

# Summary of Proposed 2011 Rule Changes to the Administrative Rules for Water Wells (R655-4 UAC)

## **R655-4-1 Purpose, Scope, and Exclusions**

- Propose to change name to “Administrative Rules for Water Wells”
- Incorporate “Licensed Pump Installer” and “Pump Installation and Repair” into rule language and scope of regulated work
- Define scope of pump installation work; those needing a license are those who do the work for compensation
- Exempt pump work on own pump on own property
- Define heat exchange well as closed-loop or open-loop

## **R655-4-2 Definitions.**

- Added definitions for: Address, Adjudicative Proceeding, Backflow Preventor, Cease and Desist Order, Closed-Loop Heating/Cooling Well, Conductor Casing, Default Order, Division, Files, Final Judgment and Order, Heating/Cooling Exchange Systems, Infraction Notice, Issued, License, Licensed Pump Installer, Nominal Size, Open-Loop Heating/Cooling Exchange Well, Party, Pitless Unit, Presiding Officer, Pump/Pumping Equipment, Pump Installation/Repair, Record, Red Tag, Registration, Repairing/Renovating/Deepening,

## **R655-4-3 Licenses and Registrations**

- Clearly define activities requiring a license (drill, construct, deepen, repair, renovate, clean, develop, pumps, abandonment)
- Clarify that there is no reciprocity with other States/licensing entities
- Incorporate “Licensed Pump Installer” and “Pump Installation and Repair” into Section language
- Clarify that a licensed well driller can perform all regulated activity including pump work
- Clarify that a licensed pump installer can only perform regulated activity for pump work
- Incorporate legal residency status requirements
- Clarify that subcategories of licensing can be obtained such as cleaning, renovating, abandonment, development/testing
- Add new section on Pump Installer Licensing with scope and requirements
  - Define under what conditions a pump license is required (for compensation not on own well or property)
  - 21 years old
  - application and fee
  - Two years of pertinent experience
  - File \$5,000 bond
  - Pass exams
- Add new section on Pump Rig Operator Registration with scope and requirements
  - 18 years old, application, fee, 6 months of experience, pass written take home exam

#### **R655-4-4 Administrative Requirements and General Procedures**

- Clarify that preauthorization of pump work is not required (i.e., Start Card not required)
- Copy of Start Card must be kept on site during regulated work
- Incorporate “Licensed Pump Installer” and “Pump Installation and Repair” into Section language. Use term of “Licensee” to refer to both a well driller and pump installer
- Define the types of activities that must be supervised by a licensed driller/pump installer or a pump rig operator and when and who needs to be onsite. Define the employee relationship of the pump rig operator and the licensee including use of owned or leased equipment.
- Add new subsection on Pump Log submittal requirements

#### **R655-4-5 Administrative Rule Infractions (Renamed section)**

- Incorporate “Licensed Pump Installer” and “Pump Installation and Repair” into Section language. Use term of “Licensee” to refer to both a well driller and pump installer
- Add new infractions for:
  - Bad formation stabilizer
  - Bad well capping
  - Bad hydrofracking
  - Bad packers/plugs
  - Bad well intakes
  - Non Production Wells
- Add new infraction section for pump installation/repair to include casing extension, water level, control of artesian water, disinfection, protective casings, surface completion and security, backflow protection, development and testing, capping, pitless’, contamination, and surface seal repair

#### **R655-4-6 Administrative Penalties (New Section with info from old section 5 and new standards**

#### **R655-4-7 Adjudicative Proceedings (New Section)**

#### **R655-4-8 License and Operator Registration Renewal (Formally Section 6)**

- Incorporate “Licensed Pump Installer” and “Pump Installation and Repair” into Section language. Use term of “Licensee” to refer to both a well driller and pump installer
- Define how the Division will provide notice of renewal to the licensee
- Pump installers to renew in same fashion as well drillers including cycle, application, fee, 12 CE credits, good bond, and rules review. Pump installers not required to submit outstanding pump logs since the Division will not be tracking that
- Pump Rig Operators to renew in same fashion as Drill Rig Operators

#### **R655-4-9 The Approval Process for Non-Production Wells (Formally Section 7)**

- Clarify the distinction between Open-loop and Closed-loop heat exchange wells
- Revise non-production well application process to include:
  - 14 day review period
  - More detailed info regarding project
  - An accounting of the potential historic property effects
  - Signatory must be owner/authorized representative and not the well driller

- Revise non-production well application review and approval process to include 14 day period and recommend submitting permits/approvals of local jurisdictions.

