

1. Members Attending:

1. Virtual by Zoom:
 - i. Phil Doffing PIP/WDP – DC Well Drilling/ Welch, Minnesota
 - ii. Matt Kouba WDP – Kouba Drilling / Sauk County SC
 - iii. David Beecroft PIP/WDP/HEDI – DMB Drilling / Washburn County NO
 - iv. Butch Eucker PIP – Richmond Well & Pump / Walworth County SE
 - v. Bob Aune – Aune Well Inc / St. Croix County WC
 - vi. Matt Kouba WDP – Kouba Drilling / Sauk County SC
 - vii. Stacy Steinke – DNR Private Water Field Supervisor
2. In-person
 - i. Jeff Beiriger – Government License Advisor for Wisconsin Water Well Association also advisor to Wisconsin Pump & Well
 - ii. Bruce Walker PIP/WDP/HEDI – Wisconsin Well & Water Systems, Kouba Drilling & Wisconsin Geothermal Association / Adams County WC
 - iii. Terry Marshall PIP/WDP/HEDI – Marshall Well Drilling / Adams County WC
 - iv. Tim Harnois PIP/WDP – T&T Well Drilling / Oconto County NE
 - v. Bernie Friedenfels Master Plumber/PIP – Door County NE
 - vi. Bob Gundrum – DNR Private Water Licensing Coordinator
 - vii. Marty Nessman – DNR Private Water Private Water Supply Section Chief

2. Neighboring state driller/pump installer licensing and registration requirements:

1. Some proposed NR 146 licensing requirement revisions mirror neighboring state requirements. (BG)
 - i. Michigan
 1. Well contractor credential authorizes well drilling, heat exchange drilling and pump installing.
 2. Well contractor license also authorizes pump installing. Relative to continuing education, Michigan seems to accept that the two businesses have significant overlap (JB)
 3. Note that Michigan also provides a separate credential for just pump installing that will allow someone with a plumber license to obtain a license for pump installing without having to meet requirements for a driller license. (JB)
 - a. Pump installer license requires 2 years of experience and 20 pump installations.
 4. Regarding master plumbers being able to install well pumps without a pump installer license, this is something that in the past was discussed at length in Wisconsin but was denied by the DNR. (TM)
 5. The percentage of master plumbers who also have a pump installer license is relatively few. Most are out in rural areas where one contractor does most of the contracting work needed. (JB)
 - ii. Minnesota
 1. “Limited” contractor licenses are required
 2. Separate “limited” license required for well filling and sealing

3. Separate license required for heat exchange drilling
 4. 2 years of experience required for a pump installer license.
 5. Continuing education
 - a. No Minnesota pre-approval. Contractor submits attendance with renewal application. Contractor is not aware of status until attendance has been submitted and approved by MDH. Contractors will attend more than the required continuing education to ensure that they will fulfill requirements. (JB)
 - b. Two credits of MDH approved training are available through a number of sources. Wisconsin training can be used to fulfill Minnesota attendance requirements. (PD)
 - c. MDH provides email notice on approved training available to fulfill hour requirement.
- iii. Illinois
1. Two-year renewal cycle
 2. Experience required for pump installer license – 2 years and 10 pump installation reports signed by supervisor.
 3. The pump installation report requirement may be similar to the county delegation requirement that requires a permit before pump work. (TM)
 4. The pump installation reports maybe intended for applicants to document and fulfill requirements for the pump installer license. (JB)

3. NR 146 Definitions:

- i. “Welder” – Applies to unlicensed individual who is contracted for welding a pitless adapter. The term will be revised to “qualified welder” with a definition provided for the term “qualified welder”.
- ii. “Private well”
 1. Definition is already provided under NR 845.04(24)
 2. The requirement in 280.21(2) for defining “private well” occurs in the section related to requirements for delegated counties. The requirement has been met in NR 845.04(24). (MN)
 3. The term “private well” is not used in NR 812. The term “private water supply system” is used. (MN)
 4. Be careful not to use the term “private well” anywhere else in rule outside of NR 845 as this will cause confusion. (JB)
- iii. Pump Installing”
 1. The definition needs to make clear that the reference to water treatment device is intended for upstream of the pressure tank or at the well head. (BF)
 2. Regarding installation of pressure tank included in definition, there will be changes in NR 812 regarding sampling requirements that may affect the definition for pump installing in NR 146. (MN)
 3. Question how changing pressure tank can affect the quality of the water at the well. (JB)
 4. The concern is that coliform bacteria can travel upstream or downstream from the pressure tank. When a plumber installs a component off the rack, it may not be free of coliform bacteria that can the travel anywhere in the system. (TM)

