



STATE OF NEVADA
 COMMISSION ON MINERAL RESOURCES
DIVISION OF MINERALS
 400 W. King Street, Suite 106
 Carson City, Nevada 89703
 (775) 684-7040 • Fax (775) 684-7052
<http://minerals.nv.gov/>



STEVE SISOLAK
 Governor

Las Vegas Office: 2030 E. Flamingo Rd. #220, Las Vegas, NV 89119
 Phone: (702) 486-4343; Fax: (702) 486-4345

RICHARD PERRY
 Administrator

Wednesday, September 25, 2019

9:00 A.M.

MINUTES

ATTENDANCE

NDOM Staff	Public
Rich Perry	Nigel Bain, CMR
Mike Visher	John Snow, CMR
Bryan Stockton	Jose Rios, BLM
Courtney Brailo	John Menghini, BLM
Lowell Price	Brian Amme, BLM
Sherrie Nuckolls	Alex Jensen, BLM
	Brian Crane, Enel
	Monte Loper, Bruce Mackay Pump & Well
	Cheryl Eanes, Ormat NV
	Kemba Anderson, BLM

COMMENTS BY THE GENERAL PUBLIC

Pursuant to N.R.S. 241, this time is devoted to comments by the public, if any, and discussion of those comments. No action may be taken upon a matter raised under this item on the agenda until the matter itself has been specifically included on a successive agenda and identified as an item for possible action. All public comments will be limited to 5 minutes for each person.

Rich Perry: Opened the workshop at 9:00 A.M. He thanked everyone for coming and mentioned that this is an informal workshop to gather public comment on the NAC 534A changes that we are proposing. Rich asked for public comment – none.

Rich Perry: Went through the background, history and proposed changes of the regulations with a PowerPoint presentation. He also went over the chronology of regulations update including another workshop that will be scheduled when the small business impact statement is completed. The adoption hearing is tentatively scheduled for November 21, 2019 in Carson City. Courtney Brailo took the existing chapter and added the changes that were made to make it a little better to understand as far as what to expect with notes off to the side that indicates the sections where changes were made.

NAC 534A Section 1 through 38

Courtney Brailo: Section 1-8 is additions, Section 9-42 is amendments or changes and Section 43 are deletions.

Jose Rios: In the cement section, where is the 5.2 gallons per bag determined from? Because there is cement that has more than 5.2 gallons per bag, so what do you call a mixture with more than 5.2 gallons per bag?

Rich Perry: Not more than 5.2 gallons of water per bag of Portland cement.

Jose Rios: We have cements that are more than 5.2 gallons per bag.

Rich Perry: We took the definition from the water well drilling manual from the Division of Water Resources.

Jose Rios: We will recognize cement greater than 5.2 based on the light mixtures on the federal

side, would that bring any issues during cementing operations or any concerns between both agencies?

Lowell Price: I think we should coordinate the languages with BLM because there's so much work done on federal leases.

Jose Rios: We don't have a specific definition for cement in terms of water quality; it's more on the overall qualities of the cement.

Lowell Price: Do you have a suggestion John?

John Menghini: You'd have to take into consideration the water well drilling statutes cannot be used in this case because most of their wells are not 9,000 ft. deep, is it pertinent to take their language and put it into a geothermal language? No, they don't go together.

Lowell Price: Would it be better to go with a minimum pound per gallon?

John Menghini: Is the goal compression strength?

Rich Perry: Being that it's a definition and we added it, somewhere it's referred to in here, that's why it's in here.

John Snow: Isn't the intent of the wording from the State Engineer where companies wouldn't use diluted cement? That would have the minimum compressive strength of cement so it's a very generic definition.

John Menghini: So, the compressive strength is what you're concerned with?

Courtney Brailo: I think it's important to note to that this is just definitions to help clarify what our regulations are saying when we mention cement and on page 25 of the regulations it states we have the ability to accept alterations so when they cement their cementing program they can propose whatever they want and we can approve that, so it doesn't limit them to what they can use it helps define what they're taking about when we mention cement.

Rich Perry: Ok, we'll take a look, but we needed a definition in here so that it wasn't watered down something or other.

