Meeting minutes: NR 146 & NR 812 Rule Revision Advisory Committee

Date/Location: 08-29-2024 / Schmeeckle Reserve Visitor's Center

NOTES:

1. **Members Attending:**
    - Bruce Walker PIP/WDP/HEDI – Wisconsin Well & Water Systems, Kouba Drilling & Wisconsin Geothermal Association / Adams County WC
    - Rick Peterson PIP – Clean Water Testing / Outagamie County NE, President Wisconsin Water Well Association
    - Terry Marshall PIP/WDP/HEDI – Marshall Well Drilling / Adams County WC
    - Jeff Beiriger – Government License Advisor for Wisconsin Water Well Association also advisor to Wisconsin Well & Pump Suppliers
    - Tim Harnois PIP/WDP – T&T Well Drilling / Oconto County NE
    - Steve Binz PIP/WDP – Binz Brothers Well Drilling / Iron County NO
    - Butch Eucker PIP – Richmond Well & Pump / Walworth County SE
    - Bernie Friedenfels Master Plumber/PIP – Door County NE
    - Jake Sedivy – DNR Private Water Field Specialist
    - Marty Nessman – DNR Private Water Private Water Supply Section Chief
    - Bob Gundrum – DNR Private Water Licensing Coordinator
2. **Discussion – NR146 Revisions**
    a) Suggested NR146 revisions that would require statutory change
    b) Other committee suggestions included in current NR146 draft revision
    c) Pump Installing definition
    d) "Qualified welder" defined and applied to pump installer license exception of NR146.03(2)(c)6
        i. Qualified welder is defined as someone who has passed a 2G vertical fixed pipe performance qualification test.
        ii. Marshall: The performance qualification test requirement does not apply to someone who already holds a pump installer license. Is that correct?
        iii. Walker: It applies to the license exception where a welder who is not licensed can be hired and can weld a pitless adapter. They need to have some welding certification and be competent in welding before they can weld a pitless adapter without having the pump installer license. In short, you can't hire just anybody to weld the pitless adapter.
        iv. Binz: The use of clamp-on pitless adapters avoids the welding concerns that this is supposed to address.
        v. Walker: It is the responsibility of the pump installer make sure that the welder is competent, and that weld integrity is sound. If there is a problem with the weld, the pump installer is responsible for fix it.
        vi. Sedivy: It can be looked at as a minimum requirement.
        vii. Binz: If you're not putting this requirement on the back of every welding contractor in the state who is hired, then I'm fine with it.
    e) "Under the supervision" defined
    f) Supervisory responsibilities clarified by definition
    g) Date of initial expiration when license or rig operator registration is issued after October 31 and before December 31
    h) Revised rig operator training requirements of NR 146.04(2)(h) (*well drilling*) and NR 146.04(9)(a)9 (*heat exchange drilling*)

