Form 1100-001P (Rev. 11/12)

Wisconsin Department of Natural Resources
Natural Resources Board Agenda Item

Item No. 3.A.2.

SUBJECT:
Request that the Board authorize public hearing for DG-02-13, proposed rules affecting Chapter 280 Wisconsin Statutes related to heat exchange drillhole construction. The proposed rule creates a new requirement that persons drilling heat exchange drillholes must have a heat exchange drilling license. The proposed rules also set construction specifications for heat exchange drillholes that can be approved by notification rather than individual application review. The proposed action implements 2011 Wisconsin Act 150.

FOR: October 2013 Board meeting

PRESENTER'S NAME AND TITLE: Ken Johnson, Water Division Administrator

SUMMARY:
2011 Wisconsin Act 150 created new definitions in Chapter 280, Stats., for heat exchange drillhole and heat exchange drilling, and modified the individual and business license to create a generic drilling license with specific authorization to do well drilling or heat exchange drilling. Wisconsin Act 150 requires that the department establish new criteria and requirements for evaluating inidivduals' existing heat exchange drilling experience, and establish requirements for attaining and maintaining a heat exchange drilling license. To implement the requirements for the licensing of heat exchange drillers and construction standards for heat exchange drillholes, NR 146 - license registration, and NR 812 - construction requirements, need to be amended.

Revision to the rules should generate little controversy since the Wisconsin Water Well Association worked with the legislature, technical college leaders, other industry representatives, and the department, to promote passage of Wisconsin Act 150 and is in favor of the rule amendments.

Economic impacts of the passage of this rule will be minimal. Actual costs to drillers are small and unlikely to affect decisions to offer a service or enter a business sector. The current water well drilling license is $50.00 per year for an individual drilling license and/or $50.00 for the drilling firm business license. The cost is anticipated to be simular to add authorization for heat exchange drilling. Administration of the driller license exam is currently done at no cost to the driller. As a result, actual costs to consumers to use geothermal energy are unlikely to be affected by the licensing and construction requirements.

The Natural Resources Board approved the Statement of Scope at its June 2013 meeting.

As of April 1, 2015 heat exchange drilling may not be conducted without the required license.

RECOMMENDATION: That the Board authorize public hearing for DG-02-13.

LIST OF ATTACHED MATERIALS (check all that are applicable):

- ☐ (choose one)
- ☐ Statement of scope
- ☒ Fiscal estimate and economic impact analysis (EIA) form
- ☐ Response summary
- ☒ Attachments to background memo
- ☐ Governor approval of statement of scope
- ☐ Environmental assessment or impact statement
- ☒ Board order/rule

Approved by	Signature	Date
Jill Jonas, Bureau Director	Jill D. Jonas	9/13/13
Ken Johnson, Administrator	Ken Johnson	9/27/13
Cathy Stepp, Secretary	Matt Moroney	9/26/13

cc: Board Liaison - AD/8 Program attorney – LS/8 Department rule coordinator – LS/8

CORRESPONDENCE/MEMORANDUM

State of Wisconsin

DATE:

TO: Members of the Natural Resources Board

FROM: Cathy Stepp, Secretary

SUBJECT: Request for Authorization of Hearings for Board Order DG-02-13, affecting chs. NR812 and NR 146, related to heat exchange drilling licensing and construction standards.

Why is the rule being proposed?

2011 Wisconsin Act 150 was prompted by concerns in the drilling industry that current regulation and licensing did not adequately cover the installation of heat exchange drillholes and that inexperienced or even unqualified drillers were doing installations in Wisconsin. The rule is proposed due to concerns that improperly constructed heat exchange drillholes used in geothermal heating/cooling systems could act as conduits for groundwater contamination. The Wisconsin Water Well Association worked with the legislature, technical college leaders, other industry representatives, and the department, to promote passage of Wisconsin Act 150.

Summary of rule

2011 Wisconsin Act 150 created new definitions in Chapter 280, Stats., for heat exchange drillhole and heat exchange drilling, and modified the individual and business license to create a more generic drilling license, with specific authorization to do well or heat exchange drilling. Wisconsin Act 150 requires that the department establish new criteria and requirements for evaluating individuals' existing heat exchange drilling experience, and establish training and continuing education requirements for attaining and maintaining a heat exchange drilling license under the new definitions. To implement the requirements for the new category of heat exchange driller, NR 146 - license registration, and NR 812 - construction requirements, need to be amended to address heat exchange drilling.

How does this affect existing policy?

No license requirement or specific construction standards are currently codified for heat exchange drilling projects. Individual approval subject to general well construction and groundwater protection standards are currently required prior to constructing any heat exchange drilling project.

Development of specific construction standards for vertical heat exchange systems could allow the department to streamline the approval process. Establishing specific construction standards for heat exchange drillholes by rule could allow the typical low-risk systems to proceed with installation more quickly by no longer requiring the owners to wait for DNR approval.

The new licensing requirement continues the state policy to protect groundwater and ensure safe drinking water, as well as protect consumers and enhance the availability of alternate sources of energy for heating and cooling, by proper construction of heat exchange drillholes by licensed professionals.

Has the Board dealt with these issues before?

The Natural Resources Board approved the Statement of Scope at its June 2013 meeting.

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Who will be impacted by the proposed rule? How?

The rule revisions could affect people and businesses involved with drillhole construction, as follows:

1. All drillers who construct heat exchange drillholes will benefit from specifications approved by rule for most standard drillhole construction rather than individual review of all heat exchange drillholes.
2. Wisconsin-licensed water well drillers who currently install or want to begin installing heat exchange drillholes will need to obtain authorization for heat exchange drilling.
3. Wisconsin-based installers of heat exchange drillholes, who do not hold a water well drilling license, will need to obtain a Wisconsin driller license with heat exchange drilling authorization;
4. Drillers licensed in another state who currently install or want to install heat exchange drillholes in Wisconsin will need to obtain a Wisconsin driller license with heat exchange drilling authorization;
5. People with no drilling experience who want a heat exchange driller license will need to be trained and obtain the required level of experience in order to obtain a drilling license with heat exchange authorization.
6. Consumers will benefit by reduced risk of drinking water contamination and reduced risk of costly repair in the event of improper drilling.

Information on environmental analysis, if needed?

No environmental analysis is needed. The rule helps avoid the potential for environmental impacts and is highly unlikely to have a material impact on the human environment.

Small Business Analysis.

Economic impacts of this rule are anticipated to be minimal (final determination to be made following public comment period). Actual costs to drillers are small and unlikely to affect decisions to offer a service or enter a business sector. The current water well drilling license is $50.00 per year for an individual drilling license and/or $50.00 for the drilling firm business license. The cost is anticipated to be similar to add certification for heat exchange drilling. Administration of the driller license exam is currently done at no cost to the driller.

As a result, actual costs to consumers to use geothermal energy are unlikely to be affected by the licensing and construction requirements.

Overall economic impacts are uncertain. Additional protection of groundwater through consistent, high quality drilling practices should reduce future costs of drinking water treatment or groundwater clean-up. Consistent high quality heat exchange drilling practices should help contain the cost of this alternative source of energy for heating and cooling.

Manual Code 1022.4

STATE OF WISCONSIN
DEPARTMENT OF ADMINISTRATION
DOA-2049 (R03/2012)

DIVISION OF EXECUTIVE BUDGET AND FINANCE
101 EAST WILSON STREET, 10TH FLOOR
P.O. BOX 7864
MADISON, WI 53707-7864
FAX: (608) 267-0372

ADMINISTRATIVE RULES
Fiscal Estimate & Economic Impact Analysis

1. Type of Estimate and Analysis
☒ Original ☐ Updated ☐ Corrected

2. Administrative Rule Chapter, Title and Number
Chapters NR812 and NR146, Wisconsin Adminstrative Code

3. Subject
Heat Exchange drilling licensing and construction standards

4. Fund Sources Affected
☒ GPR ☐ FED ☐ PRO ☐ PRS ☐ SEG ☐ SEG-S

5. Chapter 20, Stats. Appropriations Affected
20.370(4)(ma)

6. Fiscal Effect of Implementing the Rule
☐ No Fiscal Effect ☒ Increase Existing Revenues ☐ Increase Costs
☐ Indeterminate ☐ Decrease Existing Revenues ☒ Could Absorb Within Agency's Budget
☐ Decrease Cost

7. The Rule Will Impact the Following (Check All That Apply)
☐ State's Economy ☒ Specific Businesses/Sectors
☐ Local Government Units ☐ Public Utility Rate Payers
☐ Small Businesses **(if checked, complete Attachment A)**

8. Would Implementation and Compliance Costs Be Greater Than $20 million?
☐ Yes ☒ No

9. Policy Problem Addressed by the Rule
Potential for drinking water or groundwater contamination as a result of inexperienced or unqualified drillers constructing heat exchange drillholes

10. Summary of the businesses, business sectors, associations representing business, local governmental units, and individuals that may be affected by the proposed rule that were contacted for comments.
Well drilling businesses are anticipated to be the primary affected business sector. Many drillers are represented by the Wisconsin Water Well Association whose representatives participate in the advisory work group. Local governments may be positively impacted by reduced risk of drinking water or groundwater contamination.

11. Identify the local governmental units that participated in the development of this EIA.
The Madison Water Utility provided comments as part of the advisory work group for rule development.

12. Summary of Rule's Economic and Fiscal Impact on Specific Businesses, Business Sectors, Public Utility Rate Payers, Local Governmental Units and the State's Economy as a Whole (Include Implementation and Compliance Costs Expected to be Incurred)
Economic and fiscal impacts of this rule are anticipated to be minimal (final determination of impact will follow public comment period). Actual costs to well drillers are small and not expected to affect decisions to offer a service or enter a business sector. The current water well drilling license fee is $50 and the heat exchange drilling license fee is expected to be set at the same level (total compliance cost to industry is estimated at $500). Drillers may take the licensing exam and apply to construct heat exchange drillholes at no cost. The rule does not propose fees for either of these state services as the total cost to the state is small (total implementation cost is estamated at $7300).

