOUR MEMBERS: Yes.

CHAIRMAN SANCHEZ: Opposed, no.

TWO MEMBERS: No.

That carries on a 4 to 2 -- 5 (sic) to 2 vote.

(4-2 vote. Agenda Item 9B deferred, with Mr. Perry and Councillor Jones voting no.)

CHAIRMAN SANCHEZ: The next item is Item C, R-12-15, and to make that presentation will be Frank Roth, and this is authorizing and approving submission of the completed application for financial assistance and project approval to the New Mexico Finance Authority for the Carnuel water system improvements project.

Go ahead and proceed.

MR. ROTH: Mr. Chairman, Members of the Board, this resolution authorizes the water authority to submit an application for financial assistance to construct Phase 3A of the Carnuel water improvement project in the amount of about $2 million. This will extend distribution lines in the high priority area of the community of Carnuel.

CHAIRMAN SANCHEZ: Are there any questions?

COMMISSIONER DE LA CRUZ: Move approval.

CHAIRMAN SANCHEZ: Seeing none, we have a motion

and a second. Any questions? All those in favor, signify by saying yes.

ALL MEMBERS: Yes.

CHAIRMAN SANCHEZ: Opposed, no.

That carries unanimously.

(6-0 vote. Agenda Item 9C approved.)

CHAIRMAN SANCHEZ: Next item on the agenda is R-12-16. And to make that presentation will be John Stomp. And that is authorizing the water utility to submit an application for WaterSMART grant financial assistance for the southwest side municipal effluent reuse project. Proceed.

MR. STOMP: Mr. Chairman and Members of the Board, this is a resolution authorizing us to submit a grant application for Title 16 funding. We used to receive line item appropriations for Title 16. There are no more line item appropriations. We now have to apply for the funding.

We had a $20 million limit. We've received 18.2 million. We're asking for -- I'm sorry, 17.2 million. We're asking for another $1.8 million -- 18.2. Sorry about my math. We're asking for another $1.8 million to reach the $20 million ceiling we have for our reuse and reclamation projects.

CHAIRMAN SANCHEZ: Are there any questions?

COMMISSIONER JOHNSON: Move approval.

CHAIRMAN SANCHEZ: Move approval. We've got a motion and a second for R-12-16. All those in favor, signify by saying yes.

ALL MEMBERS: Yes.

CHAIRMAN SANCHEZ: Opposed, no.

That carries unanimously.

(6-0 vote. Agenda Item 9D approved.)

CHAIRMAN SANCHEZ: Next item is Item E, C-12-28. This is approving the 2013 federal legislative priorities. Mr. Sanchez.

MR. SANCHEZ: Mr. Chairman, Members of the Board, our recommendation would be -- as John just mentioned, there's a $20 million cap under what's called Title 16. If we're successful in this grant application, we will have reached our cap, which means we will no longer be eligible for a 25 percent federal match for projects going forward. So our first priority would be to request that our federal delegation propose that we get a new $20 million authorization for eligibility for Title 16.

There's two major projects we have in the future and their reuse projects. One would be adjacent to Kirtland Air Force Base and Mesa del Sol, and the other would be at the bosque site, which is

Coors and Montano.

Carnuel is an ongoing request federally, simply having USDA loosen up the regulations to allow an existing awarded grant of $2 million to go forward. We're also including, based on public comment, support for appropriations for the continuation of the Kirtland Air Force Base cleanup and remediation, and also the Sandia National Laboratories restoration activities with regard to the mixed-waste landfill.

We also suggest that we continue to support the Endangered Species Act collaborative and continue to press forward with being allowed to store native water at Abiquiu Reservoir.

I'd stand for any questions.

CHAIRMAN SANCHEZ: Are there any questions?

I move approval of C-12-28.

COMMISSIONER JOHNSON: Second.

CHAIRMAN SANCHEZ: We have a motion and a second. All those in favor, signify by saying yes.

ALL MEMBERS: Yes.

CHAIRMAN SANCHEZ: Opposed, no.

That carries unanimously.

(6-0 vote. Agenda Item 9E approved.)

CHAIRMAN SANCHEZ: Our next item is Item F, it's C-12-29. That is approving 2013 state and legislative

priorities. Mr. Sanchez.

MR. SANCHEZ: Mr. Chairman, Members of the Board, our first recommendation is that we seek -- and this is an ongoing one -- $750,000 in state funding to begin kind of the environmental studies in permitting for the bosque reuse facility. That is the highest priority reuse facility we have next in line in our capital program.

The second one would be -- as you recall, we recently received an NPDES permit for our continued discharge from our wastewater facility. EPA, in their approval, cited us for not having the ability to enforce. So one of the things that is lacking when the water authority was transferred from the City of Albuquerque as a municipality is this enforcement provision. So we're simply seeking legislative approval in the municipal code to add the water authority to have these enforcement powers for violations with regard to that permit to comply with EPA's requirements.

Secondly -- or thirdly, actually, the science and technology telecommunications interim committee is likely going to be proposing legislation to seek more involvement of the water authority with regard to the Kirtland Air Force Base issue to be

included with the environment department and Kirtland Air Force Base. This would simply have us take the position of not initiating action, but not opposing that legislation. Senator Keller, as I understand it, plans to propose this bill.

