Chair Strickland called the public hearing of the Southern Nevada District Board of Health to order at 5:04 p.m. Stephen Minagil, Esq., Legal Counsel confirmed the meeting had been noticed in accordance with Nevada’s Open Meeting Law.

Board Members Present:
- Linda Strickland, Chair, Councilmember, Boulder City
- Tom Collins, Commissioner, Clark County Alternate
- Chris Giunchigliani, Chair, Commissioner, Clark County
- Nancy Menzel, RN, At-Large Member, Registered Nurse

Absent:
- Tim Jones, Vice Chair, At-Large Member, Regulated Business/Industry
- Donna Fairchild, Secretary, Councilmember, Mesquite
- Stavros Anthony, Councilman, Las Vegas
- Kathleen Boutin, Councilwoman, Henderson
- Kam Brian, Alternate At-Large Member, Regulated Business/Industry
- Travis Chandler, Councilmember, Boulder City Alternate
- Jim Christensen, MD, At-Large Member, Physician
- Michael Collins, RN, Alternate At-Large Member, Registered Nurse
- Susan Crowley, Alternate At-Large Member, Environmental Specialist
- Robert Eliason, Councilman, North Las Vegas
- Karl Gustaveson, Councilman, Mesquite Alternate
- Joseph Hardy, MD, Alternate At-Large Member, Physician
- Debra March, Councilwoman, Henderson Alternate
- Frank Nemec, MD, Alternate At-Large Member, Physician
- John Onyema, MD, At-Large Member, Physician
- Steven Ross, Councilman, Las Vegas Alternate
- Lois Tarkanian, Councilwoman, Las Vegas
- Jimmy Vigilante, At-Large Member, Environmental Specialist
- Lawrence Weekly, Commissioner, Clark County
- Anita Wood, Councilwoman, North Las Vegas Alternate

Executive Secretary:
- Lawrence Sands, DO, MPH
Legal Counsel:
   Stephen R. Minagil, Esq.

Staff:  Scott Weiss; Dennis Campbell; Eddie Ridenour; Walter Ross; Carol Clarke and Shelli Clark, recording secretary

**ATTENDANCE:**

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<td>Nathan Betts</td>
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<td>Michele Burkett</td>
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<td>Oliver Cannon</td>
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<td>Darren Daboda</td>
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<td>Enrique Guzman</td>
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<td>John Hatt</td>
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<td>Amy Kingsley</td>
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Chad Leavitt                                      Eagle View / NV Energy
Gary Leavitt                                      Eagle View
Paul Leavitt                                      Eagle View
Eric Lee                                          Moapa Band of Paiutes (Tribal Council)
Kenton Lee                                        Moapa Band of Paiutes
Joe Leigh                                         NV Energy
Julie Leigh                                        NV Energy
Charles Lindsay                                   NV Energy
Elliott Lips                                      Great Basin Earth Science, Inc. / Sierra Club
Jack P. Martin                                    NV Energy
Calvin Meyers                                     Self
Loretta Minagil                                   Self
Sergio Nieto                                      Durango Inc.
Sally Nolan                                        Self
Charles Norris                                    Geo-Hydro, Inc. / Sierra Club
David Owen                                        NV Energy
Edgar Patino                                      NV Energy
Randall Proffit                                   MBOP
Dakota Pulsipher                                  Self
Par Rasmusson                                     Self
Jason Reed                                        NV Energy
Janice Ridondo                                    Clark County Commission
Todd Robison                                      NV Energy
Vernon Robison                                    Moapa Valley Progress Newspaper
Keith Rogers                                       Las Vegas Review Journal
Michael Rojo                                      NV Energy
Andy Russell                                      NV Energy
Lucy Rutner                                       Jensen Property Management
Mike Rutner                                       Morcon Industries
Russell D. Samson                                  Self
Angela Santos                                      NV Energy
Juan Santos                                        NV Energy
Bill Scatterday                                   Self
Douglas Schwartz                                  Moapa Valley FCU
Mark Severts                                      NV Energy
David Sharp                                       NV Energy
Vicki Simmons                                     Moapa Band of Paiutes
Kay Spotleson                                     Sierra Club
Vinny Spotleson                                   Sierra Club
Ashley Thomas                                     Sierra Club
Jared Tom                                         Self
Lukas Tom                                         Self
Norm Tom                                          Moapa Band of Paiutes
Don Toulouse                                      NV Energy
Colleen Trujillo                                  Moapa Band of Paiutes
Paul Walton                                        Self
Agesto Wanaya                                     Self
Don Wanstant                                      Self
Alan Weaver                                       NV Energy
Don Whipple                                       Eagle View
Brent Woodside                                    NV Energy
Tom Woodworth                                     NV Energy
II. PUBLIC HEARING / ACTION

1. PUBLIC HEARING for the Public to Present Their Views and Questions, and Receive Information on the Proposed Application for Nevada Energy to Modify a Class III Landfill for Reid Gardner Station, Located at 501 Wally Kay Way, Moapa, NV 89025 (APNs 042-07-000-001, 042-07-000-002, and 042-07-000-004)

The following is a verbatim transcription of the public hearing.

Chair Strickland: OK, we’re here today for a Southern Nevada District Board of Health Public Hearing and I just want to confirm with our counsel that the agenda has been posted in accordance with the Open Meeting Law.

Stephen Minagil: Yes, Madam Chair, it has been.

Chair Strickland: Alright, thank you very much. This public hearing is for the public to present their views and questions and receive information on the proposed application for Nevada Energy to modify a Class III Landfill for Reid Gardner Station, located at 501 Wally Kay Way, Moapa, Nevada. We’re going to start this hearing by having Dennis Campbell of the Southern Nevada Health District give us some information regarding the application.

Dennis Campbell: Thank you, Madam Chair. My name is Dennis Campbell and I’m an environmental health manager for solid waste and compliance. What this is, Nevada Energy in December 2009 submitted an application for a lateral expansion for their Class III solid waste landfill at the Reid Gardner power plant. A Class III disposal site is a landfill which accepts only industrial solid waste. The landfill, in this particular case, accepts waste generated by a power plant operation, including fly ash, quantum ash, scrubbing air emissions and waste generated primarily from the combustion of coal or other fossil fuels. This application has gone through our review; staff has reviewed it; and held a couple of workshops prior to this meeting to accept comments and written questions. And again, during this process we will be accepting comments and addressing those comments and questions as we proceed.

Chair Strickland: OK, great. Thank you. My name is Linda Strickland, I am the chairwoman for the Board of Health for the Southern Nevada Health District and my purpose in being here today is to basically monitor this meeting so that you’ll have the opportunity to come forward and express your views. I’m going to open this up to public hearing right now and what I would suggest since there are a lot of you who probably have a lot of views about this, I would hopefully suggest that those who have time commitments and need to get home to your family that we allow those people to speak first, and that if you don’t have such difficult time commitments maybe you can wait until the others are finished. But I’m going to allow each of you an opportunity
to come forward; your comments though should be directed to the issue of the lateral expansion of the landfill. You may have issues and particular opinions regarding whether or not you think the plant is a good plant or a bad plant, or you have concerns about air quality or water contamination...that is not the issue presented to the health district at this time. Our issue is the lateral expansion of the landfill – these other issues are handled by other entities. So with respect to the issue of the lateral expansion of the landfill, you have some comment that you would like to make, please come forward to the microphone. Please state your name and you can tell us whether or not you live in the City of Moapa. Anybody want to come forward?

Darren Daboda: Good evening. My name is Darren Daboda; I'm the Tribal Chairman for the Moapa Band of Paiutes. I'm glad that we have this opportunity again to discuss this landfill because we've had issues in the past historically. Moapa Band of Paiutes seek to preserve their existence as a tribe by guarding against involuntary risk imposed by the coal combustion residue located in the solid waste form near the Moapa Indian Reservation within the Southern Paiute reserved land. Right now the closest proximity to Reid Gardner Nevada Energy is 800 yards, so it’s really, out of all the communities, it’s right in our backyard literally. So we get all the major impacts. Moapa Band of Paiutes believe that it's important to pay attention to these unique lifestyles of the tribe in order to understand how [comment] determine the likely exposure pathways that can provide a more unique understanding of tribal impacts. The plant uses coal from various sources in the west, including Utah and Wyoming. Western coal has the highest natural occurring radioactive material that once mined, chipped and burned in Reid Gardner plant has technically enhanced and is distributed for a landfill at the Reid Gardner plant as coal combustion waste. Moapa Band of Paiutes believe in the coal combustion raised once technically enhanced poses an eminent threat endangering the Southern Paiute people as a whole and Moapa Band of Paiutes specifically. The history of the concern from Moapa Band of Paiutes for the people has been the radiation, originating particularly after 1950 when the U.S. conducted above ground testing for weapons of mass destruction. Radioactive fallout from the Test Site fell on the Southern Paiute [comment] territory and Moapa Indian Reservation. The people believe that the sickness and the disease that we've incurred over the years has been cancer and thyroid. For us to continue to live as traditional people our lifestyle played an important role on the increased risk of exposure. Diet, what [comment], mobility, what we wear and shelter, how their homes are constructed contribute to the increased risk of exposure. The lifestyle has changed in some important ways and others are still the same. In closing I’d like to say the Moapa Band of Paiutes have a long history of bearing an inappropriate burden of risk from the Reid Gardner plant without realizing the positive benefits that were promised to them. In the near future the tribe seeks further study of the environment and health risk issues, toxicity, and exposure pathways that are unique to the Moapa Band of Paiutes. We look forward to cooperating with the Southern Nevada Water Authority and all other potential agencies who help protect the Southern Paiute people. Again, I appreciate everyone
coming here because this is an impact to our community. And like I said, we are the closest community that’s being directly impacted by this. And thank you.

Chair Strickland: Thank you. OK, who else would like to come forward and offer some comment? Who would like to come up next?

Norm Tom: My name’s Norm Tom. I’m a Moapa Band of Paiute, one of the members there. For thirty-five years we’ve been farming and I’ve seen a lot of death. I don’t know how much you guys are taking care of all this, but you guys are killing these people up there on the Muddy River. I’ve got a pond right here within about 400 feet and nothing had ever happened. Every time we make a complaint or a phone call, you guys haven’t done anything about controlling all this daggone dust. We breathe it; we even eat it. We have kids on the honor roll at school and you guys are actually killing…it’s better just to bring all the Indian people out and shoot ‘em all with a 45 caliber gun. Your building up there on top of that hill right there and you aren’t going to control that. Last year right there in May we got a south wind coming up, they had to put a notice up to tell the kids to stay inside. Now if you guys can operate something like that…I know some of these people that are on that Nevada Power … with Mr. Tom Collins right here. We have a beautiful farm up there, we put up hay. Now I know when you guys...every time there’s an overcast that blue/brown haze that’s above our farm up there, our top bale turns black...never did used to do that. I’ve farmed up there pert near all my daggone life. And we want to get back into farming. We want to grow organics. We’re starting different things that we want to try and stuff. But you guys sit up there and for all these years you haven’t controlled it. What are we going to do about these ponds down here within about 400, 500 feet from our greenhouses? Anybody have any questions on that? I hear they’re going to close them off, but I don’t know if they’re going to do it or not. Alright, thank you.

Walter Ross: I can respond a little bit on the ponds, although it’s not our regulatory authority. There’s been recently a permit issued to move...that includes moving those ponds that are in close proximity to the Moapa Village up on top of the mesa adjacent to, a little bit east of the proposed lateral expansion of the landfill. And that’s a permit issued by Nevada Department of Environmental Protection’s Bureau of Water Pollution Control. And that’s the plan and for many years they’ve been trying to do that, and they finally accomplished the permit and they intend to move it assuming the permit and the plan moves forward.

Mr. Tom: But we are a prayerful people. Like I said, here when we had a children’s prayer out there at the reservation…our religion…we…I came up from a prayerful line. My grandfather, my grandmas all the way back, we prayed all the time, before the sun comes up…that is part of our…and we have to live directly right there towards that daggone Nevada Power plant. And I’m not very happy either. You know, as far as I have confidence in my government, I don’t know, you know, especially out there in the county, local, state or whatever. Things are just going downhill real quick. Thank you.
Chair Strickland: Thank you.

Ian Zabarte: Good evening. My name is Ian Zabarte; I work for the Moapa Band of Paiutes, Department of Environmental Protection. I just wanted to get back to the solid waste landfill and the issue of material entering the community. The Chairman submitted photos that are there at your desk and I think you need to take a look at these photos. This was an event not dissimilar from today when the rain came and it blew the material out of the landfill into the tribal community area – this is not from the ponds, this is from the solid waste landfill. This is going into people’s houses, into their vehicles, into their living spaces, into their bedrooms. This dust is getting deep into people’s lungs – it’s in their hair, it’s in the eyes, it’s in their mouth. And the way we’re able to distinguish this from the sulfates or the salts and other chemicals coming from the ponds is that this did not sting the skin. But this same material is the size, the coarseness and chemical composition which includes increased uranium being burned that we’re taking into our lungs and we’re breathing this over and over again and some of the workers who are breathing this, they need to be aware of it. If you have some problems, I think you need to talk to your employer. But we’re all breathing this in and out…the coarseness is chewing up our lungs. It’s scarring our lungs. And I’m already at risk of silicosis from the number of hours I’ve spent underground at the Yucca Mountain project when they were running that big drill, so I can’t endure any…and I’m also Western Shoshone so I can’t endure any increased burden or risk from silicosis, any of those aggravating factors are aero-allergens, respiratory distress…I can’t endure any burden from that or from the radiation. So that’s my comments as an individual. Thank you.

Chair Strickland: Thank you. Who’s next?

Tony Garcia: Hello, my name’s Tony Garcia; I’m the manager of environmental services for NV Energy, responsible for the Reid Gardner facility. I want to go on the record by first of all saying NV Energy appreciates the diligence and outreach efforts of the Southern Nevada Health District regarding our request to expand our long-lasting Class III disposal site. We think it is important to note that approval of this application provides a number of local benefits, regional benefits and environmental benefit. Those include enabling our company to continue to remove the pond solids away from the Muddy River flood plan. Under an agreement with the Nevada Division of Environmental Protection we are addressing impacts to groundwater from historical operations and we believe already we have already retired two former impoundments in the Muddy River flood plan this year, and properly disposed of that material into our existing landfill. We also believe that further protecting the Muddy River and local groundwater in the event of severe flooding conditions as the new evaporation ponds will be more than 100 feet above groundwater and approximately two and a half miles away from the Muddy River and the Moapa Band of Paiutes. Also avoiding safety problems on roadway congestion associated with large twenty-ton haul trucks on local roads and interstates in the event that this landfill does not get approved. In fact off-site disposal will potentially result in approximately sixty daily
truckloads of ash generated from the current operation for a shift to an off-site Class III landfill, also reducing negative environmental effects associated with additional vehicle emissions and dust impacts if we cannot manage our waste on-site and avoiding higher customer costs that would be incurred if the waste were trucked to an off-site landfill. We understand the Sierra Club is not shy about intentions to close Reid Gardner generating station. While we certainly respect their right to challenge and disagree, we have an obligation to our customers to continually run the power plant with or without this permit. We feel the focus of this process should be on whether or not the Southern Nevada Health District and NV Energy follow all current regulatory requirements. We believe this process which began with our initial application filed back in December of 2009 has followed the letter and intention of the law and regulations and that it has been thorough and open to public comment. Finally, we believe it is important to emphasize that the thirty-day public comment period set by the health district for the application ended on June 7, 2010. In addition to the thirty-day public comment period, the district held two public workshops pertaining to our application on May 26 and June 1. NV Energy recognizes the importance of meaningful public input to the district’s decision-making process and NV Energy has gone far and beyond its regulatory obligations to assist the district in this effort; however NV Energy is concerned that comments such as this have been made, and as stated earlier, coming so late in the application process serve only one purpose – to delay actions by abdicating both the facts as well as the district’s regulatory role by raising issues irrelevant to our application. NV Energy has seen the Board of Health hearing on its application delayed three times in over three months and we believe these delays impact more and simply our future plans for safe disposal of dry coal ash. We believe these delays serve to both deprive the public of important local and regulatory benefits and prevent us from taking the action we believe are most consistent with our corporate values in remaining good and environmental stewards. We encourage the Board to approve our application request on October 28. Thank you.

Member Giunchigliani: Could I just clarify…so you can continue to operate regardless of whether the modification of the landfill…

Mr. Garcia: Absolutely.

Member Giunchigliani: …and so the issue is whether or not you have to truck the…

Mr. Garcia: If you don’t get the application approved, we have a secondary plan that would require us to ship the ash off-site while continuing to operate the plant.

Member Giunchigliani: OK, and what is the time for the permit on the current plan?

Mr. Garcia: I believe currently, if we just operated the permit we’ve got about five years left in the landfill, then with the additional work that we’re doing as part of an environmental improvement project which is to relocate all of the ponds that are currently close to the reservation, close to the Muddy
River, as those ponds become full we are planning to take those out of service and by taking them out of service we then have to remove the solids from those ponds and put them in the landfill and in hopes that we'll also get the lateral expansion to keep the plant running for as many years as it needs to as well as complete our environmental project.

Member Giunchigliani: So the plant is good until 2017, no matter what. And then the ponds are a separate permit?

Mr. Garcia: Uh, I don’t know where your 2017 came from.

Member Giunchigliani: It’s the pond years…

Mr. Garcia: Right now what's filed, and I could be…someone needs to correct me…right now the integrated resource plan we have filed with the Public Utilities Commission is having Units 1, 2 and 3 retire in 2020; Unit 4 (there’s four units out there) I believe is 2025, 26, somewhere around there.

Member Giunchigliani: Mm-hmm.

Mr. Garcia: The 2015 you’re talking about probably had an association with the construction of our Ely power plant, which is up in Ely, Nevada, where if that plant was to be constructed it should have been constructed and in service by 2013, 2014, which would also have been coinciding with the shut-down of Units 1, 2 and 3.

Member Giunchigliani: And then the land, the permit for the ponds…

Mr. Garcia: Mm-hmm.

Member Giunchigliani: …is separate from this?

Mr. Garcia: Absolutely. Totally different. That’s under the regulatory jurisdiction of the NDEP…

Member Giunchigliani: NDEP.

Mr. Garcia: …Bureau of Water Pollution. Thank you.

Chair Strickland: OK. Anybody else wish to come forward? We have a gentleman in the back and we have a gentleman up here.

Member Collins: Step up. First one to the mic.

William Hurd: Good evening. I’m William Hurd from Mesquite. I have about four points to make very briefly. One is I think there’s absolutely no question that the existence of this power plant and the related disposal has been detrimental to the health of the people that live in this community here. I think that’s conclusive. Second I think the new spreading ponds and disposal site itself will increase that hazard both to the health and the groundwater in the area – it will increase the risk. Third, it will
enable...the next thing it will enable the operation of the original three towers and the burners in the power plant to operate longer. The next thing that's going to happen is NV Power will want to extend the life of those old very dirty burners and that's going to extend the health hazard beyond the design life of those things. And I'm totally opposed to extending the life of coal power plants that are obsolete and very dirty. And fourth, we shouldn't be putting any capital expenditure into extending the life of coal power plants – we should be using that money to develop clean energy, which is in the best interest of the state. This is a perfectly good area, the transmission lines are in place. You could very economically build a solar power facility in this area and that would be much more in the interest long-range of the people in this community and of this state as a whole, and the country. Thank you.

Chair Strickland: Thank you. The gentleman...

Calvin Meyers: My name is Calvin Meyers. I'm from the Moapa Band of Paiutes and a tribal member; of course very few of us left and if this kind of plant keeps going on there will be none of us left soon. What I have a problem with is breathing the air, and the air is part of the problem. The problem is expansion of this waste is doing to be breathed by me and my fellow tribal members. For how long are we going to live like this...how long can we live like this...how long can we survive? Some of the things that have already been done is that NV Energy and Bureau of Land Management have not done a very good cultural survey of the area. I went up there and looked at the some of the site...I found a lot of stuff that are up there...I found a lot of stuff there. They tell me there are gravesites up there. But yet nothing has been done. Part of my culture...that's part of who I am...and who I am is I'm a four-force Paiute. If you take and continually take away from me my culture, I may not be a four-force Paiute. I cannot do my...I cannot practice my religion anymore, I cannot eat my natural foods that we gather, I cannot use the skins anymore of the rabbits that we use for clothing, I cannot use the willows for housing...I can't do any of these things anymore because they're all contaminated and they will continue to be contaminated. And it's not the will of the Paiutes to actually stop something – it's our will that we survive. It's our will that we work with people. That's why we are here tonight...we want to be...we want to let you know that we watch things. In fact if you go up on the reservation and a car's been sitting long enough, you can go up and wipe that dust and it's all silica that you wipe off. It's the sharp stuff that you can see. If you go inside your vehicle and it's been sitting there for a while, you can see that pink stuff sparkle off the windshield. That's the stuff that we breathe because of these dumps that Nevada Power has. Nevada Power is not the cleanest place. I worked there before. You can go down there...and I'm not sure how far the stuff that comes out of the sides of boilers leaves the premises, but there are places where they do come out. I see...I watch the clouds of the coal that come up when there's something goes wrong, and then have somebody say well that's something completely different there – you didn't see what you seen even though there are pictures of it. That's telling me that everybody that lives in the area are liars – liars that we have great health. We get
nothing from Nevada Power – all we get is heartache. We go down and try to work with them and they tell us well nothing’s wrong, everything’s OK. I worked there as our environmental coordinator for a long time. I went down there to Nevada Power and talked to them and they told us that everything is fine. They told us that nothing gets off-site and that if it does it’s not harmful. Well they have monitors...there’s one on the reservation. But you know what? You might as well not have one there because it’s not monitoring stuff that’s going to harm – it’s monitoring little piddly stuff that they’re saying we’re good neighbors now, we’re doing very good modeling and we let you know whatever we’re looking for gets off. Well that’s only what they’re looking for…it’s not what harms you, it’s what they want to do. It’s their fakeness in how they treat the people, the public. If they were to monitor the real stuff that harms you, they would find that those alarms go off a lot, because we breathe those. We breathe those chemicals when they come off those ponds. We breathe all of that dust that comes off from the ash. And that’s, sorry to say, that’s part of the problem of these dumps that are supposedly OK to have up there. And I’m sorry to say, but when we talk about the better good of the people, well you know who loses? I do and my people do, because they don’t care about us. We are just something that’s in their way. And that’s how they make you feel; that’s how they make you...when they tell you that everything is OK and you know it isn’t. You know that when...like when I walk down to my cousin’s house and that stuff comes across and it gets into her house. When she opens up her windows she can’t breathe very well. Well what is that from? Is that because something from somewhere else just automatically just comes in to our reservation? No, it’s from the direction of the wind bringing that stuff off from Nevada Power’s ponds and their dumps. That’s just stuff that we breathe. That’s our lives. You guys have nice lives because you don’t have to breathe those things. We breathe those things 24/7. And when we told that to southern Nevada Power people who went and had meetings with them, their comment was our people don’t get sick. Well, of course they don’t because everything that goes up comes down on the reservation. They don’t get to breathe all that stuff, and they’re only there for eight hours a day – they don’t breathe it 24/7 like we do. And it doesn’t just...’cause I live the closest to the plant. Me and my brother we live the closest to the plant, we’re right there at the edge of the reservation, our boundary marker’s from here to that wall away from our house. And the ponds aren’t all that far away from us. What we do is we breathe that stuff. And I don’t know how we’re gonna get people to understand; I don’t know how we’re gonna get people to be sympathetic and try to help us survive. The federal government doesn’t care. [comment] doesn’t care. They’ll go work with Nevada Power and we’ll go tell ‘em we’ll do whatever you want, we’ll sign whatever you want, we’ll make everything as easy as we can for you. We’ll get rid of all these other people and we won’t listen to them. We’ll take their comments down on pieces of paper and we’ll just go hide ‘em somewhere. That’s what they think – that’s how we’re treated. Well we shouldn’t be treated that way. Would you like to be treated that way? Would you like to have everything that is bad for you to breathe that every day of your life and see how long that you live and see how well you live, see how your health deteriorates?
Well that’s what we do, we watch our kids grow up. And our kids aren’t growing up the same as they used to, like I did when I was younger. They’re having a lot of problems, a lot of health problems. And the major source of pollutants that we can see is Nevada Power. So there’s something that has to be done with this. And it has to be done today. It can’t be put off for twenty or thirty years. Twenty, thirty years we may all be dead. And is Nevada Power going to pay for our health? Are they going to pay for my hospital bill when I have to go to the hospital because of breathing problems, or my cousins, or my cousins’ kids when their babies don’t grow up right? Are they going to pay for that? No. They don’t care. That’s not their problem. All they want to do is generate power so someone else can have that power cheaper. But our lives shouldn’t be for sale, and that’s what they’re doing. They’re selling their lives for nothing. Thank you.