i. Committee members were asked to consider the direction the industry should take with respect to driller licensing prerequisites. Should driller license requirements vary depending on the where a driller is from and what drilling method is used? This would require different driller licenses for each specialized drilling method and for each area of the state. Or should a minimum standard be established for all Wisconsin drillers as is done with licensed plumbers and the DSPS requirements set for an apprentice who is working towards attainment of plumber's license. Those who view rig operator training requirements as not necessary for some drillers are advocating specialized licensing and not a minimum standard that all licensed drillers must meet. In past meetings, committee members have argued for and against a minimum standards approach.
ii. Friedenfels: It is important that license requirements are not "watered down" to make it too easy for anyone to step in. Relative to plumbers and the master plumbers license, if you don't want to go to apprenticeship school and be a master plumber, you can take the test for a plumber restricted appliance license and just service dishwashers and water heaters. So, in the drilling industry it needs to be decided if specialized licenses will be offered of if there will be one standard for all where everyone has the same ability and knowledge.
iii. Beiriger: The question is what do you want the license to do? Is it to qualify you to do what is required by the person you are working for, or do you want the license to qualify you to work in the industry?
iv. Nessman: The question is whether a waiver should be allowed for this training.
v. Sedivy: An example is mud drillers who only do PVC wells. Why do they need to attend a course on welding when they will never use this training?
vi. Friedenfels: It's the same argument on the plumbing side. Plumbers who only install pex tubing still need to learn how to solder a joint.
vii. Harnois: If you're going to be a licensed driller, you need to be able to do it all. Even if you don't use a certain drilling method, you need to have some knowledge of it.
viii. Friedenfels: Protect your trade.
ix. Marshall: The specialized license approach would require applying conditions to every license and creating a separate license exam for each type of license.
x. Sedivy: DNR would have to track what is being done in the field as well.
xi. Marshall: The question has often been asked why it is required to take an exam. The license authorizes work in different types of drilling so a driller can work in any area.
xii. Nessman: The hours required for rig operator training are currently in rule language. We did not hear any consensus as to whether the requirements should be changed.
xiii. Gundrum: Waivers to certain training requirement are being added in the draft rule language.
xiv. Beiriger: Rather than training requirements based on number of hours like these, should a requirement for attendance at continuing education over a 3-year period be used instead?
xv. Nessman: Should a waiver be offered with a condition code applied to the license depending on what drilling method is used?

xvi. Marshall: Only the waiver for welding should be offered.
xvii. Marshall/Beiriger: Consideration of 3 hours for everything rather than 6 for some would be better.
xviii. Gundrum: Going forward, the association should consider what approach should be taken for the industry. Should the same training be required for all license applicants whether or not they need or will use the knowledge obtained in the training. The same training is required by statute for heat exchange drilling rig operators. The same number of hours required in the trainings for water well drilling rig operators will be applied to heat exchange drilling rig operators.
xix. Binz: Will the revised rule allow a licensed well driller to do heat exchange drilling as well?
xx. Gundrum: That idea was explored but it was determined that statute requirements for rig operators would not allow us to take that approach. It would require a change to statute.
xxi. Binz: The reason why there are not enough licensed heat exchange drillers in Wisconsin may be because of the license requirements.
xxii. Gundrum: Those who are licensed for heat exchange drilling are typically opting out of heat exchange drilling work because they have committed to doing water well drilling work instead.
xxiii. Walker: Water well drilling business is valued over heat exchange for economic reasons. Water well drilling is a more profitable business.

i) Required online renewal with provision for waiver requests
    i. Peterson: If continuing education is done during the grace period, are 6 or 12 hours of continuing education required in that calendar year?
    ii. Gundrum: During the grace period, 6 hours of attendance would be required for the current calendar year and an additional 6 hours of attendance will be required to renew for the upcoming calendar year.
    iii. Beiriger: Would there be consideration for the grace period to apply to active engagement in business while continuing education was being worked on in the grace period?
    iv. Nessman: By statute, all licenses and registrations expire on December 31 each calendar year and must be renewed to return to active status. So, the license remains expired in the grace period until continuing education is completed and renewal is processed to return the credential to “active” status.
    v. Binz: Will notices still be provided by mail for license renewal?
    vi. Gundrum: Renewal processing has moved to Operator Certification and the process will change from previous years. Renewal reminders will be sent by email prior to October 1st. Starting on October 1st, renewal applications will be mailed to anyone who has completed continuing education and are eligible to renew for the upcoming calendar year. You will receive a reminder, but you will not receive the number of notifications that have been provided in the past.
ii) Continuing education acceptance criteria codified
    i. Marshall: Heat exchange drillers struggle to find one hour. I don’t agree with the requirement to have three credits specific to heat exchange drilling.
    ii. Gundrum: The requirement for training specific to heat exchange drilling for the heat exchange license was 6 hours. It the revision is reducing this

from 6 hours to 3 hours. What would be your suggestion for hours of heat exchange driller continuing education that is specific to heat exchange drilling? Are we trying to make things easy or are we trying to keep people educated on what they are doing with their license?