5. What is listed in the pump installing definition infers that sampling is required. (TM)
6. Sampling requirements should not be applied to all the activities listed in the definition. During warm weather, the occurrence of positive coliform tests increases and requires return trips to the location. A sample should not be required for everything listed. (TH)
7. The definition of pump installing is intended to address when a license is needed and not so much when a sample is required. That is where the focus should be with the definition in NR 146. Sampling requirements are addressed under NR 812. (MN)
8. If the 280.01(5) definition is used in NR 146, it might unintentionally include irrigation wells and monitoring wells. (BW)
9. Where in statute is authority provided to include additional detail in the NR 146 definition of pump installing? Does statute allow you to redefine a term? Legislature has made a point about agencies over extending their authority in rule language. If there was something that is litigated, it would be litigated on what is in statute, not what is in rule language. (JB)
10. Pump installing can be further defined by rule as it relates to licensing. The department may promulgate rules to enact what is in statute. We can expand on the statute definition in rule language, but we cannot add something in rule that is not included in the definition provided in the statute. It is unclear how far we can go in saying that something is not included in statute definition and does not require a license. (MN)
11. See 280.13 – “The department may exercise such powers, and may promulgate such rules, as are reasonably necessary to carry out and enforce the provisions of this chapter.” (JB)
12. NR 146: “Pump installing” has the meaning specified in s. 280.01 (5), Stats., and includes” . The question is whether the current definition includes too many things, which is why it is up for discussion here. We can make adjustments as necessary based on our review. (MN)
13. The last part of the definition “Opening a well cap or well seal to inspect or chlorinate a well is not considered pump installing unless the well cap or seal is replaced with a different cap or seal, or unless the well has a hand pump installed on it.” This may need to be revised. Do we want unlicensed people chlorinating wells? Just chlorinating is not considered pump installing unless the well cap or seal is replaced. (BF)
14. This came up in discussions 10 or more years ago. We use the same definition in NR 812. In 2012 we were looking at requirements for heat exchange drillers and property transfer well inspections. In an inspection, if they remove the cap, they are already taking a sample. With regard to chlorinating a well, people are allowed to chlorinate their own well. Instead of using the definition, you could provide exceptions for when a license is not required. (MN)
15. The statute does not allow for someone to work on their own well pump. This typically is not enforced. It used to be allowed and we

have approached the legislative reference bureau to have it put back in. (MN)

16. There was something included with the well compensation grant proposals that would redefine what you could do as an individual on your own property. (JB)
17. We could not currently make an exception for someone doing pump installing on their own property because authority to do so is not provided in statute. This is something that is often done by someone on their own property and needs to be addressed in statute. (MN)
18. Will the revised language include the table shown on the slide here? (JB)
19. Part of the definition may be given in the table format. (BG)
20. There are a number of ways to approach this. We could use just the definition which probably is not the best way, or it could be included in the section of the code stating, "anyone doing has to have a license". (MN)
21. Have you compared language to what is in the plumbing code? The beginning of the plumbing code lays out what your mission is. It may be good to look at for comparison on the verbiage. (BF)
22. What if we started with the 280.01(5) definition and got rid of the details included in the table and put in what specific language it is intended for so that it could not be interpreted to include irrigation or monitoring wells? (BW)
23. It is rare for statutes to refer to rules. Typically, rules refer to statutes. (JB)
24. You're saying that in 146 we should define pump installing the same way as it is defined in statute, and then add as directed under NR 812 or NR 811 where what is included in pump installing is listed. (MN)
25. Something similar is done when referring to pump installing and set back distance requirements where it refers to the table in NR 812. Something similar could be done here for pump installing. (BF)
26. This would allow including all the construction involved in making an entrance to the well as well as establishing seals and safeguards. If you start down the path of defining specifics, then you need to define all things specifically. (BW)
27. It really is everything involved in installing the pump and plumbing water from there to the basement. Maybe we could make it as simple as that. (MN)

4. Rig Operator Training Requirements:

1. These requirements initially were six hours for each. We could question whether any of these are really necessary. It was all intended to be hands-on training. Mark Putra was involved, and Steve Ellis was there. (TM)
2. There was concern initially that the DNR would not have the resources to provide all of the training. The industry was going to assist with the training. (MN)
3. Is there a way that the well construction reports could be used to document that the driller has had this training rather than going somewhere to receive the training? (TM)