#### **R655-4-10 General Requirements (Formally Section 8)**

- Incorporate “Licensed Pump Installer” and “Pump Installation and Repair” into Section language. Use term of “Licensee” to refer to both a well driller and pump installer
- Clarify the need for the driller to check local jurisdictions and rules
- Clarification of process for variances including request for more information, 14 day review period except for emergencies, and justification for verbal approval

#### **R655-4-11 Well Drilling and Construction Requirements (Formally Section 9)**

- Incorporate “Licensed Pump Installer” and “Pump Installation and Repair” into Section language. Use term of “Licensee” to refer to both a well driller and pump installer
- Add steel well casing standard ASTM A589 for seamless and welded carbon steel water-well pipe
- Add stainless steel casing standard ASTM A409 for welded large diameter austenitic steel pipe for corrosive or high temperature service
- Clarify that non-metallic casings cannot be jacked into ground
- Clarify that steel casing joints must meet the standards of the American Welding Society
- Clarify that solvent welded joints on plastic casing must not cause contamination
- Add that artesian shut-in pressure and flow must be measured and reported on flowing artesian wells
- Define the between-casings annular feed option for topping off gravel pack material
- Clarify the standard for acceptable drilling fluid products and LCMs
- Add that pitless adapters/units must meet the Standard PAS-97 of the Water Systems Council
- Add that pitless configurations must allow for access to water level measurement
- Add that pitless configurations must be water tight and at least the strength of the surrounding casing
- Add that a cement seal shall not be used around a pitless connection. Unhydrated bentonite is acceptable
- Add that hydrofracking operations shall not lead to aquifer commingling. Add that materials such as propping agents shall be approved by the Division before use
- Add that packers or other plugs shall not be a source of contamination
- Add that screens must be designed properly to withstand corrosion and pressures, and that they should not be exposed to the atmosphere during pumping
- Add that black casing above seals shall have no holes or openings
- Add that casing vents shall be constructed in such a way to prevent contamination entering the well (18-inches above ground in down-turn position with 24-mesh screen)

#### **R655-4-12 Special Wells (Formally Section 10)**

- Clarify the distinction between Open-loop and Closed-loop heat exchange wells
- Add that open-loop heat exchange wells require a non-consumptive use water right and if re-injection takes place, approval from the Division of Water Quality must also be obtained
- Clarify that closed-loop heat exchange wells must also meet the NGWA standards for the construction of vertical boreholes for closed-loop heat pump wells
- Add additional standards for closed loop wells including:

- Well projects must meet local rules and ordinances
- Minimum borehole diameter depending upon size of HDPE piping
- Grouting must take place within 6 hours of borehole completions and must be sealed from bottom to top
- Grout must be placed by tremie from bottom up and tremie cannot be left in place.
- Pipe, pipe materials, joining methods, and borehole installation must also meet NGWA standards
- U-bends shall be factory installed and no fusion joints in piping below 30 feet
- Pressure testing must be performed before and after borehole installation according to NGWA standards
- Heat transfer fluids, additives, and inhibitors must be non-toxic and approved by EPA for this purpose

**R655-4-13 Deepening, Rehabilitation, & Renovation of Wells (Formally Section 11)**

- Renumbered section

**R655-4-14 Abandonment of Wells (Formally Section 12)**

- Renumbered section

**R655-4-15 Monitor Well Construction Standards (Formally Section 13)**

- Renumbered section

**R655-4-16 Pump Installation and Repair (New Section)**

- Pump installation process shall not introduce pollutants into the well
- The surface seal shall be properly repaired if damaged during pump work
- Pump tools, equipment, and materials shall be cleaned and disinfected so as not to cause contamination. Any lubricants or other chemicals shall be non-toxic
- The well and pump system shall be disinfected after completion of work on well
- ASTM/ANSI standards for products and materials shall be followed, otherwise a variance must be obtained
- Surface completion standards to protect the sanitation of the well
- Proper capping and valving of flowing artesian wells
- Proper sealing between casings when pitless adapters are installed
- Static and pumping water level and flow must be recorded and reported
- The well must be secured during pump work during idle times
- Pump installer must leave the well completion at least 18-inchds above grade
- Casing stick-up requirements for a pump mounted on a concrete pedestal
- Pitless connection standards
- Backflow prevention standards
- Hand pump installation standards
- Pumping water level shall not extend deep enough to expose screens or perforations to the atmosphere
- Upon removal of pump and piping, it shall be protected from contamination at the surface storage location prior to replacement back into the well