The next item is continued support -- funding support for aquifer storage and recovery. The next item would be continuing to seek state funding for the Carnuel project. And the last item would be to continue to support water planning. The mid region council of government passed a resolution and asked all of its member agencies to support this item.

I'd stand for any questions.

CHAIRMAN SANCHEZ: Are there any questions?

I'd like to move approval of C-12-29.

MR. PERRY: Second.

CHAIRMAN SANCHEZ: We have a motion and a second. All those in favor, signify by saying yes.

ALL MEMBERS: Yes.

CHAIRMAN SANCHEZ: Opposed, no.

That carries unanimously.

(6-0 vote. Agenda Item 9F approved.)

CHAIRMAN SANCHEZ: Next item is other business. The presentation on the status of U.S. Department of Energy, Sandia National Laboratories environmental

restoration activities. And to make that presentation will be David Miller.

Welcome, Mr. Miller.

MR. MILLER: Thank you. And thank you for providing this opportunity to come and speak with you this evening.

Again, I'm David Miller. I manage Sandia's environmental remediation program and have responsibilities for our groundwater protection programs. I'll provide a quick overview of the environmental restoration operations. Our mission is to identify, characterize and remediate hazardous and/or radioactive waste management sites where waste may have been released as a result of legacy activities.

The program was initiated in 1989. Initially, there were 314 sites identified at Sandia property. And we have successfully closed out 279 of those sites. Those have gone through the State of New Mexico Environment Department regulatory authority approval process. And we're currently addressing the remaining 35 sites.

DOE and Sandia are in full compliance with a compliance order on consent that was initiated with the State of New Mexico Environment Department, as

well as other federal and state regulatory requirements. Out of the remaining 35 sites, 23 of these sites have undergone characterization and/or remediation, are in the regulatory closure process right now. The documentation for that has been submitted to the state, NMED, and those sites are out for public review right now.

We also have three active mission sites where the remediation would be deferred on those after the active operations were concluded. We have our mixed-waste landfill that the public has talked about a little bit this evening; and we have five soil sites that are currently undergoing groundwater characterization activities; and then finally, three sites where there's small amounts of low level contamination that are currently undergoing site assessment activities. And I'll get into some detail around those.

Now, out of the 23 sites that are undergoing closure right now, these consist of septic systems and drain fields and surface testing area. They under went characterization or remediation, had been proposed and are currently being proposed for closure. They here in public review right now. I'd identified a public comment period to end in November, but as of

last week, the state extended the public comment period an additional 90 days. So we're working through that public comment period right now. Any unresolved issues for these sites will be addressed through the revision of Sandia's RCRA operating permit. They're an amendment to the operating permit and will go through a public hearing associated with that. We also have the three active mission sites, those are two sled tracts and a gun facility, that will be remediated after those operations are concluded.

To kind of focus us into where our groundwater site assessment areas are, you all know generally where Sandia is. We're collocated on Kirtland Air Force Base. We are a tenant to Kirtland. And within that, we have three known areas of groundwater contamination. To the north is the main tech area, and adjacent to that is Tijeras arroyo. We're doing an assessment there. South of Tech Area 1 is Tech Area 3 and collocated with that is Tech Area 5. And in Tech Area 5, there's an area of contamination we're assessing. Within Tech Area 3. There's the mixed-waste landfill and the chem waste landfill that I will talk about. And up further east, up close to the edge of the Manzano Mountains is the

burn site, and I'll summarize a little bit of the work that we're doing out at the burn site.

Now, our general groundwater conditions at Sandia, the groundwater exists in two general regimes. We have the basin and fill aquifer that's out closer to the Rio Grande River, and a bedrock aquifer that is up closer to the mountains. Depths to groundwater is a hundred feet closer to the mountains, and about 500, 550 feet out in our tech areas. There's also a perch groundwater system at approximately 300 feet in and around Tijeras Arroyo.

The natural flows from the mountains but because of the water supply wells and the northern north of Kirtland Air Force Base in the city, the groundwater flows then to the north. The water table generally falls 1 to 2 feet per year, but in the northern part of the base, that recharge is starting to come up due to the slower pumping associated with the Ridgecrest well field. We have minimal recharge from rainfall, except in the areas near the mountains. And there's slow flow rates generally on the base, 1 to 2 feet a year, except towards the west end of the base, and there's an area where it can flow faster than that.

So this map, just to show a quick diagram,

are locations of wells across the base and at Sandia. The blue wells are wells owned and operated and managed and sampled by Sandia. The red are those sampled by Kirtland. Not all that represents one well. Some of those are clusters of wells with three or four wells in a particular location.

We have a groundwater protection program, and the purpose of that is to determine any impact of the general site operation activities, mainly around the boundaries, something that's not associated with a particular site. And the data that collected from that, those wells, as well as all other wells that we sample during the year, is documented in the annual groundwater report that's provided to the state, NMED Hazardous Waste Bureau, and it's publicly available on their website, as well as in the Zimmerman Library.

So the wells associated with the groundwater protection program are shown in this diagram. It's a fewer subset than those that were generally shown on the first diagram. And then I'm going to move more specifically into some of the sites that we are currently actively doing groundwater assessment and/or have done remediation at.

The first I'd want to say is that Sandia has never been opposed to doing the right thing when it

comes to remediating a site. And we have remediated five landfills in their entirety, removing all the contents of the landfill, disposing of the waste, and getting closure on those sites. An example of that is our chem waste landfill. It was almost a two-acre landfill. It was operational from the early '60s to the early '90s.