Bryan Stockton: How would you change that?

Jose Rios: Typically a cement mixture with 5.2 gallons per bag equates to heavier cements vs lighter cement, so you'd mix it with 7.5 gallons per bag. I don't have an answer to that; I'm not an engineer or cement engineer by any means.

Lowell Price: They did that so they can lift that column of cement.

Rich Perry: We'll review it for the purpose of what we put it in there, it's in there so there's something there, and we have the ability to look at other things.

John Menghini: You could put what's acceptable.

Rich Perry: That's on page 24, basically what Courtney's saying, this is just definitions are needed when we use that word and we want to define it somewhere in the chapter.

Jose Rios: I think the main principle here not to make it sound like anything more than 5.2 is not equal to cement because that's what it sounds like.

Section 3 added a definition of "well bore" because the term that was used in the old chapter was "hole".

Section 4 has a significant change, one that we felt was necessary to change as the purpose is to determine if it's a warm water well or a geothermal well, it eliminates what we thought was a loophole of cold water wells being permitted as geothermal wells for domestic heating and cooling.

Lowell Price: This would affect Bruce Mackay Pump & Well.

Monte Loper: We run through heat pumps not hot water, its cold water with a normal temperature of 62F.

Lowell Price: If it's less than 85F you'll need to make sure you meet the county codes and I'd assume DWR.

Alex Jensen: The 85F, is that for produced water, or it said any medium, so would a closed loop system that they drill out for some of these residential heat pump systems that was discussed not natural well but a closed loop system that's installed to the ground.

Rich Perry: We're not involved in the permitting with that, that's the county, there's no state permit for closed loop ground source heat pumps.

Alex Jensen: We don't get involved with BLM because it's below our cutoff.

Lowell Price: As long as you're not bringing fluid in the surface like a geothermal type fluid to the surface.

Section 5 clarifies that a NV licensed water well driller is required to drill a geothermal domestic well and any

well that has a water right to appropriate waters. Not required for any industrial or commercial geothermal well where water is not appropriated.

John Menghini: A licensed water well driller, for a supply well, do you need that to an operation?

Rich Perry: Yes, if it has an appropriation of water or has a water right or it's an exemption for a domestic well, it has to have a licensed water well driller.

Alex Jensen: What about a 5 acre foot exemption for temporary use?

John Menghini: Who's liable for that well then?

John Snow: Whoever drilled it.

John Menghini: But it's on federal lands.

Rich Perry: That's where water is appropriated and that's a waiver by the State Engineer, whoever permitted the waiver is responsible for plugging the well.

John Snow: It's in all the waiver languages.

Bryan Stockton: So only if the operator fails to plug it and just because you're the owner of the land, you can always go after the operator to plug it first, right?

John Menghini: Who, the BLM?

Rich Perry: No, the State Engineer would, that's not the BLM's responsibility.

Section 6 all new language for notifications. 48 hours before spudding and 24 hours before testing.

Section 7 inactive wells, we added a 2 year limit on a well that's permitted, inactive and with the caveat, if there's a reason why the operator wants to continue to utilize that well, they can request, through good cause, an extension to that. The purpose is so we don't have inactive wells that get lost.

Nigel Bain: Does BLM have issues?

Alex Jensen: The BLM is longer than two years but if the State is more stringent that's not a conflict so we're actually in favor of the shorter timeframe and you're having them justify the existence, we can't send out at a letter just at 2 years, our regulations state at any time determined that a well is no longer needed for production or operational but our requirements for abandonment are longer than the 2 years.

Jose Rios: We have the idle well program for oil and gas which target wells that have been inactive for 7 consecutive years, after that point we send a plan to abandon letter or plug and produce letter which requires action within 60 days, we submit a sundry notice to follow up with the abandonment after 1 year, I believe, but it's very difficult to get some of the operators that have gone missing or are no longer reachable to plug wells. How would the state follow up with plugging a well or abandonment?

Alex Jensen: I like the 2 years because they're less likely to no longer be around in 2 years rather than 7 years so I'm in favor with the State moving forward with this.

Jose Rios: In defense of the operators, some projects don't kick off, it could take more than 2 years to start a power plant.