4. Providing well construction reports to document drilling experience is already part of the experience requirements for exam eligibility. There is reference in statute to training that is in addition to continuing education requirements. (BG)
5. This industry seems to train more within a company rather than within an industry wide platform. Apprenticeship programs tend to train everyone to a common standard and then they learn things as they go on with working for a particular employer. If you go with just experience without any formal training, there is the potential to learn from someone who is doing it wrong and passing bad practice on to the next individual. You end up with a series of people doing things the wrong way. The question is how you prevent that from happening so that the next drilling rig operator doesn't carry on the errors of their employer? How do you expose them to a wider set of ideas than what they get at one company? Just having training on site with the employer runs the risk of passing on bad habits from one driller to the next. (JB)
6. Going to Oklahoma to learn how to drill a well is not going to train you to drill a well in northeast Wisconsin. Drilling in northeast Wisconsin will not train you to drill wells in southwest Wisconsin. Regional conditions will determine what drilling methods are used and what training gets passed from one driller to the next. You won't use anything you learn in Oklahoma to drill in northeast Wisconsin. In northeast Wisconsin, there are things you have to do and things you need to know to find water. Teaching someone how to find water in northeast Wisconsin requires years of training. (TH)
7. For a Master Plumber license, you need to know all the codes related to plumbing, whether you use them or not. Early discussions by this committee centered on whether we want to dilute requirements and lower the bar for our trade. We are craftsman/tradesman. If you want to be a specialist, you need to be careful not to specialize yourself into a corner. You want to have well-rounded educated people in the trade. In the plumbing trade you cannot say that you don't need training in certain areas because you are not going to use it. You have to know it. (BF)
8. If someone only drills two-inch wells, they don't need much of the training that is required here. What are they gaining by going through the training? (TM)
9. They are gaining industry knowledge. (BF)
10. CPR training and certification is available that requires only 25 minutes. Why are there 3 hours required for Safety & First Aid? (BW)
11. What we are asking is what the original intent was for having these requirements? What was the training designed to accomplish? This is not intended for people with years of experience in the business. It is for new drilling rig operators who will go through the training take new approaches back to their employer who may have been doing the things the same way for the past for 30 years. There may be ways for a driller to improve their drilling methods... things that they are not aware of. Also, these requirements apply statewide. It would be difficult to have a different set of training requirements that are specific to all possible geologies and regional conditions. The safety and first aid requirement is intended to address more than what is covered in a 25-minute CPR course. It was intended to include safety on the drill site for example. (MN)
12. WWSA provides continuing education on safety related training. Why couldn't this be applied to these training requirements rather than having them go somewhere else to receive training where they lose 3 hours and a day at work? Two years of drilling experience is required. In reality, it can take six years on the rig for someone to be adequately trained. (TM)

13. As an employer, I won't let someone alone on the rig or in the trench unless I am confident that they are ready. (TH)
14. If you are not allowing that employee to do the work, then how do they get the experience needed to learn the trade? (TM)
15. Why can't we just do this through the Water Well Association and also have the experience documented on well construction reports. Attendance at Tech School should not be required. (TM)
16. Training at a Tech School is not specified anywhere. That may have been the original intent, but things did not develop that way. (MN)
17. There should be minimum standards required by code and then additional business practices that are applied by the employer to ensure that the individual is able to do what is required. If you take the position that the industry can provide all that is needed in training, then there is no minimum standard that exists. The minimum standard would be what everyone needs to know regardless of the company's business practices. What would be the minimum standard in training that you would expect a rig operator have to be a qualified driller. It doesn't matter where that training comes from.... it could be the WWWA, or a trade school like the one that Matt Kouba is putting together. (JB)
18. You're not going to teach someone to weld appropriately in six hours. Maybe in 40. But are you going to require that? (TH)
19. That is why there is a need to establish minimum standards. (JB)
20. A plumbing apprenticeship is 5 years and 8000 hours. You need to learn commercial plumbing whether you intend to do it or not. (BF)
21. The well codes training does not need to be a total of 6 hours. A lot of these requirements you could easily cut in half. (TM)
22. The DNR has been providing 6 hours of well codes training to fulfill the current requirements. All of 6 hours are needed to cover the material. Attendees are getting valued added training here. (BG)
23. Attendance at code related classes is very valuable. Your apprentices are going to teach journeyman when they bring what they have learned back to the shop. If an apprentice attends 12 hours of continuing education during the two years of experience, that could be applied towards the training requirements. (JB)
24. If a rig operator is granted a driller license, it means that they are qualified to do all of the work. A rig operator may move from one employer to another and from one region of the state to another. They would need to have a minimum standard in training to be able to do so. It would be exposure to the training.... they wouldn't have to be masters of the training. A rig operator who is granted a license should know about grouting a well, whether their current employer grouts wells or not. (JB)
25. Maybe the 2 years of experience should be extended to allow more time for completion of the rig operator training. (TM)
26. Currently there are a lot of drillers ready to retire and their sons are learning how to drill. They may not have 3 or 4 years to wait for their son to get a license. (MN)
27. There are fewer licensed drillers in the state every year which needs to be considered. That is a trend that needs to be reversed. (BW)
28. We do not want to have uneducated drillers out there either. (TH)
29. There seems to be little consensus here as to what needs to be done with these training requirements. The original intent was to have hands-on training for rig operators that goes above and beyond the continuing education where they passively listen to a speaker without interacting for two hours. (BG)