Chair Strickland: Thank you so much. Yes, step up.

Maren Brown: Hi, my name is Maren Brown and I’m from Mesquite, Nevada and I have a question. First of all, I’m told Ms. Fairchild is on the Board?

Chair Strickland: Yes, she is.

Member Giunchigliani: Donna is, yes.

Ms. Brown: And she’s not here today? No. OK. I’m having a severe problem in knowing that no health studies have taken place, for not just here for these poor people but also for Mesquite, Logandale, Overton, and let’s see...you’re going to have Beaver Dam which is in the way, and you also have a few others as well as St. George. You know they are reporting some problems that they are receiving chemical from here in Zion National Park. OK, so it’s traveling quite far. And for things that are happening today I can’t believe people that are involved with health why you would condone making this thing larger and bigger when the Indians were here first. It’s like they built the plant after...you know the Indians were here then they bring in the plant, then they promise them a bill of goods which has been happening for how many years?

Male voice: 500.

Ms. Brown: A lot. So the problem is if you have anything to do with the medical industry here, I mean after all the department does say “health,” I think it’s first and foremost that everyone from here all the way through to St. George need to be tested. That I do agree there’s enough places around here that Nevada can be a state that does a lot better with energy in regards to sun and wind and thermal. Coal business as far as I’m concerned should wean their way out, they’re too old. Too old.

Chair Strickland: Thank you. Who else? Who else would like to speak. Step up here.

Agesto Wanaya: My name’s Agesto Wanaya. I’m from Pine Ridge Reservation in South Dakota; I’ve lived in Vegas for the last twenty years. A couple little stories. I listen to my brothers and my uncles...we know what justice is
and what just us is. And I remember the fear on our reservation in 1975 when the government came in and mined uranium and put all the scrap and stuff in the White and Cheyenne Rivers which dumps into the Missouri and to the Mississippi. They haven’t figured out why they have a dead zone down there in the Mississippi Sound, but they will someday. Recently I went to the coast with members of the Sierra Club and we talked to the Houma Indians in Louisiana, and no you really don’t know how far this has traveled, because you get to share something in common with those people. I talked to Clarisse, who’s the elder down there, she’s just downright a great lady. And while we’re were talking about the pits that the oil companies had dug, they’re the size of three football fields and put toxins in them that are killing people. The settlement was given to them that amounted to power payments – two monthly power payments – that’s all they think a life is worth. I’m looking at all these green feathers on the ground; I know what those are because we have them. I check the flyways and there are feathers and they come here. They walk in that toxin down there and they bring it back here and they walk in this tundra and they take it back down there. Five billions birds fly through flyways every year. And my question is…my father was a captain in 1952 in the United States army, stationed in Camp Carson and he had to come out here for those above ground nuclear tests, atomic bomb tests. Nevada has a high water table, a very high water table. Mercury is uphill from us in Vegas. You guys are uphill from us. Where does that water go? They want to move a pond. Where do you put a pond that doesn’t filtrate back into the water system, or drain into the Colorado River system, and there’s a whole lot of people from here to the Gulf of California that take all that water. This man said it all. It’s costing their lives. It’s costing us people. Our culture. We are the keepers of Earth Mother and when we’re gone, there’s nobody left to teach the other people how to take care of this Earth Mother. All I ask you is to please pray for the Earth Mother, pray for these people. Because they’re not the only ones suffering…you all pay for this somewhere, they just haven’t figured that out yet. And thank you for your time.

Chair Strickland: Thank you. Who else would like to come forward and give your comments here today?

Michele Burkett: May I deliver…

Chair Strickland: Of course.

Ms. Burkett: Thank you.

Chair Strickland: Thank you. We’ll make this part of the record.

Ms. Burkett: Thank you, that’s the intent. Thank you very much. My name’s Michelle Burkett and I’m from Mesquite, Nevada. And I just delivered some postcards and in addition my message is that I know very little about administrative law, but I think that’s what we’re talking about. And I do know that we’re also talking about large responsibility. And you ask us to stay on point just to the landfill, and it’s very specific. The Board is
being charged with the landfill. So again I’m not as familiar with
administrative law and not sure what kind of review that you’ve done or
intend to do, or if that review is complete. But we are asking that you
take a full and honest and complete review of the issuance of a new
permit for this landfill. It seems, again I’m a layman – I don’t work in the
industry – I mean it’s large, 252 acres; we’re talking about a big landfill.
Is it possible that it should be…I know that the permit has asked for
that, but maybe the permit should be incrementally, maybe it should be
a smaller landfill. One of the things that concerns the people that I talk
with is we know that the federal EPA is reviewing coal ash waste
disposal as we speak. And as a layman I’m not sure really how you
must know that, must be aware of that, how you can make your decision
on disposal before that federal research is completed. So again my
message is you have a very serious job and we just ask that you take it
as serious and slow as you possibly can. Thank you for your time.

Chair Strickland: Thank you very much. Who else would like to come forward and leave
your comments here today?

Mr. Garcia: Linda, can I answer a couple questions, if I may?

Chair Strickland: Certainly. Go ahead. Oh, wait we have someone coming in.

Vicki Simmons: My name is Vicki Simmons. I’m a member of Moapa Band of Paiutes. I
don’t know if I mean anything to you people, but I mean something to
myself and my people mean something to me. And I’m not for any
expansion of the coal plant. This is my brother Tony Simmons; he died
at the age of thirty-two. He worked in the coal plant night and day – he
enjoyed that job so much he never wanted to take a day off or sick leave
and put in so much overtime. He died at thirty-two. Within one month’s
time his heart was so enlarged. And I moved away from the reservation
at that time, and by the time I came back our neighbor had also died of
the same, well another heart defect and they were the same age. And
his name, Wally Kay. Here’s his funeral announcement – the power
plant is in the background because that’s what we look at every day.
But he just spent twenty-four hours there. And for that reason I’m
speaking up. I have a son working in the…where the solid ash is being
disposed of and it breaks my heart that he wants to make that money so
bad and have a good job, but I don’t call that a good job. And I don’t
know what we can do, but that’s what I wanted to tell you guys. Thank
you.

Chair Strickland: Thank you. Mr. Garcia?

Mr. Garcia: I’d like to address the question, or the issue raised regarding the off-site
emissions from the facility. I’d like to make note that under the Nevada
Division of Environmental Protection Bureau of Air Pollution Control we
have the requirement, of which we’re in full compliance with, to have
ambient air quality monitors surrounding the facility. An ambient air
quality monitoring system is to collect known contaminants or emissions
that come from our facility out of the stacks, whether it’s dust or what
have you. One of the individuals indicated that we do have an ambient
site on the reservation. I will tell you that requirement came in 2003 as ordered by the Southern Nevada Health District, or Clark County Health District at the time, when we were also asking for a modification of the existing landfill. And the reason we installed that ambient site on the facility was because of complaints of dust, odors and what have you. The reason we agreed to that is because we also wanted to make sure that we were in compliance with the national ambient air quality standards which actually regulate the emission limits. Now keep in mind there’s limits to everything as far as national ambient air quality standards. When we installed that facility, we agreed to offer copies of our quarterly reports to the Moapa Band of Paiutes. We have given them copies of those reports since 2003 every quarter and I can tell you that every quarter we have been below the national ambient air quality standards. The agreement we made in 2003 that we would address particulate matter that was brought up as far the little crystalline or what have you, so we have monitors on the reservation. We have not just one, we have two continuous...actually one’s every sixth day. We also have a hydrogen sulfide monitor on-site which is the odors from the ponds that we were of concern at the time. Those also have not exceeded any of the national or state standards at the time. So we’re not deaf in the fact that we have concerns by the local community, but we also have obligations by EPA and the Nevada Division of Environmental Protection to put monitors all around our facility and report the results of those results to the state on a quarterly basis. We are in compliance with the national ambient air quality standards. So we’re not on deaf ears with the concerns; we agreed to install the monitor on the reservation. We give them copies of the reports. The state gets copies of the reports. And I’m telling you we are in compliance. So again it’s important to know we have heard their concerns. We’ve agreed to install the monitors. And again back in 2004 at the direction of Glenn Savage, who’s still with the district, and we asked ourselves today whether that was a good idea, and absolutely it’s a good idea. We have provided Mr. Ross with copies of the last two years, I believe, of monitoring reports from that facility and that, too, will also go on the record that we are in compliance with the numbers. I just wanted to clarify that for you guys.

Chair Strickland: Mr. Garcia, I have a question for you. And I think we’re getting a little off topic because we’re supposed to be talking about the landfill.

Mr. Garcia: I was addressing the dust that was indicated.

Chair Strickland: I understand. And my question is really off-topic because you’re just now...

Mr. Garcia: That’s fine.

Chair Strickland: …addressing something that was a little off-topic. There’s been an allegation made here today that the monitoring may not necessarily monitor things that are air-borne and that there’s a cloud of this materials that’s ending up over at the reservation and that your monitoring isn’t monitoring that all, and how do you address that?
Mr. Garcia: Again, the requirements are not dictated by us, but dictated by the regulatory authority, in this case the Nevada Division of Environmental Protection Bureau of Air Pollution Control. Given the operation that we have, knowing the emissions that we potentially have from the facility, they tell us what we’re supposed to monitor for and that’s what we’re doing.

Chair Strickland: And is what the health district told you to monitor something different than the Environmental Protection Agency told you to monitor?

Mr. Garcia: It’s not anything different; it’s just a different location.

Chair Strickland: I see. Thank you.

Mr. Garcia: So we were doing the same monitoring that we’re doing on the reservation and we’re also doing it at different locations around the facility. Now each one of the locations monitors something different, it’s not all a long list of things, but it’s something in the location that was designated to us as to where to put this monitor, and we’ve been doing it since the operation started. That’s a requirement. So it’s not different than what we’re doing at the different facilities, just in addition to.

Member Giunchigliani: Mr. Garcia…

Chair Strickland: Go ahead.

Member Giunchigliani: …that’s a good question. So you guys have one that does ash, one that does silicon, silica, one that does…

Mr. Garcia: Correct. The pollutants that we’re monitoring are hydrogen sulfide, NOx, SO2, particulate and ozone. Those are the ones that are required.

Member Giunchigliani: To your knowledge has NDEP pollution department been down here to confirm whether those were the appropriate sites for locating…

Mr. Garcia: They’re the ones that told us where to put them.

Member Giunchigliani: And that may be. And this is probably not your call, but I’m curious if they’ve actually been to the sites where they directed the stuff installed. OK. Real simple follow-up.

Mr. Garcia: We get audited, I’m sorry ma’am, we get audited frequently and if there was an issue, whether it’s through a report or something they see on the way in, they will definitely address it.

Member Giunchigliani: Well something like the picture we saw with the cloud of whatever it might be, someone would have to call and report that to the state and not to the air quality in the county?

Mr. Garcia: The State of Nevada regulates Reid Gardner Station. It’s a complicated issue.
Member Giunchigliani: Yeah, that is.

Mr. Garcia: Thank you.

Eddie Ridenour: With regard to the landfill…

Mr. Garcia: Mm-hmm.

Mr. Ridenour: …this particular set of photographs was generated from a complaint back in May. Our office was notified because the complainant felt that the debris in the wind was coming from the landfill and our investigation on site at NV Energy, and at that time they were doing some maintenance of the ponds and the dust was being generated from within the ponds during the remediation.

Mr. Zabarte: No, ma’am. I’m the complainant. That was July 30th at 6:30pm; those photos that you have there took place. There was no activity at the ponds. That was dust from the solid waste management on top the mesa. I took those. I called the weather service during that event and they have identified the cell tower…

Member Giunchigliani: But you did get the ones that you did go out and so you could actually go out on site.

Mr. Ridenour: We’re not restricted from going on site at all.

Member Giunchigliani: It gets confusing in government, as you all know. Being at the county we have air pollution, well air quality, if there’s a dust issue then we get called, but apparently the health district gets called, NDEP gets called…just trying to sort through all the bureaucracy.

Chair Strickland: What date again did you say your photos were taken, sir?

Mr. Zabarte: That was July 30, 2010.

Chair Strickland: OK.

Mr. Zabarte: And I did contact the plant first because they’re the ones that put water down. My second call was to the health district – there’s no answer. The response from the health district several days later was they sent someone out and they didn’t see anything. Later on they also said that they don’t work 24 hours a day, which is fine. I reported this, I submitted the photos, they said (that man) I don’t know where the photos were from, where they were taken. And I said well I took them and they essentially gave me the brush off. But that came from the solid waste landfill up top. I took those.

Chair Strickland: OK.

Ms. Brown: Hi, I’m Maren Brown again. My question is OK we’re talking about the expansion, we’re talking about the particles and we’re talking about it getting mostly where I see it’s detected only is around the plant which
according to them the rules and regulations say that’s what they can do. And there’s a couple places here on the reservation. But we also know this is a big sky out here and there is a lot of wind that comes from point A to point B. So I don’t understand where there could be a problem in requiring complete health assessments in the different areas around this to actually see if there really is a problem with those once and for all. And my problem, the whole problem is here the Indian reservation was here before the power plant ever got here and it’s amazing to me how many people ignore these people where half of them are sick. Half. And you think, oh everything’s OK according to what the coal plant tells you in order to extend a permit. It doesn’t make sense. If not, we need to be hearing from you who the different agencies are that need to be contacted to know that this is what we want to have. Where is that list? Who’s going to tell us where to go since politics is so convoluted? In favor of coal plants, especially the one over behind Mesquite where they were going to be railroading in the coal in order to build it? Give me a break. I’m sorry. This coal business, you know, should be stopped.

Mr. Ross: If I comment on the…

Chair Strickland: Yes, go ahead.

Mr. Ross: I think there’s been enough comments on the concern for public health. And it’s going to keep going on all these comment forms, as the lady just spoke expressed. I think I found in trying to follow up on this is investigations on small populations is statistically difficult, that’s both from the previous health district’s chief health officer and also experts nationwide, including testimony to Congress regarding that. So what we have is potential environmental effects on a small population and I can say at the time that we propose to bring this forward to the Board that comment will be addressed – it was put forth at a workshop and reinforced today many times the concern. Of course the air…as solid waste management authority we’re here to protect the area, protect the groundwater and protect the surface water. If operations are in place in to do that it will limit any potential harm to the adjacent community. To sum up I just want to say that we’ll address that response to public comment and the difficulty is dealing with a small population and the type of solid waste we’re involved with.

Chair Strickland: Mr. Ross, may I ask a question? The lady was also though talking about taking into account, or doing a study that pertained to more than just the Paiutes – she was talking about something that would encompass Mesquite – she was talking about something that would encompass St. George and as far as this thing traveled by wind. So are you aware of any studies that would cover a larger area than just what you seem to be targeting, which is the Paiutes?

Mr. Campbell: Not so far, but I think you’re talking about doing a large health impact study; you have to bring in federal agencies like ATSDR that does a lot of these health impact assessments. Possibly US Public Health Service, Indian Health Service…it would be more than just the health
district being involved in a study like that – you have to bring in federal
agency and request that they do this health study.

Chair Strickland: OK, so could you repeat again for, ‘cause you ran through some initials
really fast…

Mr. Campbell: Oh, OK.

Chair Strickland: …and I didn’t catch ‘em, so…

Mr. Campbell: OK.

Chair Strickland: …that…it answers your question what other agencies can you talk to…

Ms. Brown: Right, it would be nice to have a list, and also you said that it’s a big
problem in order to do it. I’m sorry but I think people’s lives are worth it.

Chair Strickland: Oh, certainly.

Mr. Campbell: OK, there’s…the primary federal agency that does health impacts is the
agency for toxic substances and disease registry (ATSDR) – they just
did the health impact study for the Kingston Coal release, pond release
in Tennessee so they would be the primary agency leading any kind of
health impact study. But they are also associated with the Centers for
Disease Control, so those are the two primary ones. US EPA would
also have to be involved because of the size and possibly the US Public
Health Service, because they are the ones that deal with Indian Health
Service, and who else has the lead and information with that kind of
stuff. So that would be the agency, probably the four major agencies
right now that would have to be involved in any kind of health impact
study, that would encompass not only this area, but also Mesquite and
the other areas this lady mentioned. But with that question…

Member Giunchigliani: So what is the procedure if the Board wanted to give direction regarding
some analysis and get more documentation?

Mr. Campbell: Probably there would have to be some kind of written request made to
those agencies to carry out that study.

Member Giunchigliani: Somebody, I can’t remember who, mentioned that research was being
done someplace by the federal government about the fly ash issue. Is
that related? Somebody mentioned that.

Mr. Campbell: The EPA is considering modifying their regulations regarding coal ash
and it’s probably going to go out…

Member Giunchigliani: But somebody will be looking into that component…

Mr. Campbell: Yes…

Mr. Zabarte: The survey that’s being done now the comment period ends November
19th.
Mr. Campbell: OK.

Chair Strickland: OK, we have somebody at the podium…

Eric Lee: My name is Eric Lee, I’m with the Moapa Band of Paiutes, I’m tribal council. When I lived here growing up, I grew up with allergies. OK, when I left the reservation for about fifteen years I had no allergies. Came back to the reservation, allergies again. And to this gentleman right here that was talking about his so-called monitors…they’re going to tell you what they want to tell you for you to pass it. I mean, you should come out and look at the place when it’s wind every day. You don’t live there. Come and live with me for about ten years and maybe you’ll have the same effects it has on my people. I mean, our elders are dying – there’s no one to teach my younger generation, me and my young generation. I mean, it’s killing us. You’re telling me that your monitors are going to take care of our problem as a people? You’re not there…when did you go check that…your problem that was reported to you. When did you check it? On a calm day or did you go over there when it was windy? Can you answer me?

Mr. Campbell: It was a calm day.

Mr. Lee: Yeah, well see you didn’t see the effect of the coal ash. You didn’t get the full effect of it. You should have went over there on a windy day. You would have ate it all.

Mr. Ridenour: We do inspect there on windy days as well.

Mr. Lee: And you don’t see the big cloud? Well you’re blind then, because I live there and I work in this stuff when it’s windy. I work on the river, I’m part of the EPA on the river and when it’s windy you see a dark cloud coming right over the reservation. There’s complaints that people have like little snow-like pieces coming towards their houses in the morning, and you’re telling me there’s nothing there? I mean, I don’t have allergies…I mean I have allergies now really bad, it’s even worse now than before. It was on there even before I left and when I came back it’s there again. But when I was gone for those fifteen years it wasn’t there. I was living in Utah. But that air’s totally bad and I just wanted to make it public that you guys know that it affects my people more than it affects anybody…it affects some but it affects my people my people more because we’re right next door. Also, there was a tribal member working on that place up there, saw the stuff being laid down and they weren’t laying it right. So he questioned ‘em and two days later he was fired. Why? You have no idea, do ya? Well, that’s all I have to say, but I think they should be done away with; coal power plants should be done away with. It’s going green now, we’re going green. Maybe you guys should go green.

Chair Strickland: They need an agenda. Please come forward. Again, I just want to tell you the health district, we are involved with the expansion of the landfill. I think we all have our opinions about whether coal plants are good or bad, but we are with the expansion with the landfill. So if we can try to
limit it as much as possible. I know they kind of all go together, but as much as possible, I’d appreciate it. Yes, sir.