Rich Perry: The nuts and bolts if you read this after the 2 years we would send the first letter to the operator by registered mail and if they don't plug the well within 45 days or getting a hold of us to let us know it's going to be 60 or 90 days there's a drill rig, which is fine, and if it's on federal ground we notify the BLM if they don't plug it. If it's a federal well we do not have the right to step in since the BLM holds the bond.

Lowell Price: I think we can coordinate things with the BLM.

John Menghini: NDOM is going to send out a letter after 2 years and then it's our responsibility to follow up, are we willing to go with that?

Alex Jensen: If it avoids more issues I think that would be a good thing. It's going to be more work but the alternative is potentially having more operators disappear.

Lowell Price: Utilizing the well for the development phase, they would have to show us that they are utilizing and how they're utilizing it and if that's the case, they can continue using the well. If not, and the well is sitting there for 2 or 4 years and they're not utilizing it, the well should be plugged and abandoned.

John Snow: A part of Lowell's process is to look at the casing integrity and well head integrity to make sure they don't freeze and burst.

Lowell Price: I have come across those where the well has broken because of freezing and the expansion of the ice within the well head.

John Menghini: You send them a 2 year letter, what are your demands if they don't do it? Do you actually put in

your letter if they don't respond within 2 years then you'll give them to the federal government?

Rich Perry: Read #7, it says 45 days after notification.

Alex Jensen: BLM's process to plug an abandoned well starts with the order of the authorized officer if they fail to comply with that we issue a letter of noncompliance, after that we issue a second notice with a small fee. The process can take anywhere from a few months to a year, year and a half to do this. If you get to the final step and there's no compliance, we detach the bond, cancel the lease, it's not an easy process for us to complete.

Rich Perry: It takes a while for us too but we've gotten people to plug wells.

Kemba Anderson: How is BLM notified by the state?

Rich Perry: Via letter.

Lowell Price: That would be the best way, the letter that goes out to the operator, the BLM would be copied.

Kemba Anderson: That's good, that way we will know when the clock has started.

Alex Jensen: We'll have to coordinate with NDOM making sure that we follow through on it with this part for federal agency bonded wells, I think that's if it's on private land you've got your own process to plug or work with the operator to plug.

Lowell Price: I would think most of these wells would be targeting more like exploration wells, any wells that are within a field itself that are described as observation wells, the operator can from time to time do pressure studies and take temperatures, which are being utilized.

Alex Jensen: That would come into their justification report we do use for this.

Lowell Price: It's more for the outlying wells, maybe more exploration oriented.

Rich Perry: For the most part there's not a problem with the active operators in the state.

Brian Crane: Our biggest concern regarding the 45 days is a few years ago we could plug a well for \$10,000 easy and now it's a lot more and some wells are tiny little wells, those are easy enough but we've got inactive production wells or injection wells that are bigger and will take a lot longer time to coordinate that and get the permitting for that, 45 days is kind of a very short time period in drilling wells.

Lowell Price: You could also come to the Division and explain how the well could be utilized in the future, we realize it costs a lot of money to drill these.

Brian Crane: My question would be that if there's some leeway to make adjustments on NDOM's end, it's just we get to a point to where we're at the end of a fiscal year and might not have that kind of money budgeted.

Alex Jensen: One thing with ours is it's not ours are 30 or 60 days but that's to respond to the plan and timeframe to plug the well in the timeframe.

Jose Rios: We give about a year timeframe after the plugging abandonment is approved just because it's difficult to secure a rig in Nevada, it's expensive as well, I guess we'll have to consider weather permitting if its best to abandon the well in the warmer months vs the winter months when there's work conditions of mud and accessibility.

Rich Perry: We can do that on sundry without a problem.

Section 8 filings with the Division, mostly reworked language that lists the requirements for drilling logs and drilling of a well.

Section 9 exception clause for good cause shown for everything except the fees.

Section 10 adding to #2 numbers (2) & (3).

Section 11 description of aquifer was changed to include formation or structure that stores or transmits water.

Section 12 the term observational well was used in the original chapter which we didn't think was correct so it was changed to observation well because that's the term that's used.