iii. Marshall: For heat exchange, I would suggest 1 credit in code related training, 2 specific to heat exchange and 3 credits optional.
iv. Walker: Training related to drilling in certain types of geology would be specific to heat exchange and to water well drilling. If specific to heat exchange drilling it doesn't mean it is specific only to heat exchange drilling. It could also be specific to water well drilling.
v. Nessman: There would be credits considered specific to water well drilling that would also be considered specific to heat exchange drilling. There will still be a crossover, and you would still get credit for both.
vi. Gundrum: Jeff... you are close to the geothermal continuing education world. Is there not enough training out there that is specific to heat exchange drilling?
vii. Beiriger: The geothermal training of late has not been focused on drilling aspects.
viii. Nessman: The word "specific" is tricky here and maybe the wording can be changed.
ix. Beiriger: If you are making any class approved to well drillers approved for heat exchange drillers, I don't think we are looking at more than one hour that will be needed that is really specific to heat exchange drilling.
x. Walker: If it is in the business, it is all inter-related. The statute does say "specific to" heat exchange, but it doesn't specify how many hours are required.
xi. Nessman: We have been pretty lenient on what is specific to heat exchange drilling. Drilling fluids or anything related to drilling a hole in the ground would be considered specific to heat exchange drilling. Are we advocating attendance at training that is only related to heat exchange drilling and nothing else?
xii. The consensus is that having continuing education that crosses over to more than one license type is preferred.
xiii. Walker: It is understood that it is desirable to get all continuing education in a single day, but it is important that training be offered that is specific to the heat exchange drilling industry.

k) Heat exchange drillhole filling and sealing requirement codified
i. Gundrum: This requirement is in statute but has not been included in code. The revision will add heat exchange driller license requirement for anyone who is filling and sealing heat exchange drillholes.
ii. Beiriger: Does this mean that a licensed well driller cannot fill and seal a heat exchange drillhole?
iii. Gundrum: Yes. A licensed water well driller cannot fill and seal a heat exchange drillhole. This requirement can not be changed without a change to statute.
iv. Walker: An element of heat exchange drillhole abandonment that is not encountered with water wells is if the heat exchange loop cannot be removed, it has to be used as a tremie pipe. The water has to be evacuated first.

3. **Discussion – NR812 Revised Rule Language**
    a) Definitions:
        i. "Agricultural crop field" - removed
        ii. "Basement" - revised
        iii. "Cathodic protection borehole" – added
        iv. "Community water system" – revised/simplified
            1. Peterson – What then is the difference between and community water system and a public water system?
            2. Nessman – Public water system is defined separately in NR 809.04. This definition states whether a well needs to be constructed to NR 810 requirements or NR 812 requirements. Sampling requirements would be covered in NR 810.
        v. "Feasible" – added
            1. Walker questioned the use of the term "feasible" vs "practical" with respect to variance applications and economic considerations. Needs to infer "capable of being accomplished".
            2. Nessman will research use of the term "feasible" as used in other codes.
        vi. "Dewatering well" - added. Reflects neighboring state definitions
        vii. "Non pressure storage vessel" – added, also adjusted definition of "reservoir" to clarify that a reservoir is a nonpressure storage vessel.
            1. Beiriger: Keep in mind revisions to SPS 381 so NR812 is consistent with that language. Note mentions "not more than atmospheric pressure".
        viii. "Pitless adapter" – Revised / simplified.
            1. Walker: Bolt through pitless adapter requirements questioned.
            2. Nessman: Statute specifically calls out bolt through and says it can only be used on PVC casing with attached screen.
            3. Marshall: Comment regarding attached screen does not apply to steel. It is only on PVC.
        ix. "Pit prive" revised.
        x. "Pump installing" redefined. Reflects meaning in s. 280.01(5). NR812 refers to any pump installation, whether a license is required to do it or not.
        xi. "Reconstruction" – revised. Hydrofracturing removed from definition. Clarifies that WCR is not required for hydrofracturing. Any reconstruction requires a WCR.
            1. Walker questions reconstruction that requires replacement of screen. Specifically, as it applies to driven point wells.
            2. Nessman – WCR is required when screen is replaced even if it is the same screen type, length and depth. This will be discussed internally. Well construction report requirements for screen replacement and underreaming will be reviewed and revised accordingly.
            3. Marshall: Underreaming needs to be looked at. Under-reaming should be allowed. There are instances where underreaming is a better alternative for new construction. Otherwise, there are micro-anulus considerations.
        xii. "Pump installation" – discussion regarding simplifying by removing what pump installation includes.