Par Rasmussen: I’ll try to do that. I would like to start out…my name is Par Rasmussen, I’m from Logandale. And for years I’ve heard the term “NIMBY” – not in my backyard. And the Reid Gardner power plant is in my backyard. And in a way it’s in everyone’s backyard. But I’m here now because the Muddy River flows within 100 feet of my house and it also flows pretty close to the Reid Gardner power plant. But mostly I’m here because I want the Reid Gardner power plant to stay in my backyard; no way do I want it shut down. No way do I want to see my many friends, neighbors and their families who depend on them working there go unemployed and certainly not in this nor any economy. We need energy, we need local employment, we need good jobs. But the Reid Gardner power plant must change – creating more toxic coal ash isn’t really helping anyone, not in the long run anyway. With the abundance of clean energy sources, we must convert the plant and its workers to producing solar energy or wind energy, but clean energy. And that’s the key – let’s use these good workers, these wonderful people in and near Moapa Valley to be part of the change away from fossil fuels and all the problems that come with it. Now I know you’re looking at coal ash, but I also want to address do we need to the coal ash to continue? And it just brought back to mind in March of 1989 when some scientists, some not too far from here, announced they harnessed coal fusion and the scientists tried to reproduce this…they were calling it initially the “energy source of the future.” Well as you know when they tried to reproduce those experiments nobody could reproduce ‘em and so they still call coal fusion the “energy source of the future” but they add on the addendum, they say coal fusion is the “energy source of the future and always will be.” So it is with clean coal. I do not believe there ever was or ever will be clean coal. It’s a wish – it’s a hope of something that’s always going to be out there. But it’s just going to be out there in the future. We have to learn from the mistakes that other people have made. There is no such thing reproducible of coal fusion; there is no such thing as clean coal. And when’s it’s going to change? I believe, if I understand correctly, that you have the opportunity to help bring about that change sooner rather than later. I’m here because of a deadline. Someone has said that if it weren’t for deadlines nothing would ever get accomplished. I find that to be very true. I urge you to set dates, set deadlines, set dates when you’ll have independent data on water quality testing. Set dates that are realistic for when the changes that you think are necessary should happen. And if I could just say that a deadline that is decades away isn’t really a deadline. If changes are going to take place perhaps you, as the leaders and decision-makers, can help be part of that process. I’d like to think that the Reid Gardner power plant will be around for decades, maybe centuries, but it must change. It must get rid of the coal ash and the problems associated with it. And maybe you will be a part of that change, part of that process. I urge you to do that. YIMBY – Yes, in my backyard. Thanks.

Chair Strickland: Thank you.
Mr. Ross: I'd like to...

Chair Strickland: Yes. Go ahead.

Mr. Ross: As far as dates and air and water quality monitoring...we want to go forward with this proposed approval in the near future. If there weren't water quality testing in both the groundwater and wells surrounding the proposed landfill footprint and the surface water between the Muddy River...without them being not to exceedance of the water quality standards, we wouldn't go forward. We also have oversight by NDEP in looking at those water quality standards. So I think getting rid of fly ash is one thing, but right now the main part is to control it and not let it affect the environment. A lot of the voices are coming from obviously airborne issues and control measures are in the permit, monitoring is in place. We'll look at the comments of tonight and consider potentially conditions additional, or modifications additional and that's why this is a good thing to get that input. But for now the point is to control the air so contaminants cannot go through air or through soils to the waters of this state, and most importantly to affect public health. And we only brought one visual to try to show how people aren't familiar, you know, where it is, what's surrounding the monitoring and what the buffer distances are to the village that Moapa Band of Paiutes and to the surface water. So that's a simple depiction of some of the process we go through. In sum I just want to follow up on this person's concerns about setting dates and what to test for.

Chair Strickland: Had some very good comments. I really appreciate your comments. Who else would like to come forward and speak?

John Haitt: My name is John Haitt. I live in Las Vegas and about three years ago when Nevada Power first proposed expanding this I talked with them and they said they were going to probably close down the Reid Gardner power plant by 2012 or 2013. Had that been the plan it would have obviated the need for this major expansion. But apparently plans have changed and they have no plan to close it down. But at that time they talked about alternatives. There's certainly an alternative for fly ash – there's potentially a market for that in the cement business and incorporate it. And they said well I need wallboard, and you know, our stuff really isn't the quality that can be used for that because we run these plants at a falling rate of capacity and so we have coal dust going right through into the waste and so our fly ash is too black and nobody wants to incorporate it into wallboard or cement. So therefore there's no market. For sludge, which is calcium sulfate, and your sulfur dioxide capture there really is a market for that – that's the same material that is used in wallboard. And we've got two wallboard plants just down the road, actually down the railway at FabCo and Georgia Pacific down there by Apex. So there is a market for that and there is a way that can be used so it doesn't have to be disposed of. There really are ways we can use this material. Then I'd like to address testing and monitoring. I'm trained as a chemist, educated chemist and doing that for forty years. Typically when we monitor things we measure those things which are
easy to measure and we don’t worry about things which we don’t have
good tools to measure. As a friend a mine once said, we’re damn
lucky we can see smog, because if we couldn’t see it nobody would
believe it was there – we couldn’t convince anybody. So the same
thing happens here. I would suspect that the monitors that they have
out, particularly for particulates are not monitored continuously, but
only monitored a certain number of minutes each hour, because
they’re interested in averages. You look at how industrial standards
are set, they’re set for exposure over an eight-hour average. So when
we’re talking about windstorms and things which may only last for five
minutes, ten minutes, thirty minutes – those can occur during the
period of time which no monitoring really takes place or inadequate
monitoring takes place. And yet the people downwind are receiving
full benefit of that and breathing that it is a bolus, if you will, a very
high concentration for a relatively short period of time, and therefore
affected by it in a way that will not be detected, or may not be
detected in a way that violates those standards which have been set.
And so these are issues that really need to be looked at carefully
before we go for this expansion, because once it happens there’s no
going back. They’ll never shut it down. So we only have one time to
really address that, and that’s before a major expansion takes place.
So I strongly urge you to look into all details of just how, what’s being
monitored, how it’s being monitored, and where those monitors are
set. And we have prevailing winds – everybody wants to monitor on
downstream on the side of the prevailing wind, but when you have
wind reversals, those typically can be very violent events and you get
very strong winds as the front moves through and can changes
direction by close to 180° and at that time you monitors which are set
for prevailing wind don’t do you any good for monitoring those short
term intensive events. So we need to really carefully look at all the
ways the monitors are set up so we can really capture what is
happening, because I have a feeling that we’re not doing a very good
job with what we’re monitoring at this point in time. And with regard to
the EPA studies of coal ash, and I think that was certainly stimulated
by that huge spill back in Tennessee, well that’s a different climate
there and they’re really looking at coal ash which is wet, which has got
water associated with it. We’ve live in an area where the highest
evapotranspiration rate of any place in the United States with the
possible exception of Death Valley. And so when you water
something in the summertime, effectively the surface can dry out
literally in a matter of minutes and so procedures and practices which
work very well in other parts of the country and which are incorporated
in the regs don’t work very well in our particular local situation. And
it’s our particular local situation that we’re addressing at this point in
time. Thank you.

Mr. Ross: I’d like to follow-up…

Chair Strickland: Oh yes, please.

Mr. Ross: I’d just like to comment on that gentleman’s…not to go into this
profession at all, but he did bring up a point that it’s very important to
remember that, from my review at least, and you need a force to move the contaminants and the comparisons that he referred to, i.e. Kingston, Tennessee and so forth, is an environment where water is the force that’s moving it. Tennessee, for example, these were surfaces impoundments of sludge, very high moisture content and unfortunately right next to a river, and from where I can tell not only was the surface contamination but there’s probably a good chance that the groundwater was nearby and also being contaminated at the same time. In our case, and this is not to neglect all the public health issues, but from...we stand a good advantage over the scenario that’s gotten so much public attention, and that is the buffers from both the groundwater...buffer distances from both the groundwater and the surface water as far as landfill goes, and a buffer distance to the village in light of the complaints. But again it’s the matter of operations to control the other methods which is air. So air and water, you need those to move it like he says, but there’s not a lot of potential to develop the head to move the contaminants down to the groundwater and therefore onto the surface water via the Muddy River. But we will keep monitoring to detect whether toxic metals and contaminants will move to the groundwater and into the surface water. But again I just wanted to reemphasize that we’re not in a situation comparable to what’s been publicized back east and the results that happened from there.

Chair Strickland: I actually have a question. With respect to the issue that he brought up about monitoring continuously versus just for a minute at a time...how is it out there? How do you monitor out there?

Mr. Ross: Well that’s a question to put forth to Bureau of Air Quality, I hate to put it that way, but they’re the ones that monitor...that permit the facility and have the monitoring results. It’s easy to follow-up on that, I believe it is continuous.

Chair Strickland: OK, Mr. Garcia?

Mr. Garcia: Again, the monitoring that is taking place at the Reid Gardner Station is per the requirements by federal EPA and the state. The gentleman is correct – it’s not a continuous monitoring. The requirement is to have a sixth day sampler operate twenty-four hours a day. OK, that’s the current requirement. Like I said, that’s what we’re required to do. As far as the requirement to be continuous monitored, I don’t think there is a requirement.

Chair Strickland: It could be any sixth day?

Mr. Garcia: It’s every sixth day. Yeah.

Chair Strickland: OK.

Mr. Garcia: And again, that’s per the requirements.

Chair Strickland: I understand. OK. Thank you. OK, who else?
Mr. Garcia: I'm sorry. And we don’t get to pick the day – it’s an every sixth day, so it’s, you know, a cycle.

Mr. Meyers: I just wanted to make a point that they do send us quarterly reports. I’m not a scientist, I’m not a chemist, and to me it was getting a message from Mars. So get, there’s a program that does air monitoring and they do this across the southwest, region IX. So I took a book that was about this thick that they sent to us, and I took it to them and asked them can you tell me what this says. I waited and waited, and I said OK. So I left and I went back to the reservation and started doing other work. I waited and waited and waited and about six weeks later they called me first and then they wrote me a letter. They said well we can’t make heads or tails of this – the things, the computations don't add up so it doesn’t make any sense to us – it's gobbledygook, it’s not even worth the paper it was written on. And I want people to know that so that when we say yeah they do these things, but it makes no sense. And the other comment that I would like to make when you talk about monitoring stations and stuff, can we look, can we look…and this is what I think would work better, because if we didn’t have Nevada Power doing monitoring...that’s a coyote watching the rabbits – they’re going to do whatever they want. Every sixth day they may turn it off, you don’t know. And if they’re saying it’s bad information, and I know what they because they told us – they go through all the stuff that they’ve gotten out of the monitors and they go through it and change it around so it makes sense to the state. And they told me that when I was at their...with Nevada Power. So they can call me a liar, but I know what I heard. But I think that what we need to do is get somebody else to do the monitoring, someone that can't get paid by Nevada Power or NDEP. Maybe you guys, maybe. Totally independent people that would say this is actually what we see, what we found. To me I would rest a little better and I’d rest a lot better if we monitor for the stuff that is harmful to the health and not just whatever they feel like they need to monitor for. Thank you.

Chair Strickland: OK. Who else would like to come forward and give us your comments, because if nobody else in the audience wants to come forward I know that there’s a gentleman here who brought some experts and they would like to give a presentation. So…wait we have one more gentleman here then. I just want to make sure all the folks that need to get home have an opportunity.

Chad Leavitt: My name is Chad Leavitt and I’m a local resident. I’ve lived here my whole life and I’ve heard a lot of comment tonight that paint Nevada Power in a poor picture and they’ve had many struggles. I’ve also...I’m a contractor and I do a lot of work for them and so I’ve been able to see firsthand what they’re trying to do to improve, to follow the regulations, to implement the laws that are given them. And I can say honestly that they have made leaps and bounds of improvement in these last years. We’ve been cleaning up these ponds they’re talking about right now; every day we take monitors and check the levels of oxygen, the levels of CO2, other stuff to make sure that it is not harmful or a contaminate and we’ve been doing that for six months
and had no improper readings. I know that a facility this size has an immense impact, but it also has impact for the good. We’re able to provide more than fifty people work and livelihood in this challenging time. I’m…I fully support the reservation’s concerns that they do need to have a high quality of life and NV Energy does need to implement the regulations that will provide that. And I’m excited to be able to be a part of implementing those procedures of making sure that there isn’t dust, that the water is clean, that the procedures are followed and we have…all of our employees are members of the community here and the good that it does to provide livelihood, food, shelter just for the community is immense. That’s not to say they don’t need to follow all the rules and laws and I can tell you from their side watching and participating, that they are doing an incredible job – they are upping the ante. Just two weeks ago they had a high wind weekend and they had us run treat-water trucks 24/7 to make sure that the dust stayed down. And if there’s wind warnings out, they’re on the phone with us, they’re making an immense effort to improve, to take care of the concerns and to…you know, we are following…we have a lot of fun implementing the new water drainage requirements…we have waddles and straw bells and berms and things trying to protect the waterway. I see a lot of good; they are following the rules and I think that we need to watch closely and implement, but they do a lot of good for this community as well, providing a lot of livelihood and a lot of good people work. Thank you.

Chair Strickland: Thank you. We have another person.

David Johnson: My name is David Johnson and I represent FHI Plant Services and we are also very much in support of NV Energy and a lot of the efforts that they make. We’ve only been a contractor with them dealing directly with the fly ash and the landfill since April. And every idea that we’ve been dealing with fly ash for thirty-eight years, it’s all our company has ever done. We are involved with the government in trying to figure out a way to encapsulate fly ash in regions like in Virginia or anywhere where there’s a high moisture content. Some of the ideas that we brought forth to them about using palliatives and other dust suppressants to make sure that even those not being disturbed are still keeping the dust down – they’ve been 100% on board with. They’ve…again like the gentleman stated earlier, every times that’s a high wind advisory, we’re out there with every available water truck, we’re doing every possible thing to make sure that storm water preventions, all the swepts are taken care of. I personally pulled the dust monitor card, I do dust monitor readings for our company as well, making sure that it follows the Clark County dust control. We also make sure that all the swepts are in place, making sure that all storm water prevention is taken care of. They’ve made leaps and bounds just in the few months that we’ve been there, they’ve made leaps and bounds in making sure that everything is being taken care of and being handled responsibly. Again, we’ve done fly ash for thirty-eight years. I also come from a community where there was a power plant that was a coal burner that was shut down and the absolute impact from that being shut down in our
community, we still have not recovered from and we won’t recover from that for a long, long time. And the funny part is just 150 miles north where they said we were contaminating, still have the same contamination levels as when they shut us down. So I mean, short little...absolutely I 100% agree with there has to be monitoring, there has to be monitoring, but like any scientific experiment you can’t monitor for five years and say this is how it is and this is where it’s coming from – it has to be long term, it has to be big picture, ’cause this planet’s been here for a long, long time doing it’s thing. You know, so again, I just absolutely in support of coal plants and coal. I do believe there is a clean coal, absolutely I believe there is a clean coal and the economic impact for our country and our society to be able to switch over to a green power in just a few years is economically unreasonable. For the families that are out there in today’s society struggling I just can’t imagine going to a 100% green power if it’s going to send costs of turning on that light switch so their kid can study homework through the roof and so they can’t do it. I mean having air conditioning or heating...I just want to make my voice heard.

Chair Strickland: Alright, thank you. We’re getting a little off topic of the expansion of the landfill. But I know that in many of our minds it all meshes together. And so that’s why I’m allowing that...this comment to continue but if it can be tailored a little bit more to the landfill expansion that would be greatly appreciated. Yes, sir.

David Sharp: My name is Dave Sharp; I live in Las Vegas and I’m also an employee of NV Energy and the plant director. And first I want to thank Ian Zabarte for his open and candidness and dialogue with the plant over the last six months to a year. I do not have the privilege of really seeing the exact pictures that you have, but I think I’ve seen them before. So I don’t have...I will say that we’ve had some instances that I’ve been, we’ve reacted to those and we have...we strive to do better and better. And I think...I can say this Ian and the Moapa...our neighbors...that we are trying to use every resource we have to try to control the dust and what we can do to actually make this better for you, to actually get those close ponds out and away from you. And I just wanted to let the district know that. Thank you.

Chair Strickland: Thank you.

Member Collins: Question for him?

Chair Strickland: Yeah, we have a question you, sir. Mr. Collins?

Member Collins: I think it was said, but just to make it clear now but because of all the comments that been made is that there’s a certain demand on that plant for power or wherever you put it out on the grid, that probably cannot go away over a short period of time as some people would like. And I’m assuming that from the comments. So the question is that, and I can remember years ago when fly ash was trucked out of there. So if you don’t get this landfill expansion there’s probably still
the possibility it would be shipped offsite for a period of time. Is that not true?

Mr. Sharp: If we don’t get the landfill expansion it cuts the life of the landfill down – we would have to look at whatever alternatives do we have including slowing of clean-up efforts down in the Muddy River valley, which we very much are trying to make as part of our overall improvement effort for the plant.

Member Collins: So getting the landfill expansion gets the processing out of the flood plane and creates more safety by moving it farther away from the tribe, getting it out of the flood plane and damage to the Muddy River which goes to the Colorado which goes into millions of people’s drinking water.

Mr. Sharp: It makes that process happen faster.

Member Collins: Quicker. Thank you.

Chair Strickland: We have a gentleman in the back. Yes, please.

Kenton Lee: Speak?

Chair Strickland: Yes.

Mr. Lee: I am Kenton Lee. I used to work here…

Chair Strickland: Wait, Mr. Lee.

Mr. Lee: …before and now I am. I do not live there before. But I took these words here from…I hung here of words I could not take them of read…and I read them and as long as I could take them. Put ‘em down, hang ‘em up. Hang ‘em up on the ground. I could not take those that long.

Deanna Domingo: Let me see. What he’s saying is he worked for Nevada Power. When he was working there they put him in some room where he had to use an oxygen mask and he could only be in there for a certain time and he would come out and he…

Mr. Lee: One of them is the camphor…works with me.

Ms. Domingo: Basically he was told to do things that are harmful to basically human and it wasn’t very good for your body and whatever. He had…

Mr. Lee: He would bring that battle with us and we took too much…five, ten minutes and beep, beep would come on…

Ms. Domingo: What he’s saying is he had a mask on and he could only be in this room a certain amount of time and a beep would go off. Is that all?

Mr. Lee: Low on the ground. Indian.
Ms. Domingo: Oh, what’s he’s saying is just Nevada Power doesn’t care about the Indians, just throw ‘em on the ground.

Mr. Lee: I lived there. My job.

Ms. Domingo: He used to work at Nevada Power.

Chair Strickland: Thank you.

Member Collins: Respirators is what he’s talking about.

Chair Strickland: Yeah.

Shelli Clark: Linda, we need her name for the record.

Chair Strickland: Oh, could we get your name for the record, ma’am?

Ms. Domingo: My name is Deanna Domingo.

Chair Strickland: Thank you. OK, maybe it’s time for the experts. Did you have some experts that were going to offer some information here today?

Dan Galpern: Madam Chair, members. My name is Dan Gelpern. I’m here representing the Sierra Club. But I want to begin by noting that when I hear brothers and sisters from Moapa Band of Paiutes talk and say that they have reported based on their own eyewitness clouds of toxic coal ash dust coming off the landfill, blowing north in the wind, I believe that and I believe that’s credible evidence and should be credited by the district in their subsequent investigations. We’re going to urge you to take strong action today in two ways. First we’re going to urge you to flat out deny this proposed permit. One because the application before you is substantially incomplete, still. And secondly because the operation of the landfill pursuant to the permit is simply not protective of public health and safety and the environment. Those both go to denial of the permit. The second thing we’re going to ask you to do today is in light of the existing and continuing contamination of the groundwater from the existing landfill, contamination that would be vastly exacerbated if this proposal were to go through, we’re going to ask you to begin the process to suspend or to revoke Reid Gardner’s existing permit to operate this existing coal ash landfill operation. These two actions, strong actions, probably actions that you’ve probably not contemplated before are in fact consistent with Nevada state policy and with your own legal mandates – mandates from the Board of Health. The legislature has declared that it is the policy of the state to regulate the disposal of solid waste in a manner that will protect public health, prevent water and air pollution and enhance environmental quality. And the Board itself is required to prevent public nuisances, to protect waters of the state including groundwater, and to protect public health. The Board therefore has the duty to ensure that all wastes are disposed of by means that do not – and here’s the relevant regulation – that do not create a health hazard, public nuisance or impairment of the environment. The Board
also is required to ensure that the operation of any landfill under your jurisdiction does not – and here’s the operative word – cause or contribute to air pollution or pollution of surface or groundwater. It’s not merely a question of whether EPA ambient air quality standards are met, you’re required to ensure that in the operation of landfills under your jurisdiction that those operations neither cause nor contribute to air pollution, or pollution of waters of the state, which includes both surface waters and groundwater. What this all means is that if by issuing this permit you may be allowing activity that impairs the environment or causes or contributes the pollution of the air or water, including groundwater, or that creates a health hazard, or that creates a nuisance – either private nuisance or public nuisance – if any of these conditions pertain than you must not, you cannot legally issue this permit. Moreover if you find that operations under the existing permit are either again generating that hazard or nuisance, or causing or contributing to pollution of the air or of the waters of the state, including groundwater, or otherwise impairing the environment, then you must take action to bring the operator into compliance, including where necessary revoking or suspending their existing permit to operate their existing landfill. The regulations clearly establish that you are authorized to revoke or suspend the current landfill permit if that what it takes to bring them into compliance. OK, now let me go to the 2009 application. The 2009 application is what we’re talking about here to expand laterally and more importantly to substantially pack on additional wastes on to the existing landfill which has no liner. The law is quite clear. Nevada Energy had the burden to demonstrate to you in its application that its proposed expansion will not degrade waters of the state including groundwater. I will be followed by our two experts, Chuck Norris and Elliott Lips, both hydrogeologists. Mr. Norris’ memo is before you – we conveyed it to all members of the Board last week in addition to my own letter. His research establishes clearly that NV Energy did not meet that burden, not even close. They totally failed to provide any meaningful background or even meaningful discussion for example of the leachate that will in fact be generated, and for that matter has been generated by the existing landfill. Most importantly, perhaps, they dismissed their requirement under your regulations to provide a leachate generation analysis, and they did this in the application, tab 17, single line, in a manner that can only be described, with apologizes, as contemptuous disregard of your regulations. And they justified the failure, in part, by saying that the landfill, this landfill, is inherently dry. Well I thought about these dry conditions today as I watched one after another huge water truck dumping and spraying hundreds of thousands of gallons of wastewater over the landfill and coal ash roads. And also today when I was running for cover from the thunderstorms. And the other day when reading in the application about how the ash itself must be brought up to nearly 50% moisture content to allow for retention and stability in the landfill. So even apart from the wastewater ponds that are both down in the flood plane and the ones that they newly want to build up on the mesa, even apart from that, this landfill is simply not dry – it’s not as wet as Kingston, but it ain’t dry. Similarly with respect to Nevada Energy’s failure to
include a meaningful waste characterization test in its application, Mr. Norris’ memo goes into this in detail and he can summarize or elaborate as appropriate here today after me. I think it’s important for this Board to know that we went the extra mile to provide the district, Walter and Dennis and Eddie can testify to this and so could Glenn Savage were he here today, with ample material on what a proper waste characterization must include. And in fact in August we even established a special Google Doc site for the district to review the leading scientific studies on this point. Now after Nevada Energy, after following our insistence, finally came up with a recent vintage response in waste characterization studies, it’s essentially a series of non-descriptive spreadsheets that they labeled waste characterization. We quickly provided the feedback to the district on why this is totally inadequate to evaluate risks to public health and the environment. And district staff told us that they would share our points with the applicant; NV Energy did not come back with a meaningful waste characterization study subsequent to that. In brief it is simply impossible for anyone, including I would hazard anyone on the Board, to gain any understanding whatsoever from the application about whether the wastes will, and here’s the operative terms in your regulations, will create an environmental hazard or threaten public health. You can’t get that from the application. My letter that’s before you provides additional points about how the application fails to demonstrate that operations that would ensue under the 2009 proposal would protect the environment. I think the most important one is this…the proposal in the main is designed to enable NV Energy to pack in substantial additional wastes in roughly the same existing landfill. That landfill currently has no liner, that landfill is leaching wastes into the environment, as is revealed in data that is provided by the Nevada Division of Environmental Protection and expert Elliott Lips will elaborate on that point, I think. Again this can be no surprise to the district because months ago we told the district that documents that had been produced by the state with Nevada Division of Environmental Protection, showed increased levels of contamination, various salts and minerals in their own monitoring stations below the landfill. Now there is in fact a small portion of the proposal that NV Energy says that it will line and then they’ll pack in waste on top of that liner. The problem here is that that liner system as a whole is exceptionally poorly designed. Indeed as Chuck Norris has explained, and probably will elaborate, the design is so poor that the drainage features of it will almost certainly plug up. That means that no leachate will be produced where the application tells you it should be produced if any leachate were generated. But that does not mean that all’s well below the landfill, as I’m sure Chuck Norris will explain. So in sum, this permit simply must be denied, because the application provides no assurance whatever that public health and the environment will be protected. Beyond denying the permit, we think that you need to ensure that Nevada Energy ceases to pollute the waters of the state and the air and ceases exposing people proximate to the landfill, including especially the Moapa, to noxious fumes and dust. This situation currently is serious and we would urge you to direct staff to give notice, as is required by the relevant regulations,
that unless real, not cosmetic, unless real changes are made to ensure public health and the environmental protection then even the existing permit should be revoked or suspended. Thank you very much. Unless there are questions for me, I'll now turn it over to Chuck Norris.