Jose Rios: How does the state feel about wells that have zero pressure, zero temperature or no temperature readings on observation wells? Would you consider that an active well after so many visits to the field or based on reporting? Because that's something the BLM is looking into as well.

Lowell Price: On the observation well, I would think that the well could still be utilized if it's within a field area. They could always drop a temperature probe down it, if they wanted to take a temperature or do pressure studies within the field that would be another source point, they would have to put the tubing down the well in order to do that but that would still be another source point for them. But if the well hasn't been utilized and if they do these things they would be keeping records and so if there was a well in question we could always ask for the

records of the usage for that well. And if you see that they're utilizing the well every year or 2 years, whatever studies they want to do, then that's fine but if it goes back 6 years, 10 years where there is absolutely nothing that's been done with that well then that would be a point of discussion as to the future of that well.

Mike Visher: That's going to come up on the 2 year activity so if we don't see any sundries for that, Lowell hasn't seen any signs when he does his inspections that the well's been utilized for anything, that's going to trigger that 2 year letter but if they're using it they just have to notify us in how they're using it or they intend to use it and demonstrate how they're going to use it in order to keep it open.

Brian Crane: Does the state have a list of all of the red flags so far?

Lowell Price: I haven't red flagged any well, our red flag situation is a well that's having issues not a well that's just sitting there.

Brian Crane: When we implement this is there a way we can get a list beforehand so we can make a plan of action before it starts triggering the 2 year letter?

Rich Perry: We do have a database of all the geothermal wells, if you wanted to come to the office we could pull it up and print those that are under a name of your company or a company you own so you can see where they all are and the status of the last time when they were inspected.

Mike Visher: As part of the roll-out to educate everyone about these changes, it would only be fair to alert the operators that these appear to be ones that have not been utilized and maybe a heads up before an official letter goes out with the BLM being copied on them.

Bryan Stockton: You should know which wells you haven't done anything within 2 years.

Brian Crane: Yes and no, there are some that we have plans to plug or they're on a list to consider plugging but it seems less of a priority to us if it's just on land and sitting there where it's not hurting anyone, but I can understand the State's point, especially on fields not being utilized; we don't see the harm in having an inactive well because we're kind of using the well anyway. We're on board with this we just want a smooth transition.

Alex Jensen: I believe on the BLM leases the inspection reports that have been going out should have noted any wells that don't appear to be in use on those inspection reports, those are what BLM is looking at.

John Snow: On the point of observation wells with no pressure, any observation wells are for reservoir management and monitoring wells are required by the regulators, the observation wells may even have piezometers or downhole pressure bombs in them which are logged periodically, when you go out on your inspection and you see the gauge doesn't have pressure or temperature on it, that wouldn't alert me at all that that well wasn't being used.

Lowell Price: A lot of them you see tubing or cables associated with the observation wells, solar panels for power where I guess they're recording data off of a recorder.

Courtney Brailo: A lot of these regulations are for new wells, not that we wouldn't push for old wells, is there a line where this is required for new wells or do we retro, look back and now we use this for all existing wells?

Bryan Stockton: You don't look back to actions that happened in the past but if you've got a well that's in certain status they would apply to new laws to what's your going to do with the well, so if you've got a well that was inactive for 2 years where they were active you wouldn't be affected.

Section 13 cleanup we don't use addresses because address change and people can go online to find those things.

Section 14 descriptions of geothermal domestic, commercial, industrial well, there is clarifying language that we added, we added the term geothermal to domestic wells so people would understand It's not a domestic well under the State Engineers regulations, we eliminated the 1800 gallon per day as that added to the confusion on a domestic well. A commercial well which is used for heating and does not generate power and an industrial well generates power.

Section 15 clarifies what sections of regulations are relevant to geothermal domestic wells only, and what's relevant to commercial wells and industrial wells.

Section 16 eliminates requirement to tie to a landmark, replaces it with a GPS coordinate, which is currently being done. Also, it is required to have, on the application, an ID number from the Secretary of State so that we know it's a Nevada business.

Section 17 clarification that an injection permit from NDEP is required for any reinjection can be done, that's the way it is now but they wanted that added.