30. You can't necessarily teach geology, well codes and safety in the field, so could you require them to take courses during their experience period on these and have practical training on the other training requirements, so it totals 33 hours over the 2-year experience period? Some training you can't do in the field, some you can. You have to recognize that there is more than one path that can be taken to fulfill the requirements. (JB)
31. It is a given that no one here is going to send someone out to do work that they are not qualified for or ready to do. If there is a means of testing and certifying that the necessary skills are in place following training, then that should be accepted for fulfilling these requirements. (BW)
32. At one point, there was a requirement where the DNR had to be onsite for the first 10 wells drilled after the license was issued. (MN)
33. There is also a 3-month notification period required as part of exam eligibility requirements where 24-hour notice is given to the department prior to drilling. This is so that the department has the opportunity to be onsite with the driller. (BG)
34. Welding requirement
 - i. There is frustration with the welding requirement or welding certificate that is needed to fulfill rig operator training requirements. (DB)
 - ii. What may be needed is a directory that provides a pathway for fulfilling all the existing rig operator training requirements. It could provide a listing of where to go to complete each of the required trainings. (JB)
 - iii. A simple weld test would provide verification of welding competency. Testing for certified vertical 6G pipe welding is conducted in a test booth. (TH)
35. Some consensus has been reached on this with the suggestion that Jeff has brought into the discussion. (TM)

5. License and registration conditions – NR 146.05:

1. A legislator might ask "will this restrict the number of people who can enter the trade? How does the DNR issue the first pump installer license if they have never done a pump installation? On what qualification will the license be issued. It is not going to be experience, there is no equipment or compliance history for the applicant. Are you relying on documents provided to you by the supervisor of the employee? How is the applicant issued a license for the first time? (JB)
2. It would be the application process that would determine which license would be issued. There would be a separate license code for well filling and sealing or property transfer well inspection and the test for that would focus on aspects of that activity. All that we have to work with is the exam taken since no experience requirement can be applied to the applicant. The exam might include a practical portion for example on the electrical aspects of pump installing. (BG)
3. Can we add experience requirements to the prerequisites for a pump installing license? Why can't we revise rule language to add experience requirements to the pump installer license? (TM)
4. The statute has language requiring experience for water well drillers and heat exchange drillers. It does not require experience as a prerequisite to apply for the pump installer license. Because the statute has different requirements for drillers than it does for pump installers, we cannot add experience requirements for the pump installer license. If we did this by rule, it would be more restrictive than the statute. The DNR can change rule language but cannot write legislation. (MN)

5. Can the questions on the test be changed? (BF)
6. The only thing required by rule for a pump installer license applicant is to pass an exam administered by the department. The department can require the applicant to take an exam that includes testing on practical aspects of pump installing. The applicant would need to demonstrate competency in the practical aspects of activities authorized by the license. (BG)
7. The type of questions that the department includes on the exam is not a rule requirement. It can be written in the rule, but the department has the authority to decide what is included on the exam. (MN)
8. So, if someone passes the inspection portion of the exam, but does not pass the installation portion, would you restrict their work based on the examination? (JB)
9. When someone applies for the license, they can apply for a license that is not restricted or that is restricted to one area such as property transfer well inspections. The test would be tailored to the type of license being applied for. (BG)
10. The difficulty of the exam would be set to determine if the applicant is competent to look at the bottom of the well or not. (BF)
11. Michigan offers the practical exam twice a year and it would be good to find out how that exam is administered. (BG)
12. This will be somewhat complicated for the DNR to administer. We have all those who are currently licensed as pump installers that would be able to do all work. The limited licenses would only apply to new credential holders going forward. (BF)
13. Approval of the rule with license restrictions would require the support of the industry in order to get through the NRB or legislature. (MN)
14. The NRB might not be as much of a hurdle as JCRAR. (JB)
15. A limited license for property transfer well inspections makes more sense than having a limited license for filling and sealing. For filling and sealing, most wells already have a pump, and the pump has to be pulled before filling and sealing anyway. You can't pull the pump without having a pump installer license anyway. (TH)
16. Is the intent to have a limited license for filling and sealing as well? (MN)
17. Yes, the intent would be to have a limited license for well filling and sealing. (BG)
18. A question was raised at the last meeting regarding how a pump installer fills and seals a well without a grout pump? In the area there are a lot of 4" wells where the pump can get stuck and needs to be entombed in the well. How is that done without a grout pump? (BG)
19. When doing an inspection on a 4" well that needs replacement, pulling the pump and sealing the well is contracted out to a well driller. He will be on site anyway to drill the new well and he is equipped to do the filling and sealing. (BF)
20. The person who is decommissioning the well is required to make every attempt to get the pump out or to entomb it. He can contract that work out to a driller. (TM)
21. Would it make sense to have a restricted license for only filling and sealing and a pump installing license that does not include filling and sealing? (MN)
22. The person doing the filling and sealing needs to know his limitations. (BF)
23. The pump installing license should include filling and sealing and let the pump installer decide how it is going to get done. That is their obligation. (TM)
24. Why is it that all of our neighboring states have a separate license for filling and sealing? (BG)

