

Minnesota Attorney General: Administrative Rules Proceedings

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Version 3
August 20, 2018

~~Statutory Cite Problems~~ Emergency Rule 10 working Days

CH 11/7/91

RULE REVIEW CHECKLIST

File No. 1865

DATE RECEIVED 11-7-91

REVIEW DATE 11-18-91

DUE DATE 11-18-91

~~(DIS)~~APPROVED 11/18/91

WITHDRAWN _____

Docket No. ~~05.0009~~ 52.0015.1210

ADOPTED W/O HEARING _____

EMERGENCY RULE _____

TO REVISOR ON 11-7-91

REVISOR (DIS)APPROVED _____

FILED W/SEC. OF STATE _____

RETURNED TO AGENCY _____

✓ Rule as adopted (4 copies)

_____ Notice to Solicit Outside Information/Opinion (if applicable)

_____ Date published in State Register

_____ Comments

_____ Petition for Adoption of a Rule

_____ Board's Authorizing Resolution

_____ Date adopted

✓ Proposed Rule

✓ Revisor's Certificate

✓ Notice of Intent to Adopt Rule

103 I. subd 2, (5) Statutory Authority Wrong cite but have a correct cite

_____ Small Business Statement

_____ Expenditure of public money statement

August 28, 1991 Signature

NA Statement of Need and Reasonableness (if applicable)

_____ Small Business Statement

_____ Fees - § 16A.128

✓ Affidavit of Mailing Notice of Intent to Adopt Rule

September 10, 1991 Dated 30/25 days before adoption

_____ Notice attached indicates it is attached

_____ Copy of rule or summary attached

✓ Publication in State Register

July 22, 1991 Date 30/25 days before adoption

✓ 180-day deadline from:

_____ Effective date of law requiring rule (14.12) (both rules) amendments don't apply

✓ end of comment period (§ 14.26) (rules without hearing)

✓ effective date of statutory authority (§ 14.29) (emergency rules)

_____ Resolution Adopting

_____ Date adopted

✓ Findings of Fact, Conclusions & Order Adopting

November 4, 1991 Date

✓ Written Requests, Submissions or Comments

✓ Declaration of Attorney

Marie Christie Name of SAAG representing agency

_____ Notice of Submission to Attorney General (if applicable)

_____ Affidavit of Mailing Notice to Attorney General (if applicable)

DEPARTMENT: Office of the Attorney General

STATE OF MINNESOTA

OFFICE MEMORANDUM

DATE: November 19, 1991

TO: DAN WILSON
Well Management Unit
Minnesota Department of Health
925 Southeast Delaware Street
P.O. Box 59040
Minneapolis

FROM: CHARLENE HATCHER
Special Assistant Attorney General
525 Park Street, Suite 500 (55103)

PHONE: 296-9422

SUBJECT: In the Matter of the Adopted Rule Relating to Flush Threaded Polyvinyl Chloride (PVC) Casing and Screens Used for Minitoring Wells at Petroleum Storage Tank Sites

The above-referenced rule has been approved as to its legality by the Attorney General on November 18, 1991.

Enclosed is your copy of the approved rule. This office has already filed two copies with the Secretary of State, who will forward one copy to the Revisor of Statutes. The fourth is being retained by this division of the Attorney General's Office for its records.

Also enclosed are any petitions, requests, submissions or comments along with any extra copies of documents which you submitted to the Attorney General.

Your next step is to arrange for publication of the Notice of Adoption in the State Register. In a day or two, you should receive from the Revisor's Office three copies of the notice of adoption of your rule. You should submit two copies of the Notice of Adoption to the State Register for publication. A permanent rule without a hearing does not become effective until five days after a notice of adoption is published in the State Register in accordance with Minn. Stat. § 14.27. An emergency rule becomes effective five working days after approval by the Attorney General; however, the agency must publish a notice in the State Register in accordance with Minn. Stat. § 14.34.

If you have any questions in this regard, please contact me.

CH:sc
Enclosures
cc: Maria Christu
William Brown, Chief Judge
MaryAnn Hruby

Department of Health

Adopted Emergency Rules Relating to Flush Threaded Polyvinyl Chloride (PVC) Casing and Screens Used for Monitoring Wells at Petroleum Storage Tank Sites

Rules as Adopted

4725.7605 [Emergency] FLUSH THREADED POLYVINYL CHLORIDE (PVC) CASING AND SCREENS USED FOR MONITORING WELLS AT PETROLEUM STORAGE TANK SITES.