Section 18 added the word "geographic" in relation to the potential request for an exception for the 100 ft. set

back for a geothermal well against the boundary of land.

Section 19 merges observation wells into one fee category instead of two which is actually a reduction.

Section 20 merges observation wells in a “project area” into one fee category instead of two.

Section 21 “observation” well, not observational well as discussed previously.

Section 22 “observation” well merged into one category and fee regarding the 7” surface casing changed from 500 feet deep to 300 feet deep.

Section 23 proposing new bonding requirements for wells because our existing bonding requirements states a Minimum, so \$10,000 for the first thermal gradient well, \$25,000 for the first commercial or industrial well, \$100,000 for a blanket bond to cover an entire project area. The reason is we felt that we were under bonded, although this has never happened with the a current operator, there have been wells that we had to deal with where the owners just told us to use the \$10,000 and plug it ourselves and it wasn’t near enough money. It brings up what we think is closer to where if we have an operator that leaves us holding the bag and we have to pull the bond out and plug it ourselves. It doesn’t affect existing wells or existing bonding, it only applies to new applicants on private lands, it’s not applicable to federal lands because those bonds are held by the federal government. If there is a transfer of ownership from one owner to another we would go back and look at it because, unfortunately, there may be times where a viable operator gets sold to a party that’s unstable, we want to be able to look at it and making sure someone isn’t trying to transfer liability to an irresponsible operator. This is one item that has a financial impact in the regulation changes that we’re proposing.

Lowell Price: This is by project rather than statewide?

Rich Perry: If someone decides to drill a geothermal well where there’s never been a geothermal well, there’s no project, there’s nothing and they’re going to explore then they would be required to put up a \$25,000 bond for that first well and if they drill additional wells beyond that it would be \$25,000 until they reach \$100,000 at which point they’d be drilling a field out. That’s the intent of this.

Section 24 reworked some of the language that is more forgiving, the old language wasn’t forgiving. At the minimum the new requirement at the surface casing is 10% of TD or 200 feet and the 2nd casing string required cemented if first string is not cemented in a competent geological formation. Administrator may specify alternate requirements to protect fresh water and ensure blowout control.

Section 25 updates language of where to purchase the well control manual, LCB required us to add an address.

Section 26 got rid of the word “hole” and added “well bore”, also added mud temperature must be less than 125F, or mud cooling equipment is required.

Section 27 clarifies 2 sets of cuttings or a split of core every 30 feet.

Section 28 well location sign within 100 feet of well (currently 30 feet), comments everyone had was its not practical all the time as long as it’s within 100 feet of the well is more realistic and the list of requirements what goes on the well, the number, owner, name of the lease, and location of the well in quarter sections of PLSS.

Division of Minerals is the entity who assigns the well numbers and that’s the case for federal wells too.

Lowell Price: We list permit numbers of the well, most of the current well location signs in the state do not have the NDOM permit number. Going forward there would need to be an NDOM permit number on the signs.

Jose Rios: Here’s another small detail for the location of the well, do you know what lot numbers are? They don’t always have 4 quarters, a legal description requiring the actual legal description of the well on the sign you may want to include aliquot lot number or a quarter-quarter section under #4.

John Snow: I think we stay with the aliquot part because the lots are within the aliquot part, lots are within the northwest quarter, lots 1,2,3,4 are still within the northwest quarter.

Jose Rios: I’m actually implementing a change with the operators going well by well basically verifying the correct description and that’s to update their signs.

John Snow: For us, I think staying with aliquot part makes more sense generally the lots are all within the normal aliquot part.

Bryan Stockton: You’re having them delete the quarter quarter section and only use the lot?

Mike Visher: No, to allow for the use of lots.

Jose Rios: When we issue formal correspondence it goes down to the actual legal description, instead of making them replace the whole well sign we ask that they tape over it with the correct description.

Section 29 requirement to use calibrated equipment on a regular basis.

Section 30 changed “to” the surface instead of “at” the surface.

Section 31 clarification existing language “shall” file was the only change.