In 1990, TCE was discovered underneath the landfill and proactively and voluntarily, we installed a vapor extraction system, pulled the TCE vapors off of the groundwater, and then, after that was concluded, put in a passive vapor extraction system that's currently in place today. But we also knew that there was a remaining source term there, so we proactively removed all the contents of the landfill, built an engineered design disposal cell, treated the waste and disposed of the treated waste into the corrective action management unit, as it's referred to, where those wastes are now in place and it's actively monitored.

We currently are regulated under post-closure care permit for the chem waste landfill. We have five soil vapor monitoring wells and four groundwater monitoring wells that are installed as part of that long term monitoring program, that

included public input to determine where these well locations should be and the final closure for it.

What I'm showing here is, in the lower left-hand corner is our active remediation when it was ongoing, some of the waste being segregated out of the debris while they were undergoing the remediation, and then at the top, how the landfill looks right now, with an at-grade vegetative soil cover placed over it, that is monitored for ensuring that we have native vegetation growing over the landfill surface and then the monitor wells around it.

Now, our mixed-waste landfill, this is one that has a lot of public interest. It's a 2.6-acre landfill. It was operational from the late '50s to the late '80s. Groundwater monitoring field investigations began in 1990, and as a result of those investigations, we proposed a closure plan for the landfill. And back in 2004, there was a public hearing, with a hearing officer, that was sponsored by the State of New Mexico Environment Department. The hearing officer issued a final order in 2005, selecting our recommended remedy, which was to install an evapotransporative cover, and the state asked us to also install bio intrusion layer at the base of the landfill cover. And after challenges through the

courts, including the state supreme court, that decision was upheld and we then installed the cover in 2009. There are seven groundwater monitoring wells around the landfill, and currently, there are no constituents of concern that have been identified in those wells above regulatory standard.

Now, I will say, some folks will say, "Well, you have groundwater contamination out there." The reason that that comes up is that initially, the process to install monitor well, which uses stainless steel screen that over time corrodes and through that corrosion process, you will identify nickel and chromium in your groundwater wells, we identified that and the state asked us to replace those wells, which we have done. And since those replacements with PVC wells, we've not identified chrome or nickel in those wells.

There's also a concern that comes up that we're not monitoring the right water. Well, the wells are installed at first water below the landfill, where that's been identified. So the depth of the wells are identified in agreement with the state regulatory agency. Now, there are folks that will ask us who want to install wells deeper in the regulatory -- in the regional ancestral Rio Grande, but that's not

where first water lies, so that's where our wells are currently installed. Now, if the water drops below that level, our next set of wells will probably be in the ancestral Rio Grande.

So right now where we are with the mixed-waste landfill is, last year we prepared a long term maintenance and monitoring plan. It's been submitted to the state and they have it out for public review. The public comment period I've noted to be in November, but last week the state agreed to an extension of 30 days for that. So in the December time frame, all public comments will be received on the long term maintenance and monitoring plan for the MW well. And we'll go forward working with state on getting closure to that in FY13.

Here we show a picture of the landfill as it is today. I believe at the last meeting there was a question about why is there an irrigation system over the landfill right now. The reason for that is, we need to establish a native vegetative cover on the landfill. If it were left as is in our drought condition, we would have species like Russian Thistle and sagebrush, deep-rooted plants establishing themselves there. We don't want those. We want native grasses. So we're watering it just solely to

get the native grasses established, and then that system will be pulled out once it's established. And we have biologists that go out and actually physically remove nonnative species if they're identified there. And then I have a schematic of the five-foot depth landfill cover, with the bio intrusion barrier, about three and a half feet of very compacted soil, with a foot of relatively loose soil.

The whole idea of the vegetative cover is that any rainfall that will fall on it will be absorbed by the plants growing on the landfill and then evaporating out, not allowing any rainfall to migrate down through the cover or into the trenches, the subtrenches. And technically, this was the correct solution, we felt, for long term remedy at the landfill given the types of wastes that were there and the fact that it had not migrated. It was essentially a dry disposal landfill, other than a release of water at one time that pushed tritium down to about 100 feet. Groundwater is at 500 feet. We're assessing that.

So anyway, onto our three areas of groundwater contamination. The first is the burn site. That's out at the base of the mountains. Groundwater has been monitored since 1996.

Groundwater there is 100, 200 feet, about 189, in a fractured bedrock system. There's currently ten groundwater monitoring wells. We have nitrates identified in six of those wells and perchlorate in one well. Perchlorate does not have a regulatory standard, but the state has asked us to monitor it if we sea levels greater than 6 parts per billion. The highest that we've seen out there is 9. And our nitrates, we've seen up to 37 parts per million. It's a relatively small plume, and it's nine miles away from a drinking water source. And we have wells drown gradient to the site itself to identify if anything migrated off site.

Now, our current plan is that we are submitting a corrective measures evaluation report at the end of next calendar year, at the ends of FY13.

This is a picture at the site. Again, right at the base of the mountains. Wells around the perimeter and in the middle of the landfill, and then leading away from the -- or from the site down to the canyon.