13. Benefits of Implementing the Rule and Alternative(s) to Implementing the Rule
Benefits of implementing the rule include reduced potential for drinking water and groundwater contamination as a result of improper construction of heat exchange drillholes. No alternatives to implementing the rule are apparent as the statute prohibits heat exchange drilling without a license as of April 1, 2015.

14. Long Range Implications of Implementing the Rule
Long range implications include reduced potential for drinking water and groundwater contamination as drillers are licensed and receive continuing education annually on advances in heat exchange drilling. While the overall economic impact is uncertain, the rules are anticipated to result in less potential for impact on drilling costs, property values or water supply costs.

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ADMINISTRATIVE RULES
Fiscal Estimate & Economic Impact Analysis

15. Compare With Approaches Being Used by Federal Government

No approaches are currently being used by the federal government.

16. Compare With Approaches Being Used by Neighboring States (Illinois, Iowa, Michigan and Minnesota)

ILLINOIS: In Illinois, the Department of Public Health is responsible for oversight of the well construction code, and has authority over the location, construction and modification of closed loop wells. A small set of standards specifically covers construction of closed-loop wells. The Department of Public Health's Closed Loop Well Contractors Certification Board oversees the rules, licensing and administration. A closed loop certification is required for drillers and is issued to those who are qualified and have passed the exam. The initial examination fee is $50 and annual renewal fee is $25. Licensees must attend one continuing education session in the preceding 2 years for license renewal.

IOWA: Iowa is in the process of developing rules, but has no rules codified for heat exchange drilling at this time. Iowa has a well drilling code and a well driller certification. Fee is $400 initially and $300 for renewal. License is for a two-year period and requires 16 contact hours of continuing education.

MICHIGAN: Michigan has no codified rules at this time, but has guidelines for heat exchange systems. Michigan has a Water Well Drilling Contractor license, but no requirements for heat exchange drillers. Water well driller license fee is $40.

MINNESOTA: In Minnesota, the Commissioner of Health is responsible for oversight of the well construction code. The code includes regulations for groundwater thermal exchange devices. Minnesota has a license for a certified well contractor and a separate license for constructing vertical heat exchangers. Fees for well contractor licenses range from $75 to $250. Fees are required for construction of vertical heat exchangers, ranging from $235 to $700.

17. Contact Name	18. Contact Phone Number
Randell Clark	608-267-7895

This document can be made available in alternate formats to individuals with disabilities upon request.

STATE OF WISCONSIN
DEPARTMENT OF ADMINISTRATION
DOA-2049 (R03/2012)

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ADMINISTRATIVE RULES
Fiscal Estimate & Economic Impact Analysis

ATTACHMENT A

1. Summary of Rule's Economic and Fiscal Impact on Small Businesses (Separately for each Small Business Sector, Include Implementation and Compliance Costs Expected to be Incurred)

2. Summary of the data sources used to measure the Rule's impact on Small Businesses

3. Did the agency consider the following methods to reduce the impact of the Rule on Small Businesses?

☐ Less Stringent Compliance or Reporting Requirements
☐ Less Stringent Schedules or Deadlines for Compliance or Reporting
☐ Consolidation or Simplification of Reporting Requirements
☐ Establishment of performance standards in lieu of Design or Operational Standards
☐ Exemption of Small Businesses from some or all requirements
☐ Other, describe:

4. Describe the methods incorporated into the Rule that will reduce its impact on Small Businesses

5. Describe the Rule's Enforcement Provisions

6. Did the Agency prepare a Cost Benefit Analysis (if Yes, attach to form)

☐ Yes ☐ No

ORDER OF THE STATE OF WISCONSIN NATURAL RESOURCES BOARD
REPEALING, RENUMBERING, AMENDING, REPEALING AND RECREATING, AND CREATING RULES

The statement of scope for this rule, 014-13, was approved by the Governor on February 4, 2013, published in Register No. 686, on February 28, 2013, and approved by the Natural Resources Board on June 26, 2013.

The Wisconsin Natural Resources Board proposes an order to **amend** NR 146.01(1), 146.01(2), 146.02(3), 146.02(4), 146.03 (1) and (2) (intro.), 146.03(2), 146.03(3), 146.04(1)(a), 146.04 (1)(d), 146.07(1)(a), (b) and (e), 146.07(2), 146.07(3), 146.07(4), 146.08, 146.08(1), 146.09, 146.09(2), to **repeal and recreate** NR 146.03(2)(a), 146.03(2)(b); to **renumber** NR 146.06; to **create** NR 146.02(1m), 146.02(4d), 146.02(4h), 146.02(4p) , 146.02(4t) , 146.02(11), 146.03(2)(e), 146.03(2)(f), 146.04(5), 146.04(6), 146.04(7), 146.06(b), 146.07(1) (f), (g) and (h), 146.08(8), 146.08(9), 146.08(10), 146.08(11), 146.08(12), 146.08(13) relating to licensing criteria for heat exchange drillers.

The Wisconsin Natural Resources Board proposes an order to **amend** NR 812.01(2), 812.03, 812.04, 812.08, 812.08(4), 812.09(4), 812.09(4)5, 812.09(4)5(q), 812.09(5), 812.09(6), 812.10, 812.10(2), 812.10(3), 812.10(4) , 812.10(5), 812.10(6), 812.10(8), 812.11, 812.11(2), 812.11(2)(g), 812.12, 812.12(15), 812.17, 812.17(2)(b) , 812.17(2)(b), 812.17(2)(d)4, 812.18, 812.20(2)(c), 812.20(2)(j), 812.20(3)(a), 812.20(3)(b), 812.22(7), 812.22(7)(b), 812.26, 812.26(2)2, 812.26(2)3, 812.26(2)5, 812.26(2)5(b)2, 812.26(2)5(c)1, 812.26(7)(b), 812.26(8), NR 812.43; **create** NR 812.03(5), NR 812.07(50p), NR 812.07(50s), NR 812.08(5), NR 812.09(4)5(x), 812.10(12), 812.20(1)7, 812.20(1)7(c)1, 812.20(1)7(d)1, 812.20(1)7(e), 812.20(1)7(f), 812.20(1)7(g), 812.20(1)7(h), 812.22(9), 812.26(7)(a)7 relating to standards for heat exchange drillholes that will be approved with notification rather than individual review.

DG-02-13

Analysis Prepared by the Department of Natural Resources

1. Statutes interpreted:

Sections 227.11 and s. 280.11(1), Wis. Stats.

2. Statutory authority:

Sections 280.15 (2m)(b)2., and s. 280.15(2m)(f)2m.b, Wis. Stats.

3. Explanation of agency authority:

Chapter 280.11(1), Wis. Stats., grants authority to the department to, among other things, establishing of all safeguards necessary in protecting public health against the hazards of polluted or impure water supplies. Specifically, s. 280.15(2m)(b)2., Wis. Stats., requires compliance with licensing, training and education requirements promulgated by the department by rule for heat exchange drilling. Wisconsin Act 150 will become effective 36 months after publication, or April 1, 2015, at which time heat exchange drilling cannot be done without a license.

4. Related statutes or rules:
Chapter 280 – Pure Drinking Water, provides definitions for terms, defines the powers of the department, and lays out well drilling registration, licensing and qualification requirements and fees for such. It also defines certain prohibitions and exceptions, local authority and defines penalties and citations.

Chapter NR 146 – Well Driller and Pump Installer Registration, provides definitions, registration requirements, defines the requirements for the initial application and registration conditions. It also defines requirements for out-of-state drillers, renewals and the registrant responsibilities, as well as license suspension and revocation criteria.

Chapter NR 812 – Well Construction and Pump Installation, provides a general section covering purpose, applicability, cooperation with the department, contracts for noncomplying installations, disposal of pollutants and injection prohibition, drinking water standards, definitions and location criteria, and additional sections on new well construction and reconstruction requirements, requirements of new pump installations and water treatment, standards for existing installations, and variance conditions.

5. Plain language analysis:

The proposed rule would create the specific requirement for heat exchange drilling to help protect sources of drinking water as well as consumers while enhancing the availability of alternate sources of energy for heating and cooling. The Department proposes to issue a single drilling license with authorizations available for either water well or heat exchange drilling or both. Construction requirements for heat exchange drilling will be proposed in the rule.

The proposed order includes provisions in NR146 for obtaining and maintaining authorization to construct heat exchange drillholes, including:

1. sets a minimum length and type of drillhole that a person must have constructed in order to demonstrate eligibility to test for the drilling license and heat exchange authorization;
2. requires continuing education in order to maintain a drilling license and heat exchange authorization;
3. identifies knowledge that will be the basis for written testing.

The proposed order includes provisions in NR812, setting specifications for heat exchange drillholes that are approvable with notification and will not automatically require individual application and review. Specifications include:

1. number and depth of drillholes;
2. setbacks from contamination sources or water supply wells;
3. equipment;
4. drilling and sealing aids;
5. reporting and consultation procedures;
6. abandonment procedures.

6. Summary and comparison with existing and proposed federal regulations.

No federal regulations currently apply to private firms engaged in drilling and installation of heat exchange drillholes.

7. Comparison of similar rules in adjacent states:

ILLINOIS: In Illinois, the Department of Public Health is responsible for oversight of the well construction code, and has authority over the location, construction and modification of closed loop wells. A small set of standards specifically covers construction of closed-loop wells. The Department of Public Health's Closed Loop Well Contractors Certification Board oversees the rules, licensing and administration. A closed loop certification is required for drillers and is issued to those who are qualified and have passed the exam. The initial examination fee is $50 and annual renewal fee is $25. Licensees must attend one continuing education session in the preceding 2 years for license renewal.

INDIANA: Indiana has a well construction code and requires a water well driller license. Geothermal heat pump wells are addressed very briefly in the well drilling code. No license is required for heat pump well drilling.

IOWA: Iowa is in the process of developing rules, but has no rules codified for heat exchange drilling at this time. Iowa has a well drilling code and a well driller certification. Fee is $400 initially and $300 for renewal. License is for a two-year period and requires 16 contact hours of continuing education.