Chair Strickland: Do you want to stop for a second? I just wanted to point out that you made a comment about us taking action tonight. Our agenda is not for action items.

Mr. Galpern: Oh, I understand that, but I wanted to recommend that today to get the process started.

Chair Strickland: I didn’t want the folks to think that we’re just ignoring what you said...

Mr. Galpern: Of course.

Chair Strickland: …not for action.

Mr. Galpern: I totally understand. And I understand that you will have an official public hearing that may be a decision hearing on the 20th in Las Vegas.

Chair Strickland: That’s true.

Mr. Galpern: Yes.

Chair Strickland: OK. You have your experts that would like to come forward?

Mr. Galpern: Yes.

Mr. Ross: I don’t have a comment...I may not have a comment until someone reinforces the points he’s made. I just want also say that we didn’t receive this until after working hours on Friday; I haven’t had an opportunity to review the expert memo given to Mr. Galpern. So when we have the opportunity to review this we’ll better be able to incorporate any approval to go before the Board.

Chair Strickland: OK. The other thing is it was stated by him, or at least implied by him that currently NV Energy is not in compliance with their landfill requirements with what they have right now. Are they compliant?

Mr. Ross: Well, I’m not particularly sure what he is referring to, and his statement covered a lot of items.

Chair Strickland: Is it your position that they’re not in compliance right now?

Mr. Galpern: Yes, it is. I believe that there is in all likelihood substantial contamination of groundwater...

Mr. Ross: I'll stop. Again it would be better to have an opportunity to review the documents Mr. Galpern submitted, especially when he starts using
the terms like “likelihood” and I think expert support might enforce this. I think now’s not the time for conjecture. So we’ll look at the documents and react accordingly. On one hand I would, this may sound a little strange, but I appreciate the efforts and his experts for making the health district give a more closer eye on what supportable positions that they take and give a more roundabout look at this expansion. But like I said let’s hear what everyone has to say and then we’ll be able to react better later.

Mr. Galpern: Sure, and that’s fine and I can commit that we will continue working with the staff in the district to be able to answer questions and continue to dialogue. Thank you very much.

Chair Strickland: I believe Mr. Collins has a question.

Mr. Galpern: Oh, sure.

Member Collins: Being in construction a long time, so I want to ask you in your research on this, and unless Mr. Norris is going to cover that, in your research have you, because there’s several agencies of course involved in this with air quality and the health district, NDEP and so forth, have you gone to look at the type of application – you’re talking this application here to the health district board – but how ‘bout their applications for permits for construction or the types of liners in their pond, etc. Have you, is that in your research? Will he be discussing that?

Mr. Galpern: We are very involved in currently challenging the permit that was granted on June 24 to…allowing…it’s the waste water discharge permit.

Member Collins: We’re talking to the landfill. And I apologize, Madam Chair, so on the landfill…

Mr. Galpern: That has to do with the ponds that are co-located on the landfill.

Member Collins: OK, and I get what you’re saying there, too. So more directly the question is did Nevada Energy, to your knowledge or in your research, apply to NDEP for permits to do the landfill to the stage that they’re at? Or are they working, it’s an existing landfill, did they need any permits to continue doing what they’re doing at this point? I guess that’s the question.

Mr. Galpern: The…I think the answer is no. They do not need any additional permits – the permitting agency is here. You all as the Board of Health are the decision-makers and the permit is issued for operation of the landfill by the Southern Nevada Health District. You are the solid waste management agency for Clark County.

Member Collins: OK, so let me restate it then. The existing landfill where they’re continuing to put fly ash and solid waste is already permitted.

Mr. Galpern: That’s correct.
Member Collins: So this is purely an application to expand that process. So you’re challenging the existing landfill?

Mr. Galpern: No, we’re…well we’re doing two things. We’re urging you to deny the 2009 application which proposes to tap on additional 140 acres to the existing landfill and also proposes to allow NV Energy to pack on additional wastes on top of the existing landfill. And this is where the issues come together. If the existing landfill is inadequately protective of waters of the state and of air and so on, then that problem becomes magnified when you’re packing on additional waste on top of what is already there.

Member Collins: OK. So if they’re using, Madam Chair, if they’re using an existing landfill that is permitted, what has changed from the time those permits were issued?

Mr. Galpern: The proposal here is to allow a substantial expansion of the quantity of waste that will be put on the existing landfill.

Member Collins: OK. And that’s this Board’s decision.

Chair Strickland: And you’re talking about a vertical expansion besides just a…

Mr. Galpern: That’s correct. And so there’s actually two proposals that were submitted by Mr. Sharp. One is for the lateral expansion and the other is for a modification of the landfill, and that modification allows a vertical expansion into the airspace as well as a small lateral expansion.

Member Giunchigliani: Is that in addition to the expansion that was granted in ’07?

Mr. Galpern: Yes, it is. The expansion…

Member Giunchigliani: I’m still trying to wrap my head around…

Mr. Galpern: Well we’re trying to wrap our heads around that, too. Why is it necessary to seek an additional 10 million cubic yards of space when you just permitted in 2007 I think it’s about 10.4 million cubic yard expansion? There is no need as Mr. Norris explained in several pages in his memorandum for this additional expansion. So yes there’s some existing additional space in the existing landfill. There’s the 2007 expansion which you approved for an additional 10 million cubic yards and now this is an expansion on top of what you approved a couple years ago.

Member Giunchigliani: And then to follow on what Commissioner Collins had been asking, if they were to create a whole new landfill are there different rules that would have to apply for that type of a landfill that we regulate?

Mr. Galpern: I’m sorry…what do you mean a new…

Member Giunchigliani: I thought all landfills had to be lined, and apparently not.
Mr. Galpern: No, our view is that if you’re going to be exposing this toxic coal ash waste that you require double layers for the evaporation pond, you should have at least that protection for a landfill that’s going to be taking those same wastes after they dredge out the evaporation ponds and dump it in the landfills. But you’re right, the existing landfill has no liner. The 2007 proposed expansion that you’ve approved has an entirely inadequate single liner and the proposal from 2009 will also have a single liner on a very small portion of the expansion, but over 80% of the additional waste that will be permitted would go on to the existing landfill unlined.

Mr. Ross: I’d like to, may I… I just wanted to add to that…

Mr. Galpern: Sure.

Mr. Ross: In answer…

Chair Strickland: Yeah, and I’m going to have a question.

Mr. Ross: …to Chris’ question, about all landfills not being lined, this is a Class III industrial, Class III site accepts industrial waste, not necessarily does it have to be lined. What it does have to do is the design, well one of the things that has to happen per the regulations is that the reported design, which is one of the tabs in this application in this crate, and it has to demonstrate that the design is sufficient to protect the waters of the state from degradation by pollutants or contaminants. One of the things it is has to demonstrate, and maybe one of the more important things. A lot of times people associate liners and leachate collection as requirements for all landfills. For the Class III site, that is not necessarily the case.

Member Giunchigliani: Alright, thank you. That helps.

Mr. Galpern: And I can, if I can just quickly elaborate although this is the not the time to get into it in detail. But the Sierra Club stands ready to engage in a dialogue, including with the applicant, over what really would be necessary if we were going to take your mandates seriously to ensure that there is no degradation of the groundwater, no additional pollution of the air, or groundwater or surface water. And we simply believe that this application doesn’t do that and makes it impossible for you to affirmatively find, as you must, that this application is adequate to the task.

Member Giunchigliani: So you’re saying it’s not going to meet the minimal requirements for what our current regulations are as they stand.

Mr. Galpern: That’s correct.

Chair Strickland: And my question was there was a woman who came forward twice and talked about landfill, the particulates getting in the air and traveling to Mesquite, traveling to St. George and that sort of thing. And she was talking about a study being proposed to try to monitor
the effects of this. Now my question to you is has the Sierra Club done that?

Mr. Galpern: Sierra Club does not have the resources to do that sort of sophisticated study. So no, Sierra Club has not done...no, a health survey and analysis. It probably would need to be longitudinal to figure out what is the actual impact on, as Mr. Ross including a number of small populations, relatively small populations in the area. Sierra Club does not have the resources to do that. And frankly I agree with Mr. Campbell, if there is going to be a health study it should be probably funded by multiple agencies. It would be costly to do it right over a long period of time. And you should ensure that you have the proper epidemiologists and the proper health researchers conducting that study. But I would just also say I believe that more than enough is known about the hazards, whether you're talking about the ingestion of some of these toxic chemicals or fine particulate matter...what you're talking about here is fine particulate matter that's so small that it can travel beyond the alveoli at the base of the lungs and thereby actually enter into the vascular system. And that's the reason why inhalation of this kind of material causes not only respiratory disease but also cardiovascular disease – heart attack, stroke and so on. A lot is known, it hasn’t...this population hasn’t been studied but many of the populations around the country have been studied. The knowledge from those studies is directly applicable to trying to understand what is being imposed upon the Moapa and persons in the greater area.

Chair Strickland: Thank you.

Mr. Galpern: I say this because I think it’s very important that no one hide behind...so I support a more sophisticated health survey and health study. But I think no one should be under the illusion that everything is fine in the absence of that study. Enough is known.

Mr. Ridenour: Mr. Galpern, may I ask you a question?

Mr. Galpern: Of course.

Mr. Ridenour: I know that we discussed this health-based risk assessment in the past and I know from speaking with Glenn Savage that he has consulted with Dr. Sands regarding this and we have conveyed to you to be the co-sponsor in correspondence to a federal agency requesting...

Mr. Galpern: Yes.

Mr. Ridenour: …that type of study being done.

Mr. Galpern: Yes.

Mr. Ridenour: You have indicated you would want such correspondence be drafted up.
Mr. Galpern: Yes I did provide to Glenn the outlines of components that I believe should be in the letter. I also told him that I thought it would be fine to have a joint letter between the district and the Sierra Club and the Moapa, but I thought that we should think seriously about perhaps maybe it should be the district on its own, or maybe the district and the Moapa on their own, with the Sierra Club simply supporting what...with a separate letter for a number of strategic reasons. So there's a lot in play here. Mr. Zabarte has a number of very good ideas...we've talked extensively about this. Vinny Spotleson from the Las Vegas Chapter of the Sierra Club is here and I think he will be following up with yourself and Walter and Dennis and Glenn. I think it's a good idea, as I say, but I think enough is known for you to take action to prevent the kind of contamination that is infecting the community immediately.

Mr. Zabarte: If I could just add something, from the Moapa Band of Paiutes, what we're really looking at...we're not looking at trying to prove a cause/effect relationship from the landfill or the power plant. What we're looking at is improving health outcomes for the community. Respiratory distress, asthma and these types of health consequences and trying to find ways that we can change our behavior to improve those health outcomes and identify every risk factors if it's smoking or indoor air pollution or other polluters in the region. So that's what we trying to consider. When I look up here at the pole for the net, I'm wondering what all that dust is. You know, my kids are in here breathing deeply when it's flowing around, and those are things that we're trying to look at. If we go outside at certain times, how can we warn our community not to breathe the air that day?

Chair Strickland: OK, thank you.

Member Giunchigliani: Thanks, this has...I apologize but I have to run, but I want to say thank you to all of the people that showed up today. I want to personally thank Linda who drove from Boulder City, so she kind of came from the whole other end of the....As a Board member we will give this great scrutiny. I do want to say that I don't think I heard anybody say that they want to put jobs at risk or anything along those lines – that's not the intent. I think suggestions for how to do a better format of delivering energy should be looked at as well. But to some of the contractors that are here, and the employees that are here – I don't think that's part of what anybody's agenda is, especially in this economic time. What gave me comfort is even hearing from Mr. Garcia that technically time is not the problem here – we actually have time because the plants are going to continue no matter what, they're going to continue doing what they are doing currently. So I think as a Board of Health we'll have to make due diligence about what's the public safety side, what answers do we not have yet and frame those questions as we look at this potential expansion. I liken it to...I made a note to myself I said oh my gosh it's like Yucca Mountain all over again...'cause the reality is my science, your science and someone else's science, but it's still we were just missed in Southern Nevada for many, many years by the federal government trying to force
something down us. But we have to do our due diligence and I think that’s why several of the Board members are here, Tom Collins you all know, Tom is my Board alternate when I’m not there but he served on the health board for quite a few years as well. This is not an easy decision, it’s not one that’s going to be taken lightly. But what I see in politics too often is people think that there’s an absolute drop-dead date and luckily in this one from the testimony it seems like it’s not. If we’re going to do our job we need to make sure that we considered everything that’s been brought up, not only today but in previous comments that staff had. And I have good faith in staff – they do a good job, they will read through everything that’s been given and do an analysis that they will provide to the Board. But we still make the decision finally. So I apologize for leaving sooner before everybody else and leaving everyone kind of hanging.

Chair Strickland: That’s fine. So you have...

Mr. Galpern: Yes, so Mr. Chuck Norris will present and then following him will be Mr. Elliott Lips.

Chair Strickland: Alright. Thank you. Mr. Norris?

Chuck Norris: Thank you very much. I’m really fascinated now after that pitch as to what I’m going to say. My name’s Charles Norris. I’m from Denver, Colorado; I’m a hydro-geologist and have been for quite a few decades. I’m a licensed professional geologist in eight different states and I own my own company…I have owned and runned that geologic-hydro-geologic company for fifteen years now. I’ve got a master’s degree. I work, have worked ash-related issues since the mid-1980s. Clients have been groups like the Sierra Club or tribes, there’ve been citizen groups, coal companies, utility companies, and government at various levels, all related to ash, ash disposal issues, sometimes related to contamination that exists today, sometimes related to landfill design to prevent contamination in the future. So I have got a pretty broad base from a technical standpoint, to a client-base standpoint and from an experience standpoint. I was asked to look at this landfill application from a fairly limited basis, primarily do the materials within the landfill a) meet what I would interpret as meeting the requirements of the regulations and guidances; second does it give the district the information it needs to come to a requirement, the decision that its required to make and that is not always...those two are not always in locked step with each other. In many states there is a broader demand upon the agency that makes the decision than is necessarily supplied by checking the matrix boxes of the regulations and guidances. And I think as I’ve heard things discussed in Nevada, I think that is the case here. There’s certainly are minimum requirements that have to be met in terms of the application itself, but that doesn’t necessarily provide the agency, in this case the district, with everything that it needs to meet its mandate. I started by taking a hard look at NAC 444.739(5)(c), and that’s been discussed – that’s the one that says the applicant has to make a demonstration that the design is sufficient to protect the waters of the state from pollutants
and contaminants. But it also says that that demonstration that it makes, and ultimately you have to find sufficient to allow you to concur with that, is that it must consider the volume and physical and chemical characteristics of predicted leachate generation. So that was kind of the key area that I looked into. Some other things came out of that look, but the primary deficiency in the application and a handicap for you to do what you are charged with doing is the waste characterization. The waste characterization is what allows a person to know what the starting point for risk and the starting point for problems is going to be – what is this material, how is it going to behave by itself and in its disposal setting and how’s it going to change with time in its disposal setting. Because however you look at it, whether it’s through fugitive dust or whether it’s through leaching and migration through groundwater, you have to know what the material is like to start with. And this application simply doesn’t provide you that information. There are data that are provided from Material Safety Data Sheets, there are TCLP tests (toxicity characteristics leaching procedures tests), and there are some pro-water tests from the ponds. The ponds are not part of what you’re charged with, but they really are part of the finding that you need to make for two reasons. One, the materials in the ponds are going into this landfill, so what is in the ponds and how that material behaves in that particular environment gives some insights into what the implications might be to take those wastes and put them in the alternative setting of the landfill. The second reason is that the discussions on the ponds that are going to be put on the mesa are the…they will be periodically deconstructed in materials put into the landfill and they will be re-doubledlined to take more water in. But the final end of those ponds, at whatever point that’s going to be, is that they are going to be…they are going to have a final cover put on them, they will be declared landfills and you will inherit those. So even though right now you have no control over those ponds, and they’re under a different rubric and a different agency structure, they are going to come home to roost at some point in the future to you. So for those two reasons, while they’re not directly applicable to this landfill expansion per se, don’t disregard the information that’s available to you that the ponds give you. What is needed is, and the problem with the characterization that is put forward, the waste characterization, is that none of that information tells you what the leachate is going to look like that forms from these materials. Your TCLP test is not capable of doing that – it was not designed to do that and it’s a misuse of it to suggest that its results tell you what leachate is going to form, what it’s going to look like in the landfill, what it’s going to look like in the environment. It’s taken several decades with the EPA but now is quite forthright in saying that in, as a comedian says, they’re outside borders…the TCLP tests serve one purpose and one purpose only and that is to determine whether an unlisted solid waste material meets or fails the two TCLP criterion for classification as a hazardous waste. We know this is not a hazardous waste simply because it’s been exempted from that status by Congressional action. It has nothing to do with the chemistry of the leachate that forms. And one of the things that has developed in the twenty-five years that I’ve
been working with this stuff is that this stuff in the environment produces leachates that are substantially worse in many cases than the TCLP tests would suggest. The TCLP test underestimates the danger, the toxicity, the concentrations that are found in fly ash landfills. That’s why we have an exploding population right now of cases where, at the time, were all believed to be legitimate disposal characteristics, placing this stuff that had gotten good TCLP tests in old gravel pits, in unlined holes in the ground, in road embankments, and we’re discovering now after twenty-five, thirty years that we’ve created groundwater plumes that run for miles. The Kingston issue is something entirely different – that’s a structural issue I’m familiar with and I’ve worked with this stuff and how it affects groundwater. Don’t be lulled into a sense of security by thinking that fifty feet or a hundred feet or five hundred feet of unsaturated material under the waste provides you a significant buffer. You don’t get gradient-driven, hydraulic-driven darcy-type flow through that material, but water moves through that material and can move through that material very readily. There are places in Nevada where you find contemporary water, it’s still alive with tritium at depths of more than a hundred feet below the land’s surface; but little waterfalls can move through these sediments very, very readily. So the issue is what is the leachate is going to form and you need to run from an accepted premise that that leachate is going to get in the bottom on the landfill, particularly an unlined landfill, into the water underneath it and your assessment needs to be where’s that going to go from a standpoint of the groundwater flow underneath the landfill. So a leaching technique needs to be used that is designed to produce a leachate that’s likely to be forming by this waste. And there are leaching protocols I can go into…a discussion of the literature…places that EPA directs people to find leaching techniques that are capable of giving you the starting compositions. Another aspect, however, is a raw chemical analysis of this waste, not just how it leaches but what actually is in it fundamentally. This is what is the concern, the primary concern for this is going to be the fugitive dust issue, because that is the potential consumption of the material, not the leachate from the material. And any fly ash landfill in any part of the country regardless of the amount of precipitation you have is subject to fugitive dust. I’ve looked at Google Earth pictures of ash-dredge, lagoon ash dredges in Indiana where you have forty inches of rain a year and the day they took the Google Earth picture there’s a plume of dust coming off the landfill that you can see on the photo for well over a mile. You’re fighting a much tougher battle here with your evapotranspiration rates and low rain fall to keep this from blowing off this landfill. But knowing what the risk of it blowing off this landfill’s gonna be is very much a function of the elemental chemistry of the ash. And so the characterization needs to have that as an aspect of it. The citation that I gave indicates that the amount of leachate that is going to be produced is part of the requirements to be delivered to you. There is no computation, there is no modeling, there is no demonstration to you of what the volume of leachate is going to be in this application – there is the assumption that it will be insignificant and that’s it. It’s a simple matter to simulate what it expected and quantify that for you. And
then when you look at that quantity, which you can reasonably expect with a number attached to it and a composition that you can reasonably expect, not the TCLP tests, then and only then are you in the position to decide whether that quantity of that composition is insignificant. But until that’s there they have not made a demonstration that it’s not going to impact the waters of this state, and obviously if that demonstration hasn’t been made you can’t make your finding that you need to make. The only thing that needs to be added in terms of fly ash as a particular waste that’s somewhat different from other wastes is it changes its composition with time and with exposure to the environment and particularly water in the environment. There can be an initial response of fly ash to quasi-set up and become stiff and rigid, sometimes that’s what you call a pozzolanic reaction, more often and I think in the case of these wastes that’s just going to be an initial cementing of the grains together because of all the salts that are being put in with the waste. You have to remember that all of the salts and sulfates and metals that are being concentrated in the evaporation ponds have been transferred into the landfill, also the salt composition of this landfill goes up continually with time. So there is some initial setting up, encrusting of this stuff. But through time as the ash that comes out of the hot burner, which tries to reach an equilibrium with its strong environment, its composition changes, its leachate patterns are going to change and where this has been tracked in older landfills, the initial composition may suggest that arsenic is going to be particularly mobile. But within a decade or two arsenic has a tendency to drop off and selenium comes in, that requires beyond the just and simple leachate, a much more complicated leachate testing than the TCLP that the initial testing. You also have to look at the evolution of this stuff through time to make sure you’re not overlooking something that way. So that would be an aspect of leachate characterization that I would submit needs to be part of the characterization. I then looked at waste generation, landfill capacity and facility life because one of the things that confused me was the statement that is offered in this application, I found it twice, it’s a non-sentence. The dismissal was this application is independent of the 2007 application that was approved and it’s going to be considered on its own, but we’re still holding the 2007 application we may use it in the future. There is a discrepancy then over this concept of need or the concept that if we don’t get the 2009 application we have to start trucking this stuff. In 2007 application what you approved provided for 10.2 million cubic yards of storage. Now if you include the 1.19 million cubic yards that this application says as of the end of ’09 still was there, they have approved capacity of for essentially 11.4 million cubic yards of ash, or of ash and flow plane sediment ponds, which is absolutely enough to move right ahead with their pond remediation and everything they’re talking about doing without this application at all. In fact they’re using forty acres of the 2007 footprint as the new landfill addition to the existing one. So that what this application really is doing is increasing the 11.4 million cubic yards that they have right now that by itself would be a thirty-three year lifespan, less whatever the pond remediation would be, and they’re talking that up to 18.4 million cubic yards. Well
they've...in 2007 they said that the pond remediation was going to be a million cubic yards and in this application they say the pond remediation is going to be two million cubic yards, but either way that leaves them way more space without this application than they need to remediate the ponds and maintain current applications. The difference between using the 2007 plan that you've already approved and this one is that the 2007 application requires that all of the waste have a constructed liner underneath it – all 10 million cubic yards. The application before you now is going to have, I suspect, roughly forty acres under liner although the application as it's presented to you only has twenty-six acres shown under liner. But the rest, except for the waste that goes on that footprint at the edge, the rest of the mound of 10 million cubic yards is not going to have a liner underneath it. It's a lot cheaper to put waste when you don't have to put a liner under it. I don't know that that's it, it may be it's an efficiency of operations but from a standpoint of protecting public health, safety and the environment a liner is way better than not a liner. My personal opinion happens to be that your existing landfill should be exhumed and put on liners because as Mr. Lips will point out, parts of the state government of Nevada say out loud that that landfill is contaminating groundwater underneath it based on the data that's being collected as far as their programs. So the issue of what to do with the existing landfill is one thing that isn't directly part of this application other than they want to put more waste into it. But the idea that there is some kind of a shortage of approved wastes, I don't see how that makes sense at all. I've gone into more detail than I intended to and let me...for reasons that I discussed the landfill liner that's being proposed for this one and if it's adequate it isn't demonstrated in the application that it's adequate. There are things about it that are not consistent with what I see in the state of the art landfills being built in other places. I would ask that you look at and have your engineers take a great deal of attention to the specifics that are mentioned, but more or as much the specifics that are not mentioned in that. The leachate generation...Dan's already pointed out that while this stuff may come out of the burner dry the operational plan to put it into place and get it compacted where it will make a safe structure requires the addition of substantial amounts of water. In some of the geo-technical studies as much as the effect of putting a full moisture content as much as 48%. That means that this stuff is being put in to the landfill basically almost at its, what we call field capacity, so it doesn't take much additional water. You've already gotten the reactive water taken care of which normally consumes quite a bit of water that'd be coming in. I think taking care of the treatment of the waste, the moisture conditioning, it's being water routinely trying to keep the top few inches wet, not just the whole landfill, anything in excess of what that is needed goes into the landfill. So it is not as it's being constructed a dry mass – it's already got a lot of water in it which means the time it will take for it to start leaking is not nearly as long as if it were a dry waste, and it doesn't take near as much water then to leak through it. So that again is something I would ask that you have your staff look very closely at. I think the rest of it...the details are in the memo that I wrote. I know you haven't had
a chance to read that and sorry but I just couldn’t get it done in time to get it out sooner. But if there are any questions I’d be happy to answer them.