Notwithstanding parts 4725.6900 to 4725.7600, a monitoring well may use flush threaded polyvinyl chloride (PVC) casing and screens used for leak detection or groundwater monitoring at an underground or aboveground petroleum storage tank site if the requirements in this part are met.

A. The screen must intersect the surface of the water table at the time of installation. The well must be constructed so the joint between the two deepest casing sections is above the surface of the water.

B. The total depth of the monitoring well must be 50 feet or less.

C. The monitoring well must be constructed in unconsolidated materials.

D. The annular space between the bore hole and the casing must be grouted with neat cement. The grout must be placed from within ten feet of the top of the screen to the established ground surface.

E. The flush threaded polyvinyl chloride casing must meet at least the standards in schedule ~~80~~ 40 for polyvinyl chloride (PVC) materials of the American Society for Testing and Materials (ASTM), 1916 Race Street, Philadelphia, Pennsylvania. Schedule ~~80~~ 40 standards are contained in the Annual Book of ASTM Standards, Volume 8, Designation D 1785-88 Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120 Tables I and II, published December

Approved by Revisor MEO

1988. The ASTM standards are incorporated by reference, are not subject to frequent change, and are available through the Minitex interlibrary loan system.

Approved
by Revisor _____

APPROVED AS TO FORM AND LEGALITY

November 18, 1991

HUBERT H. HUMPHREY, III
ATTORNEY GENERAL

BY Charlene H. Hatcher
SPECIAL ASSISTANT ATTORNEY GENERAL

STATE OF MINNESOTA
DEPARTMENT OF STATE
FILED

NOV 19 1991

Joan Anderson Growe
Secretary of State

8:50a
RC

STATE OF MINNESOTA

MINNESOTA DEPARTMENT OF HEALTH

FINDINGS OF FACT, CONCLUSIONS AND ORDER ADOPTING AN EMERGENCY RULE

In the Matter of the Adoption of Emergency Rules of the Minnesota Department of Health Governing Flush Threaded Polyvinyl Chloride (PVC) Casing and Screens Used for Monitoring Wells at Petroleum Storage Tank Sites, Minnesota Rules, part 4725.7605

(1) Notice of the Commissioner's intent to adopt the above-entitled emergency rule was published in the State Register on September 16, 1991 at 16 S. R. 584-585. The notice and proposed rule were sent by United States mail On September 10, 1991 to all persons on the list maintained by the department pursuant to Minnesota Statutes, section 14.30 and to all parties on a discretionary mailing list compiled for this rule.

(2) All persons were given the opportunity to submit comment on the rule for at least 25 days after the notice of proposed rulemaking.

Based on the comments and evidence in the record before the department, I find the following:

FINDINGS

(3) Part 4725.7605 [Emergency] FLUSH THREADED POLYVINYL CHLORIDE (PVC) CASING AND SCREENS USED FOR MONITORING WELLS AT PETROLEUM STORAGE TANK SITES.

1. John E. Scharf, P. E., a registered monitoring well contractor with Braun Intertec Environmental, Inc. commented that flush threaded PVC is an appropriate material to use for monitoring well construction at a majority of company sites and that flush threaded

PVC should be used at all types of sites in which it is deemed suitable, not only petroleum sites. The department is reviewing the use of flush threaded PVC pipe for all well sites in conjunction with the general revision of adopted permanent well construction standards. However, for purposes of the emergency rule, the department believes its authority at this time is restricted to that expressly granted by Laws of Minnesota 1991, Chapter 175, section 1 as codified into Minnesota Statutes, section 103I.222. The emergency rule authority permits the use of flush threaded polyvinyl chloride casing and screens used "for leak detection and monitoring wells at underground or aboveground petroleum storage tank sites." The use of PVC flush threaded casing and screens at sites other than "underground or aboveground petroleum storage tank sites" was not authorized under the emergency rule mandate. Use of these materials at other sites and in other situations is being discussed and may be authorized by the commissioner at a later date within the scope of revisions to the permanent well code now underway. Mr. Scharf's comment will be retained by the department and considered in conjunction with discussion of changes to the permanent well.