MICHIGAN: Michigan has no codified rules at this time, but has guidelines for heat exchange systems. Michigan has a Water Well Drilling Contractor license, but no requirements for heat exchange drillers. Water well driller license fee is $40.

MINNESOTA: In Minnesota, the Commissioner of Health is responsible for oversight of the well construction code. The code includes regulations for groundwater thermal exchange devices. Minnesota has a license for a certified well contractor and a separate license for constructing vertical heat exchangers. Fees for well contractor licenses range from $75 to $250. Fees are required for construction of vertical heat exchangers, ranging from $235 to $700.

OHIO: Ohio has requirements for well construction, but no requirements for heat exchange drillholes at this time. Ohio has a well driller registration process and a $250 annual fee.

8. Summary of factual data and analytical methodologies:

Instances of drinking water and groundwater contamination have occurred in Wisconsin as a result of improper heat exchange drilling. 2011 Wisconsin Act 150 was prompted by concerns in the drilling industry that current regulation and licensing did not adequately cover the installation of heat-exchange drillholes and that inexperienced or even unqualified drillers were doing installations in Wisconsin. The Wisconsin Water Well Association took the lead in working with the legislature, other industry representatives, and the department, to promote passage of Wisconsin Act 150.

9. Analysis and supporting documents used to determine effect on small business or in preparation of an economic impact analysis:

The current water well drilling license is $50.00 per year for an individual drilling license and/or $50.00 for the drilling firm business license. The cost is anticipated to be the same to add certification for heat exchange drilling, so a licensed driller with both certifications would pay a total of $100. Administration of the driller license exam is currently done at no cost to the driller. No complaints of economic hardship or business impacts have been received during the collection of existing license fees. Neither the Wisconsin Water Well Association, representing many affected drillers, or individual drillers participating in the advisory committee to rule development, have expressed any concern about the impact of proposed fees.

10. Effect on small business:

Economic impacts of this rule will be minimal. Actual costs to drillers are small and unlikely to affect decisions to offer a service or enter a business sector.
As a result, actual costs to consumers to use geothermal energy are unlikely to be affected by the licensing and construction requirements.

Overall economic impacts are uncertain. Additional protection of groundwater through better drilling practices may reduce future costs of drinking water treatment or groundwater clean-up.

11. A copy of any comments and opinion prepared by the Board of Veterans Affairs under s. 45.03 (2m), Stats., for rules proposed by the Department of Veterans Affairs: [if not applicable, so state]

Not applicable.

12. Agency Contact (include email and telephone number):

Randell Clark
Bureau of Drinking Water and Groundwater
P.O. Box 7921
Madison, WI 53707-7921
Randell.clark@wisconsin.gov
608-267-7895

13. Place where comments are to be submitted and deadline for submission.

Randell Clark
Bureau of Drinking Water and Groundwater
P.O. Box 7921
Madison, WI 53707-7921
Randell.clark@wisconsin.gov
608-267-7895

Deadline for submission is 4:30 PM on Friday, December 20, 2013.

SECTION 1. Chapter NR 146 Title is amended to read:

Chapter NR 146

~~WELL~~ DRILLER AND

PUMP INSTALLER LICENSING AND REGISTRATION;

DRILLING RIG OPERATOR REGISTRATION

SECTION 2. NR 146.01 (1) is amended to read:

146.01 (1) PURPOSE. This chapter is promulgated under chs. 280 and 281, Stats. The purpose of this chapter is to establish the criteria by which the department administers the water well driller, heat exchange driller and pump installer licensing and registration program and water well and heat exchange drilling rig operator registration program required by ch. 280, Stats.

Note: The standards for water well drilling, heat exchange drilling and pump installing are in ch. NR 812, Wis. Adm. Code.

Note: The department intends to issue a single license or registration document indicating which type or types of wells or drillholes for which the holder is authorized.

SECTION 3. NR 146.01 (2) and Note are amended to read:

NR 146.01 (2) APPLICABILITY. This chapter applies to any person, firm, corporation or partnership engaging in, or intending to engage in, the business of ~~well~~ drilling or pump installing in the state of Wisconsin. ~~This~~ The license requirements of this chapter ~~does~~ do not apply to water well drilling or pump installing activities involving a well supplying water which is not used for, or intended to be used for, human consumption or the washing or preparation of food or pharmaceutical products.

Note: Any person constructing a water well, or heat exchange drillhole or installing a pump, regardless of whether ~~he or she~~ that person is required to be licensed or registered under this chapter, is required to comply with applicable ~~statutory and administrative code~~ laws, rules promulgated by the department and any department-approved plans, specifications, variance and approval requirements for water well construction, heat exchange drilling and pump installation. For example, ch. NR 812 contains water well construction and pump installation requirements for private and noncommunity water systems and heat exchange drillhole construction and chs. NR ~~108~~ 810 and 811 contain water well construction and pump installation requirements for ~~public~~ community water systems.

SECTION 4. NR 146.02 (1) is renumbered NR 146.02 (1r).

SECTION 5. NR 146.02 (1g) is created to read:

NR 146.02 (1g) "Affidavit of Supervision" means a department form, signed by the owner of a water well drilling, heat exchange drilling or pump installing business and the licensed supervisory individual water well driller, heat exchange driller or pump installer, which assigns supervisory, legal, financial and compliance responsibilities for a registered water well drilling, heat exchange drilling or pump installing business.

SECTION 6. NR 146.02 (3) is amended to read:

NR 146.02 (3) "Direct supervision" means actual physical presence by a Wisconsin ~~registered~~ licensed individual water well driller during all water well drilling ~~activity,~~ activities, by a Wisconsin licensed individual heat exchange driller during all heat exchange drilling activities or by a Wisconsin ~~registered~~ licensed individual pump installer during all pump installing ~~activity.~~ activities.

SECTION 47. NR 146.02 (4) is amended to read

NR 146.02 (4) "Engage in the business of" includes advertising, bidding, contracting, preparing plans and specifications, supervising ~~well drilling or pump installing activities~~, performing ~~well drilling or pump installing activities~~, billing or receiving payment for ~~work done.~~ water well drilling, heat exchange drilling or pump installing activities.

SECTION 8. NR 146.02 (4d) is created to read:

NR 146.02 (4d) "Heat exchange drillhole" has the meaning specified in s. 280.01 (2b), Stats.

Note: s. 280.01 (2b), Stats., defines "heat exchange drillhole" to mean "an excavation or opening in the ground that is deeper than it is wide, that extends more than 25 feet below the ground surface and that is made for the purpose of installing a geothermal closed-loop heat exchange system."

SECTION 9. NR 146.02 (4h) is created to read:

NR 146.02 (4h) "Heat exchange drilling" has the meaning specified in s. 280.01 (2c), Stats.

Note: s. 280.01 (2c), Stats., defines "heat exchange drilling" to mean "the industry and procedure employed in making heat exchange drillholes."

SECTION 10. NR 146.02 (4p) is created to read:

NR 146.02 (4p) "Heat exchange drilling rig operator" means an individual registered with the department to operate a drilling rig for the construction of heat exchange drillholes under the general or direct supervision of a licensed individual heat exchange driller.

SECTION 11. NR 146.02 (4t) is created to read:

NR 146.02(4t) "Licensed heat exchange driller" means an individual who has obtained a license pursuant to s. 280.15 (2m), Stats. and s. NR 146.04, as a heat exchange driller and has paid the annual license fee under s. 280.15 (2m) (c) 1, Stats.

SECTION 12. NR 146.02(7m) is created to read:

NR 146.02(7m) "Under the supervision" means employed by a licensed individual or by a registered person, firm, corporation or partnership employing a licensed individual who is legally and financially responsible for compliance with all applicable laws and rules and has advance and specific knowledge of water well drilling, heat exchange drilling, pump installing or well filling and sealing activities.

SECTION 13. NR 146.03 (title) and (1) are amended to read:

NR 146.03 Registration or License. (1) REQUIRED. No person, firm, corporation or partnership may engage in the business of water well drilling, heat exchange drilling or pump installing, or hold himself, herself or itself out as or act temporarily or otherwise as a water well driller, heat exchange driller or pump installer, in the state of Wisconsin without first obtaining a water well driller, heat exchange driller or pump installer license or registration from the department.

SECTION 14. NR 146.03 (2) (intro.), (a) and (b) are repealed and recreated to read:

NR 146.03 (2) (intro.) EXCEPTIONS. A Wisconsin water well driller, heat exchange driller or pump installer business registration is not required for:

(a) An individual who is a licensed water well driller, a licensed heat exchange driller or a licensed pump installer.

(b) An individual performing water well drilling or heat exchange drilling on real estate owned or leased by that individual, but the well or heat exchange drillhole and the work done on the well or heat exchange drillhole shall comply with the law, rules promulgated by the department, and any department-approved plans, specifications, variances or approvals.

SECTION 15. NR 146.03 (2) (e) and (f) are created to read:

NR 146.03 (2) (e) An individual who is employed by an individual licensed for the activity which the unlicensed individual is performing, which includes water well drilling, heat exchange drilling or pump installing.

(f) An individual who is employed by a person registered for the activity which the unlicensed individual is performing, which includes engaging in the business of water well drilling, heat exchange drilling or pump installing.

SECTION 16. NR 146.03 (3) is amended to read:

NR 146.03 (3) PERFORMANCE STANDARDS. All water well drilling, heat exchange drilling and pump installing work shall ~~conform to statutory and administrative code requirements~~ comply with the applicable law, rules promulgated by the department and any department-approved plans, ~~and~~ specifications, ~~or variance.~~ variances and approvals.

SECTION 17. NR 146.04 (1) (a) and (d) are amended to read:

NR 146.04 (1) (a) GENERAL REQUIREMENTS. (a) All new license and registration applications shall be submitted on forms ~~provided~~ specified by the department for this purpose. An applicant for a heat exchange drilling rig operator registration must be at least 18 years old. An applicant for an individual heat exchange driller license must be at least 20 years old.

Note: Pursuant to 29 CFR 570.58 and Hazardous Occupations Order #7, persons under the age of 18 are not lawfully permitted to operate a power-driven hoisting apparatus.