- 25. We are doing fine with the way it is now. The current method of having filling and sealing included in the pump installing license has been fine. (TM)
- 26. It does make sense to leave filling and sealing work included with the pump installer license and to continue with pump installers subbing that work out to a driller when needed. (BW)
- 27. It could be that the filling and sealing license in other states is for monitoring wells (MN)
- 28. This is something that is not broke and does not need fixing. (BW)

6. One driller license to authorize water well and heat exchange drilling activities:

- 1. Statute [280.15(2m)(f)1m and 280.15(2m)(f)2m] requires the applicant to be a registered rig operator for at least 2 years with the 5 years before applying. This is required for each license type and would require someone who currently holds one license, (but not the other) to go through rig operator training before a combined “driller” license could be granted. (BG)
- 2. From the WWWA board meeting, if you reduce the continuing education requirements for heat exchange drillers from 6 hours to 3 hours, recognizing that the 3 hours would be available at the convention for both license types, would this resolve the problem for heat exchange drillers who have a difficult time getting 6 hours of continuing education? Is it possible to accomplish this with current statute and rule requirements? (JB)

7. Statute 280 requirements that have been noted for revision consideration.

- 1. There are a couple of options here.
 - i. If a fiscal note is attached, making them part of a budget package, it would be easier keeping them in a bill drafted by the governor. Joint finance may look different in the next session. If you make them fiscal, even if legislature tosses them out, that is a way to get the language drafted and then go to joint finance and try to keep the language in the legislature’s budget. Make them budget items. The reasoning would be to streamline DNR operations and provide cost savings. It might require a separate piece of legislation. (JB)
 - ii. It wouldn’t make it into this year’s request, but maybe in a future request. It could be presented as an approach to increase new entries into the industry. (MN)
 - iii. It could be presented as an approach to alleviating the threat of not having enough professional services available to address the needs of the public. That might for example, include assistance in the way of deferring taxes on new drilling equipment. (JB)
 - iv. How do you start the process for changing statute? (BG)
 - v. The process may have already begun with a state senator who is interested in a few of the issues. That might include funding for trade schools for instance. You have to talk to people and currently it is difficult to determine who to talk to because some are in transition and may not be around. Needs within the industry have to be conveyed. It might be presented as a package including streamlining of licensing. When it comes to the point where people have to wait 6 months for services, legislators will take notice. (JB)
 - vi. Not sure where the reference to changing application fees set in statute came from. That should not be changed. This was put in statute to

prevent fees from being raised. It requires an act of legislature to change fees and that was the original intent to prevent fees from being raised. (TM)

- vii. It is more typical for application fees to be set in rule than it is to have fees set by statute. Things have changed where now it is more difficult to change rule than it is to change statute. (JB)
- viii. Right now, it requires legislature to change fee requirements. It has been that way since 1984. This is not a big revenue generator for the department. Fees would not be raised to increase revenue because it would not have much of an impact. (MN)
- ix. If an application fee was set to \$25 in 1984, that would be equivalent to \$8.25 in today's dollars. (BW)

8. Continuing education criteria – review by DG Legal Counsel

- 1. The statute provides flexibility in continuing education requirements and allows the department to set the number of credits required and training topics that will be accepted for continuing education credit. (BG)
- 2. Continuing education is needed to ensure that groundwater is being protected, but if the number of required hours can be reduced for heat exchange to 3, the requirement would be much more attainable. You want to have what is needed to maintain professionalism without being too burdensome. (JB)
- 3. Most heat exchange drillers do not do the loops and the fusion process that is involved. (BW)
- 4. The requirement for training to be specific to water well drilling or specific to heat exchange drilling is not interpreted to mean that all of the training needs to be specific to water well drilling or heat exchange drilling. (BG)
- 5. Does this mean that pump installing credit will be granted for attendance and training specific to water well drilling? (JB)
- 6. Pump installing credit can be granted for attendance at training specific to water well drilling. (BG)
- 7. We can include in rule language details on how flexible the department can be in approval of training for specific different license types. (MN)
- 8. Business related training can be accepted as well. Compliance related training can be required. Going into the next calendar year, these changes can be implemented without a change to statute or rule language. (BG)
- 9. Regarding the grace period on continuing education, the requirements can be fulfilled in the following year and must be completed before renewal can be processed for the previous calendar year. Another 6 credits would be required to renew for the next calendar year. (MN)
- 10. Most programs don't allow you to push hours forward. There are models out there that can be reviewed for comparison. (JB)