Chair Strickland: Mr. Collins?

Mr. Norris: Yes?

Member Collins: Fly ash is used for other purposes…roadways, concrete, bridge structures, etc.

Mr. Norris: Yes.

Member Collins: Is that because of some bonding capabilities it have or binding capabilities?

Mr. Norris: It depends on the fly ash and what you’re using it for. There are fly ashes that if they’re mixed with essentially lime oxide and a liming ingredient will form a hard substance that forms basically the same minerals, perhaps not at the same density, that concrete forms. There are fly ashes that when mixed with the normal concrete mix in relatively small percentages, seldom more than a quarter, can add the advantage of a concrete that is somewhat more flexible and there are some applications for concrete where you want it to be able to have some give. One interesting element of that is a little bit of sulphate in that particular application is very important but it is extremely important that it be really a narrow concentration, but one of the things that doesn’t allow that use is that there be any significant carbon in it. Now we’ve heard the discussion that this stuff, good rich black stuff that’s got a lot of carbon in it…that carbon, the ash would have to be treated to get rid of that carbon or you couldn’t use it in most concretes because that carbon becomes food stuff for bacteria and you get the same reactions in the concrete that you get that produces the hydrogen sulfide in the pond wastes and it corrodes the concrete very quickly. So if it’s treated as an ingredient and it meets very tight specifications, yes it can be used that way. But you have to spend more money either processing it at the end or in your burning process to produce a product that can be used that way.

Member Collins: Where I’m going with the question is that say up to 25% fly ash mixed into concrete mix with lime, etc. and the soils out here and so forth is that we pour wet concrete that has hundreds of gallons of water in it and it cures...

Mr. Norris: Mm-hmm.

Member Collins: …and concrete bridges don’t leach, do they? And what I’m getting at is that some moisture content allowed this stuff to bond and stay compacted so the compaction remains until it’s capped and covered over. You see where I’m going?

Mr. Norris: Yes.
Member Collins: So I guess...are you talking about a hundred years, fifty years, or five million years for it to leach out of?

Mr. Norris: In the case of run of the mill fly ash, it's a different set of reactions that's occurring and you're not making cement mineralogy. The minerals that are forming make it hard and cohesive are not the same minerals that use silica and aluminum. That's what you get if you add the liming agents in a very specific chemical mix you get those cementitious class A, B, C minerals that give us the material that has lasted since the Romans.

Member Collins: Hot concrete. So we get hot concrete.

Mr. Norris: Yeah. Right.

Member Collins: So does fly ash temperature change when waters added to it? You didn't tell us...I'm just asking.

Mr. Norris: Yeah, no. And if you're talking about the fly ash coming out of the burner in most cases no because it doesn't have the calcium oxide that creates the chemical environment that allows these minerals to form a dynamically...what you're getting really is a set up of carbonate minerals, of sulfate minerals, one of the common ones is gypsum, which if you pick it up it feels like a hard rock, but if you know anything about gypsum it's very soft and crumbles very easily.

Member Collins: So when this is dried in those ponds before it's hauled up there what chemical changes...what they put some bleach or something in there, or whatever...what else is put into that to bond it for a barrier, where it allows that water to make it compact?

Mr. Norris: The compaction is not a chemical effect when you talk about compressing and compacting it – it's just a physical effect. If you have any chemical effects they're in addition to that. But what you're doing is you're providing water to coat the surfaces of the minerals and the surface expansion water allows you to compact it to a denser mass. So that's a physical process not a chemical process. If you're actually forming a chemical cement or if cement in the sense of a mineral that binds things together, that's separate from the compaction that they're watering for to condition it.

Member Collins: But the fly ash with moisture added to it bonds? Binds?

Mr. Norris: Some of the metal oxides will form minerals when you add water to it. And one of...in this particular fly ash we've got a lot of sodium and sulfate, we get what you call Glauber's salt, g-l-a-u-b-e-r-t I believe, which is the sodium mineral that...sulfate mineral...that is very analogous to gypsum and like gypsum it binds a lot of water up in the mineral structure.

Member Collins: So the fly ash holds a lot of water?
Mr. Norris: Yes, it will retain a lot of water.

Member Collins: Thank you.

Mr. Ridenour: Mr. Norris?

Mr. Norris: Yes?

Mr. Ridenour: Mr. Norris, you mentioned earlier in your presentation about EPA using their outside voice stating that there are alternative leachate potential testing procedures…

Mr. Norris: Yes.

Mr. Ridenour: …you mentioned that the TCLP test method was 4th on the list of preferred alternative test methods in determining leachate potential?"

Mr. Norris: Yes.

Mr. Ridenour: …the analytical approaches that they have knowledge of or…Do you know if anybody is actually using any of those procedures at this time?

Mr. Norris: Well EPA does now. When they’re doing risk assessments and things like that they are loathe to use…their first choice is to get actually a sample of the [comment] water that exists in the waste mass, that’s the number one choice. The second one is to use a method and I cited a Kosson article that they reference a lot, but that is a leaching technique that uses a high solid to liquid ratio like you have in a rural disposal setting. Long time period with a whole series and you actually perform it in a series of steps. That’s their second choice. The third is choice is some leaching procedures that are out there that they don’t think is as good and if they’ve got nothing else to go with, they’ll put in TCLP but they’ll discount any reliability of the result. And right now the problem they face is that through the years the TCLP has been being used as though it were a leachate predictor and some of these run these other tests and they, I think…I think it’s something like 15% or 18% is all they have of somebody that has run alternative leaching procedures that may be more. So I think more than anything else that’s what has lead to the problems like at the San Juan coal mine that I’m working on there, or Town of Pines, or sites all over the country…it’s just a lot of honest people believe that back in the 70s, particularly the early 70s, that we could go ahead and use this very simple, straight-forward 18-hour test to tell you what the leachates were going to be and the fly ash made it look innocuous. But beyond that and so that’s…that has to be taken into account I think in this application.

Mr. Ross: Excuse me…

Mr. Norris: Yes.
Mr. Ross: Again, I appreciate your efforts in reviewing this. But I’d like to ask this TCLP and accepted regulatory method to determine whether it’s hazardous.

Mr. Norris: It’s the only method for determining whether it’s RCRA sub-title C hazardous-like characteristics or not. That’s what it’s for.

Mr. Ross: Regulatory standard.

Mr. Norris: That is what it’s used for.

Mr. Ross: And with all due respect to the other potential described better methods...anyways I just want to make that comment. Our approach is not only to look at the waste characterization but the method that’s accepted from a regulatory standpoint, but document other potential better methods. And also to look at the analytical of water, groundwater and surface water, to see if any migration can be detected with the monitoring provided. And I imagine your protégé’s going to go a little bit more into that as far as potential contamination, or another person represented with the Sierra Club.

Mr. Norris: Mr. Lips, yes. I suspect that he would be somewhat miffed being referred to as my protégé...colleague perhaps that.

Mr. Ross: Excuse me. Well...

Mr. Norris: In as much as Elliott and I have only worked together on one other project we hardly even know each other. So...

Chair Strickland: Thank you. We have this building for probably twenty minutes more and that’s it so if we can move to Mr. Lips and when we close the public hearing what I need to do is open it up for public comment and that’s when, again, you’ll have an opportunity to come forward and speak about really anything you want to with respect to the health district, not just limited to the landfill. But we’ve got to make sure we wrap this up in twenty minutes. So.

Elliott Lips: I will do my best.

Chair Strickland: Alright, thank you.

Mr. Lips: My name is Elliott Lips. I want to thank the Southern Nevada Health District and the Board members. A little bit about my background...I have twenty-seven years of experience as an engineering geologist and hydro-geologist, bachelor’s degree in geology and physics and a master’s degree in geology. I’m currently employed as a principal engineering geologist through Great Basin Earth Science located in Salt Lake City – we provide consulting services in geology and hydrology. During the course of my professional career I’ve been employed by state and federal geological surveys; I was an adjunct associate professor at the University of Utah for ten years; and I worked as a consultant to private industry, municipalities, counties...
and state governmental agencies. My private industry consulting experience spans about twenty-five years; it includes conducting hydro-geologic investigations and assisting in permitting for approximately thirty open pit, underground mines, mills and concentrators, smelters, [comment] storage facilities, and other industrial facilities, and about half of that work experience has been in Nevada. I’ve been asked to evaluate the groundwater conditions at the Reid Gardner Station facility. In the course of this evaluation I’ve reviewed the groundwater monitoring data, engineering reports, permitting documents related to evaporation ponds and landfill and I promise to stay on subject to the landfill. But I just wanted, again, to point out that the ultimate disposal of the solids that accumulate in the evaporation ponds is the landfill. Once the ponds fill with solids, they’re excavated and placed in the landfill and thus the landfill and the ponds are simply two steps in the handling and disposal of these solid wastes. By way of background, Nevada Energy currently collects data on a quarterly basis from approximately seventy-five monitor wells located throughout the facility. Based on my evaluations to date, I formulated a few conclusions and opinions which I’ll share with you now. Eight of the seventy-five or so monitor wells are located up-gradient, south of the evaporation ponds and thus they potentially provide information on background conditions, groundwater conditions, and also groundwater quality impacts related to the landfill but not to the ponds, since they are up-gradient of the ponds. Of those eight, three wells are like the up-gradient of the landfill and five wells are down-gradient of the landfill. First of all given the size of this landfill, it’s history of development, the variability of the wastes that are placed in the landfill and undocumented performance and lack of liners...having simply five down-gradient monitor wells is insufficient to fully evaluate groundwater impacts. Having said that historically NV Energy has monitored groundwater at or near the landfill, again up on the mesa area, in an additional seven monitor wells. At least up until 2003. However according to recent quarterly monitoring reports the first quarter of 2010 these monitored wells have either been abandoned or dry, and it’s unclear why NV Energy has not continued to utilize these wells or to replace them if they become non-functional. I want to talk a little bit about the results of just the first quarter of 2010 groundwater monitoring, and these reports are submitted quarterly to the Nevada Division of Environmental Protection. The 2010 first quarter monitor reports indicate that wells in the vicinity of the landfill exceed actual levels that have been established by NDEP for boron, chloride, magnesium, molybdenum, sodium, sulfate, total dissolved solids and vanadium. And just so you know, a quick summary here, boron was exceeded in seven of the eight wells in the vicinity of the landfill; chloride in two of the eight wells; magnesium two wells; molybdenum in six of the wells; sodium in four of the wells; sulfate in all eight wells; TDS in seven of the wells; and vanadium in one. I mentioned earlier that NV Energy had additional monitor wells previously in the vicinity of the landfill. In 2002, these were upgraded at least until 2002, these additional seven wells also contained TDS concentrations that exceed the NDEP action levels. And again, as I said, these are up-gradient from the evaporation ponds and thus
would appear to be related to the landfill. Elevated TDS concentrations have existed in these wells at least since 2002 and in fact two of the wells had elevated TDS going back to as early as 1998. With that regard, in looking through some of the permitted documents NDEP has documented contamination of groundwater in the area of the landfill on at least three occasions between 1998 and 2008. Excuse me one second. In August 4, 1998 in a memo discussing the proposed decamp ponds in the landfill area and this is a quote, there may have been some pollution of portions of this optic group from high TDS source based on the data from the southern-most well ANW-13, since the TDS value is 26,300 milligrams per liter versus an average of 4,000 milligrams per liter from other shallow wells. In 1999 NDEP in a memo, and this is based on documents submitted by Nevada Power Company, NDEP concluded the following, and again a direct quote, the groundwater has been contaminated by all of their existing ponds and the landfill. As recently as February 20, 2008 in an administrative order on consent written…prepared by NDEP and entered into with NVE, and again I’ll just read the direct quote, areas of known releases of environmental contaminants from the Reid Gardner Station Facility onto adjacent properties include but are not limited to areas of Hogan Wash, properties north of Pond A, properties east of the power generation units, property north and east of WMU-4 (Mesa landfill), and property south of WMU-4, elevated concentrations of TDS, sulfate, chloride, dissolved metals, volatile organics, [comment] organic compounds and petroleum hydrocarbons. And it’s not to say that all those are from the landfill, but. To kind of wrap this up, I guess I’ll just ask two questions for the Southern Nevada Health District and the Board to consider as you weigh this information in your permitting decision. But I would like to know what enforcement action Southern Nevada Health District is taking for the existing landfill permit given this long and well-documented history of contaminating waters of the state at the Reid Gardner Station landfill. And second question for you to consider is what is the rationale or justification for approving a new permit that will place millions of cubic yards of waste over portions of the existing landfill, as Mr. Norris has pointed out, which again has a long and well-documented history of contaminating waters of the state. Thank you very much for allowing me to make these comments and take that into consideration in your decision-making process.

Chair Strickland: Mr. Lips, are you going to be presenting the Board with an actual report, a written report?

Mr. Lips: I could.

Chair Strickland: It might be helpful.

Mr. Lips: Sure.

Chair Strickland: It’s much easier for us to read then…

Mr. Lips: You bet. I’d be glad to do that.
Chair Strickland: Mr. Ross?

Mr. Ross: Again I want to thank Mr. Lips for his research, data gathering and presentation of his conclusions regarding this matter. I'm going through my notes and a couple questions…

Mr. Lips: I'll try.

Mr. Ross: I have the same question regarding the document provided tonight if possible.

Mr. Zabarte: Walter, can you speak up a little bit?

Mr. Ross: I had the same question about him providing the document, the one that he's read to us. That would be very helpful.

Mr. Lips: Sure.

Mr. Ross: I agree with your assessment on some of the characteristics you described in some of the wells near the landfill. What I have a question about is do you come to any understanding of the background of the soil…of the composition of the groundwater in this vicinity or in this other geologic area, if you will, near the power plant and the landfill?

Mr. Lips: There are data, and again this is part of the seventy-five or so wells that NVE is currently monitoring that are south of the landfill, which would be up-gradient that could be and, you know, reasonably could be expected to be background concentrations of groundwater constituents. And again there may be some partial because if there is contamination from the landfill we don’t really know how far that plume may go. But if we assume the background on the water quality on the mesa is somewhere in the 2, 3 or even 4,000 milligrams per liter TDS, there were, as I mentioned, a monitored well KMW-13, which is right on the southern border of the landfill, at one point in time had concentrations of 22,000+ milligrams per liter. And the wells to the north, before you get to the ponds, so they would be down-gradient of the landfill but up-gradient of the ponds, have TDS concentrations that are above what appears to be background.

Mr. Ross: Well, I assume you reviewed many years of data or just 2010?

Mr. Lips: I have looked at some of the years of data but we don’t have all of the years. And, you know, basically what I was looking at, you know, at this stage was what’s going on right now and then what has been documented in the past by NDEP.

Mr. Ross: The characteristics that you listed, would you conclude that background levels may compare to some of the values that you saw exceedances?
Mr. Lips: Well, I don’t believe that there’s probably at this point a sufficient number of wells to state with certainty what background is, to be perfectly honest with you. And part of what NDEP in their analysis concluded is that, again based on the history of the landfill aligned and different operation practices over many decades, is that there may be plumes that are sufficient enough of groundwater contamination that it’s actually reserved the gradient, and so what may be considered an up-gradient wells may not actually be up-gradient.

Mr. Ross: But at the same time you haven’t…that’s true, but at the same time you haven’t concluded that the values that you noted as exceedances of action levels by NDEP, you haven’t concluded for sure that they’re not comparable to background?

Mr. Lips: I can state with pretty high confidence that 22,000+ milligrams per liter TDS at KMW-13 is well above background.

Mr. Ross: And that spike, that is definitely the case, but I think overall for an overall judgment that’s rising…

Mr. Lips: Well, I think…I’d be happy to and I suspect I will look at more of the well…the historic well data for the seven additional wells that are no longer operational.

Mr. Ross: Well we’ve got time, I’ve just got one other quick question.

Mr. Lips: Yes.

Mr. Ross: Do you find any exceedances of arsenic, barium, chromium, lead, mercury or selenium in those comparisons with NDEP action levels?

Mr. Lips: The only one I looked at, again, for that was the first quarter of 2010 and none of those were in exceedance for action levels, if they do exist for those constituents.

Mr. Ross: Do you have any opinion why there wouldn’t be an exceedance for that?

Mr. Lips: I don’t to be perfectly honest.

Mr. Ross: OK. Thank you.

Member Collins: One question.

Chair Strickland: Certainly.

Member Collins: As far as some background, Southern Nevada Water Authority, Gaudin Springs Development Group, and the Moapa Valley Water Company all have water testing samples that you can probably get comparisons to go beyond where you’re looking and I think that would probably be available to you to help some of those questions out.
Mr. Lips: That’s a good suggestion, thank you.

Member Collins: They have some exceeding things in some of them, which you can get information from NDEP on water quality there, too.

Mr. Lips: OK. Thank you.

Chair Strickland: And Mr. Lips, I would comment that in order for the Board and staff to be able to properly review and analyze the report we probably need the report no later than October 11th.

Mr. Lips: Thank you. I can do that. Thank you.

Chair Strickland: Alright. We have five minutes and so…go ahead. Yes, sir.