Note: Specified application forms will require on-line submittal after development of necessary information technology and training during continuing education.

(d) The license or registration shall be effective on the date the ~~permit~~ license or registration is issued by the department and expires on December 31 of each year. Licensees and registrants shall inform the department within 15 business days of any changes in the information on the application submitted to the department, including any change in status or ability of the licensed individual supervisory water well driller, licensed supervisory heat exchange driller or licensed individual supervisory pump installer to perform their supervisory responsibilities.

SECTION 19. NR 146.04 (5) is created to read:

NR 146.04 (5) HEAT EXCHANGE DRILLER LICENSE.

(a) To be eligible to take the exam for an individual heat exchange driller license, an applicant shall meet all of the following requirements:

1. Has been a registered drilling rig operator for at least 2 years within the 5 years before the date of applying for an individual heat exchange driller license.

2. Within the five years immediately prior to the date of applying for an individual heat exchange driller license, has completed a minimum of ten heat exchange drilling projects totaling at least 5000 feet of heat exchange pressure grouted drillhole or has completed a minimum of 30 pressure grouted wells including a minimum of 2500 feet of pressure grouted casing. Nonpotable pressure grouted wells qualify for the requirements of this subdivision.

3. Was the individual who operated the drilling rig performing all the heat exchange well drilling activities during the period of the drilling experience under subd. ii. To fulfill this requirement all heat exchange drillholes included on the application shall be constructed in accordance with all laws and rules including reporting, and any department-approved plans, specifications, variances and approvals.

4. Submit a completed application that includes the following information regarding the heat exchange drilling experience under subd. ii.: the name, address and signature of the supervisory heat exchange driller, the dates during which a heat exchange drilling rig operator registration was held, a description of the heat exchange drilling activities performed, the names of well owners, their addresses and phone numbers, the legal descriptions of the locations of the heat exchange drillholes, the dates the heat exchange drillholes were constructed, the types and hours of activities for which the supervisory heat exchange driller was present, and a recent photo of the applicant operating a heat exchange or water well drilling rig in which his or her face can be seen clearly.

5. For a period of 3 months prior to the date of applying for an individual heat exchange driller license has provided the department with at least 24-hour notice before starting any heat exchange drilling activities as a heat exchange drilling rig operator in accordance with a letter from the department.

6. Has no record of any unlicensed heat exchange drilling activities during the experience period listed on the individual heat exchange driller license application.

7. Has no unresolved violations, judgments, court or administrative orders or settlements from previous heat exchange drilling activities in Wisconsin and has no violations that were repeated following notice from the department.

8. Has attended the Department sponsored or Department sanctioned continuing education for heat exchange drillers during the experience period under subd. ii.

9. For applications submitted after January 1, 2020 has met Department approved training requirements specific to heat exchange drilling.

(b) If the applicant meets the requirements of par. (a), and receives a notice of eligibility from the department, the applicant may take an exam administered by the Department to demonstrate ability, understanding and competency to engage in the business of heat exchange drilling in Wisconsin.

Note: The department will solicit exam topics and questions from licensed heat exchange drillers.

(c) If the applicant passes the exam under par. (b), the applicant shall submit the license fee of $50 in order to obtain an individual heat exchange driller license. If the applicant holds a current water well driller license, the applicant does not need to submit an additional fee to become a licensed heat exchange driller.

(d) If the applicant fails to take and pass the exam under par. (b) within two years of receiving a notice of eligibility from the department, the application is void.

SECTION 20. NR 146.04 (6) is created to read:

NR 146.04 (6) HEAT EXCHANGE DRILLER BUSINESS REGISTRATION.

(a) All persons engaging in the business of heat exchange drilling in Wisconsin are required to obtain a business registration for each place of business or retail outlet.

(b) To be eligible for a business registration to engage in the business of heat exchange drilling, the applicant shall meet all of the following requirements:

1. At least one of the following conditions shall be met:

a. The person operating the business is an individually licensed heat exchange driller.

b. An individually licensed heat exchange driller has an ownership interest in the business.

c. An individually licensed heat exchange driller is employed by the business.

d. The business contracts with an individually licensed heat exchange driller.

2. The licensed individual heat exchange driller under subd. i. is available to provide adequate general and direct supervision of heat exchange drilling activities and has signed an affidavit of supervision for the heat exchange drilling business registration as part of the application.

3. The licensed individual heat exchange driller and any registered business for which the heat exchange driller is or was the supervisory heat exchange driller has a pattern of practice that complies with heat exchange drilling laws and rules.

4. The licensed individual heat exchange driller and any registered business for which the driller is or was the supervisory heat exchange driller has no unresolved violations, judgments, court or administrative orders or settlements related to water well drilling, heat exchange drilling, pump installing or heat exchange well filling and sealing and has no violations that were repeated following notice from the department,

5. The licensed individual heat exchange driller has previous heat exchange drilling experience with the drilling methods, grouting methods and types of machines that will be used by the business registration applicant.

(c) A completed business registration application for each place of business or retail outlet, signed by both the designated supervisory licensed individual heat exchange driller and the owner of the business, shall be submitted by the applicant to the department with the $50 registration fee. If the applicant holds a current registration to engage in the business of water well driller drilling, the applicant does not need to submit an additional fee to become registered to engage in the business of heat exchange drilling.

(d) The designated supervisory licensed individual heat exchange driller is responsible for ensuring that heat exchange drilling and heat exchange drillhole filling and sealing work performed by the business and its employees is conducted in compliance with all applicable laws and rules and any department-approved plans, specifications, variances or approvals. The designated supervisory licensed individual heat exchange driller may be held legally and financially responsible for any corrections needed to noncomplying heat exchange work or noncomplying heat exchange drillhole filling and sealing work, in addition to the registered heat exchange drilling business being held responsible for such corrections. The designated supervisory licensed individual heat exchange driller shall have advance and specific knowledge of the heat exchange drilling and filling and sealing activities of all individuals they are responsible to supervise.

SECTION 21. NR 146.04 (7) is created to read:

NR 146.04 (7) Heat Exchange Drilling Rig Operator Registration

(a) An individual who seeks registration as a heat exchange drilling rig operator shall apply to the department on a form prepared by the department. The individual shall include an application fee of $25. If the individual has a current water well drilling rig operator registration in effect, the applicant does not need to submit an additional fee to become a registered heat exchange drilling rig operator.

(b) In order to retain registration as a heat exchange drilling rig operator an individual shall comply with the requirements for continuing education in s. NR 146.07(3). The individual shall apply for registration renewal and pay a fee of $25 annually on or before January 1. If the individual has paid the fee for a water well drilling rig operator registration for the same calendar year the applicant does not need to submit an additional fee to renew the heat exchange drilling rig operator registration.

(c) An individual who files an application for registration renewal or who pays the required annual fee after January 1 shall pay a late penalty of $15.

(d) An individual who is not a licensed heat exchange driller or a registered heat exchange drilling rig operator may only perform heat exchange drilling if the individual is employed by a licensed individual heat exchange driller or a registered heat exchange drilling business and is under the direct supervision of a licensed heat exchange driller or a registered heat exchange drilling rig operator who is on the site of the heat exchange well drilling.

SECTION 22. NR 146.05 (title), (1) and (2) are amended to read:

NR 146.05 Registration <u>and license</u> conditions and emeritus.

(1) CONDITIONS. The department may condition a ~~well driller or pump installer~~ registration, <u>license</u> or renewal <u>issued under this chapter</u> based on the experience and qualifications of the applicant. Conditions which may be imposed by the department include prior department notification of well drilling or pump installing activities.

Note: A notification condition may be fulfilled by a well driller or pump installer by phoning the office of the designated department employee.

(2) EMERITUS STATUS. A Wisconsin driller or pump installer registered or licensed under this chapter may request to be listed with the department as an emeritus if the ~~well~~ driller or pump installer is no longer ~~engaged in the business or businesses~~ performing the activities for which ~~a Wisconsin registration is held~~ the registration or license was obtained. An emeritus is not required to earn the continuing education credits described in **s.** NR 146.07 and shall continue to receive codes, bulletins or other documents prepared and printed by the department.

SECTION 23. NR 146.06 (title) is amended to read:

NR 146.06 Out of state ~~well~~ drillers

SECTION 24. NR 146.06 (6) is renumbered to NR 146.06 (a).

SECTION 25. NR 146.06 (b) is created to read:

NR 146.06 (b) Out of state heat exchange drillers. Heat exchange drillers who hold an individual license to construct heat exchange drillholes in states other than Wisconsin are eligible to obtain an individual Wisconsin heat exchange driller license if all of the following requirements are met:

1. The department determines that the heat exchange well drilling construction standards and licensing laws and rules at the time the applicant was licensed in at least one of the states in which the applicant is currently licensed or registered were substantially similar to Wisconsin's.

2. The applicant is in good standing in all states in which the applicant is or was licensed or registered to drill heat exchange drillholes.

3. The applicant demonstrates competency to engage in the business of heat exchange drilling in Wisconsin by passing an exam administered by the department.

4. The applicant submits a completed application which is true and accurate and an application fee of $50 to the department. If the applicant holds a current Wisconsin water well driller license the applicant does not need to submit an additional fee to become a Wisconsin licensed heat exchange driller.

SECTION 25. NR 146.07(1) (a), (b) and (e) are amended to read:

NR 146.07 Renewals. (1) APPLICATION. (a) To renew an individual ~~or business~~license, or business registration, the licensee or registrant shall submit a true and complete renewal application to the department on or before January 1 of each year. The department may require that proof of compliance with continuing education credit requirements under sub. (2) be submitted with the renewal application.

(b) Renewal applications shall be submitted on forms provided by the department and accompanied by a fee of $50 for each water well driller or heat exchange driller license or registration~~, and~~ $25 for each pump installer license or registration and each water well or heat exchange drilling rig operator registration. Only one $50 fee is required if the same licensee or registrant holds both a water well driller or heat exchange driller license or registration. Only one $25 fee is required if the same registrant holds both a water well drilling rig operator registration and a heat exchange drilling rig operator registration.

(e) A renewal is effective on the date the licensee or registrant receives a permit from the department and expires on December 31 of each year.