Our next site is Tijeras Arroyo. That's up adjacent to Tech Area 1, the main laboratory tech area for Sandia. Groundwater has been monitored since 1992. The groundwater actually occurs at 300 feet,

because it's a perched groundwater system. It's anthropogenic, it was manmade. And then groundwater, again, is 500 feet below. So we have a 200-foot buffer there between the perched and the regional system.

Overall Tijeras arroyo encompasses a rather large area, 40 square miles. However, Sandia's responsibility around that is two square miles. Per the request of the NMED, they've asked us to do the assessment of the perched groundwater system. There's contamination in five of the wells with nitrates, and one well has TCE. The highest level of nitrates is 33. TCE is up to 9. And the drinking water standard for TCE is 5.

The suspected source is old and inactive waste discharge systems. And we're also working -- we're assessing data right now, and we'll be submitting a corrective actions report to the NMED in calendar year '14. Our last area -- and this shows a picture of where the wells are located that we use to assess the groundwater in Tijeras Arroyo.

And then this diagram shows in pink speak is the perch system, that area in which Sandia is assessing. Now, actually, that perch system flows across gradient to the regional flow. It is flowing

from the north to the southeast, whereas the regional flows from the southeast to the northwest.

Our last area of groundwater contamination is Tech Area 5. It's on the north end of Tech Area 3. And we've monitored the groundwater there since 1992. Again, 500 feet is the depth of groundwater. It has the highest level of TCEs that we've identified in any of our site characterizations, up to 19 parts per billion, and there's also nitrates in the area. It's a relatively small plume. It's four miles away from any production or drinking water source. And we have 16 wells that we monitor and three soil vapor monitoring wells that are used as part of the assessment of this site. We will be submitting a corrective measures report in FY14 on this.

This diagram shows the extent of the TCE under Tech Area 5. The black line identifies the boundary of the tech area, the TC plume and the round contours. And the next one is the nitrate plume above the drinking water standard. Again, relatively limited to just the tech area itself.

So we also have some miscellaneous solid waste units, management units, that we had done assessment at, had characterized, identified no surface soil contamination. Or if there was, it had

been cleaned up and remediated to clean closure. But during the public comment period on the closure process for these five sites, the public had asked the state for Sandia to do groundwater assessment at those locations.

So we agreed of course and we went out and have installed wells at these five locations that are outside of any of the tech areas that we have. And as part of that assessment, which we're in the middle of right now, one of those sites, an explosive test area, we identified fluoride above the drinking water standard. However, there are fluoride mines adjacent to the site in the mountains, so we believe that's a naturally occurring occurrence.

We also had septic systems and a former burn site where we've not identified any contaminants above the drinking water standard, and one site where we have seen a trace amount of an explosive that has no regulatory standard, but it's less than one part per billion, but we're assessing that. And that well also has arsenic in it slightly greater than the regulatory standard. And we believe that also is probably a natural occurrence, but we'll be doing more assessment around that, and we'll be monitoring these wells for a minimum of two years prior to submitting a corrective

measures evaluation.

So, key points and summary with our groundwater: The contamination levels are typically very low and/or just above regulatory standards. The contaminants are most commonly nitrates and TCE. The sites are generally well characterized. They certainly do not pose a threat to the city or Bernalillo County drinking water wells. And our groundwater protection program and our ER operations will continue to characterize and monitor the groundwater for as long as necessary per the requirements of the State of New Mexico Environment Department.

And then in summary, for our ER operations, it's been a very successful program. We've done a lot of work and we've not hurt anybody. That's most important. And we're working towards closure on all of our sites. We're in full compliance with state and federal requirements, as well as any requirements which the NMED requests us to follow.

And we're fully funded. We have been for 20 years. We didn't to be for FY13. And we anticipate being for the foreseeable future. We have a foreseen closure date for our remediation program by 2020. And that's mainly to deal with groundwater sites.

After that, there's a separate program that's currently in place that takes over the long term maintenance and monitoring activities that's separate to the ER operations. But there is a long term commitment towards particularly groundwater operations.

So thank you for your time and I would be happy to answer any questions you may have.

CHAIRMAN SANCHEZ: Commissioner De La Cruz.

COMMISSIONER DE LA CRUZ: Thank you, Chairman.

Mr. Miller, what do you think is the most troublesome type of material that is either in the landfill or the other contaminated sites?

MR. MILLER: In the landfill meaning the mixed-waste landfill. Well, there's radioactive materials there. I mean, those are certainly items that I would not want my personnel to be exposed to. Not that we couldn't, but it would pose what we felt was more danger to the individuals and to the public than what was of value added by leaving the materials in place.

Over time, those materials would degrade to a less hazardous material. And during a five-year re-evaluation period, maybe the decision would be that there would be a better either technical solution or a

safer path forward, with a forward in which some of the wastes that currently do not have a legal way of -- path for disposal, that we would have a path for disposal.

COMMISSIONER DE LA CRUZ: So you're saying that at this time it is safer to leave it there than to try to remove it?

MR. MILLER: Yes, sir.

COMMISSIONER DE LA CRUZ: But there may be a different option in the future?

MR. MILLER: Yes.

COMMISSIONER DE LA CRUZ: Who verifies the information coming out of your monitoring wells? I mean, you have the data. Who else has that data?