Mr. Garcia: With respect to time, I know we’re trying to get out of here. Everything that was brought up…we talked about air quality, we talked about water quality, we talked about the Bureau of Corrective Actions…it is firm that NV Energy is highly regulated by the agencies regarding NDEP, air quality, water quality, Bureau of Corrective Action. We’re in full cooperation. I don’t need to say that anymore. But given what was discussed here I think it’s fair and I’ve got, again they’re a consultant to an agency therefore I think some of the information that was relayed is incorrect, so I feel impelled to allow my consultant just to take three, I think it’s three specific points to clarify and if you’d allow me to do that I could call him up, if that’s OK.

Chair Strickland: OK.

Mr. Garcia: Nathan?

Nathan Bettes: I’ll try and keep it brief. My name is Nathan Bettes; I live in Henderson. I’m a licensed engineer in the state of Nevada. I work for CH2M Hill and I’ve been working with NV Energy to prepare this permit application. Like Walter, I really haven’t had a chance to look at your technical analysis which was presented by the Western Environmental Law Center tonight, but there’s certainly been a lot of technical opinions bashed around. Out of respect for everybody’s time I don’t want to get into a point-by-point, you know, analysis or response of everything that was brought up. But I do think it is important to point out a couple of misrepresentations or real potential errors that were presented tonight just for review. One big one is whether or not the lateral expansion would be in a liner – the entire lateral expansion will be located on a liner. It showed pretty clearly on the drawings in the documents. Second, the landfill is sized correctly for a roughly thirty-three year lifespan – that’s 10.4 million cubic yards. The 10.2 million cubic yards they refer to in 2007, that’s in the EA – that was not any kind of an application submitted to SNHD. In 2007 SNHD did approve an expansion of 407,000 yards, which is a little different than the 10.2 million that was presented. The last…when the liner was designed there was extensive modeling and analysis and calculations done on that, I know we’ve gone over some of that with
the SNHD staff. We’d be happy to continue working with them and present you more. That’s all I have. And in closing just look forward to working with the SNHD staff to keep the process moving forward. Thank you.

Chair Strickland: Alright, I would comment that if you feel compelled to put your rebuttal in a form of a report they will have that when they review Mr. Lips’ report. So…

Mr. Bettes: Absolutely. Yes, ma’am.

Chair Strickland: Remember October 11th is the deadline.

Mr. Bettes: Yes, ma’am.

Chair Strickland: Alright. Thank you.

Mr. Ross: I’d just like to add one thing. I’m not, and I don’t have the permit…on the volume of the 2007 permit but I do recall eight acres I believe it was…

Mr. Bettes: It was eight acres, 479,000 cubic yards roughly.

Mr. Ross: So I don’t have the volume, I just find it a little stretched for 10.2 million cubic yards to be added for the expansion.

Chair Strickland: OK, we are out of time. So what I need to do is pursuant to the agenda I’m closing the public hearing and I’m opening it up for public comment. Anybody wants to come forward, it’s going to have to be quick because I understand the building closes at 8. So, anybody want to come forward and offer any testimony right now?

Mr. Lee: I just want to say something…I just to work here, you know at NV. I’m a worker, I used to be. And yeah, the man, I don’t know his name, but he’s there. That one there…he was there.

Chair Strickland: Alright. Thank you. Alright if we have nobody coming forward, we’ll close the public comment and the meeting’s adjourned. Thank you very much for attending.

IV. PUBLIC COMMENT

Public Comment is a period devoted to comments by the general public, if any, and discussion of those comments, about matters relevant to the Board’s jurisdiction will be held. No action may be taken upon a matter raised under this item of this Agenda until the matter itself has been specifically included on an agenda as an item upon which action may be taken pursuant to NRS 241.020.

Chair Strickland asked if anyone wished to address the Board. Seeing no one, she closed the Public Comment portion of the meeting.
IV. **ADJOURNMENT**

There being no further comments, Chair Strickland adjourned the Public Hearing at 8:04 p.m. and to be continued at the October 28, 2010 Board of Health meeting scheduled for 8:30 a.m.

SUBMITTED FOR BOARD APPROVAL

________________________________________
Lawrence Sands, DO, MPH, Chief Health Officer
Executive Secretary

/src

attachments
October 1, 2010

To:
Southern Nevada District Board of Health Chair Linda Strickland, Vice Chair Tim Jones, Members Donna Fairchild, Dr. Jim Christensen, Nancy Menzel, Jimmy Vigilante, Chris Gianchuliani, Lawrence Weekly, Lois Tarkanian, Stravos Anthony, Kathleen Boutin, Robert Eliason, Dr. John Oneyma, and Alternates Tom Collins, Susan Crowley, Kam Bryan, Travis Chandler, Michael Collins, Karl Gustavson, Joe Hardy, Debra March, Dr. Frank Nemec, Steven Ross, Anita Wood

From:
Dan Galpern. Attorney with the Western Environmental Law Center
Submitted on behalf of the Sierra Club

Regarding: Recommendation to Deny the NV Energy Application to Modify and Expand Its Coal Ash Waste Landfill

Dear Chair Strickland, Vice Chair Jones, Members and Alternatives,

On behalf of my client, the Sierra Club, I urge you to deny NV Energy’s application to expand the Reid Gardner coal ash landfill. The expansion is not justified by the application. Most fundamentally, to grant this permit would flatly conflict with the Board’s mandate to protect public health and the environment.

I have attached to this letter a memorandum from Charles Norris, one of Sierra Club’s two independent hydrogeologists assisting on this matter. Sierra Club hereby incorporates the Norris Memo’s expert analysis and opinions by reference. Both Norris and hydrogeologist Elliot Lips will testify, and will assist in answering your questions about the proposed landfill modification, at your October 4 SNHD public workshop in Moapa.

Specifically, we urge you to deny the permit sought in applications submitted by Mr. David Sharp last December and this May. Hereafter, those applications and materials will be referred to as, the “2009 permit application” or, simply, the “2009 application.

In its 2009 application, NV Energy officially proposes to expand the coal ash landfill’s capacity for the next 36 years, and to undertake a major modification of the landfill so as
to pack in additional wastes. In reality, as discussed by Norris, the expansion and modification sought will provide capacity so as to allow disposal of wastes from continued burning of coal at Reid Gardner for nearly six decades. Norris Memo at 6-7.

After thorough review of the 2009 application, we conclude that to grant the permit NV Energy seeks would be contrary to the Board’s statutory mandate to prevent nuisances, protect state waters (including groundwater), and to protect public health. NRS 439.366. In particular, pursuant to NRS 444.560 (4), the Board is obliged to deny a permit where an applicant, as here, fails to establish that its proposed disposal of solid wastes will neither “create a health hazard, public nuisance or impairment of the environment,” nor “cause or contribute” to air pollution or pollution of surface or groundwater. NAC 444.644; NAC 444.731 – 444.747.

The Board’s legal mandate to protect the public and the environment cannot be waived. Moreover, the Board is obliged to protect the public by ensuring that no permit it issues “causes or contributes” to pollution. In brief, the Board’s duty to protect Clark County from harmful pollution or lethal contamination (or from a public nuisance) derives directly from state law and regulations.

There exist at least five grounds upon which the Board’s denial of the permit may be based:

1. **Existing Environmental Contamination Would be Compounded by the Applied-for Permit**
   
   It is highly likely, according to NDEP monitoring data, that the existing landfill is leaching contaminants into the environment. Approving the expansion as proposed in the 2009 application would compound these problems – as is noted in the Norris Memo and as will be discussed on Oct. 4 by both Norris and Elliott Lips. Indeed, existing and continuing contamination of groundwater constitute grounds for the District not only to deny the new permit(s), as discussed above, but to revoke or suspend the facility’s existing landfill permit, upon the provision of written notice. NAC 444.643(5). See also NAC 444.7493, 444.7489.

   As discussed in the Norris Memo, the 2009 application proposes to pack in more than 80 percent of additional wastes onto areas of the landfill that have no liner whatsoever. Moreover the “remarkably minimal” liner system, as proposed in the 2009 application, will be ineffective in preventing contamination of groundwater below the landfill. Norris Memo at p. 9.

   We note, as well, that existing and continuing coal ash dust and hydrogen sulfide pollution constitute both unlawful nuisances (both public and private), as well as unlawful air pollution from the landfill complex. NAC 444.644. We understand that the impact of this pollution is most severely experienced by the Moapa Band of Paiutes, given their proximity to the landfill complex. This is unacceptable under the law.
2. Failure to Appropriately Characterize and Analyze the Wastes to be Disposed
The 2009 application fails to provide an adequate characterization of the wastes and waste stream. Instead, the supplemental spreadsheets that NV Energy provided in response to our demand merely undertake the irrelevant exercise of showing whether wastes that are already categorically exempted from regulation as hazardous wastes under federal Resource Recovery and Conservation Act (RCRA), would be regulated as hazardous wastes under RCRA were it not for the exemption. The application entirely fails to provide any information, including, for example, bulk composition analysis as explained by Norris, Norris Memo 1-2, to enable the Board to determine, as it must, that the wastes will not “create an environmental hazard or threaten [public health].” NAC 444.737(2).

3. Failure to Conduct an Appropriate Leachate Generation Demonstration
There is no genuine effort to demonstrate – either by quantification or, even, reasonable discussion – how these wastes and their contaminants will leach into the environment, contrary to the clear requirement of NAC 444.739.

Instead, NV Energy relies on a protocol that is widely discredited in the scientific community as inadequate to predict field leachates from disposed of wastes. Norris Memo 2-4. Accordingly, NV Energy’s application fails to provide information as to the volume of such wastes, their elemental composition, the concentration levels of all constituents, and the expected change over time in composition and concentration. Absent this fundamental analysis, the Board cannot understand the relevant risks it is in effect being asked to impose on the public.

4. The Application Simply Fails to Demonstrate any Need for the Expansion it Proposes
In 2007, the Board approved NV Energy’s proposal to expand capacity to store an additional 10.2 million cubic yards of coal combustion wastes. That expansion has not yet been developed. Were it to be developed, in combination with the existing landfill capacity, there would room for quarter century worth of dumping from continued coal burning at Reid Gardner. The 2009 application allows an expansion that add approximately 33 years to that total – allowing continued coal burning and disposal of associated wastes for nearly six decades. Norris Memo, Table at 6. NV Energy has not justified the need for this expansion. Moreover, this is far, far beyond any reasonable and sustainable length of operation given the County’s interests in maintaining clean air and water, and the overwhelming need to sharply reduce carbon emissions.
5. The Application Fails to Show that Leachate Will Be So Insignificant That NV Energy Can Ignore Legal Requirements
State rules clearly require analysis of leachate generation and a demonstration that the landfill design suffices to protect waters of the state from contaminants in such leachate. NAC 444.739(5). NV Energy declares this mandate to be inapplicable to its application in light of four factors – all proffered without supporting data or meaningful analysis: (1) low moisture content, (2) low potential for decomposition, (3) favorable climate, and (4) low permeability of compacted ash. Norris thoroughly refutes each of these supposed justifications for failure to comply with the relevant regulation. Norris Memo at 11-13.

Finally, we understand that NV Energy has proffered the argument that any failure by the Board to grant the permit will impair its effort to remediate past contamination. The Board must reject this scare tactic. As indicated, there is ample space for disposing of NV Energy-predicted waste streams, including material dredged from the evaporation ponds.

Nevertheless, in addition to urging you to reject the current application and deny the permit for any additional expansion, please know that we stand willing to offer suggestions to the Board or NV Energy that could serve as the basis for serious discussions in the event that the latter truly wishes to pursue serious efforts to protect the area’s environment while continuing to operate its landfill for some practically necessary, but minimum period of time.¹

Thank you for your consideration of these points. I look forward to continuing the discussion with you on Monday.

Sincerely yours,

Dan Galpern, Attorney
Western Environmental Law Center
1216 Lincoln Street
Eugene, OR 97401
(541) 359-3243

¹ To take but one example, the landfill would need to be constructed and operated in a very different way, and new monitors would need to put in place, if the groundwater is to be given a fighting chance at avoiding significant contamination.
COMMENT FORM
Residents of Moapa River Indian Reservation
Proposed Class III Landfill Extension at Reid Gardner Facility
Public Workshop at Moapa Recreation Center,
1340 E Highway 168,
Moapa Nevada
October 4, 2010

Please Print Clearly:
Name: Marsha Duncan
Address:
Phone:

My comments can be made public (circle one): YES NO
My information can be made public (circle one): YES NO

Project Comments:
People are breathing this gross, nasty polluted air and it’s not good for us, especially the fact all of everyone that’s getting sick lived a mile away from the plant! I’ve been getting headaches and sick, and I blame it on the plant!

Signed:

Note: Return these comments in person to the Southern Nevada Health District, Monday October 4 at the Moapa Recreation Center from 5-8pm.
Or by mail:
Southern Nevada Health District
P.O. Box 3902
Las Vegas, NV 89127
Questions? Call Southern Nevada Health District (702) 759-0661
Please Print Clearly:
Name: Deanna Domingo
Address: 
Phone: 

My comments can be made public (circle one):  YES  NO
My information can be made public (circle one):  YES  NO

Project Comments:

I moved to Moapa 15 yrs. old and I once lived on the Rez, closest to the power plant and the time I spent there I got Asthma. I see tribal members suffer with Asthma etc. Caused from NV power. Every night there is a odor in the air so strong you hardly breath.

SIGNED: 

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COMMENTS FORM
Residents of Moapa River Indian Reservation
Proposed Class III Landfill Extension at Reid Gardner Facility
Public Workshop at Moapa Recreation Center,
1340 E Highway 168,
Moapa, Nevada
October 4, 2010

Please Print Clearly:
Name: Ian Zabarte
Address: [Redacted]
Phone: [Redacted]

My comments can be made public (circle one): YES [X] NO
My information can be made public (circle one): YES [X] NO

Project Comments:
Coal ash should be deemed hazardous because coal contains uranium (western coal the highest).
Once coal is burned in power plant boiler increased the radiation. Disposal in landfill is too close to tribal community. Moapa Tribal community is low income people of color that is already vulnerable because of past exposure to radiation from atmospheric nuclear weapons testing. NAS BIRELL 2000 gives no minimum threshold for radiation carcinogenesis. Native Americans cannot endure any increase burden of risk from exposure from any source including Reid Gardner Class III land fill expansion.

SIGNED: [Redacted]

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Las Vegas, NV 89127
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COMMENT FORM
Residents of Moapa River Indian Reservation
Proposed Class III Landfill Extension at Reid Gardner Facility
Public Workshop at Moapa Recreation Center,
1340 E Highway 168,
Moapa Nevada
October 4, 2010

Please Print Clearly:
Name: CLAYTON BRUNNMEIER
Address:

Phone:

My comments can be made public (circle one): YES NO
My information can be made public (circle one): YES NO

Project Comments:
Awful smell that comes from pond / plant

Signed:

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P.O. Box 3902
Las Vegas, NV 89127
Questions? Call Southern Nevada Health District (702) 759-0661
COMy FORM
Residents of Moapa River Indian Reservation
Proposed Class III Landfill Extension at Reid Gardner Facility
Public Workshop at Moapa Recreation Center,
1340 E Highway 168,
Moapa Nevada
October 4, 2010

Please Print Clearly:
Name Lawana Levi
Address
Phone

My comments can be made public (circle one): YES ☐ NO ☐
My information can be made public (circle one): YES ☐ NO ☐

Project Comments:
If not made science... Having the pond... night a have us also having to breath the

SIGNED:

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Or by mail:
Southern Nevada Health District
P.O. Box 3902
Las Vegas, NV 89127
Questions? Call Southern Nevada Health District (702) 759-0661
Comment Form
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October 4, 2010

Please Print Clearly:
Name: Jerrin L. Begay
Address: 89025
Phone: (702)

My comments can be made public (circle one): YES
My information can be made public (circle one): YES

Project Comments:

I hate fly ash landing on my car and coming thru my air conditioning vents.
Stop this Ash !!!

Signed:

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Las Vegas, NV 89127
Questions? Call Southern Nevada Health District (702) 759-0661
NAME: JESSE BEAURY

 Please Print Clearly:
 Name: JESSE BEAURY
 Address: 
 Phone: 

My comments can be made public (circle one): YES NO
My information can be made public (circle one): YES NO

Project Comments:
I'm 25 years old with chronic dry eyes, dry nose & throat. I also
have chronic migraines. The odors coming from the plant has been
a problem for years. Breathe up, watching the dust coming from the ponds,
and constantly trying to run outside to make sure my car windows are rolled
up to protect my interior from the ash discharge. I have become a problem.
This year has been especially windy, with the weather as it has been
resulting my sleep-on has become a problem. I do not wish this kind
of health problem for anyone, especially expectant mothers & children's elders.

SIGNED: 

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P.O. Box 3902
Las Vegas, NV 89127
Questions? Call Southern Nevada Health District (702) 759-0661
Please Print Clearly:
Name: Sherryl Patterson
Address: 
Phone: 

My comments can be made public (circle one): ☐ YES  ☐ NO
My information can be made public (circle one): ☐ YES  ☐ NO

Project Comments:
When I moved to Moapa 4 years ago, as part of my retirement plan, I was only mildly concerned about this large plant that seems to fil the valley. As I became a concerned citizen of Moapa, it now worries me that my sin is polluted and my groundwater contaminated. My vegetables garden seem pointless and I am forced to buy bottled water. But what can I do about the sin me & my family are forced to breathe? The clouds that are seen over the plant & its ponds are common. What does this say for our future? What can we do to change this situation if our government agencies won't help? Where do we go from here?

SIGNED: 

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Please Print Clearly:
Name: Eunice V. Okt
Address: [Redacted]
Phone: [Redacted]

My comments can be made public (circle one): YES  NO
My information can be made public (circle one): YES  NO

Project Comments:
[Handwritten text: Our People are slowly dying. I've developed allergies in the past 5 years. Never had allergies before. And a scare threat for 2 mos. Now. The water ponds need to be covered up buried, whatever you need to do. The plant should just "go away". The stretch was also so when my family had a sleep cooler. Help more of our people to work at the plant - set up better. Higher education funding for our young people.]

SIGNED: [Redacted]

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Las Vegas, NV 89127
Questions? Call Southern Nevada Health District (702) 759-0661
NAME: Gwendolyn Tom

Please Print Clearly:

Address

Phone

My comments can be made public (circle one): YES NO
My information can be made public (circle one): YES NO

Project Comments:

On certain days when the wind is blowing strongly, you can smell and see the ash flying toward the Reservation. My concern is for the children and their health.

SIGNED: [Signature]

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October 4, 2010

Please Print Clearly:
Name
Address
Phone

My comments can be made public (circle one): YES NO
My information can be made public (circle one): YES NO

Project Comments:

[Handwritten text not legible]

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Please Print Clearly:
Name Veronica Zobia
Address
Phone

My comments can be made public (circle one): YES NO
My information can be made public (circle one): YES NO

Project Comments:
• What effects can this stuff have on my unborn child.
• In a meeting I attended with the Tribal Chairman and different department heads, meeting with Reid Gardner's employee who was presenting a check to the Tribe. At this meeting a lot of questions came up about un-identified medical problems affecting some members of this Tribe. This worries me as a young mother. I currently have a 4 year old daughter and am currently 6 months pregnant. Should I have to uproot my family just to protect myself and my family? It's sad that we have to resort to abandoning our families and friends, jobs and etc. just to be able to keep ourselves safe. Continuing at this rate my great grandchildren will only know Moapa as a memory past them.

SIGNED: 

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Please Print Clearly:
Name  Vickie Summo
Address
Phone

My comments can be made public (circle one): YES ☐ NO ☐
My information can be made public (circle one): YES ☐ NO ☐

Project Comments:
My brother died while working in the coal yard at Reid Gardner. He was 32 years old. He had an enlarged heart and my neighbor (who also worked in the coal yard) died of heart problems. There were 2 young men who both worked in the coal yard. There has to be a connection.

I hate the idea of Nevada Power Coal Fired Plant is expanding. It feels like no one cares that our reservation is so close and they continue to expand and their pollution is just never ending. When it should be coming to an end, but all I can see is more and more landfills give. Please get clean energy a chance and stop thinking about how much money you can make.

SIGNED: ______________

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Las Vegas, NV 89127
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Please Print Clearly:
Name
Address
Phone

My comments can be made public (circle one): YES  NO
My information can be made public (circle one): YES  NO

Project Comments:
I personally don’t like the coal ash, it causes many health problems, especially to the people on the river for many years my dad worked for NV power. He died with health problems due to coal dust.

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October 4, 2010

Please Print Clearly:
Name: Delaine Ford
Address: 
Phone: 

My comments can be made public (circle one): YES
My information can be made public (circle one): YES

Project Comments:
I am submitting this complaint because of the allergies that I suffer from severe sinus problems due to the dust that rises from Nevada Power. I knew for a fact that Nevada Power does not control this because for years every day that I go to work it is windy and when I look over at Nevada Power a majority of the dust comes from there alone with the fact smell that comes from the ponds and stinky water. This makes me wonder why my employees suffer more from breathing issues. Every since I moved here to the reservation from Laguna I no I picked up the bad allergies.

SIGNED: 

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Please Print Clearly:
Name: [illegible]
Address: [illegible]
Phone: [illegible]

My comments can be made public (circle one): YES NO
My information can be made public (circle one): YES NO

Project Comments:
I have seen my car covered with ash after working on the reservation.
I have smelled the odor when the pond released fluids. I am concerned for the safety of my friends who work and/or live on the reservation. Please wait until the health studies are complete.

Signed: [illegible]

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Please Print Clearly:
Name
Ashly Osborne
Address
Phone

My comments can be made public (circle one): (YES) NO
My information can be made public (circle one): YES NO

Project Comments:
Understand that living so close to hazardous materials causes a huge threat to me. The community needs to be more aware and educated on how we should take care of the quality in our lands. So I'm not a fan of this real ash.

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Please Print Clearly:
Name: Roger Levi
Address: [Redacted]
Phone: [Redacted]

My comments can be made public (circle one): YES   NO
My information can be made public (circle one): YES   NO

Project Comments:

Oh I just love it when the wind blows from the South. Then I can go outside and breath the nice crisp air and enjoy being outside. If you think that's true, why don't you experience it. I think that it just plain wrong of what you are doing. Clean up your act and the environment then we can all get along.