SECTION 26. NR 146.07(1) (f), (g) and (h) are created to read:

NR 146.07 (1) (f) A drilling rig operator registration expires when the individual becomes a licensed individual driller. A drilling rig operator registration is not valid unless the rig operator is employed by a licensed individual driller or a registered drilling business.

(g) The renewal application for business registrations shall be signed by both the licensed individual and the owner of the business.

(h) The department may require registered water well drilling, heat exchange drilling or pump installing businesses and their licensed individuals to complete and submit an updated affidavit of supervision with a renewal application.

SECTION 27. NR 146.07 (2) is renumbered NR 146.07 (2) (a), and amended to read:

NR 146.07 (2) ELIGIBILITY.

(a) Only ~~registrants~~ individuals holding valid Wisconsin ~~registrations~~ licenses or registrations on December 31 who have met the continuing education credit requirements of this section are eligible for renewal in the following year.

SECTION 28. NR 146.07 (2) (b) and (c) are created to read:

NR 146.07 (2) (b) An individual whose license or registration is not in effect on December 31, due to any of the following reasons, is not eligible to renew his or her license or registration:

1. Failure to attend continuing education

2. Failure to renew during the calendar year.

3. Department of revenue hold on license, registration or renewal lasting longer than one calendar year for failure to pay state income taxes.

4. Department of family services hold on license, registration or renewal lasting longer than one calendar year for failure to pay child support.

5. Suspension lasting longer than one calendar year.

6. If a license or registration is not renewed because of the reasons under par. (b), the individual whose license or registration is not renewed must meet the requirements in effect for obtaining a new license or registration..

7. If a heat exchange or water well driller license is not renewed for five or more years, the applicant shall meet the requirements in effect for obtaining a new heat exchange or well driller license.

SECTION 29. NR 146.07 (3) is amended to read:

NR 146.07 (3) CONTINUING EDUCATION. Each calendar year, licensed and registered ~~persons~~ individuals shall earn six continuing education hours by attending ~~training~~ continuing education sessions sponsored or sanctioned by the department. ~~At least 6 hours each year shall be earned by attending department sponsored or sanctioned education sessions.~~ Continuing education hours shall be earned between January 1 and December 31 of each year. Continuing education hours shall be earned beginning January 1, 1989 for water well drillers and pump installers, beginning January 1, 2009 for registered water well drilling rig operators and beginning January 1, 2016 for licensed heat exchange drillers and registered heat exchange drilling rig operators. Continuing education hours are not required during the calendar year in which an individual first becomes licensed or registered, except that registered water well drilling rig operators or registered heat exchange drilling rig operators shall earn continuing education hours during the year in which they are first licensed or registered if they include their first year as a drilling rig operator toward their experience to obtain the applicable drilling license.

Note: The department will consult with water well drillers, heat exchange drillers and pump installers in developing continuing education programs. One of the department sponsored continuing education sessions for water well drillers and pump installers will be held in conjunction with the annual Wisconsin Water Well Association conference.

SECTION 30. NR 146.07 (4) is amended to read:

NR 146.07 (4) ENGAGING IN BUSINESS. A person or business applying for a renewal under this section may not engage in the business of water well drilling, heat exchange drilling ~~or~~ pump installing after a ~~permit~~ license or registration has expired until ~~he or she~~ the person or business has received a renewed ~~well driller or pump installer~~ license or registration from the department.

SECTION 31. NR 146.08 (title) and (intro.) are amended to read:

NR 146.08 Licensee and Registrant responsibilities. All licensees and registrants shall do all of the following, if applicable to the licensee or registrant:

SECTION 32. NR 146.08 (1), (3), (4), (5), (6) and (7) are amended to read:

NR 146.08 (1) Perform work in compliance with, and ensure that work performed under their supervision is conducted in compliance with, all applicable ~~statutory and administrative code requirements~~ laws, rules promulgated by the department and any department-approved plans, ~~and~~ specifications, ~~or variance.~~ variances and approvals.

(3) Complete any corrections ordered by the department ~~on~~ for any water well construction, heat exchange drilling, pump installation or filling and sealing for which the licensee or registrant performed work ~~on~~, supervised work ~~on~~ or signed a well construction report ~~for~~. Water well drillers shall be responsible for corrections relating to well location, construction and reconstruction. Heat exchange drillers shall be responsible for corrections relating to the construction of heat exchange drillholes. Pump installers shall be responsible for corrections relating to the pump

installation. Water well drillers, heat exchange drillers and pump installers shall be responsible for correcting their well filling and sealing violations.

(4) Submit any report or form required to be submitted by ~~statute, administrative rule~~ law, rules promulgated by the department, department-approved plans, specifications, variances approvals or orders in the time period required and notify the department of any change in information submitted on water well driller, heat exchange driller or pump installer license, registration and renewal applications. Reports and forms shall be complete, true and accurate.

(5) Clearly identify the name, and license or registration number of the licensed individual or the registered person~~, firm, corporation or partnership~~ in all advertising, estimates, invoices and receipts and on any water well drilling rig, heat exchange drilling rig, pump installation truck or similar equipment. The identification of equipment shall be at least 2 inches in height with at least 1/4 inch wide brush stroke. The identification shall have a sharp color contrast with the background on which it is applied. The identification shall remain legible and maintained without deterioration.

(6) Refuse to contract for water well drilling, heat exchange drilling or pump installing for, or lease or lend water well drilling, heat exchange drilling or pump installing equipment to, an unlicensed individual or unregistered person~~, firm, corporation or partnership~~ without having an employee/employer relationship and without directly supervising the water well drilling or pump installing activities of the unlicensed individual or unregistered person~~firm, corporation or partnership~~, ~~and.~~

(7) Refuse to contract for water well drilling, heat exchange drilling or pump installing for, or lease or lend water well drilling, heat exchange drilling or pump installing equipment to, a suspended or revoked water well driller, heat exchange driller or pump installer without having an employee/employer relationship and without directly supervising the water well drilling, heat exchange drilling or pump installing activities of the suspended or revoked water well driller, heat exchange driller or pump installer.

SECTION 33. NR 146.08 (8), (9), (10), (11), (12), (13) and (14) are created to read:

NR 146.08 (8) Licensed individual heat exchange drillers or water well drillers shall provide direct supervision on the first 10 wells or heat exchange boreholes drilled by any employee or any individual they are responsible to supervise, if the individual has no water well drilling or heat exchange drilling experience, has no experience in a new water well drilling or heat exchange drilling method or has no experience in a new grouting method.

(9) Verify that the appropriate well notification, county well location permit, department approval and/or variance has been obtained before commencing any well construction or reconstruction.

(10) Be legally and financially responsible for correcting any noncomplying work not corrected by individuals or persons who they supervise or employ.

(11) Have advance and specific knowledge of work being done by any individual for whom they are providing direct supervision.

(12) Be adequately equipped to perform water well drilling, heat exchange drilling, pump installing and well filling and sealing in compliance with applicable laws and rules.

(13) Ensure that either a licensed water well driller or a registered water well drilling rig operator is on site at all times during water well drilling activities. Ensure that either a licensed heat exchange well driller or a registered heat exchange drilling rig operator is on site at all times during heat exchange drilling activities.

(14) For water wells and pump installations, ensure that the work is performed in a sanitary manner.

SECTION 34. NR 146.09 (1), (2) and (3) are amended to read:

NR 146.09 (1) BASES FOR ACTION. The department may suspend or revoke a ~~well driller or pump installer~~ license or registration for any of the following reasons:

(a) ~~A~~ Made a material misstatement in the application for a registration or license or any application for renewal of the license or registration.

(b) ~~A demonstrated~~ Demonstrated incompetency to act in the ~~business~~ industry or ~~businesses~~ industries for which a Wisconsin license or registration is held or was issued.

(c) ~~Two willful violations of~~ Willfully violated for a second time any provision of ch. 280, Stats., or any rule, regulation or order prescribed by the department;

(d) ~~Conviction~~ Was found guilty in any civil or criminal proceeding of any action constituting fraud in connection with water well drilling, heat exchange drilling or pump installing activities or operations.

(2) SUSPENSION AND REVOCATION ACTIVITIES. No individual ~~person, firm, corporation or partnership~~ or business whose license or registration has been suspended or revoked may engage in the business of water well drilling, heat exchange drilling or pump installing during the suspension or revocation period unless:

(a) ~~Well~~ Water well drilling activities are performed under the direct supervision of a Wisconsin ~~registered~~ licensed individual water well driller, heat exchange drilling activities are performed under the direct supervision of a Wisconsin licensed individual heat exchange driller or pump installing activities are performed under the direct supervision of a Wisconsin ~~registered~~ licensed individual pump installer.

(b) The suspended or revoked water well driller ~~or pump installer~~ shall be an employee of the Wisconsin ~~registered~~ licensed water well driller ~~or pump installer directly supervising~~ providing direct supervision of his or her activities or shall be an employee of a Wisconsin registered water well drilling business whose supervisory licensed individual water well driller is providing direct supervision to the suspended or revoked water well driller. The suspended or revoked heat exchange driller shall be an employee of the Wisconsin licensed heat exchange driller providing direct supervision of his or her activities or shall be an employee of a Wisconsin registered heat exchange drilling business whose supervisory licensed heat exchange driller is providing direct supervision to the suspended or revoked heat exchange driller. The suspended or revoked pump installer shall be an employee of the Wisconsin licensed pump installer providing direct supervision of his or her activities or shall be an employee of a Wisconsin registered pump installing business whose supervisory pump installer is providing direct supervision to the suspended or revoked pump installer. A copy of the employment contract under pars. (b), (c) or (d) is provided to, and approved by the department before any water well drilling, heat exchange drilling or pump installing is commenced. An employment contract entered into to meet the requirements of this chapter shall include the assignment of responsibility for supervision, submission of reports and the completion of work in ~~conformance~~ compliance with all applicable ~~statutory and administrative code requirements~~ laws, rules promulgated by the department, and any department-approved plans, specifications, variances and approvals.