2. Item A. Page 1, lines 16-17.

Patrick S. McCaffrey of Ashland Petroleum Company comments that the well screen interval needs to take into account the normal fluctuations of the water table. Kenneth Olson of Bruce A. Liesch Associates, Inc. comments that significant changes in water table elevations are due to climatological factors outside the control of the well driller. He expressed concern that if the water level rises after a well is installed, the well may not be in compliance with the well code which may result in requiring the well to be replaced. Mr. Olson suggests that Item A be modified to indicate that the joint between casings, other than the joint attaching the first length of casing to the screen, not be below the water table. The commissioner agrees that fluctuation of the water table must be considered and finds that Item A is necessary to modify as follows:

> A. The screen must intersect the surface of the water table at the time of installation. The well must be constructed so the joint between the two deepest casing sections is above the surface of the water table.

3. Item D. Page 1, lines 22-25.

David L. Kill, sales manager for Recovery Equipment Supply Inc. commented that bentonite grout with more than 20 percent solids should be allowed in addition to neat cement for grouting the annular space from five feet below the ground surface to the top of the gravel pack. Mr. McCaffrey commented that the annular space would be sufficiently sealed with any low permeability material which may include bentonite products, natural clays from

the monitoring well borehole and bentonite/cement slurries. Robert L. Oliver, a division manager for Colloid Environmental Technologies Company, commented that high solids bentonite slurry grout should be allowed as a substitute for neat cement. The commissioner finds the requirement in item D of the emergency rule which requires the use of neat cement grout from within ten feet of the top of the screen to the established ground surface to be consistent with part 4725.7600, subpart 3 of the adopted permanent rule on well construction which requires the use of neat cement grout with plastic casing. The use of natural clays from the monitoring well borehole, particularly at a petroleum site, may pose problems in that this material may be contaminated. Bentonite grout above the static water level may dry up and shrink making the casing and joints subject to contaminants contained in surface water drainage. Flush joints may be more prone to leakage. Because monitoring wells are often placed in contaminated soils, cement grout is used around joints and plastic casing because it is generally more resistent to chemical degradation than bentonite grout. The commissioner will continue to monitor and review grouting materials other than neat cement grout for future application.

4. Item E. Page 1, lines 26-29 and page 2, line 1.

Mr. Kill commented that schedule 80 casing should be changed to schedule 40 because schedule 40 has adequate strength for shallow wells less than 50 feet deep. He also comments that the heavier walled schedule 80 casing will make it difficult to get pumps and sampling equipment in and out of the well. (Two inch diameter casing is routinely used by the industry and thicker casing pipe walls reduce the inside diameter of the pipe.) Paul D. Josephson, vice president of Wenck Associates, Inc., comments that schedule 40 PVC materials would be sufficient in monitoring wells at petroleum storage tank sites where the depth of the monitoring well is limited to 50 feet, and schedule 80 PVC, because of its smaller inside diameter, makes installation of other materials within the casing difficult and costly. George Gillespie, technical director for well products at Johnson Filtration Systems, Inc., comments that lab tests show that schedule 40 PVC material has adequate collapse and tensile strength to withstand the expected forces of installation and well development in 50 foot wells. At this time the commissioner has reevaluated the proposed schedule 80 standard and finds that schedule 40 PVC casing for monitoring wells is a standard used by other states. There is some concern by department staff about leakage with the use of flush threaded joints in schedule 40 pipe because the thickness of the schedule 40 casing is reduced by the joint threads thus potentially reducing strength and potentially making the joint subject to cracking and leaking. There is debate among professionals over whether sampling devices may routinely and easily fit into the inside diameter of a schedule 80 pipe. The commissioner at this time does not find overwhelming reason to

prohibit the use of schedule 40 material. The use of schedule 80 casing is certainly allowed. Item E, for purposes of the emergency rule, is modified to provide for the use of schedule 40 casing. The department, however, will continue to monitor the use of schedule 40 PVC casing with flush threaded joints.

> E. The flush threaded polyvinyl chloride casing must meet at least the standards in schedule ~~80~~ 40 for polyvinyl chloride (PVC) materials of the American Society for Testing and Materials (ASTM), 1916 Race Street, Philadelphia, Pennsylvania. Schedule ~~80~~ 40 standards are contained in the Annual Book of ....

5. Mr. Gillespie comments that flush threaded joints with two threads per inch as described in ASTM standard F480-90 are preferred because of easy assembly, particularly in cold weather. The commissioner does not find it appropriate to adopt ASTM F480-90 at this time because that standard does not include thread tolerances for the new thread configuration and that standard requires the use of Acme screws which are generally not used by the industry. This standard has changed frequently in recent years and still appears to be under much discussion and further development. The department will continue to monitor the development of ASTM F480-90 and may consider its adoption in future revisions of the well code.