MR. MILLER: Right. The State of New Mexico also has a separate agency, the oversight bureau, who is located at Kirtland, or at Sandia facilities, and they collect split samples with us. And their data is compared to the data which we collect. But there's also a very, very extensive quality control process, both in how we collect the data, how we ship the data, our laboratory processes, all the labs are qualified, as well as a verification process for the data once it's received prior to reporting the data to the state.

COMMISSIONER DE LA CRUZ: Is this available to the public?

MR. MILLER: Yes. All the data is -- one last slide. If you go to the website, it shows the New Mexico Public Reading Room, all our documentation is located there. And all our documentation is placed in Zimmerman Library for public review.

COMMISSIONER DE LA CRUZ: What is the -- if you're aware, what is the oldest hazardous material in any of the sites?

MR. MILLER: Well, Sandia began operations in 1994 as a subdivision of Los Alamos, so that's when operations began, and I'd have to say that's when, you know, work started.

COMMISSIONER DE LA CRUZ: So there's some nasty stuff as old as that?

MR. MILLER: Well, there's -- you know, it's a relative term when we say "nasty stuff." I would say, you know, when I was a kid, I played with nasty stuff, mercury and things like that, you know.

COMMISSIONER DE LA CRUZ: Any reasonable might think.

MR. MILLER: Those things could, you know, more likely be in many landfills across this country, not just, you know, on an Air Force base or with the

national laboratory.

COMMISSIONER DE LA CRUZ: Well, let me restate that. Any reasonable person might conclude that this is extraordinarily hazardous material.

MR. MILLER: Risk is a relative term. I would say we treat our stuff with great respect. We characterize it, we will remediate it, and we will manage it according to all regulatory laws and oversight that we need to follow and want to follow.

COMMISSIONER DE LA CRUZ: Thank you, Mr. Chairman.

CHAIRMAN SANCHEZ: Commissioner Hart Stebbins.

COMMISSIONER HART STEBBINS: Thank you, Mr. Chairman.

Just one quick question. I'm looking at the map of the Tijeras Arroyo contamination. Where is that relative to the Eubank well field?

MR. MILLER: Eubank well field I do not know. So we would be going into here -- I'm sorry. I don't know the answer to your question Eubank well field.

COMMISSIONER HART STEBBINS: You know what I'll do, I'll submit this question in writing. How would that be? And then just ask it later.

MR. MILLER: That would be great. We'll get an answer for you.

COMMISSIONER HART STEBBINS: Thank you.

MR. MILLER: You bet.

CHAIRMAN SANCHEZ: Are there any other questions?

Mr. Miller, thank you for your time and your presentation.

MR. MILLER: Thank you.

CHAIRMAN SANCHEZ: The next item on the agency is Item B. It's the New Mexico Environmental Department presentation on detection of solvents below Elder Homestead. And to make that presentation will be Jim Davis.

Welcome, Jim.

DR. DAVIS: Thank you, Mr. Chair, Members of the Board.

Good -- I almost said good morning. It's not good morning. It's good evening.

Thank you for the opportunity, again, Mr. Chairman, Members of the Board, to come and address you this evening. The title in the agenda is a little misleading, I believe. I'm going to give you an update on the Kirtland fuel spill, as we understand it, and some very recent data that was collected that I think is of particular importance to the board.

Current status, I think I was here in June,

if memory serves me, and we gave a presentation on the status of the spill. And at that time we acknowledged that we had a data gap in the northeastern corner or northeastern extent of the fuel spill plume, if you will, where we'd not yet been able to find the edge of ethylene dibromide. So we directed the Air Force to install additional wells in order to try to define that northeastern extent of the ethylene dibromide. Those wells were completed in October of this year. They were developed, and they have been sampled.

We, the environment department, went with the Air Force in this sampling and we took split samples, and I'll get to the results of those momentarily. At the same time, in June I advised the board that we were directing the Air Force to install interim measures, specifically a soil vapor extraction system. At that time they had completed two dedicated six-inch diameter soil vapor extraction wells. Since then, they have continued to work on the design of the system. We expect that final system design to be submitted to us literally momentarily.

The construction of the infrastructure necessary to support that soil vapor extraction system is ongoing, and the current estimate timeline from the Air Force of when this will be up and running is right

at the end of the calendar year.

We've also talked to them about downhole or in well treatment options that will get at the dissolved phase of this contaminant plume air sparging and air stripping downhole. And they're in the process of putting together a plan to get that to us.

This is a cartoon, a diagram, of some of the wells, and in particular, I would direct your attention to the three new well clusters that are labeled in the upper right-hand corner of this diagram. Those were the wells that we directed the Air Force to install in a effort to define or find this northeastern corner of the EDB plume.

And each one of these clusters has three wells in it. They're completed -- shallow well completed at the regional aquifer. Elevation, an intermediate well that's completed 50 or so feet into the water, and a deep well that's completed 100 or so feet into the water.

This is a repeat of a slide you saw in June. It just has a numeric or water quality standards for ethylene dibromide, benzene, tolulene and xylenes.

This slide comes from the Air Force's second quarter report of this year, showing ethylene dibromide concentrations in wells north of Gibson

Boulevard, and the wells are labeled. You can see the data on the screen. Not all wells obviously have detections of EDB, but the ones that do are labeled on the screen accordingly.

And we also have the production wells on this slide, which is important in terms of orienting yourself. We have the Kirtland Air Force Base well, which is immediately adjacent to one of the new clusters, and then the diagram also shows Ridgecrest Number 5 and Ridgecrest Number 3.