(c) The suspended or revoked ~~registrant~~ individual notifies the department of the location of any water well drilling, heat exchange drilling or pump installation the ~~registrant~~ individual will be working on at least 48 hours in advance.

(d) The suspended or revoked ~~registrant~~ individual notifies the department of the location of each water well drilling rig, heat exchange drilling rig or pump installation truck owned, leased or used by the suspended or revoked ~~registrant~~ individual and of any change in the location of any rig or truck during the suspension or revocation period.

(3) REINSTATEMENT. (a) A ~~registrant~~ registrant or licensee who has been suspended based on incompetency to act in the business or businesses for which a Wisconsin ~~registration~~ registration or license was issued shall demonstrate competency to engage in the business or businesses by passing an exam administered by the department before the suspension is ended by the department.

(b) A revoked registrant or licensee may apply for a new registration or license one year or thereafter after the date of revocation. A ~~registration~~ license application by a revoked ~~registrant~~ individual is not a renewal.

SECTION 35. NR 146.09 (3) (c) and (d) are created to read:

NR 146.09 (3) (c) A licensee who has had their water well drilling, heat exchange drilling or pump installing license revoked for any reason shall demonstrate their knowledge to engage in the business or businesses by passing an exam administered by the department. An individual who has had their water well drilling, heat exchange drilling or pump installing license revoked for incompetency is not eligible to become licensed again until after they have demonstrated competency in the activity for which they were deemed incompetent. In the alternative, the department may grant a conditional license to the applicant, which restricts the individual from engaging in the activity for which they were deemed incompetent. Competency shall be demonstrated by working under the direct supervision of a licensed individual for at least two years without violations.

(d) A licensee whose license has been suspended for willful violations and has failed to comply with requirements of the suspension order so that the suspension extends longer than one calendar year, shall take and pass the exam to become licensed, as provided in s. NR 146.07(2).

SECTION 36. NR 812.01 (2) is amended to read:

NR 812.01 (2) This chapter shall govern the location, construction or reconstruction and maintenance of water systems and heat exchange drillholes, the abandonment of wells and drillholes and the installation and maintenance of pumping and treatment equipment.

SECTION 37. NR 812.03 (1), (2), (3) and (4) are amended to read:

NR 812.03 Cooperation with the department. (1) Well drillers, pump installers and well constructors shall, when requested by the department, give notice to the department at least on the department work day prior to the day upon which any well construction or reconstruction or any part thereof, any well abandonment or the installation of any pumping equipment, will commence or be completed. Heat exchange drillers shall notify the department no less than one work day prior to constructing or reconstructing a heat exchange drillhole.

(2) Well and heat exchange drillhole drillers and well constructors shall contact the Diggers Hotline not less than 3 business days prior to constructing or reconstructing a well or heat exchange drillhole on a property that is not within the service area of a municipally owned water system, so that Diggers Hotline may determine if the property where a well is proposed to be constructed or reconstructed is on the department's geographic information system registry of

closed remediation sites and may notify the department if it is on the registry.

(3) Well and heat exchange drillers and well constructors shall contact the department to determine if any special construction is required if the well or heat exchange driller or well constructor proposes to construct or reconstruct a well or heat exchange drillhole on a property that is located within the service area of a municipally owned water system.

(4) Well and heat exchange drillers and well constructors shall, when requested by the department, contact the department to determine if any special construction is required if the well and heat exchange driller or well constructor is engaged to construct a new well or heat exchange drillhole or reconstruct an existing well because the existing well or heat exchange drillhole is known to contain contaminants in excess of the drinking water standards in ch. NR 809.

SECTION 38. NR 812.03 (5) is created to read:

NR 812.03 (5) Heat exchange drillers shall contact the local unit of government to ask them to confirm the location of any municipal well systems in their area, and identify if the project needs to be amended to avoid drilling within a wellhead protection area or within 1200 feet of a municipal well.

SECTION 39. NR 812.04 is amended to read:

NR 812.04 Contracts for noncomplying installations. (1) Well and heat exchange drillers, pump installers and well constructors shall ensure that the construction and reconstruction of wells, heat exchange drillholes or the installation of pumping equipment adheres to all the applicable provisions of this chapter or to approved comparable construction or installation requirements. Well and heat exchange drillers, pump installers and well constructors may not enter into any agreement, written or oral, for construction, reconstruction or installation which does not require compliance with the applicable provisions of this chapter or with approved comparable construction or installation requirements.

SECTION 40. NR 812.07 (33) (a) is amended to read:

NR 812.07 (33) (a) "Heat exchange drillhole" means ~~a drillhole used for closed loop heat exchange purposes~~ an excavation or opening in the ground that is deeper than it is wide, that extends more than 25 feet below the ground surface, and that is made for the purpose of installing a geothermal closed-loop heat exchange system.

SECTION 41. NR 812.07 (50e) is created to read:

NR 812.07 (50e) "Heat exchange drilling" means the industry and procedure employed in making heat exchange drillholes.

SECTION 42. NR 812.08 (title). (4) and (5) are amended to read:

NR 812.08 Well, heat exchange drillhole, reservoir and spring location.

(4) ~~RELATION TO CONTAMINATION SOURCES~~. GENERAL SEPARATION DISTANCES. Minimum separating distances between any new potable or nonpotable well, heat exchange drillhole, reservoir or spring and existing sources of contamination; or between new sources of contamination and existing potable or nonpotable wells, heat exchange drillholes, reservoirs or springs shall be maintained as described in this subsection. The minimum separating distances of this subsection do not apply to dewatering wells approved under s. NR 812.09 (4) (a). Greater separation distances may be required for wells requiring plan approval under s. NR 812.09. Separation distance requirements to possible sources of contamination will not be waived because of property lines. Minimum separating distances are listed in Table A and are as follows:

SECTION 43. NR 812.08(5) is created to read:

NR 812.08(5) HEAT EXCHANGE DRILLHOLE SEPARATION DISTANCES. Minimum separation distances between any heat exchange drillhole, water supply wells, and existing sources of contamination; or between new sources of contamination and existing heat exchange drillholes shall be maintained as described in this subsection. Separation distance requirements to possible sources of contamination will not be waived because of property lines Minimum separating distances are ten feet between a heat exchange drillhole and a:

(a) Non-municipal water supply well

(b) Onsite waste disposal system

(c) Buried fuel storage tank

SECTION 44. NR 812.09 (4) (intro.) is amended to read:

NR 812.09 (4) (intro.) APPROVALS REQUIRED. Prior department approval is required for the activities described in this subsection. When deemed necessary and appropriate for the protection of public safety, safe drinking water and the groundwater resource, the department may specify more stringent well and heat exchange drillhole locations, well and heat exchange drillhole construction or pump installation specifications for existing and proposed high capacity, school or wastewater treatment plant water systems requiring approval by this subsection or water systems approved by variance. Approval by the department does not relieve any person of any liability which may result from injury or damage suffered by any other person. In addition, failure to comply with any condition of an approval or the construction, reconstruction or operation of any well or water system in violation of any statute, rule or department order shall void the approval. Approval is required for:

SECTION 45. NR 812.09 (4) (a) 5. is amended to read:

NR 812.09 (4) (a) 5. High capacity test drillholes or up to two geothermal heat exchange drillholes may be constructed without approval to test for aquifer yield to determine if a high capacity well, heat exchange drillhole or well system is feasible. The well casing pipe for such test drillholes shall not exceed 6-inch diameter unless the well driller notifies the department. High capacity test drillholes may be test pumped at a rate of 70 gallons per minute or more if the test does not last more than a total of 72 hours. After testing, the drillhole shall be abandoned according to the requirements of s. NR 812.26 or shall be converted, with approval, to a high capacity well, heat exchange drillhole, or well system which meets the requirements of this chapter or ch. NR 811 and of any approved plans and specifications.

SECTION 46. NR 812.09 (4) (q) is amended to read:

NR 812.09 (4) (q) The installation of a ~~heat exchange or~~ cathodic protection drillhole.

SECTION 47. NR 812.09 (4) (x), (y) and (z) are created to read:

NR 812.09(4)(x) The construction of 10 or more heat exchange drillholes, or where the sum of the depths of all heat exchange drillholes is greater than 4000 feet, for a single drilling site.

NR 812.09(4)(y) Any heat exchange drillhole greater than 400 feet in depth.

NR 812.09(4)(z) Any heat exchange drillhole within 400 feet of a municipal water supply well.

SECTION 48. NR 812.09 (5) and (6) are amended to read:

NR 812.09(5) APPROVAL VERIFICATION. A well or heat exchange driller, well constructor, pump installer or contractor shall obtain a copy of the approval for any activity identified in sub. (4) prior to the initiation of any work on a well, heat exchange drillhole, pump installation or water system. When necessary and appropriate the department may grant a verbal approval to a well or heat exchange driller, pump installer or contractor to initiate an activity before obtaining a written copy of the approval provided the conditions of the approval are complied with.

(6) PERMIT VERIFICATION. A well or heat exchange driller, well constructor, pump installer or contractor shall obtain required permits from counties authorized to administer this chapter under ch. NR 845.

SECTION 49. NR 812, Subchapter II (title) is amended to read:

Subchapter II — New Well and Heat Exchange Drillhole Construction and Reconstruction

SECTION 50. NR 812.10 (title), (1), (2), (3), (4), (5), (6) and (8) are amended to read:

NR 812.10 (title) Well and heat exchange driller and well constructor requirements.

(1) LICENSE. Well and heat exchange drillers shall hold a valid Wisconsin well or heat exchange drilling license. The name of the well driller and the well drilling license number shall be displayed on all well drilling rigs used in the construction of wells. The letters and numbers shall be at least 2 inches in height with at least 1/4 inch wide brush stroke. The identification shall have a sharp color contrast with the back- ground on which it is applied. The identification shall remain legible.