6. Mr. Gillespie made several comments about filter pack design and general monitoring well design. The commissioner finds that these comments refer primarily to general monitoring well design. The department finds that development and revision of the general monitoring well design standards goes beyond the authorization for the emergency rule provisions contained in Minnesota Statutes, section 103I.222.

CONCLUSIONS

I hereby conclude that:

1. The Commissioner has statutory authority to promulgate these rules.

2. Proper notice of the Department's intent to adopt the proposed emergency rules was given as required by law, and all interested persons were afforded an opportunity to submit data and views on the proposed emergency rules.

3. All modifications made to the proposed emergency rules are not substantial changes.

4. The rules, as modified, are necessary and reasonable.

5. Any duplication in these rules of language contained in Minnesota Statutes is crucial to the ability of persons affected by the rules to comprehend their meaning and effect.

6. The Department has complied with all applicable provisions of law and rule in the promulgation of these rules.

7. If any finding or part of a finding, above, is properly characterized as a conclusion, it is adopted as a conclusion.

NOW, THEREFORE, IT IS ORDERED that the rule identified as Emergency Rules of the Minnesota Department of Health Governing Flush Threaded Polyvinyl Chloride (PVC) Casing and Screens Used for Monitoring Wells at Petroleum Storage Tank Sites, Minnesota Rules, part 4725.7605, (as modified) is adopted this 4th day of November, 1991 pursuant to authority vested in me by Minnesota Statutes, section 103I.222.

Marlene E. Marschall
Commissioner of Health

103I subd 2(5) - missing something
should be 103I.101 subd 2 subd 5
The Commissioner shall adopt rule excluding
- . . . .

103I 222 - can't find I think what
they may have meant 103I.221 subd 2
I do could not
attached Laws of MN Chapter 175 Sect 1
end of Comment period Oct 11, 1991
Notice of Intent
E. (2) missing comment is encouraged

Notice of Intent
missing E (4) proposed rule is
attached

Findings of Fact
missing J (4) - agency record no
submissions to the Attorney General
J (5) rule is adopted - they
state the finding or part of the
findings is adopted as a conclusion

accident unless the vehicle: (1) has been inspected by a state trooper or other person authorized to conduct inspections under section 169.781, subdivision 3, paragraph (a), who is an employee of the department of public safety or transportation, and the person inspecting the vehicle has determined that the vehicle may safely be operated; or (2) a waiver has been granted under subdivision 2.

Sec. 8. Minnesota Statutes 1990, section 171.02, is amended by adding a subdivision to read:

Subd. 2a. **HAZARDOUS MATERIALS; EXCEPTION.** Notwithstanding subdivision 2, a hazardous materials endorsement is not required to operate a motor vehicle with a gross weight of not more than 26,000 pounds, carrying in bulk tanks a total of not more than 200 gallons of petroleum products or liquid fertilizer or pesticide.

Sec. 9. Laws 1990, chapter 563, section 11, is amended to read:

Sec. 11. **EFFECTIVE DATE.**

(a) Section 1, subdivisions 1 and 3 to 8, and sections 2 to 10 are effective July 1, 1990.

(b) Except as provided in paragraph (c), section 1, subdivision 2, is ~~effective April~~ suspended until July 1, 1991.

(c) Section 1, subdivision 2, is effective April 1, 1992, for any registered farm truck with a registered gross weight of not more than 57,000 pounds while being operated within a radius of 75 miles of the home post office of the owner.

Sec. 10. **EFFECTIVE DATE.**

Sections 1 to 8 are effective the day following final enactment. Section 9 is effective retroactively to April 1, 1991.

Presented to the governor May 21, 1991

Signed by the governor May 24, 1991, 4:40 p.m.

CHAPTER 175—H.F.No. 744

An act relating to the environment; petrofund; amending Minnesota Statutes 1990, sections 115C.07, subdivision 3; 115C.09, subdivisions 1, 2, 3, 3b, 5, and by adding subdivisions; proposing coding for new law in Minnesota Statutes, chapter 103I.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MINNESOTA:

Section 1. **[103I.222] USE OF POLYVINYL CHLORIDE.**

The department shall adopt emergency rules within six months, and permanent rules within one year, of the effective date of this section designed to allow use of flush threaded polyvinyl chloride casing and screens used for leak detection and monitoring wells at underground or aboveground petroleum storage tank sites.