This slide slows EDB concentrations from split samples that the environment department has taken over a four-quarter period, first through the fourth quarter of this year. We don't split samples at every single well, nor do we split samples at every single sampling event. We do it so that we can verify and have confidence in the results that the Air Force is reporting.

And what's particularly important in this slide, Mr. Chairman and Members of the Board, is the very preliminary results, and I'm going to say that several times, but nevertheless, the results from the three new well clusters that show non-detect for EDB at all depths, in all wells of the nine recently installed wells.

Now, I'm going to say that this is preliminary data for a couple of reasons. First of all, it's not yet been formally submitted to us by the Air Force. It's not yet gone through its complete laboratory quality assurance, quality control checks. But we do have confidence in the results that we have received from the split samples, with one very important caveat, and that is that we continue to see entrained air bubbles in the water samples when we take them.

Now, this can, at very, very -- when you have a volatile organic compound at very, very low levels, right at the levels of the detection limits, if you have air in the sample, that air can in fact compromise the reliability of that sample. Because what you're dealing with is volatile compounds that can be stripped out by air. So we recognize this and we want to get to the bottom of this. And we're talking with the Air Force extensively about how to address this issue of air bubbles in the samples.

But given that caveat, nevertheless, we do feel confident that these results will hold and that we will, over time, be able to say definitively that we have drilled beyond the edge of the EDB plume, which is good, because we needed to define that edge.

This slide actually shows some numeric data that was in fact presented in the diagrams and previous slides. All the values are in micrograms per liter, and where we do have bubbles in the wells, we indicate that with a B.

This next slide is a repetition, except that it includes the nine newest wells in blue, Wells 201 through 209. Again, all undetect, but you can see one, two, three, four, five of them did have doubles. We sampled three of them twice in an attempt to reduce the bubbles, to see if we could get better samples. We weren't able to.

So gas bubbles in the water. Possible causes. Could be natural, coming out of the formation. If it was, it would most likely be CO2. Obviously we could be having problems with the pumps and the tubes that are down the wells. They could be pulling air into them. And the drilling technique that was used, we directed the Air Force to use air rotary drilling. When you use air rotary drilling, you inject air into the formation; that's how the drill works. We've seen this same kind of thing at Los Alamos National Labs in wells as deep as a thousand feet, where we, again, have directed Los Alamos to use air rotary drilling techniques

because we don't want to introduce drilling fluids, muds or other things into the aquifer. So rather than using drilling fluids, you use air. But air will -- air rotary drilling will inject air into the formation. So what do you do if that's the case? You've got to pump the wells. You just purge, purge, purge until the air comes out.

A final possibility was a reaction with a preservative in the bottles. We ruled that out because we see bubbles in the tubing before it gets into the sample bottle.

So we have asked the Air Force, we have directed the Air Force to pursue this issue of bubbles in samples, and they have proposed, and we saw the draft today, a plan where they're going to propose to use argon gas as their sampling gas, rather than atmospheric air, so that if in fact there's a leak going on somewhere in the pumps or the tubing, they determine that by detecting argon. Alternatively, if they detect something like CO2, then it most likely is a natural condition and there's nothing that can be done about it.

And I'm not an expert in this regard, Mr. Chairman and Members of the Board, so if you have questions about the argon sampling techniques, I'm

going to defer that to other persons here in the audience with me.

Now, about a month ago, Mr. Chairman, Members of the Board, we made a presentation in front of the interim committee on science and technology, Senator Keller's committee. And at that time, we had been alerted by the Air Force of a possible result of contamination of tetrachloroethylene. Or PCE, and we did issue a press release because we felt it necessary to be completely transparent, even though we recognized at the time that that information was incredibly preliminary, and it was only a result of the water that had been produced in the development of the wells. We obviously wanted to pursue this very vigorously. And that's why we did the sampling we did during the month of November with the Air Force.

Now, this slide right here is from the second quarter record that shows undetect at all wells for PCE. The three new well clusters were put in and they were sampled. And all of them, all three wells at each of the locations or nine wells total, show undetect for PCE. We have not been able to reproduce those results accordingly. It is our conclusion, again, with the caveat that these are preliminary data, that they're going to want to sample more, we

going to want to confirm these results over an extended period of time. But these preliminary data right now indicate to us that in fact the PCE detection, if you will, was a spurious detection. It mostly occurred because of contaminated equipment in the field, and we are not able to reproduce it with water being extracted from the regional aquifer.

So, again, Mr. Chairman, Members of the Board, with the understanding that these are preliminary data, we are confident that there is no PCE contamination in the aquifer.

Brief presentation, contact information. I'd be happy to try and answer any questions.

CHAIRMAN SANCHEZ: Are there questions?

Commissioner Maggie Hart Stebbins.

COMMISSIONER HART STEBBINS: Thank you very much, Mr. Chairman.

Thank you, Mr. Davis. So this is the question everybody has, we've had for a long time. So if these results hold up, the new well clusters continue to show no contamination, you can feel fairly confident that you have defined the dissolve phase?

DR. DAVIS: Mr. Chairman, Commissioner Stebbins, that's correct. We would be -- yes.