(2) LOCATION. Well and heat exchange drillers and well constructors shall be responsible for proper location of a well or heat exchange drillhole. Wells shall be located in sanitary locations and meet the separation requirements specified in s. NR 812.08. Separation distance requirements to possible sources of contamination will not be waived because of property lines. Wells may not be constructed within 1,200 feet of a landfill site without a variance. Variances from location requirements require approval. Well drillers and well constructors shall contact the diggers hotline not less than 3 business days prior to constructing or reconstructing a well on a property. If the property is located within the service area of a municipally owned water system, the well driller or well constructor shall contact the department before constructing or

reconstructing a well, to determine if the property on which the well is or will be located is listed on the department's geographic information system registry of closed remediation sites.

(3) EQUIPMENT AND MATERIALS. Well and heat exchange drillers and well constructors shall be adequately equipped to comply with the well construction requirements of ss. NR 812.11 to 812.16 and Tables I–IV. All materials installed in a well or heat exchange drillhole shall be new, unused and approved for use, except as specified in s. NR 812.26 (5). The department may prohibit the use of any material or equipment that poses a significant hazard to public health, safe drinking water or groundwater.

(4) CONSTRUCTION METHODS. Well and heat exchange drillers and well constructors shall comply with this chapter in the construction and reconstruction of all wells or heat exchange drillholes. Adequate protection shall be provided for the top of the drillhole and the top of the well casing pipe to prevent surface contamination from entering the well or heat exchange drillhole during the drilling operation and when the driller is not at the drilling site. Well construction methods are depicted in figures 51 to 75.

(5) SPECIAL CASING AREAS. Well drillers and well constructors shall comply with the well casing pipe depth requirements in special well casing pipe depth areas established by the department where aquifers have been contaminated or in other special areas. Heat exchange drillers shall contact the Department to discuss any special construction or installation requirements. A list of the special well casing pipe depth areas and the special casing pipe depth requirements may be obtained from the department.

(6) GROUTING AND SEALING. Well and heat exchange drillers and well constructors shall be responsible for completing all grouting and sealing requirements using the mixtures and methods of s. NR 812.20. Grouting methods are depicted in figures 11 to 18.

(8) NONCOMPLYING WELLS OR HEAT EXCHANGE DRILLHOLES. When a well or heat exchange driller or well constructor has constructed a well or heat exchange drillhole not initially located or constructed in compliance with this chapter, the well or heat exchange driller or well constructor shall pay all costs for bringing the well or heat exchange drillhole into compliance with this chapter, including abandonment costs, other than those costs that would have been charged for an initial complying construction.

SECTION 51. NR 812.10 (12) is created to read:

NR 812.10 (12) PRESSURE TESTING OF HEAT EXCHANGE LOOPS. Vertical heat exchange loop piping shall be pressure tested with air or potable water for a minimum of 1 hour at a minimum pressure of 1.5 times the system pressure or a minimum of 75 pounds per square inch (psi), whichever is greater, after installation in the drillhole. A pressure gauge shall be affixed to both ends of the heat exchange loop pipe

SECTION 52. NR 812.11 (title), (1) and (2) (intro.) and (g) are amended to read:

NR 812.11 (title), Well and heat exchange drillhole construction equipment & materials.

(1) ADEQUACY OF EQUIPMENT. Well and heat exchange drillers and well

constructors shall be adequately equipped to enable ~~him or her to fully comply~~ full compliance with all legal requirements applicable to any well construction, reconstruction or well abandonment undertaken ~~by him or her~~.

(2) MATERIALS. (intro.) All materials permanently installed in a well or heat exchange drillhole shall be new, unused and approved for use except as specified in s. NR 812.26 (5). Lead compounds used to lubricate and seal drill stem joints or any equipment entering a well may not be used. Materials containing lead having a lead content greater than 8% by weight, may not be installed in a well. Component parts of manufactured products containing lead shall not have a lead con- tent of more than 5% of the total product weight. "Lead wool" or other products containing more than 8% lead may not be used as seals in the bottom of an open-ended well casing pipes or as screens terminating in coarse formations.

(g) *Drilling aids.* Only approved drilling aids may be used in well and heat exchange drillhole construction and reconstruction. Approval of drilling aids is based on, but not limited to toxicity, groundwater contamination potential and expected effectiveness of the materials. A list of approved drilling aids is available from the department upon request.

SECTION 53. NR 812.12 (title) and (1) are amended to read:

NR 812.12 (title) General drilled type well and heat exchange drillhole construction requirements.

(1) Every well or heat exchange drillhole shall be planned and constructed so that it:

(a) Will be adapted to the geologic and groundwater conditions of the proposed well or heat exchange drillhole site to ensure full utilization of every natural protection against contamination of the water bearing formation or formations and to exclude possible sources of contamination.

(b) ~~should~~ Wells should produce bacteriologically safe water.

Note: In some areas of Wisconsin the useable aquifer is contaminated throughout its entire vertical extent. In such areas, it may not be possible to obtain bacteriologically safe water.

(c) ~~will~~ Wells will provide an adequate and contaminant free water supply, where the natural geologic and groundwater conditions allow.

SECTION 54. NR 812.12 (15) is amended to read:

NR 812.12 (15) More stringent well construction methods including but not limited to deeper well casing pipe depth settings are required by the department for wells constructed through formations where contaminant levels exceed the drinking water standards in s. NR 812.06, and may be required when there is groundwater contamination exceeding ch. NR 140 enforcement standards on a property that is listed on the department's geographic information system registry of closed remediation sites. When drilling in areas where there are contaminated formations, and on properties where the well or heat exchange driller or well constructor has been notified that the property is listed on the department's geographic information system registry of closed remediation sites, consultation with the department is required. If required by the department, special well and drillhole construction methods shall be utilized when constructing or reconstructing wells or drillholes located on properties that are listed on the department's geographic information system registry of closed remediation sites.

SECTION 55. NR 812.17 (title) and (1) are amended to read:

NR 812.17 (title) Well casing and heat exchange pipe, liner pipe and materials.

NR 812.17 (1) GENERAL. Well and heat exchange drillhole casing pipe and liner pipe shall be new, unused, and nonreclaimed pipe except as specified in s. NR812.26 (5). The pipe shall meet ASTM or API standards and shall also meet the following requirements:

(a) *Temporary casing.* Temporary casing pipe for all wells and heat exchange drillholes, or well casing pipe greater than 12-inch diameter used for nonpotable wells may be a lighter weight steel pipe than specified for a given diameter in Table V. Pipe for nonpotable wells greater than 12-inch diameter shall have a minimum wall thickness of at least 0.250 inches and be able to withstand the structural stress imposed by construction conditions.

(b) *Pipe for liners.* Liner pipe installed solely to seal off a caving or sloughing zone in a well or heat exchange drillhole shall be new, unused and nonreclaimed steel or thermoplastic pipe. Steel pipe shall also meet the specifications of Table V except that it may have a lesser wall thickness than what is required in Table V for the diameter of pipe used. Steel pipe for such liners shall have a minimum wall thickness of 0.216 inches. The pipe may have the largest practical diameter allowing installation in the well. When thermoplastic pipe is used for such liners, it shall meet the minimum requirements of sub. (3). Liner pipe used in all other situations shall meet the specifications in Table V for steel pipe or the requirements of sub. (3), and the cement grout annular space seal thickness for thermoplastic pipe may not exceed 1-½ inches. For the requirements for the installation of liner pipe see s. NR 812.21.

(c) *Diameter uniformity.* Within any separate string of well or heat exchange drillhole casing pipe, all lengths of pipe used shall be of the same diameter.

SECTION 56. NR 812.17 (2) (b) and (c) (intro.) are amended to read:

NR 812.17 (2) (b) *Well and heat exchange driller, well constructor responsibilities.* Well and heat exchange drillers and well constructors may not use unmarked or inadequately marked well or heat exchange drillhole casing pipe for permanent well or heat exchange drillhole casing pipe. It is the well and heat exchange driller's or well constructor's responsibility to use well casing pipe that meets the requirements of this chapter. The well and heat exchange driller or well constructor shall examine all shipments of well or heat exchange drillhole casing pipe received and shall reject any defective length of pipe and return it to the manufacturer or supplier. When the well and heat exchange drillhole casing pipe or the pipe markings are of questionable condition, the well and heat exchange driller or well constructor shall supply the department with the manufacturer's mill certification papers listing the pipe specifications including the heat numbers.

(c) *Defective pipe. (intro.)* Well and heat exchange drillhole casing pipe may be inspected by the department. Any defective length may be rejected by the department and may not be used in well construction. Reject pipe may include:

SECTION 57. NR 812.17 (3) (a) 4. is amended to read:

NR 812.17 (3) (a) 4. The well and heat exchange drillhole casing pipe shall be marked in accordance with the ASTM F 480 specification and this section. The pipe shall be marked at least every 5 feet showing the nominal size; standard dimension ratio or schedule number; type of material; the wording—"well casing"—followed by impact classification; designation "ASTM F 480" including year of issue of the standard with which the well casing pipe complies; manufacturer's name or trademark; manufacturer's code for resin manufacture, lot number and date of manufacture; and the NSF-WC designation or other approved laboratory's seal or mark.

SECTION 58. NR 812.18 is amended to read:

NR 812.18 Welding procedures. (1) Welding procedures for plain end well casing pipe shall be made watertight in accordance with the specifications in the American Welding Society manual, AWS D10.12-89,"Recommended Practices and Procedures for Welding Low Carbon Steel Pipe". Well casing pipe to be welded shall conform to the specifications of s. NR 812.17 (2). Welding procedures for pitless adapter connections to well casing pipe shall be made watertight in accordance with welding procedures in the AWS Structural Welding Code, AWS D1.1.

(2) The referenced AWS manuals are incorporated by reference. They are available for inspection at the department, the legislative reference bureau and the secretary of state's office and may be obtained for personal use from the American Welding Society, P.O. Box 351040, Miami, Florida 33135.

SECTION 59. NR 812.18 (3) is created to read:

NR 812.18 (3) Fusion welding connection for vertical heat exchange piping shall be done using socket fusion, saddle fusion or butt fusion type, in accordance with pipe manufacturer's instructions. Joint surfaces shall be clean and moisture free. ASTM D 2610, D 2683 and D2657. The U-Bend joint must be factory fused.