Signed: [Redacted]

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Please Print Clearly:
Name
Address
Phone

My comments can be made public (circle one): YES  NO
My information can be made public (circle one): YES  NO

Project Comments:
Since age 10 I have lived here on the reservation, during that time I noticed being more allergic. Now I take inhalers and Decongestants. I think the Power Plant has had a lot to do with my symptoms. I learned a lot about fly ash that I didn't know before.

Signed: ______________________________

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October 4, 2010

Please Print Clearly:
Name  Eric Lee
Address
Phone 123-456-7890

My comments can be made public (circle one): YES NO
My information can be made public (circle one): YES NO

Project Comments:
The Bad Air. Smells bad when the clouds are around, and when it's windy I see a Black (Grey) cloud of dust. I moved back 6 yrs ago and I never had allergies but now I have it. It's slowly killing my people slowly. Not to many elders around to teach the younger generation, and I have a problem with that!

SIGNED:  

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Please Print Clearly:
Name  Russell D. Samson
Address
Phone

My comments can be made public (circle one): YES  NO
My information can be made public (circle one): YES  NO

Project Comments:
I do not like smell of the gas flying in the air because it is bad for our health, all bad for the crops, and it bad for all people health. And all bad chemical that when it blows, we have breath bad air. I hate breath that air, and I do not like.

SIGNED: ____________________________

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Questions? Call Southern Nevada Health District (702) 759-0661
Please Print Clearly:

Name

Address

Phone

My comments can be made public (circle one): YES  NO
My information can be made public (circle one): YES  NO

Project Comments:

Dust coming from the south. We breathe and eat it. It is rue our air conditioning filters. The dust mixed with the chemicals is causing health problems. The children need a better future. We have honor roll students. Can't get outside to practice our traditional ways because of the Navajos. I have served the tribal, tribal, and as a Board member.

Is this the way you treat the 1st Americans?

SIGNED:

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Questions? Call Southern Nevada Health District (702) 759-0661
MEMORANDUM

Date: September 22, 2010
To: Daniel Galpern, Western Environmental Law Center
From: Charles Norris, Geo-Hydro, Inc.
RE: Reid Gardner Power Generation Station Application for Landfill Expansion

Pursuant to your request, I have reviewed relevant portions of the Nevada Power Company (NPC) 2009 application for an expansion of its CCW landfill at its Reid Gardner Power Generation Station (RGS). I have focused on the limited number of issues you suggested. As a result, these observations are only a partial assessment of the application and proposed expansion and must be integrated with other aspects to fully understand the implications and ramifications were this application to be approved and implemented. This memorandum reports on my review of the application with respect to the issues of waste characterization; the existing capacity, need and useful life of the landfill; the HDPE liner and contact water collection system (CWCS); and the final cover and leachate production for the landfill.

The importance of the four issues can be summarized simply as four questions. What does this waste look like and how does it behave when disposed in this landfill? How much of this waste will be generated and over how long a time frame? Can the proposed containment keep leachate from these wastes isolated and out of the environment? Can the proposed containment system keep water out of these wastes in perpetuity? I understand that someone else is investigating an important fifth issue; what does the existing monitoring reveal about the impacts of the existing landfill and can the proposed monitoring detect all of any impacts of the proposed expanded landfill?

These questions must be answered before any finding can be made that the proposed expansion is protective of human health and the environment. By and large, the expansion application does not contain the needed information to allow an information-based, scientifically defensible answer to these questions. Where data do exist that contribute to the answers, the reasonable conclusion is that the proposed expansion is not protective of human health and the environment.

Waste Characterization

The waste characterization data provided in the application are found in two documents, Tab 12 of the application and the file WASTE CHARACTER_@201008FINAL.pdf. These documents consist of Material Safety Data Sheets (MSDSs) of various vintages; water analyses of pond liquids and water treatment residuals; limited solids analyses of soils, combustion wastes, and pond sediments; and Toxicity Characteristic Leaching Procedure (TCLP) tests of historic and contemporary waste streams scheduled for disposal in the landfill expansion. Some of the analyses were done recently (August, 2010) and some are lifted from MSDSs that are from as long as 16 years ago.

The August 2010 file provides a summary table of TCLP test data. Aside from the limitations of the TCLP as a characterization test, that summary is itself limited with respect to potential Resource
Conservation and Recovery Act (RCRA) waste categorization due to problems in the presentation. First, many of the results are represented with the annotation "ND", an annotation that is undefined. It almost certainly denotes "not detected" or something similar. However, without a report of what the detection limit was for each analysis and analyte, the "ND" is fundamentally meaningless. Second, the reporting for pH is also somewhat ambiguous. In some cases the pH seems to be reported to tenths of a standard unit and sometimes it appears pH is reported to the closest standard unit.

If one assumes that "ND" means "not detected" and one assumes that the unreported detection limit for each analyte is less than the RCRA threshold for a constituent's hazardous-by-characteristic designation, then these summary data indicate that pH is the only chemical property that matches or exceeds the RCRA hazardous designation, and pH only does so for two of the samples analyzed for pH. With the exception of perhaps what the application refers to as "reactivator" waste, however, the issue of whether or not the waste exceeds a hazardous threshold is moot. These coal combustion and associated co-disposed wastes are currently exempt from RCRA-hazardous classification, regardless of their TCLP test results, by the Bevill Amendment to RCRA.

What the analyses proffered as waste characterization do not do is provide any direct information or discussion of how these materials will leach when placed in this disposal facility. A reasonable approximation of the composition of the leachate that will form from these wastes is the fundamental data necessary to assess the impacts and risks created by the disposal of these wastes in this expansion. The Southern Nevada Health District (SNHD) cannot meet its obligation without developing a detailed understanding of the human health and environmental risks associated with the proposed expansion. That understanding can only be made on a technical and scientific basis when SNHD knows what is in the waste (bulk composition), the composition(s) of the leachate(s) that form in the landfill, the potential exposure pathways, and whether the contaminants in groundwater attenuate or build along those pathways. Of the above four items, the first two and part of the last can be addressed only by information that must be in the waste characterization; information that is not in the permit application.

An analysis for the bulk composition of each waste is needed for the waste characterization because groundwater is not the only exposure pathway. Inhalation and surface contact are exposure pathways for workers and for those in the path of fugitive dust. Without bulk composition analyses, these risks cannot be evaluated and assessed.

The composition of leachate that forms in the landfill is the most significant piece of the evaluation of exposure pathways involving water; it is the source-term concentration. TCLP does not and cannot provide that leachate composition. TCLP is the USEPA-prescribed laboratory protocol used to rank some solid wastes with respect to the potential toxicity of a few constituents. It replaced the original extraction procedure (EP-TOX) for that purpose. TCLP results are compared to a regulatory gateway to determine if

---

1 An analysis of bulk composition reports the concentration of each element or species of interest in the waste, independent of the propensity of that element or species to leach. The analyses are reported as mass ratios of constituent to the waste solid, e.g., mg/kg, ug/kg, percent, or per mil.
a non-listed, non-exempt solid waste can be managed under Solid Waste (Subtitle D) regulations or if it must be managed under Hazardous Waste (Subtitle C) regulations.²

The TCLP test was not designed to predict the concentration of any contaminant in the leachate that will form under disposal conditions. It was never represented as a protocol capable of doing so. The inadequacy of this and similar index tests (e.g., ASTM shake tests, SPLP, and SGWLP) to predict field compositions has been increasingly obvious for the last two decades as more and more regulatory programs have attempted to use them as surrogates for, or predictors, of field leachates from placed or disposed waste.

The Science Advisory Board (SAB) for the USEPA has recognized and expressed the inadequacies of these tests since at least 1991 and in 1999 called for a review of agency procedures (USEPA, 1999). The USEPA funded research by the SAB to study the best methods for modeling the impacts of waste disposal on groundwater in terms of risks to human health and the environment. A report documenting that research was issued in 2004 (USEPA, 2004). One of the elements of that study was yet more evaluation of why tests like the TCLP cannot be used for the purpose of predicting field leachates (Al-Abed, 2003). The SAB report documents that as long ago as the mid-1980s it was recognized that field observation and computer modeling were required to predict how leachates would evolve.

Specifically, the use of TCLP tests to estimate the initial leachate concentrations from coal combustion wastes is known to be inappropriate. A recently published study by the USEPA Office of Research and Development (USEPA, 2006) tested various Coal Combustion Residue (CCR) leaching procedures against databases of field generated leachate chemistry and states,

Leaching tests such as the TCLP (which reflects MSW co-disposal conditions) or the synthetic precipitation leaching procedure (SPLP), or any number of deionized water based tests may be inappropriate, or are at least not optimal for evaluating the leaching potential of CCRs as they are actually managed.

The USEPA Office of Research and Development adopted the “Integrated Framework for Evaluating Leaching in Waste Management and Utilization of Secondary Materials” (Kosen et al., 2002) as the preferred leach testing methodology. It is an index test for waste classification and not a method to predict field leachates. Without an accurate assessment of source concentrations, evaluation of the potential for impacting groundwater at levels above regulatory levels cannot be conducted. Rather than seeking out a meaningful leaching protocol, whether Kosen’s or something else, one that will characterize the leachate from its wastes, NPC performed no meaningful leachate testing. In failing to do so, NPC cannot demonstrate its waste will not damage waters of the State and SNHD cannot defensibly find that such protection is demonstrated.

The National Research Council echoed the warning of the inadequacy of laboratory characterization tests as surrogates for determining field leachate composition specifically with respect to CCWs in their

² A variety of additional regulatory uses for the TCLP have evolved through practice and time. Generally these uses are predicated upon the erroneous perceptions that TCLP results below the regulatory gateway reflect potential real-world leachate composition or quantify risks to human health and the environment. Neither perception is supported by critical review or a scientific demonstration of efficacy. In my experience both perceptions contribute to the frequency that coal combustion waste disposal practices so frequently create cases of damage to water supplies and the environment.
investigation of coal combustion ash disposal in mined settings (NRC, 2006, pp 145-152). The USEPA, in its recently released risk assessment of landfills and lagoons used for disposal of coal combustion wastes, ranked potential sources of data relative to their value as indicators of real-world leachate composition. TCLP and similar index tests ranked fourth among the four available data types (RTI, 2007).³

Questions that need answers to allow SNHD to make the findings with which it is charged, include:

1) What is the bulk composition of each element of the waste stream?

The appropriate answer to SNHD will include the bulk composition (mg/kg) for all constituents (not just the RCRA 8 and pH) that can impact human health and the environment. For some constituents, that may simply be elemental concentrations. For other constituents, it is necessary to analyze for species of an element, e.g., hexavalent chromium instead of total chromium, or individually analyzing for penta- and trivalent arsenic, instead of total arsenic.

2) What is the expected concentration of all constituents (not just the RCRA 8 and pH) that can impact human health and the environment in leachates that will form from these wastes?

The appropriate answer to SNHD will include the leachate composition (mg/L, e.g.) for all constituents (not just pH and the RCRA 8) that can impact human health and the environment. Waste characterization cited in the permit application did not include some of the most common CCW constituents. In addition to pH and the RCRA-8 constituents (arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver), the following constituents of concern to the environment and human health are typical of CCW: aluminum, tri- and pentavalent arsenic, antimony, boron, chloride, chromium (hexavalent), copper, fluoride, iron, magnesium, manganese, molybdenum, nickel, potassium, zinc, sulfate, and thallium. Radiological assessment is also necessary for an adequate characterization of CCW. Naturally occurring radionuclides in the coal, e.g., uranium, thorium and potassium, are concentrated in the ash products. They and/or their daughter products may cause radiation exposure and metal toxicity thresholds can be exceeded in the ash, particularly for some western coals.

3) What leachate characterization protocol, in lieu of TCLP, will the operator propose to address the inadequacies of the TCLP and provide the necessary information to allow the SNHD to meet its obligation?

The appropriate answer to SNHD will include an alternative testing protocol; NPC will have to propose a method and justify it to the SNHD. While it is generally now acknowledged that TCLP and related index tests do not predict leachate concentrations, there is not yet an equivalent acknowledgment for an alternative testing protocol. There is, however, considerable guidance available to SNHD. For example, one recently published study by the USEPA Office of Research and Development (USEPA, 2006) compared the results of various leaching procedures on CCW against databases of field generated leachate chemistry. It states, “Leaching tests such as the TCLP (which

³ The four types of leachate evaluation considered, from best to weakest, were 1) sample of landfill leachate or pore water in waste, 2) extraction tests with high retention times and low liquid:solid ratios, 3) extraction tests with high retention times or low liquid:solid ratios, and 4) TCLP or SPLP tests.
reflects MSW co-disposal conditions) or the synthetic precipitation leaching procedure (SPLP), or any number of deionized water based tests may be inappropriate, or are at least not optimal for evaluating the leaching potential of CCRs as they are actually managed”. The USEPA Office of Research and Development adopted the “Integrated Framework for Evaluating Leaching in Waste Management and Utilization of Secondary Materials” (Kosen et al., 2002) as the preferred leach testing methodology.

4) How will the composition of the leachate change over time in response to proposed operations at the expanded landfill?

The appropriate answer to SNHD will consider both the inherent weathering changes that occur in ash in the environment and the specific operations of this facility. The expected recycling of contact water and leachate back onto the disposed waste for moisture conditioning and dust control serve to increase concentrations of soluble salts with each cycle of “... frequently and actively applying water ...” obtained from the landfill wastes themselves (Tab 5, Section 2.2).

5) What is the volume of leachate that will be generated?

The appropriate answer to SNHD will quantify the leachate that will form, the rate at which leachate will leak outside of the landfill expansion, and the rate, if any, that it will accumulate in the landfill. SNHD must have both compositional projections and flux projections to evaluate risks associated with the expansion. At present the application for expansion contains only data-less generalities and plaitudes to imply insignificant leachate generation, leaving SNHD nothing with which to work. These issues are discussed in some detail in the Sections below.

**Waste Generation, Landfill Capacity, and Facility Life**

The following discussion of waste generation rates, landfill capacity and facility life is derived from a review of the information in the Reid Gardner landfill expansion application and from the BLM’s Final Environmental Assessment for NV-2006-292, Reid Gardner Pond and Landfill Expansion Project, published in March, 2008 (BLM). It is my understanding that the landfill expansion assessed by BLM is the one referenced in the current expansion application with the single comment:

> An eastward lateral expansion of the Landfill was approved in 2007 under Permit # LF006-CMF-01. Although that eastward expansion is not discussed or shown in this report, NV Energy may construct that expansion in the future.

A comparison of the 2007 approved expansion and the 2009 proposed expansion of the existing landfill is appropriate since the company acknowledges it does not view the two facilities as an either/or decision but that it may well use both. The table below may help the reader track the following discussion.
<table>
<thead>
<tr>
<th></th>
<th>Existing Landfill</th>
<th>2007 Approved Expansion</th>
<th>2009 Proposed Expansion</th>
<th>Total Capacity</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remaining Capacity with 2009 Proposed Expansion</td>
<td>1.19 Mcy</td>
<td>6.8 Mcy</td>
<td>10.4 Mcy</td>
<td>18.39 Mcy</td>
<td>2009 expansion includes 3.4 Mcy included in 2007 expansion and 7 Mcy of additional airspace over existing landfill and the 2007 expansion</td>
</tr>
<tr>
<td>Estimated Waste Disposal Rate</td>
<td>0.31 Mey/year</td>
<td>0.31 Mey/year</td>
<td>0.31 Mey/year</td>
<td>0.31 Mey/year</td>
<td>2009 estimate of fly ash and bottom ash from normal operations (Tab 13)</td>
</tr>
<tr>
<td>Estimated Remaining Life</td>
<td>3.8 years</td>
<td>22.0 years</td>
<td>33.5 years</td>
<td>59.3 years</td>
<td>Capacity divided by the estimated waste disposal rate</td>
</tr>
</tbody>
</table>

The rationale for the 2007 approved expansion is that the existing landfill has neared capacity and another landfill is necessary to allow the Reid Gardner facility to continue to operate (BLM Section 1.2, p. 2). The 2009 proposed expansion proffers the same argument for the expansion. To do so, the operator must ignore the untouched capacity it obtained with the approval of the new landfill in 2007. The application for the 2009 proposed expansion lists the remaining capacity in the existing landfill as 1.19 million cubic yards (Mey) in Tab 4 Section 7, with that volume representing 3-4 years of remaining site life (ld).

Both the 2007 and 2009 expansions evaluate landfill capacity in terms of cubic yards available for storage of waste. The 2007 approved expansion would store waste over about 180 acres to a maximum height of about 50 feet, building upon a new footprint independent of, but partially adjacent to the existing landfill. The volume that the 2007 approved expansion has available for waste disposal is 10.2 Mcy.

The 2009 proposed expansion represents an added capacity of 10.4 Mcy, virtually the same as that of the 2007 approved expansion to the existing landfill (Tab 4, Section 7, Table 1). The added capacity results from adding about 40 acres to the footprint of the existing landfill and substantially raising the height of the waste over both the existing landfill and the expansion area. The increased capacity attributed to the 2009 expansion is not independent of the 2007 approved expansion. The forty acres of new footprint in the 2009 proposed expansion is footprint that is included in the 2007 approved expansion north of the utility corridor and adjacent to the existing landfill. BLM partitioned about 1/3 of the total capacity, or about 3.4 Mcy, of the 2007 approved expansion to that northern parcel (BLM, Section 2.1.1, p. II). Thus, the 2009 proposed expansion produced increased storage capacity by appropriating 3.4 Mcy from the 2007 approved expansion and creating an additional 7 Mcy by increasing the airspace above both the 40 acres of the 2007 approved expansion and the existing landfill. Correspondingly, this reduces the unused capacity of the 2007 approved expansion to 6.8 Mcy.
Although disposal capacity is reported as volume (Mcy), waste generation and disposal is managed in terms of tonnages of waste. The conversions from tons of waste generated to cubic yards of waste disposed are dependent upon a myriad of assumptions related to density of the wastes, water saturations, etc. Few of these conversions are laid out in the application for the 2009 proposed expansion or in the BLM EA. However, since 10.2 Mcy of capacity was computed to last 30 years for the 2007 approved application (BLM, Table 2-3) and 10.4 Mcy equates to 37 years (Tab 4, Section 7, Table 1) for the 2009 proposed expansion, it is apparent that the 2009 proposed expansion uses assumption of about 20% greater waste density than were used just two years earlier. Proportionately increasing the unused 2007 approved expansion capacity to reflect the current assumptions of greater density, the life of the unused capacity increases from about 20 years (BLM, Section 2.1.1, p. 11) to 24 years.

Another difference between the 2007 and 2009 expansions is that each project plans to dispose of significant volumes of remedial wastes generated by clean-up of existing contamination sites and facilities in the flood plain at Reid Gardner. The 2007 approved expansion expects these wastes to fill 1.05 Mcy (BLM, Table 2-3). The 2009 proposed landfill expansion estimates the remedial volumes to fill 1.9 Mcy of capacity (Tab 13, p. 4). There is no apparent reason why these estimates differ by a factor of two. Neither the 2007 approved expansion nor the 2009 proposed expansion appear to project receiving dredge wastes from any new Mesa ponds.

Both the 2007 approved expansion and the 2009 proposed expansion estimate the life of the storage capacities assuming a generation stream that reflects relatively consistent waste production rates over the full computation. The BLM EA computes its life of capacity on the decommissioning of Units 1-3 and their replacement with a new generating unit that produces comparable volumes of waste (footnote 1, Table 2-3). The 2009 proposed expansion does not explicitly explain its continuing rates of waste production in the light of anticipated decommissioning of Units 1-3. Its projections presumably reflect comparable operation changes to those assumed in the 2007 approved expansion or an intention to not decommission the older plants and keep them on line for another 37 years.

Under either assumption, with respect to absolute need, the storage capacity of the 2007 approved expansion or of the 2009 proposed expansion exceeds by decades all currently approved operational permits at this generating station. If the 2009 proposed expansion is approved in addition to the 2007 approved expansion, the company will have disposal capacity for another 60 years of operations at the current production rate. In essence, approval of the 2009 proposed expansion provides the Reid Gardner Station with waste storage capacity for a dozen 5-year renewal cycles of the generating units themselves.

RGS does not need this storage capacity, and certainly not for the permitted lives of its existing units. The drive to acquire approval almost a lifetime into the future perhaps reflects a desire to grandfather approved capacity prior to regulatory changes for disposal of these wastes, as currently proposed by USEPA. Since the capacity so outpaces any reasonable projection of facility needs, it might indicate an unstated plan to import these combustion wastes from other facilities without grandfathered disposal capacity.
HDPE Liner and Contact Water Collection System (CWCS)

Both landfills propose to use a 60-mil HDPE liner beneath at least some of the wastes. The 2007 approved new landfill will apparently have the 60-mil HDPE liner under all of the disposed wastes, based upon BLM representations. The 2009 proposed expansion to the existing landfill documents a liner under only about 18% of the 136-acre disposal footprint.

Monitoring data from Reid Gardner suggests that the existing ash landfill, which does not have an HDPE liner, has leaked leachate downward through any unsaturated zone to the water table. This interpretation is based upon contaminants consistent with those likely to leach from CCW occurring at elevated levels in groundwater between the landfill and leaking ponds and upgradient of those ponds. The observations and interpretation are also consistent with reasonable expectations for an unlined ash landfill in this environment and operational setting. Whether due to the site monitoring data or due to responsible conservatism, BLM requires a liner for the 2007 approved new landfill and for the 2009 proposed expansion of the existing landfill on BLM land.

Neither the summary description by BLM of the 2007 approved new landfill nor the application for the 2009 proposed expansion to the existing landfill provides the data needed for SNHD to have a detailed understanding of the respective liner systems. However, the generic descriptions are similar and indicate that the designs for the features are likely common between the two. Significant differences exist between the two landfill sites, however.

The 2007 approved new landfill is to have all of the waste underlain by the liner, a footprint of approximately 180 acres. The existing landfill, a footprint estimated as 91 acres (Tab 4, Section 7, Table 1, currently has no liner. Even with the 2009 proposed expansion to the existing landfill, the vast majority of the existing landfill will still be without a liner. The details for the liner that are found within the application (Tab 11, Drawings C-7 through C-10) depict a liner to be installed under only about 24 of the 40 acres of the 2009 expansion footprint and only about 18% of the total landfill disposal footprint. However, this may be overestimating the significance of this liner. Most of the additional disposal capacity from the 2009 application for expansion of the existing landfill results from vertical, not lateral, expansion and since most of the airspace expansion is not over the 24 acres with the liner, but over the existing unlined landfill, the volume of waste underlain by the liner is likely less than 18% of the total volume of waste. Adding waste volume and mass over areas without an effective liner system can only exacerbate any contamination problems associated with the existing landfill, a unit that is, by all indications, already contaminating groundwater.