Section 32 requirements of backfilling of well bore that does not penetrate water, which is cuttings; requirements for plugging of well bore that penetrates water, which is cement, and plugging material approved by the Division.

Section 33 removes the word “observational” well and “hole.” Also added to #10 unless the Administrator approves an exception to this requirement requested by the owner of the land.

Section 34 activities which require a notice to the Division; conducting a flow test and pulling replacing a pump are removed not later than 5 days of initiating the activity.

Lowell Price: We look at the pump repair replacement or maintenance issues. The owner needs to submit an informational sundry to NDOM after the work is completed to let us know the work has been done and a description of what was done. There is no approval on these, the sundry will be date stamped, scanned and emailed back to the operator for their records.

Section 35 “well bore” replaces “hole.”

Section 36 rewrite on page 27. Thanks to the work of Courtney Brailo who coordinated all the things that are required and reports to be in one section and a table, these were pulled from various parts of the regulation, it lists type of reports that are required.

Lowell Price: We did require a Neutron density log that wasn’t being run well, essentially that is being eliminated, we currently require two sets of the Lithologic log, Gamma log and one copy of any electronic logs in LASer (LAS) file format.

Alex Jensen: The cement bond log, that’s going to basically be only if a company requires it based on lack of cement on the surface.

Lowell Price: That could either be on the surface or immediate casing.

Alex Jensen: Yes, if they don’t get the cement back to a the surface or on a lower string if they don’t bring it back up inside the overlap.

Lowell Price: If they do pressure testing they would need to give us the results.

Section 37 records required to be at the site or the nearest office: Monthly report, lithologic log, record of core, history of well, summary of well. The Division may require additional reports and inspect records.

Brian Crane: We have a lot of these but we may or may not have all of them, they’ve been passed from owner to owner, we might not have all of these, part of that I’m asking, it states to keep it at the location if it is an electronic copy we may not have a paper copy but we do have an electronic scan, is that satisfactory?

Rich Perry: Yes, that’s a record.

Lowell Price: It’s when a new well is drilled you’ll be required to submit a log, PTS survey or whatever you do, both hard copy and digital.

Rich Perry: In our database if that PTS is submitted does it attach to the database electronically?

Lowell Price: No, it just goes into the paper files.

Section 38 through 42 rules of practice and procedure description was updated to match new language approved by the Attorney General’s office.

Bryan Stockton: Went over Section 38 regarding public hearings, Section 39 regarding all hearings must be docketed, keep records of all the hearings, Section 40 regarding the procedure for how the hearing would move forward, Section 41 talks about removing the word “shorthand” because no one does that any longer. Section 42 is in regards to petitions for change to a regulation.

Rich Perry: For the permitting of geothermal wells through the State of Nevada it is not a permit application that is noticed in the paper with public meetings and our Commission doesn’t want it to be because that brings in a whole different dynamic, the same dynamic you see with a water right, they have to put it in the paper and if anyone files protest they have to go through hearings and so forth but there did need to be and always has been a mechanism here for someone who feels aggrieved they can bring it up to the Division Administrator and say we have an issue then the Administrator has to determine if that’s an issue big enough to consider.

Section 43 list of repealed sections of existing codes that are redlined out.

Courtney Brailo: A couple of edits to the one I created, I'll try and keep an updated version of this as things change.

Rich Perry: I have in my notes from feedback that were going to go back and look at the term "cement" in section 2 and see if we have the right mechanism to approve something else and I also have in section 7 #4 the 45 day number that I want to think about a little bit to see if there's any logic to adding days to that with the realization that it takes to get a rig and balancing that against if there's a problem with a well I want to quickly tell someone to do something. I think we put adequate language from the first workshop that clarified the authority between the federal government and the state so it was clear. I wrote down section and section of lot, did we resolve that?

Mike Visher: We may change it to something like, "location of the well using legal land description, for example lot, track, quarter-quarter section.

Rich Perry: We'll take a look at that. Does anyone else have anything to add?

Rich Perry: Thanked everyone for their comments. We will have one more workshop with the Small Business Impact and that should be a short one.

COMMENTS BY THE GENERAL PUBLIC – None

The workshop adjourned at 10:59 A.M.