SECTION 60. NR 812.20 (1) (a) 7. is created to read:

NR 812.20 (1) (a) 7. Of heat exchange drillholes if fluid is continuously circulated in the loop pipe until heat of hydration subsides to a safe level below the temperature of potential loop pipe deformation.

SECTION 61. NR 812.20 (1) (c) is amended to read:

NR 812.20(1) (c) Sodium bentonite water slurry (drilling mud and cuttings). A sodium bentonite water slurry (drilling mud and cuttings) may be used as sealing material in unconsolidated formation wells or bedrock wells, provided depth to a bedrock formation or other well construction requirements in Tables I to IV do not specify the use of neat cement grout and the well is not a potable high capacity, school or wastewater treatment plant well. A mud weight of at least 11 pounds per gallon is required. Normal drilling mud circulated during the construction of wells may not meet this requirement for sealing unless additional drill cuttings are added to the slurry. <u>Sodium bentonite water slurry (drilling mud and cuttings) is not allowed for grouting of heat exchange drillholes.</u>

SECTION 62. NR 812.20 (1) (d) is amended to read:

NR 812.20 (1) (d) *Clay slurry.* Clay slurry is a fluid mixture of water, clean native or approved commercial clay; and drill cuttings. Clay slurry may be used as an annular space sealing material for low capacity wells constructed with percussion methods, except for bedrock wells where the upper enlarged drillhole extends more than 5 feet into the bedrock or when the bedrock is encountered at a depth of less than 40 feet, 30 feet for sandstones and except for school and wastewater treatment plant wells. The clay slurry shall have a mud weight of at least

11 pounds per gallon. Clay slurry is not allowed for grouting of heat exchange drillholes.

SECTION 63. NR 812.20(1) (e), (f), (g) and (h) are created to read:

NR 812.20(1) (e) *Sodium bentonite.* A sodium bentonite grout may be used as a sealing material for heat exchange drillholes, as long as a minimum of a 20% solids mixture is maintained as per manufacturer specifications.

(f) Sodium bentonite (bentonite-sand) grout. Sodium bentonite grout may be mixed with clean silica sand up to a ratio of a 5 to 1 mixture of silica sand to bentonite grout, for grouting heat exchange drillholes. Higher mix ratios must receive prior approval from the department before being used. Clean silica sand shall consist of silica sand with 80 percent or more of the sand smaller than 0.0117 inch (passing U.S. Sieve #50) in size.

(g) Cement (cement-bentonite) grout. A cement (cement-bentonite) premix product may be used as a sealing material for heat exchange drillholes if it is approved by the department before being used. Drillers shall not mix their own ratio.

(h) Carbon (carbon-bentonite) grout. A carbon-bentonite premix product may be used as a sealing material for heat exchange drillholes if it is approved by the department before being used. Drillers shall not mix their own ratio.

SECTION 64. NR 812.20 (2) (c) is amended to read:

NR 812.20 (2) (c) The grout shall be placed in one continuous operation, if possible. It is the well or heat exchange driller's or well constructor's responsibility to ensure that all necessary materials are on the job site. If unforeseen circumstances prevent completing the cement grouting work in one continuous operation, the well or heat exchange driller or well constructor shall report the non-continuous grouting operation and the reason for it on the construction report for the well.

SECTION 65. NR 812.20 (2) (j) is amended to read:

NR 812.20 (2) (j) The "conductor (tremie) pipe-gravity" method is not an approved pressure method of grouting. All other methods described in sub. (3) are approved pressure methods for cement grouting and sealing and shall be used when neat cement grout is required to seal the annular space when the upper enlarged drill- hole is less than 4 inches larger in diameter than the nominal diameter of the well casing pipe or when the upper enlarged or heat exchange drillhole extends greater than 100 feet deep.

SECTION 66. NR 812.20 (3) (a) and (b) are amended to read:

NR 812.20 (3) (a) *Conductor (tremie) pipe-gravity.* As depicted in figure 11, grout material may flow by gravity through a funnel or hopper connected to a conductor pipe. The conductor (tremie) pipe shall be lowered to the bottom of the annular space to be grouted and the grout material placed from the bottom up. The end of the conductor pipe shall be kept submerged in the grout at all times. This method may be used only when the upper enlarged drillhole is at least 4 inches larger in diameter than the nominal diameter of the well casing pipe and is less than 100 feet deep or when the heat exchange drillhole is less than 25 feet deep. The grout shall flow at the surface with the same consistency as the grout entering the well.

(b) *Conductor (tremie) pipe–pumped.* As depicted in figure 12, the grout material shall be placed by a pump through a conductor pipe into the annular space between the well casing pipe and

the upper enlarged drillhole wall or inside surface of the temporary outer casing or a heat exchange drillhole. The minimum diameter of the upper enlarged drillhole shall be as specified in Tables I to IV. The conductor pipe shall be lowered to the bottom of the annular space to be grouted and the grout material shall be pumped from the bottom up. The end of the conductor pipe shall be kept submerged in the grout at all times and the conductor pipe shall be maintained full of grout. The grout shall flow at the surface with the same consistency as the grout entering the well.

SECTION 67. NR 812.22 (7) (title), (a) and (b) are amended to read:

NR 812.22 (7) WELL AND DRILLHOLE CONSTRUCTION REPORTS. (a) The well or heat exchange driller who contracted to construct the well or heat exchange drillhole, the well or heat exchange driller who actually constructed the well or heat exchange drillhole, or the well or heat exchange drillhole constructor shall submit an original well construction report to the department and to the owner within 30 days following the day the well or heat exchange drillhole was completed or reconstructed. Heat exchange drillholes require only one construction report for every 20 drillholes drilled. Heat exchange drillhole construction reports shall be spaced across the project site as practicable as possible, or should be reflective of geologic variation that may occur across the site. A well construction report shall be submitted for any well deepening. A well or heat exchange drillhole is completed when all operations that require the use of drilling, driving or annular space sealing equipment have been completed. A well construction report is not required for well screen replacement if the screen is set to a depth not exceeding 5 feet above or below the original screen depth setting. A well construction report is also not required for blasting or hydrofracturing when done within 30 days after original completion of the well construction. Such work shall be reported on the original well construction report or on a copy of the original report. An accurate and complete well construction report shall be sub- mitted on a form prescribed by the department to:

(b) Well or heat exchange drillhole construction reports returned to the well driller or well constructor for completion or when compliance with the construction requirements of this chapter is questionable shall be resubmitted to the department within 15 days of receipt. The original well or heat exchange drillhole construction report shall be resubmitted. Dry drillholes or unsuccessful wells drilled in conjunction with well construction and not immediately abandoned shall be reported on a well construction report and on a well abandonment report form. The well driller, heat exchange driller, or well constructor shall ensure proper abandonment according to s. NR 812.26, of any drillhole constructed by the well driller or well constructor that is not intended to provide water.

SECTION 68. NR 812.22 (9) is created to read:

NR 812.22 (9) HEAT EXCHANGE FLUIDS. Only department approved heat exchanged fluids may be used in the piping placed in heat exchange drillholes.

SECTION 69. NR 812.26 (2) (a) 5. is created to read:

NR 812.26 (2) (a) 5. The heat exchange drillhole will not be used as part of the heat exchange system.

SECTION 70. NR 812.26(2) (b) 2. is amended to read:

NR 812.26 (2) (b) 2. The well or heat exchange drillhole was not constructed by the well owner or by a licensed well or heat exchange driller, or

SECTION 71. NR 812.26 (2) (c) 1. is amended to read:

NR 812.26 (2) (c) 1. The well or heat exchange drillhole construction or location does not comply with the minimum standards of this chapter at the time the well or heat exchange drillhole was constructed, or

SECTION 72. NR 812.26 (7) (a) 7. is created to read:

NR 812.26 (7) (a) 7. 'Filling heat exchange drillholes'. a. If the loops for a heat exchange drillhole have not been grouted in place and can be removed from the drillhole, then the loops shall be removed and the drillhole shall be filled with grout.

b. If the loops for a heat exchange drillhole have been grouted in place and cannot be removed from the drillhole, then the loops shall be evacuated of all fluids and grout shall be pumped into the loops. The drillhole shall be grouted. The loops may be left in place after the grouting procedure or may be cut off below ground surface.

SECTION 73. NR 812.26 (8) is amended to read:

N R 812.26 (8) ABANDONMENT REPORTS. An abandonment report shall be filed with the department within 30 days after the well or drillhole is abandoned. The abandonment report shall be filed by the person performing the abandonment on forms provided by the department and shall include a complete detailed description of location of the well or drillhole, method of sealing, construction and geologic features, if known. Well drillers, heat exchange drillers, well constructors and pump installers shall report to the department any unused or unabandoned wells or drillholes of which they have knowledge.

SECTION 74. NR 812.43 is amended to read:

NR 812.43 Variances. (1) When strict compliance with the requirements of this chapter is not feasible, a variance may be requested. All variance requests shall be in writing, except for situations that may require an immediate response, in which case a variance may be requested verbally from the owner, or the owner's agent, and a verbal variance may be granted by the department to be followed up with a written confirmation. If the verbal request is made by the owner's agent, the agent shall provide confirmation of the owner's concurrence with the request. A variance request shall include the names of the owner or owners and, if known, the well or heat exchange driller, well constructor or pump installer. The reason or reasons compliance with the requirements for this chapter is not feasible shall also be provided. The department may require the owner or the owner's agent to submit additional information necessary for the department to determine if a variance is justified. The owner or owners shall sign the variance request. The department may condition the issuance of a variance by requiring additional construction or installation features to safeguard the groundwater and water supplied by the installation from

contamination. Failure to comply with the conditions of a variance or the applicable requirements of this chapter voids the variance approval.

Section 75. EFFECTIVE DATE. This rule shall take effect on the first day of the month following publication in the Wisconsin administrative register as provided in s. 227.22 (2) (intro.), Stats.

Section 76. BOARD ADOPTION. This rule was approved and adopted by the State of Wisconsin Natural Resources Board on _____.

Dated at Madison, Wisconsin _____.

STATE OF WISCONSIN

DEPARTMENT OF NATURAL RESOURCES

By _____

Cathy Stepp, Secretary

(SEAL)