9. Business and rig operator registration signature requirements

- 1. For business registration renewal, current rule language requires the supervisor signature and the signature of the owner of business. Rule language will be revised to drop the requirement for a signature by the owner of the business.
- 2. What do you do if the supervisor and business owner are the same individual? (BW)
- 3. Only the supervisor signature is required currently. There is no provision on the renewal application form for a signature by the business owner. (BG)

4. If there is more than one supervisor, each has to sign the renewal application for the business or rig operator. (TM)
5. Rule language requires the renewal application for rig operators to be signed by the employer. This language will be changed to require signature by the supervisor which is current practice for rig operator renewal applications. (BG)

10. Drilling/Pump Installing Apprenticeship Programs

1. Regarding the Skilled Trades School apprenticeship program, would the requirement for 30 potable wells drilled be fulfilled by a someone who has completed the apprenticeship program? (BG)
2. The driller would be placed on site with a licensed well driller somewhere in the area where they anticipate they will be drilling once the apprenticeship program has been completed. Once enrolled, the apprentice will follow MEP (Mechanical, Electrical & Plumber) criteria. They would have 4 days on the job and 1 day in the classroom for the full semester. If the apprentice is from out of state, they would attend by Zoom for day in the classroom. Progress with the employer is tracked. A checklist is used to track criteria that have been met. (MK)
3. The current experience requirements for water well driller is 2 years and 30 wells drilled. The apprentice would need to attend for more than one semester to meet the 2-years and 30 wells drilled experience requirements. (TM)
4. The apprenticeship program is a 2-year commitment. The 30 wells would be drilled over that 2-year period. From the school's perspective, we would like to change the ideology at the DNR to an apprenticeship program that leads to a journeyman program that then leads to a master program for well drillers and pump installers. Currently, anyone can come off the street, write the test and become a pump installer. That is not a good scenario. The apprenticeship program would involve MEP criteria. (MK)
5. Is there anything else that the department can do to assist in setting up the apprenticeship program? (BG)
6. The DNR has already provided a letter and work is being done with DWD. The groundwork has been completed to get the program approved. DWD has given the go-ahead to move forward. Work has been done with Oklahoma University to have the syllabus drafted which is now ready to go. There has been a good response from local high school students through their guidance counselors. It looks promising to initiating the program with the responses that have been received. (MK)
7. From the department's perspective, there has been a traditional method for funneling people into the industry. This approach is a little bit different. Training is across an industry rather than within a company. They train there and then go to work for someone else. Is there anyone in the industry or the DNR who questions whether this approach will fulfill all that is required to fulfill licensing requirements? Does the drilling experience need to be done under their supervisor or under a licensed driller? (JB)
8. The licensed driller overseeing the apprentice would need to be designated as a supervisor of the driller by completing a certificate of supervision stating that he is responsible for work performed by the driller. (BG)
9. If Matt signed off on rig operator training completed at the school by an apprentice, would the department accept that as fulfillment of the training requirements? Would the education hours apply towards whatever requirements there are for becoming licensed? We shouldn't make promises to young people