xiii. "Reservoir" – revise to make subset of nonpressure storage vessels. This will be pertinent to setback requirements. This refers to closed structure. Non pressurized and partially above ground needs to be considered.
xiv. "Surge tank" – revised to specify nonpressure storage.
xv. "Valve pit" – comment received regarding valve pit definition. Valve pits do not need to meet requirements for a pit in some cases. An abandoned well in a pit leaves only plumbing remaining. Valve pits do not require approval.
    1. Marshall: If well is filled and sealed in pit, there should be no reason why the pit cannot remain.
    2. Nessman: Scope statement does not include revision to valve pit requirements.

b) NR812.08 relation to contamination sources: broken out into wells, reservoirs and springs, and exceptions.
    i. Table A adjustments – Clarifications, mostly to clarify LP tank setback requirements.
c) NR812.09 - Approval section:
    i. Nonpressure storage vessel approval requirement revised. Approval requirement moved to NR812.33(2).
d) NR812.091 Product and component approvals: Remove requirement for component approval of wellhead components, pitless adapters and pitless units.
    i. Eucker – Will product approval spreadsheet then be discontinued?
    ii. There would still be an approval table for things that do not fall under this part of the code. A separate table would probably no longer be needed for a pitless adapter.
    iii. Beiriger: Would national standard then be required?
    iv. Nessman: No, not required. Components must perform to meet NR812 standards/requirements but do not need to be approved by the DNR. DNR will no longer be the gate keeper. Other standards may be reviewed for applicability in this area.
    v. Walker: Not opposed to removing approval requirement. Responsibility should fall on the well driller or pump installer to ensure that requirements are met when using these components.
    vi. Friedenfels: Could the SPS requirements/plumbing code be referred to with respect to well component approvals?
    vii. Nessman: That will be looked at. SPS was forced to move away from this by legislature. This revision is made to NR812 to avoid being forced to do so in the future.
e) NR812(11) Well Construction Report – Include WCR requirement for test drillhole or test heat exchange drillhole as allowed under NR812.09(4)(a)5.
f) NR812.13(6 & 7) Drilled wells in unconsolidated formations – remove drill cuttings from fill for starter drillhole and change mud weight from 11 to 9 pounds per gallon.
g) NR812.151(4) Location – Refer to NR812.08(5) and remove language that pertains to that section.
h) NR812.151(13) Heat Exchange Fluids – reference additives approved in NR812.091.
i) NR812.153 Dewatering wells – language added for minimum standards on permanent dewatering wells.
j) NR812.27(1)(a) Pump installer license requirement exceptions

i. License exceptions added from statute

k) NR812.27(2) Location requirement
   i. Applies to new wells.
   ii. Pump cannot be installed, replaced or serviced in a new well that is not properly located.
   iii. Pump cannot be installed, replaced or serviced in an existing well that is not properly located except when reporting requirements of NR812.04(2) are complied with.

l) NR812.27(2) Pits: New well pits shall comply with the minimum NR812.36 standards and conditions of department approval.

m) NR812.28 Pump installation equipment and supply pipe – revised. Broke into sections for clarification. Requirements did not change. Rewritten for clarification.