There are legitimate concerns for public health and the environment with the design of the bottom liner proposed for the 2009 proposed expansion beyond the obvious problem of the limited extent of the liner. Even where the liner is proposed, it contributes little to the isolation of the overlying wastes from the groundwater under it. The waste materials that are proposed for disposal are the very materials that have created the existing contamination at RGS, that generate the toxic pond liquids described in the waste characterization analyses in Tab 12, and that need double liner protection when alternatively held in ponds. A double liner design is every bit as needed and appropriate for disposal of these wastes in the landfill.
The design of the bottom liner in the 2009 proposed expansion, with a single HDPE layer, is remarkably minimal; the HDPE sheet truly does appear to be a feature included in the landfill design solely because an HDPE liner is required by BLM as part of the ROW agreement (Tab 4, p. 1-2). Not only is the liner design bare bones, the details of its design, as described in the application, are so sketchy that SNHD can have little ability to assess what, if any contribution this liner makes toward protecting waters of the State, human health and the environment.

What little is described about this liner is distributed piece meal in Tab 4, Tab 5, and Tab 11. I note that Tab 11 provides SNHD with only 11 of the 25 of the design drawings for the design of the liner and construction of the expansion area. The liner system is comprised of 4 layers of materials described below (Tab 11, Drawing C-15, Detail 1).

Between the prepared subgrade and the plastic sheeting is 12 inches of “select fill.” Specifications for this fill are not provided. The Preliminary Specifications for the Installation of the Construction [of the expansion] (CH2MHILL, July 2009 in Tab 11) discusses the preparation of the subgrade in Section 31 23 13 but fails to define “select fill” and, moreover, mentions it only in the context of final grooming and shaping of its surface (Subsection 3.03, p. 31 23 13-3). “Select fill” is apparently described in Section 31 23 23. This Section is apparently not part of the application and cannot be reviewed by staff of SNHD or the public. As such, it’s character and specifications are not provided. However, I note that the material immediately below the plastic sheeting is not “compacted clay liner,” or something similar, that would suggest a composite liner system designed to retard the rate of migration of leachate that passes through the plastic sheeting.

The HDPE sheeting is constructed on top of the “select fill.” Proper installation of this material requires temperatures above 35 degrees (F) and below 90 degrees (F), among other environmental limits (Tab 11, CH2MHILL, 2009, Section 33 47 13.01, 1.07). These limitations can be problematic over much of the year in southern Nevada. The CH2MHILL document does not discuss any of the materials that will be layered above the plastic sheeting or when such materials will be placed.

The next layer in the liner system is the composite drainage netting, or “CDN” (Tab 4, Section 15.2 and Tab 11, Drawing C-15, Detail 1). There is no mention of, and no specifications for, this layer in the liner. Typically, this is a manufactured material built with specifications to ensure the netting puts high permeability immediately above the plastic sheeting to enable water to drain readily off the sheeting and into the drainage pipe. The application does not indicate when this layer will be installed subsequent to the installation of the HDPE layer. As the 2009 application for expansion of the existing landfill exists today, SNHD has no way to evaluate the objectives of this layer or the likelihood it will achieve those objectives.

The final layer of the liner system is the “operations layer” (Tab 4, Section 15.2) or “OPS Layer” (Tab 11, Drawing C-15, Detail 1). The 2009 application for permit expansion of the existing landfill contains no specifications for the material in the “operations layer” except that it will be of “...relatively permeable material to convey water.” Ostensibly, the operations layer is installed to provide separation between the landfill equipment and the underlying liner layers (Tab 5, Section 14.3.3). The application does not indicate when this layer will be installed subsequent to the installation of the HDPE layer.
GEO-HYDRO, INC.

It appears from further text in Tab 5, Section 14.3.3 that this "relatively permeable material" will be part of the waste stream being placed in the landfill, "Generally, unless constructing an operations layer, waste will not be dumped directly onto lined surfaces." (Emphasis added.) Presumably the waste being dumped onto the lined surfaces to construct the operations layer will be bottom ash, since it is the waste stream that would be expected to be "relatively permeable."

One layer that would normally be expected as part of a contact water collection system is missing from the design. This would be a natural or synthetic filtration layer designed to prevent the migration of fine-grained particles from the waste above the liner system into the permeable materials designed to convey the water to the drainage pipe. Migration of fine-grained particles into the drainage blanket can plug it and render it ineffective for draining water.

The quantification of the expected performance of the liner system to convey water down the sloping floor of the lined area to the drainage pipe, of the drainage pipe to convey that water from the lined area, and of the liner to retard downward migration of water toward the water resources outside the landfill is critical for a determination by SNHD that this landfill expansion will be protective of human health and the environment. But, no such quantification is provided in the application. Further, there are insufficient data within the application to allow SNHD staff to perform such quantification for its own use. There is no defensible basis to make a finding of protection until this shortfall is corrected.

One aspect of the liner system and its integration into the 2009 application to expand the existing landfill that needs to be clearly understood is the semantic game being played by the operator regarding the liner and the water collection system. The term "contact water" generically means any water that has come in contact with the waste in a landfill. This is comprised of surface water that run across the face of the waste and of leachate, water that has percolated through the waste. NPC represents that this liner system has nothing to do with contact water percolating through the waste (i.e., leachate) and has only to do with conveying the surface contact water.

Examples of this partitioning of contact water to exclude leachate are found throughout the application. In Tab 5, Section 15.2, the operator asserts, "... the potential for leachate generation in the Landfill will be insignificant, although, contact water may need to be managed." In Tab 4, Section 15.2, it is asserted, "The quantity of leachate generated in the Landfill is expected to be insignificant for the following reasons: ..." I note that the subsequent list include speculative rationales for the statement but absolutely no quantification of low, let alone "insignificant," leachate production.

In Tab 4 Section 15.2, NPC further states, "The primary purpose of the CWCS [contact water collection system] is to handle water from rainfall events that occur while the liner is largely uncovered." This theme is expanded upon near the end of this Section, "Over time, as waste is placed over the lined areas it will be increasingly unlikely that rainfall events will generate significant quantities of contact water." NPC so advances this theory that it dismisses the requirements of NAC 444.739 relating to leachate generation as "... likely to be insignificant." NPO takes its position, proffered but absolutely unsupported, even further and simply refuses to make any estimate or statement of anticipated leachate production rates or chemistries, and dismisses the Guide requirement for plans showing the provisions for capture and removal of leachate, composite liners, etc. (Tab 4, Section 15.2, p. 15.1). Instead, Tab 17 Plans for Leachate Control simply contains the statement, "As explained in the Report of Design (Tab 4)
this Tab is not applicable.” BLM does not share NPC’s position on the function of the HDPE liner system that it requires. It is clear from BLM’s 2008 environmental assessment of the 2007 approved expansion that BLM understands the liner system as a leachate control system that is installed to reduce the potential for damage from such a landfill by capturing the leachate that will be forming (BLM, Section 2.1.1, p. 11).

Were SNHD to approve the landfill with the liner system that is proposed, the expected performance of the CWCS would erroneously suggest that the NPC view of leachate versus contact water were correct, at least initially. By directly overlaying the drainage blanket (operations material) with fly ash and other fine-grained wastes, with no intervening filter material, the design virtually ensures the blanket will plug and leachate will be unable to migrate through it until higher heads build up within the landfill. It would appear at the end of the drainage pipe that no leachate is being produced in the landfill because no leachate is coming from the pipe. In fact, what will be happening is that heads within the landfill will be increasing as leachate cannot flow laterally from the waste through the drainage blanket to the pipe, and they must instead build vertically. This undetected increase of head within the landfill will increase the gradients across the liner system and increase the rate of migration of leachate through it and into the environment.

**Landfill Covers and Leachate Generation**

The application for the 2009 expansion to the existing landfill asserts that the landfill will not, indeed cannot, contaminate groundwater simply because no leachate will be produced. The applicant apparently so strongly believes this assertion that there is no plan for controlling leachate. The entire text of the Plans for Leachate Control (Tab 17) states, “As explained in the Report of Design (Tab 4) this Tab is not applicable.”

Tab 14, Report of Design, addresses leachate production in several Sections, but primarily in Section 15.2, Contact Water Management, p. 15-1 et seq. The requirements of NAC 444.739 (c) state the demonstration that the design is sufficient to protect the waters of the State from pollutants or contaminants must consider “The volume and physical and chemical characteristics of predicted leachate generation.” In response, application states, without any supporting data, that with respect to the volume requirement, “[t]he quantity of leachate generated in the Landfill is expected to be insignificant.” Four reasons, not data, for the assertion of insignificant quantity are offered and these are as follows:

1) Low moisture content of accepted wastes.

The accepted wastes are not all of “low moisture content.” There are four major classes of wastes accepted into the landfill according to the application (Tab 5, Section 1.1). These are fly ash, bottom ash, reactivator solids and pond solids.

Fly ash and bottom ash are transported to the landfill relatively dry. They do not remain dry, however. In order to allow these materials to attain sufficient strength to safely build the landfill shapes and heights that are planned, they must be compacted to attain that strength. As represented in the application, this is done by moisture conditioning the coal ash to a degree sufficient to allow compaction to 90% of the density at full strength. Moisture conditioning sounds relatively innocuous. It can, in fact, involve substantial amounts of water.
There are very few geotechnical data provided in the application to quantify the mass additions of water necessary to generate the required compaction specification. There are several samples provided in Tab 11.6 (Bottom Ash Cover) that probably bracket the water that is needed. The moisture contents at optimum compaction are 26% and 47% (Id.). Even if these ashes are transported to the landfill with “low moisture content,” that initial condition is irrelevant to their moisture content if conditioned and compacted as described in the application.

Reactivator solids and some pond solids are very high in water content and may still have that high water content when brought to the landfill. These sediments may have such high water content that they require special handling as what are discussed as “soft sediments.” These sediments are problematic because their moisture content is too high for them to have supportive strength for the landfill. Significant attention is paid to the appropriate handling of these sediments to ensure the structural integrity of the landfill is not compromised, see, e.g., Tab 4, Section 14.4.1, p. 14-9 and Tab 5, Section 14.3.7, p. 31). Within the 2009 expansion application, the discussion is devoted to the mechanisms to be used to safely include this moisture within the landfill, or extraordinary methods to partially dry these sediments. At no point does the applicant explore the fact or implication of introducing these water sources into a purported “dry” facility.

The operational reality is that properly handling these wastes requires that a great deal of water must be introduced as part of the safe construction practices. The construction specifications dictate that dry wastes are not disposed in the landfill because compaction that is required for strength requires significant conditioning with water, as discussed above. Further, as discussed below, after safe placement and compaction, the sediments are “frequently and actively” watered after placement to keep their moisture content high.

2) Low potential for waste decomposition.

Biological decomposition of these landfill wastes should not be a major factor for leachate production in the landfill. These wastes for this landfill are unlike municipal solid wastes wherein decomposition of the organic matter can independently generate significant quantities of leachate in the landfill. That is not to say however, that biological decomposition is not a concern for these wastes with respect to protecting human health and the environment.

Pond sediments do contain some organic matter and there should be concerns that this degradation may generate hydrogen sulfide gas, just as it does in association with pond sediments in the flood plain area. The potential for continued H₂S generation is clearly a concern for BLM in the 2007 approved expansion. There are extensive discussions, e.g., Section 2.1.2, page 15 of the biochemistry that makes the production of this noxious and toxic gas a virtual certainty, to the point that the EA even includes an Appendix F – Hydrogen Sulfide Action Plan and Sample Complaint Form.

As with its treatment of leachate generation, the application avoids addressing the H₂S problem by simply denying any gas problem may exist. Tab 5, Section 14.2, p. 14-6 contains the only discussion of landfill gas. It dismisses as “likely insignificant” any gas generated by waste decomposition. When pursuing potential sources for whatever insignificant gas may occur, the application mentions only construction and demolition wastes. Based upon this evaluation, Tab 16 Plans for Landfill Gas Control is empty.
3) Favorable site weather conditions.

The weather conditions that are cited as favorable are, in fact, a two edged sword. Hot, dry weather conditions generate high evaporation rates at the face of the landfill. They preclude proper construction of the HPDE liner, as discussed above, during much of the year. More importantly, these conditions increase operating costs for the landfill, since water must continually be brought onto the waste to maintain a face with sufficient moisture to prevent fugitive dust from being a problem.

Sections 2 of Tab 4 and Tab 5 explain in detail the need to “frequently and actively” put water on the waste disposed in the landfill, to counteract the evaporation that will occur because of the hot, dry climate. These sections go into great detail to explain the procedures and equipment (e.g., dedicated watering trucks) that will need to be maintained to keep the waste moist for purposes of a safe landfill.

The hot, dry conditions are an important factor in the proper management of this landfill, specifically the control of fugitive dust. But, if the dust is properly managed, the hot, dry climate has little if any potential to reduce the leachate generation in the landfill, because any water removed by the climate is replaced by water spreading operations. The only exception to this might be an ironic inverse of the expected climate impact. If dust control is too enthusiastically pursued, the leachate generation rate may increase due to over-watering.

4) Relatively low permeability of compacted ash (1 x 10-5 cm/sec [sic])

The application in Tab 4, Section 15.2, p. 15-1, parenthetically asserts the ash in the landfill to have a permeability of 1e-5 cm/sec, with the implication that this is “relatively low permeability.” There is no reference as to where this permeability was obtained. There is no standard against which this permeability might be judged “relatively low.” And, there is no indication of whether this value applies to fly ash, bottom ash, or some unidentified mix of both. One can find nowhere in the application where a number of 1e-5 cm/sec is documented for any ash, individually or in some proportionate mix; in laboratory data or from field measurements.4

At numerous places in the application the implication is made that optimally compacted ash, or ash compacted to 90% of optimum moisture content is equivalent to demonstrating low, or relatively low, permeability. This is misdirection with respect to what these compaction data mean. The compaction parameters or standards are relevant only to the density of the materials being compacted and, indirectly, the load-bearing strength of those materials. The degree of compaction is not correlated with the permeability of the material. A compaction to 90% of optimum conveys no information about absolute or relative permeability.

Accepting for the sake of argument that the “ash” within the landfill, of whatever ash source, does have a permeability of 1e-5 cm/sec, it is illustrative to consider what that means in terms of its ability to transmit

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4 The only laboratory data reporting geotechnical properties that were found were in Tab 11 (Miscellaneous Documents) at Tab 11.6, Bottom Ash Cover. These data reported grain-size distribution and moisture-density curves for only bottom ash being considered for intermediate and final cover purposes. No permeability data were reported.
water. A permeability of 1e-5 cm/sec is a hydraulic conductivity of silty sand. Consider a layer with a hydraulic conductivity of 1e-5 cm/sec under a driving force (gradient) of 1. This would, for example be the driving force in ash with a water level in it and an unsaturated zone below it, a common geometry for leachate and waste within an unlined landfill on a mesa above the water table.

The above condition would produce a flow through the ash into the underlying soils of 450,000 cubic feet of water per year per acre. Over the approximately 96 acres that will be without benefit of any kind of liner, this constitutes an annual discharge to groundwater of 320 million gallons of leachate. This reasonably expected annual flow is dismissed by the applicant as insignificant, regardless of its concentrations of contaminants.

A fifth issue with respect to leachate generation results from infiltration of water into the landfill, independent of leachate forming from intra-landfill processes. Primarily, this is the rate at which the landfill design allows water through the final cover and/or migration through the sides of the landfill to contact waste and generate leachate. These issues are addressed below with the discussion of final closure and the design of the landfill cap.

Based solely upon the expectation of insignificant leachate volume, the application dismisses the danger to waters of the State, regardless of the chemical and physical characteristics of the leachate; “Because the predicted quantity of leachate is insignificant, the potential danger leachate will pose to the waters of the State is likely to be insignificant.”

It should be first noted that here the previous expectation of insignificant leachate volume has been upgraded to a prediction of insignificant quantity. In a technical context, a prediction is necessarily based upon data that has been evaluated to produce a quantified value of a process or result, in this case, leachate production. There is no prediction of leachate quantity, great or small.

Secondly, the significance of leachate with respect to potential danger it will pose to the waters of the State is a function of not just volume of leachate, but also the composition of the leachate. The application cannot validly or defensibly assert an insignificant danger without, at a minimum, quantifying the volume and the knowing the composition of the leachate. The application here and elsewhere makes no attempt to quantify the volume of leachate. For the reasons discussed earlier with respect to waste characterization, the application cannot predict the leachate composition. For these reasons, the applicant cannot demonstrate and the District cannot find that the design is sufficient to protect the waters of the State from prohibited degradations.

The long-term production of leachate in the landfill is ultimately controlled by the nature of the final cover that is placed on the landfill. If the final cover allows water in faster than the basal liner allows it out, the leachate level will build within the landfill. If the final cover is more restrictive than the basal liner, any excess water within the landfill will drain and the landfill will leak no more water than can infiltrate through the final cover. Ultimately, regardless of the relative hydraulic conductivities of the final cover and the basal liner, the long-term, equilibrium rate of leaking from any landfill will be the rate at which the final cover passes water.

This landfill is proposed to have a cap that is 18 inches thick. The current plan is to have a slope on the top of the landfill of a 4% grade. Tab 5, Section 14.1.1 describes the specifications for the top 6 inches of
the proposed final cover. Tab 6 (Report of the Closure Plan, Section 6.1.1, p. 6-2) provides somewhat more detail for the full thickness of the final cover.

Tab 5, Section 14.1.1 describes the specifications of the top six inches. The soils used will be classified as poorly sorted (i.e., well-sorted or uniformly sized) gravel, well-graded or gravelly sands, or poorly graded or gravelly sands. Tab 4 provides no details on the lower 12 inches of the final cover.

Tab 6, Section 6.1.1 provides a better total description of the full thickness of the final cap:

In general, the final cover will consist of 18 inches of coarse grained soil [ref. to Tab 4 discussion]. The material will probably be native granular material borrowed from the locations shown in the Report of Design. The native borrow materials vary from fine-grained silty sands to coarse-grained gravelly sands, ... Additional engineering will occur during detailed design to account for the minimum final cover permeability requirements listed in NAC (e.g., 1 x 10^-5 centimeters per second).

Notwithstanding the statement on p. 6-2 of Tab 6, Section 6.1.1, “The final cover of the Landfill will be designed to reduce infiltration into the waste ...”, this final cover is not a traditional permeability barrier one commonly associates with landfills. The materials described in Tab 4 and Tab 6 are generally very permeable and will encourage any water falling on the surface of the landfill to infiltrate into the final cover, particularly the top six inches. Such penetration will move the water away from wind, the highest temperatures, and the lowest humidity, all factors that would otherwise encourage the evaporation of the precipitation. Tab 6 states that the minimum hydraulic conductivity of the final cover will be comparable to the hydraulic conductivity of the compacted ash within the landfill, a hydraulic conductivity that is offered without supporting data. In essence, this design for the final cover uses the first six inches to move water away from the greatest influence of the atmosphere, to a deeper zone that has a hydraulic conductivity that is comparable to the underlying waste. There is no permeability barrier provided by this design, and infiltration into the waste can be expected to exceed that which would occur without the final cover. It is unconceivable that this application has not tested the proposed design of this landfill with a landfill performance model such as HELP to at least bracket the leachate production rates that can be anticipated. Without such modeling, no demonstration of no harm can be made by the applicant and certainly no finding of public and environmental protection can be made by SNHD.

Although Tab 6, Section 6.1.1 postulates that the final cover will be constructed with native borrow material from the other side of the utility corridor, it is not certain that can be the case. The previously approved 2007 expansion shows the proposed borrow area to be an area of evaporation ponds that will replace the ponds currently on the flood plain. Since final cover is a late-stage construction effort, at present it appears there are geographic and temporal problems with using the depicted borrow areas for that purpose.

Beyond the time/space conflict with the identified borrow areas, there is good evidence in the application that at least some bottom ash will be used for, or in, the final cover. Emphatic arguments are advanced in the requested waivers (Tab 11.8, Sections 5.0 and 6.0) that bottom ash from RGS is an excellent cover material that is comparable or superior to natural soils. In the current application, those arguments explicitly promote the use of bottom ash only for intermediate cover, but they can as easily be advanced
for use of bottom ash in or for final cover as well. Whether or not that particular argument is ultimately made, the application does point out that intermediate cover can be incorporated into the final cover. That being the case, it needs be expected that this application anticipate some of the final cover for this ash landfill will itself be ash.

References


From:

Concerned Citizens:

To:

Southern Nevada Health District
PO Box 3902
Las Vegas, NO 89127

attached are notes from concerned citizens regarding the extension and expansion of the coal burning plant.

We urge you to do a full and honest assessment of the health impacts of the opening a huge new Class III landfill.
As future residents, we are concerned with the extension of the Rio Grande power plant as well as the possible expansion of the industrial plant with Unit 2.

Please conduct a formal water quality monitoring testing of all surrounding communities, including Mesquite.

Sincerely,

ME-20 Mesquite, Nevada, fast becoming the golf capital of Southern Nevada.
My husband & I are PT residents of Mesquite, NV. The possible extension of Reed-Gordon is a great concern to us. What is the air quality now for us downwinder? Zion NP would also be affected. Expansion and extension of Reed-Gordon is a disaster! Claire & Ron Kuchen
8575 S 12450 W, Murray, UT 84123

[Redacted]
As a resident of Mesquite, Nevada, we are concerned about the expansion and extension of the permits at Reid Gardner coal fired plant and its solid waste. Please do a complete health assessment for Clark County.

M. Burkett
WE ARE EXTREMELY
CONCERNED ABOUT
NEW PERMITS AT RED-
GARONER.

Tanya & Sandy McIntosh

9/11/10
As full time residents of Mesquite we are very concerned with the prospects of expansion and extension of permits for Reid Gardner Ponds and Solar Farms.

Al & Linda Fass