- entering the program that we cannot fulfill, so if the trade school provides a portion of the training required and then a driller is located to complete remaining experience requirements, will the apprentice have all that is needed to meet requirements for exam eligibility? Will there be live drilling at the school? (JB)
10. Absolutely. Something that is provided when someone graduates from a vocational school, the dean of school provides documentation that the student has fulfilled the required training and has the knowledge needed to move forward in the industry. The department will need to provide approval for the Dean of Schools to sign off on a graduate and certify that the individual has completed the training required by the department for pump installer or well driller exam eligibility. That would be one thing that is need from the department for the school. (MK)
 11. Live drilling is definitely going to be done at the school. Learning how to work around a rig is an important aspect of the training. Having people go through the safety program for becoming a drilling rig operator is of the utmost importance in this industry. People working around the rig need to know what to do, when to do it and how to do it. The school has to be involved directly with the DNR to get people trained and to do it safely... to do it the right way from the beginning. There will be live drilling with hands-on training. The intent here is to grow the well drilling industry in Wisconsin. (MK)
 12. Regarding the drilling that was done onsite last week, was that training for DNR staff? (TM)
 13. It was a test of drilling methods for a PVC well. (MK)
 14. It was a sandstone well with PVC casing. (MN)
 15. Could wells drilled at the school be applied towards driller license experience requirements? If the apprentice has the opportunity to drill one or two wells at the school, could those wells be applied towards experience requirements for the license? (JB)
 16. The supervisor needs to be on site for the first 10 wells drilled. (BG)
 17. The supervisor would be on site if they worked for the school. If Matt Kouba was the supervisory driller, would that be OK, and would that experience be applicable toward driller license requirements? (JB)
 18. That may need to be part of the code revision for NR 146. (MN)
 19. The intent of these experience requirements was for the wells drilled to be potable wells that are put into use. I believe that is what was intended with for the driller experience requirements. (TM)
 20. The answer to this question now is that it is not clear if the wells drilled on site could or could not be applied towards experience requirements. We are not sure if the wells could be used by the driller for license application requirements. (MN)
 21. Maybe the "final exam" for an apprentice at the school would be to drill a well on their own with the supervisor or Dean of Schools present. That could be applied towards experience requirements because it would be in use. (MK)
 22. We will keep this in mind and give this more thought. These are details that will need to be worked out as we move forward. (MN, BG)

11. Grouting requirements: Tim Harnois / T & T Well Drilling

1. The next Advisory Committee meeting will focus on NR 812 and we will be discussing the use of bentonite chips and other areas of code that are in need of clarification. This is not directly related to pump installing or licensing, so we could discuss this next meeting or address it now with the time that remains. The

- NR 812 revision scope statement limits us to clarifications and small modifications. We may not be able to address this issue with this revision. (MN)
2. Only the pump installing section is open, not the well drilling section, so this issue may not be resolved with the current code revision. There may be other ways to address the problem. (JB)
 3. Maybe grouting requirements can be brought in relative to wells with settling that need to be brought up. It may be possible to bring the grouting topic in that way. (TM)
 4. There are several things to address and there may not be enough time remaining here to address them. It is going to take more than 10 minutes. (TH)
 5. What is the issue that needs to be addressed? (JB)
 6. It is understood that we need to simplify (clarify) the well codes. There is also the problem of declining number of drillers and pump installers and a shortage of people in the water well industry. This is a smaller company, and we had a couple of young, motivated employees that would have been good candidates to take over the business. They decided to take employment elsewhere because of some of the unpleasant aspects of this industry. A lot of that has to do with dealing with the DNR and code requirements. We are on call 24 hours a day, 7 days a week and we can get phone calls at any time. Keeping up with the required paper work is difficult. What is needed is a way to simplify the paper work and get assistance with getting the required tasks completed in an efficient manner. There are times when we can't deal with it all, and not everything gets done. We have to make it simpler. We have tried to hire office people to assist, but this has resulted in a bigger mess within a couple of months that requires more work to resolve. Now we don't allow anyone else to handle the paper work. The other issue has been water samples. It is understood that water samples are needed to ensure safe drinking water. With coliform water sampling however, common sense is needed with regard to coliform water samples in the summer. We have well drillers and pump installers going back and forth taking water samples because the test with dye is not accurate and there are too many things that can result in a bad sample result. This results in multiple trips needed to get samples. One or two days a week are spent going back and forth collecting water samples. This is a total waste of time. Employees have seen this and decided that they don't want to have anything to do with these headaches. Most of my drilling is within 30 miles but can go out as far as 60 miles. To get a sample in the mail, it needs to be to the post office before 4:00. Now the mail has changed so that even if you over-night a sample, it takes 2 days to get to the lab. So now we need to drive samples to the lab which is an hour drive one-way. That is 2 hours out of the day spent getting samples to the lab which is 2 hours less available to do the paperwork. That is for a coliform positive sample that probably is not the problem. In the spring, samples off the rig are consistently good. There is 30 years of sampling history on file that documents that the first time hot humid weather arrives, coliform positive sample results will come back. Even if you do chlorination of the well system, coliform positive results come back 100% of the time. Even after the pump is installed, you will get coliform positive results 100% of the time. The coliform bacteria are not coming from the water. They are coming from the air. Wells are vented and the coliform bacteria are entering the well through the air. After a couple of good freezes in the fall, the occurrence of coliform positive samples drops again. (TH)
 7. Do you have any wastewater treatment plants nearby that do bacteria testing? (BF)