n) NR812.28(2) Wellhead equipment: functional requirements listed.
   i. Friedenfels recommends utilizing more references in NR812 like the SPS 348 standard referenced here.
   ii. Beiriger – check reference to SPS standard. Make sure reference is up to date and consistent with current SPS standards relative to lead free component requirements.
   iii. Nessman - It is referenced in notes and can be updated if needed.

o) NR812.29 Height of finished well: Titles added to each of the sections.

p) NR812.31 Pitless adapters and pitless units: Rewritten and reorganized.
   i. For enforcement purposes, added “all subsurface connections shall be made in a watertight manner”.
   ii. Also added that pitless adapter and pitless unit shall be installed according to manufacturer’s instructions and any approval conditions.

q) NR812.31(2)(b) Pitless adapter and pitless unit sizing and type: No longer need to define what is a clamp on or bolt on.

r) NR812.31(2)(d) Pitless control modules: Not previously addressed in code.
   i. Electrical controls cannot be installed within the pitless module in Wisconsin.
   ii. Marshall: Units are sold with electrical controls installed in module.

s) NR812.31(3)(e) Riser pipes: Added “*When thermoplastic well casing pipe is extended above the ground surface, the thermoplastic pipe shall be of the type with inhibitors recommended for use in direct sunlight or shall be contained in a pumphouse or in an oversized steel pipe extending from below the frost depth to the top of the thermoplastic pipe. A permanent tag bearing the message “plastic well casing pipe" shall be attached to the top of the well*”.
   i. Walker: Tags are placed inside the well cap. When you have PVC above ground, you need a tag on there.
      1. If the purpose of this section is to protect exposed casing from UV light, then why have oversized steel casing extending to below frost line?
      2. Manufacturers of the most commonly used pipe do use UV inhibitors in the resin.
   ii. Nessman: The tag requirement could be dropped. PVC pipe is thick enough so that UV rays are not passing through it, so that requirement could be dropped as well.

t) NR812.32(4)b Separation from sewers: Michael Berkholtz provided comment on this section and thought it was not of value. This language mirrors what is

required in the SPS code. This section is being revised here to be consistent with SPS plumbing code requirements.

i. Beiriger: Make sure that it is consistent with the correct plumbing code requirements.

u) NR812.32(7) Hand pumps: Reorganized, added titles. Pump platform was not removed but was reduced to 2-foot diameter or 2 x 2 foot square.

i. Marshall: People won't do this. They will see it as senseless. Whether it is 2 foot or 4 foot, it doesn't matter because the amount of water coming out of the pump is minimal. The platform requirement was originally for wayside and pump wells.

ii. Should not require an overflow or other option other than a platform.

iii. Nessman: Will take that into consideration and discuss with public water folks.

v) NR812.32(9) Discharge lines for flowing wells: Nessman commented that it was not clear to everyone that overflow piping is not required in every situation. Clarification is made here to indicate that a well seal or other means can be used to stop flow from a flowing well. An overflow pipe is not required to be used to stop flow in every situation.

w) NR812.33(2) Water storage vessels: Only revisions made were to nonpressure storage vessels. For a non-community well, the storage tank must be approved. General specifications were revised to clarify and simplify the requirements. Requirements were not changed.

x) NR812.40 Above ground pumphouses: Pump houses can hold a well and pump or well and pressure or well and offset pump.

i. Rewritten to read: above ground pumphouses that also house a well shall be constructed in accordance with the requirements of s. NR 812.08 (2) for wells in buildings. Pumphouses shall be constructed to meet all with the following minimum features specifications:

ii. Added requirement for concrete floor

1. Walker: There are many 2" wells with jet pumps. Be aware of the people that this would impact.
2. Nessman: This applies to new pump houses, not existing.
3. Eucker: When doing property transfer well inspection, the statement will be made in the report to bring the system up to current standards.
4. Friedenfels: What is the purpose of the concrete floor? If a well is located outside with a vermin proof cap on it, what would be the difference?
5. Marshall suggests changing poured-floor language back to what it was.
6. Nessman: There is nothing now that requires covering the well other than pump houses.