COMMISSIONER HART STEBBINS: So then you would

move -- or the Air Force would move into the containment phase? This has been an iterative process, now we know the leading edge. The containment phase, how much time do you expect that to take now? What's the expected lag between? Okay. Now we know where the contamination is. What's -- how long until we get to the next step, where it's actually no longer moving towards our wells?

DR. DAVIS: Mr. Chairman, Commissioner Stebbins, that's an interesting question. I don't think the plume is moving very much at all right now. I don't think it has been for an extended period of time.

Once the source material is cut off, a contaminant plume like this will continue to expand, but it's reaches equilibrium relatively quickly. And as long as you cut off the source, it will expand to some point, but then it basically stops, and it moves as a function of the movement of the regional groundwater. But it's not continuing to push its way through the aquifer.

That happens when you've got a continuous source of contamination that is continuing to move down. But ones that source has been cut off, there is some -- still some movement through the subsurface, but in a relatively short period of time, it reaches

more or less a dynamic equilibrium. And then it moves only as a function of the groundwater movement.

COMMISSIONER HART STEBBINS: Okay. So you're saying that now that the source has been cut off, you expect that between the time it was cut off and now, that most of that has percolated through the vadose zone and won't be continuing to do that?

DR. DAVIS: Mr. Chairman and Commissioner Stebbins, quite frankly, most of the contamination is still in the vadose zone. It never made it to the water. I can't give you a precise estimate, but it might be as high as 75 percent of the total contaminant mass that's still in the vadose zone, and it's not going anywhere. It's going to stay there until it's extracted.

So, you know, again, it's not moving at this point in any rapid way whatsoever. It's more or less stable.

COMMISSIONER HART STEBBINS: So our concern about -- now that we know -- again, if this data holds up, now that we know the edge, our concerns can be alleviated about it ever reaching the well?

DR. DAVIS: Mr. Chair and Commissioner Stebbins, I wouldn't go so far as to say that they would be alleviated forever. But yes, I think this does give

us confidence that the probability that the water production wells will be impacted by this contaminant plume is relatively small.

COMMISSIONER HART STEBBINS: That is excellent news. I think that's the news we've all been looking for. Let's hope that that holds up and that is the case.

I have a question for the water utility staff. So under the MOA, we have agreed to sink what you might call a sentry well. Where is that? So if you look at the map of where the new clusters are, where is that sentry well going to be sited?

MR. STOMP: Mr. Chairman and Commissioner Hart Stebbins, we don't know. We're going to work with the USGS in evaluating all the technical data to pick out a spot that we feel like -- and there may be multiple spots, because remember, the leading edge of the plume is larger than just one spot.

COMMISSIONER HART STEBBINS: Right.

MR. STOMP: So we're going to be looking at all of the regional aquifer information, because we have to look at the groundwater movement as a whole. This thing is going to move as the groundwater moves, and so as the gradient changes over time, that groundwater movement could change over time. So while it might be

moving north and east today, it might be moving due north ten years from now, for example, because of the changes in the aquifer. So you need to evaluate how that's going to affect -- and you do modeling and you can do other things. So we'll be siting that based on the current information and predictions of what's going to happen with the aquifer, and there may be more than one.

So it could be between the existing wells that they have now and the Ridgecrest wells, or it could be a little bit closer to the Ridgecrest wells. We don't know. But one thing we do know is that we needed to have it far enough away, if that's possible, department on where the leading edge is, so that we have adequate time to implement whatever contingency measures we have. So if that's five years to drill new wells or whatever it is, we've got to make sure that that distance of that monitoring well gives us that adequate time to do it.

But I can't definitively say, because I don't have information to say how that regional aquifer is going to change the direction of that plume. We know that it's already changed as a result of pumping. And we've seen other changes in other plumes over time.

COMMISSIONER HART STEBBINS: Would you agree with Mr. Davis that this plume is not really moving at a rate that should concern us?

MR. STOMP: Mr. Chairman and Commissioner Hart Stebbins, I don't know what he's basing that information on, but I do know that the regional aquifer and the water -- and that the water table is going to continue to move. So whether there's a plume there or not, it's going to continue to move. So I would say that the plume is probably going to continue to move in the direction of the regional aquifer.

I think Mr. Davis said that. I'm not sure he said it the way he probably wanted to say it. It was a little bit confusing for me. But the regional aquifer is going to be moving, and that plume will be moving in the same direction as the regional aquifer.

COMMISSIONER HART STEBBINS: All right. Thank you, Mr. Chairman.

CHAIRMAN SANCHEZ: Commissioner Johnson and then CAO Perry.

COMMISSIONER JOHNSON: Thank you, Mr. Chair.

Mr. Davis.

DR. DAVIS: Whatever I said, I meant to say it.

COMMISSIONER JOHNSON: Well, I won't try and tell you what you meant to say, even if I knew.

My quick question is, it doesn't look to me like you've really found the leading edge yet. You found out where it isn't at this point. You know it's not as far northeast as the -- well, it's near KAFB003, you know, it's not there. But like on your northwestern edge over there, you've got a tight cluster of wells that pretty well map out where you know that edge is.

This doesn't seem like to be as tight of s resolution. So what's the next step? Do you start drilling monitoring wells back towards you believe the plume is to do testing until you find it?