8. There is a smaller facility nearby, but they don't do their own tests. They send samples to a lab for testing. (TH)
9. We need to determine why these coliform positive samples are occurring. Labs will take the position that the problem occurs due to incorrect sampling process. That doesn't explain why the sampling process provides good samples up until the time when the weather gets warm. (TH)
10. Sampling will be discussed specifically in the next Advisory Committee meeting. (MN)
11. Sampling is one issue. The other is paperwork. We need to make DNR reporting requirements easier. A system is needed to make things easier. (TH)
12. The department is changing its notification system to be part of the well construction system. It is not ready yet, but it will help to streamline paperwork requirements. (MN)
13. Change the time requirements for coliform reporting so that the sample is taken after the pump is installed. (TH)
14. We will talk more about that at the next meeting. (MN)
15. This would also make it easier for the DNR to track driller activity. The request isn't just for making the driller's life easier. (TH)
16. What may be needed is to break the process down and look at how things might be done differently to improve the process. (JB)
17. The department is looking at what would make it easier for you to take out the notification and put the dot on the map. The DNR knows where the work is being done and you know what is needed for that location. Whether a variance is needed or not, or if it is a special well casing depth area. It is in progress. (MN)
18. The DNR may have their hands tied on the water sampling requirements. With the count test, it still needs to be zero. Those are EPA regulations that the department cannot change. (TM)
19. That is where we don't say safe or unsafe anymore. Samples are referred to as positive or negative. For public water systems, if there is a positive sample, code was changed to "find and fix". Follow-up on unsafe is something that will be discussed in the next meeting. There is follow-up procedures for a pump installer and follow-up procedure for the well driller. We may not be able to change both of them at the same time, but we should be able to tweak sampling requirements to change when a sample is taken for a new well. No promises, but it is something that we are going to work on. (MN)
20. There are many causes for an unsafe sample. In some cases, you can go back and chlorinate 3 times and sample comes back unsafe. At that point some refuse to pay for more sampling. (TM)
21. The scope statement does allow you to change to other areas of NR 812 or other code chapters that are reasonably related revisions that are required for consistency. (BW)
22. How much casing is required if you encounter shale at the surface or at 5 feet? (BW)
23. In the eastern part of the state, it may vary. Bedrock within 5 feet but it is shale? Shale is considered sandstone. (MN)
24. Different parts of NR 812 differentiate between sandstone and shale. NR 812.14(5)(c)3
25. Tim is correct regarding coliform bacteria coming from the air. The 10-tube test should be brought back to test in August and September when all the pollen is in the air. In winter months, there is no problem getting a safe sample. It is the testing technique. It's not the water. One day a week is spent here just for

- sampling and some wells need to be sample 3 or 4 times before getting a safe sample result for a well inspection. (BE)
26. Another issue is mud rotary drilling in overburden to bedrock. Over the past 3 years, it has been found in a number of wells that grout is breaking down and getting down into the screens and affecting water flow. Water has a gray tinge to it. Some gray sediment is found at the bottom of the pressure tank and piping. Some of the wells were done with plastic casing and some were done with steel. Our method is to drill and drive. We need to change the code to allow driving the casing. (TH)
 27. Someone in your area is not drilling wells properly and that is what is causing the problem. We have wells that were mud drilled 15 – 20 years ago that are still operating without a problem. Whoever constructed those wells, didn't develop them or grout them properly. (BW)
 28. What is trying to be conveyed here is that our practices work very well in our area. This method was allowed up to 3 years ago and now they are not. Now we are told that we cannot drill mud casing below 20 feet unless we are drilling into the aquifer and set casing and we can't drive casing below the mud hole. The DNR provided this in a letter that we are no longer allowed to drive casing below the mud hole. (TH)
 29. If you drill the upper enlarged drillhole down 20 feet, and set your casing and continue to drive that, as long as you are not in the bedrock and you keep that hole full of mud, there is nothing that says you can't do that. (TM)
 30. Its legal to do it to 20 feet. It is not legal to do it to a depth greater than 20 feet. (TH)
 31. Why wouldn't it be? (TM)
 32. The rules were changed in 2020. (TH)
 33. We can look at that part of code and see if anything can be done within our current scope statement. You are correct. You can drive in an upper enlarged drillhole, but you have to fill that drillhole with grout. If you don't go past 20 feet, you can leave that upper enlarged drillhole filled with mud and cuttings. (MN)
 34. We had a well that was 80 feet. We lost all of the mud into water. The casing dropped down another 5 feet. We were told to pull the casing out of the hole and reopen with mud all the way down to get down to 95 feet. All we would have had to do, was drive down another 10 feet of casing. Drilling and driving beyond the mud hole is a valid practice. It is effective for finding water in smaller aquifers in unconsolidated. (TH)
 35. As long as the upper enlarged drillhole stays open, that should be a good approach. (TM)
 36. The problem that you run into is that the upper enlarged drillhole will collapse. Some of the wells you are unable to grout, and the upper enlarged drill hole is not kept open when you drive the casing. (MN)