y) NR812.42(1)(b)2m: Added "*The minimum diameter. The minimum diameter of an existing well completed in sandstone, limestone and shale bedrock formations shall be four inches for wells constructed before February 1, 1991. The minimum diameter of an existing well terminating in quartzite or granite bedrock shall be six inches*".

i. Nessman: This is allowing you to not call a well noncomplying when it is five inches in diameter.

z) NR812.42(4) Nonpressure storage vessels: Changed title from "Reservoirs" to nonpressure storage vessels. Added "*Nonpressure storage vessels shall be*

maintained in a clean and sanitary condition and provide water free from coliform bacteria and free from contaminant levels in excess of the standards specified in s. NR 812.06. Existing above ground and elevated storage vessels shall meet the general requirements of s. NR 812.33 (2) (b).

i. Nessman: Nothing changed for existing reservoir minimum requirements. (h) was moved to the introduction and was reworded.

aa) NR812.43 Variances: Revised to add forms and instructions. Broke things out for clarification. Clarification on next steps with verbal variance.

i. Walker: Is it necessary to include what is needed on a variance form?
ii. Nessman: Yes. sometimes things are not included that are needed.
iii. Beiriger: Marty is right because of the view legislation takes on guidance documents such as forms. If it is not codified, someone can refuse to do it because it is not required.
iv. Marshall: Items one and two are usually completed by the DNR
v. Nessman: This is in regard to a proposed landfill or landfill expansion. Item two does not a apply if the well is not subject to expansion.

bb) NR812.44(5)(b)27 Property transfer well inspections: Remove necessary corrective measure "*The well casing pipe at the ground surface is less than six inches in diameter for wells terminating in limestone, dolomite, shale, quartz, or granite*."

cc) Peterson requested clarification or confirmation on sampling requirement when sample faucet, pressure switch or gauge are replaced. This all was included in the definition of pump installing.

i. Nessman: No longer required as this was included in the definition of pump installing.
ii. Walker: Why then are we requiring sampling with the replacement of a jet pump? How does this differ from the other components in the system where no sample is required if they are replaced?
iii. Marshall: When priming, you could be introducing bacteria into the system with the water that is put back into it.
iv. Nessman: The requirement to sample when replacing a pressure tank has been removed. You do have the opportunity to sample the customer's water to determine if there is bacteria in it. You are a professional, you are on site doing the work… take the bacteria sample while you are there.
v. Marshall: The requirement is to sample for bacteria, nitrate and arsenic?
vi. Nessman: Sampling for all three of those is required for submersible pump replacement. Not for the offset pump replacement. The only sample required for offset pump replacement is bacteria.
vii. Sedivy: Replacing the pressure tank should require a sample be taken.
viii. Walker: Why is a sample not required when entering a well for the sole purpose of obtaining a water level measurement?
ix. Nessman: A pump installer license is not required to do that.
x. Marshall: You could replace any component in the system and end up contaminating the well. It then falls on the well driller to try to clean things up.
xi. Nessman: We are only talking about offset pumps here. We are still requiring bacteria sampling when replacing a pump that does not involve entering the well. We have the opportunity now to require all three samples, not just bacteria.
xii. Marshall: We should just leave it as is.

xiii. Walker: Adding a requirement to sample for all three would potentially have an economic impact.
xiv. Harnois requested revisiting the change in mud weight requirement.
xv. Nessman: That requirement was related to driving casing with a starter drillhole.
xvi. Harnois: You are not going to have just drilling mud and water.
xvii. Nessman: The intent is not to include drilling cuttings in the slurry. Drilling cuttings is being removed. Its not saying that there should be no drilling cuttings in the slurry either.

4. ADJOURN