DR. DAVIS: Mr. Chairman and Vice Chair Johnson, that's one potential thing that we could do, yes. We were talking about it yesterday afternoon, that maybe after another two quarters of sampling, we may in fact direct the Air Force to drill some additional wells in that intermediate area, if you will.

One of the things that's important to understand is that yes, while we do think we have the boundaries, if you will, on the north and south of this plume relatively well defined, this is -- these curves, or these lines on these diagrams are interpolations. They're not exact and they never will be. But yes, there could very well be in the future

additional wells put in, if you will, in this intermediate area, a closer in to the plume, but in order to attempt to define that better.

The other thing obviously that we want to do is, as the soil vapor extraction unit comes online and operates for a couple of quarters, all of these wells will continue to be sampled on a regular basis, and we want to see whether or not we affect the dynamic of the plume by the soil vapor extraction. This probably will not occur out this far very early. What we will see is closer in towards the source of the spill we'll begin to see reductions in the benzene, tolulene, ethyl benzene and xylene, the BTEX, the compounds directly associated with the gasoline.

But, yes, your idea is one of the -- one of the exact ideas we've been discussing about putting in additional wells.

COMMISSIONER JOHNSON: And that's something to be just determined over the next quarter or so or two quarters?

DR. DAVIS: That's correct. I don't think that there would be any purpose in drilling additional wells right now, but there may well be three or six months from now, yes.

COMMISSIONER JOHNSON: Have you noticed any of

the -- any reductions in any of the chemicals, the BTEX thus far?

DR. DAVIS: Mr. Chair, no, sir, we have not.

COMMISSIONER JOHNSON: Because you've had some soil vapor remediation, correct?

DR. DAVIS: There is ongoing soil vapor extraction at a low volume, using internal combustion engines. What we have seen is evidence of bio degradation on the edges of the BTEX plume. Where the concentration of the BTEX drops low enough, then soil microbes will begin to utilize it as an energy source and they will eventually degrade it to non-detect. They use it completely up. We have begun to see some evidence of bio degradation at the extreme edges of the BTEX plume, which simply means it's been there long enough for the soil microbes to start working on it.

COMMISSIONER JOHNSON: So from your opinion at this point, do you have enough information or characterization of the plume to begin planning for a remediation plan?

DR. DAVIS: Mr. Chair and Vice Chair Johnson, yes, I believe so.

COMMISSIONER JOHNSON: Thank you.

CHAIRMAN SANCHEZ: Mr. Perry.

MR. PERRY: That was my question, a similar question to that.

CHAIRMAN SANCHEZ: Are there any other questions?

Seeing none, thank you, Mr. Davis.

We are now on Item C, and that is the drought and water use update. And, Ms. Yuhas, do you want to make that presentation?

MS. YUHAS: Thank you, Mr. Chair and Members of the Board. I know you've been listening to a lot of presentations this evening. It's been a long meeting. I'm going to hit the highlights on these slides for you.

These are slides that you have been looking at on a monthly basis since we entered this drought. We've been looking at them almost two years now, unfortunately. This first slide is showing us that we are still in severe drought in this region.

This next one is from the National Oceanic and Atmospheric Administration, showing a persistence of drought being predicted through the end of February across, you know, most of the country, and certainly all of New Mexico.

And this next graph that we're looking at is the equatorial Pacific temperatures and the deviations

from that temperature. And up above the black line that runs through the center of the graph are warmer temperatures. Below that line are the cooler. When we're up above, we're in El Nino conditions, and that generates perhaps more moisture for us. And below is the cooler temperatures that drive us into drought, generally.

Last month when we were looking at this, there were still some predictions that we would have El Nino this winter. That has changed. We will not be having an El Nino winter. We're going to be in neutral conditions. This is a rare thing, to have El Nino develop during the summer and then die out in the fall. I don't know what that means for long term drought, but certainly what it means for the predictions for the winter are not good in terms of moisture for us.

And the drought is expected to continue at least through the end of May. And so what that means for this board is that I will be back here on a monthly basis reporting on the conditions and our water use and perhaps in the spring, if it seems appropriate, asking for adoption of some drought management strategy methods so that our customers are aware of the additional need to conserve during this

drought period.

But we always end with a little bit of good news fortunately, and that is that despite the severe drought, our customers are doing a good job. As of the end of October, our customers had used about 200 million gallons less than for the same time period last year. And that's -- they are to be so commended for those efforts, because the second year of a drought is even harder than the first one to get through.

I expect that we will end the year about where we wanted to, which was to use the same amount of water that we did last year and maintain our GPCD of 150 gallons per person, per day.

Thank you. If you have any questions, I'd be happy to answer them.

CHAIRMAN SANCHEZ: Are there any questions for Ms. Yuhas?

Thank you for your time.

If there's no further business before this water authority, this meeting is adjourned.

(Proceedings adjourned.)

STATE OF NEW MEXICO

COUNTY OF BERNALILLO

REPORTER'S CERTIFICATE

I, Kelli Gallegos, New Mexico Provisional Reporter, No. P-409, working under the direct supervision of Paul Baca, NM CCR #112, do hereby certify that I reported the foregoing proceedings in stenographic shorthand and the pages are a true and correct transcript of those proceedings and were reduced to printed form under my direct supervision.

I FURTHER CERTIFY that I am neither employed by nor related to any of the parties or attorneys in this matter and that I have no interest in the final disposition of this matter.

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KELLI GALLEGOS
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