Sec. 2. Minnesota Statutes 1990, section 115C.07, subdivision 3, is amended to read:

Subd. 3. **RULES.** (a) The board shall adopt rules regarding its practices and procedures, the form and procedure for applications for compensation from the fund, procedures for investigation of claims and specifying the costs that are eligible for reimbursement from the fund.

(b) The board may adopt emergency rules under this subdivision for one year after June 4, 1987.

(c) The board shall adopt emergency rules within four months of the effective date of this section, and permanent rules within one year of the effective date of this section, designed to ensure that costs submitted to the board for reimbursement are reasonable. The rules shall include a requirement that persons taking corrective action solicit competitive bids, based on unit service costs, except in circumstances where the board determines that such solicitation is not feasible.

(d) The board may adopt rules requiring certification of environmental consultants.

Sec. 3. Minnesota Statutes 1990, section 115C.09, subdivision 1, is amended to read:

Subdivision 1. **REIMBURSABLE COSTS.** (a) The board shall provide partial reimbursement to eligible responsible persons for reimbursable costs incurred after June 4, 1987.

(b) The following costs are reimbursable for purposes of this section:

(1) corrective action costs incurred by the responsible person, except the costs related to the physical removal of a tank; ~~and~~

(2) costs that the responsible person is legally obligated to pay as damages to third parties for bodily injury or property damage caused by a release if the responsible person's liability for the costs has been established by a court order or a consent decree; and

(3) up to 180 days worth of interest costs, incurred after the effective date of this section, associated with the financing of corrective action. Interest costs are not eligible for reimbursement to the extent they exceed two percentage points above the adjusted prime rate charged by banks, as defined in section 270.75, subdivision 5, at the time the financing contract was executed.

Signed by Gov May 24, 1991

SF-00006-05 (4/86)

STATE OF MINNESOTA

Office Memorandum

DEPARTMENT : Health

DATE : Nov. 8, 1991

TO : Patricia Nolte, Legal Assistant
Public Finance Division
Capitol Office Building

FROM : Jane A. Nelson, Rules Coordinator
Environmental Health Division

PHONE : 627-5038

SUBJECT : Rules Governing Flush Threaded Polyvinyl Chloride (PVC) Casing and Screens Used for Monitoring wells at Petroleum Storage Tank Sites, Minnesota Rules, part 4725.7605

Enclosed are the documents required to be submitted under Minnesota Rules, part 2010.0400 for your review of an emergency rule of the above-entitled matter.

Official documents in this submittal include:

A. A copy or photocopy of the notice of solicitation of outside information or opinions as published in the State Register.

B. A copy of the proposed rule with a certificate of approval as to form by the Revisor of Statutes attached.

C. The notice of intent to adopt an emergency rule as mailed.

D. The affidavit of mailing the notice of intent to adopt an emergency rule. The affidavit states that the mailing list maintained by the Department pursuant to Minnesota Statutes, section 14.30 is accurate, complete, and current and that the notice of intent to adopt the emergency rule was mailed to all persons and groups whose names appear on the list.

E. A copy or photocopy of the notice of intent to adopt the emergency rule as published in the State Register.

F. Four copies of the emergency rule as adopted. Any modification made to the proposed rule is reflected on the rule as adopted and is approved as to form by the Revisor of Statutes.

G. The Findings of Fact, Conclusions, and Order Adopting the Emergency Rule.

H. All written requests, submissions, or comments on the rule received by the Department except requests solely for copies of the rule.

I. The declaration of counsel of the attorney in the Attorney General's Office who represents the Department.

J. The department received no requests for notice of submission to the Attorney General.

If you have any questions on this submittal, please call me at 627-5038.

JAN:mq
Attachments

STATE OF MINNESOTA

MINNESOTA DEPARTMENT OF HEALTH

In the Matter of the Proposed Adoption of the Emergency Rule of the Minnesota Department of Health Governing Flush Threaded Polyvinyl Chloride (PVC) Casing and Screens Used for Monitoring Wells at Petroleum Storage Tank Sites, Minnesota Rules, part 4725.7605

NOTICE OF INTENT TO ADOPT AN EMERGENCY RULE

(1) Notice is hereby given that the Minnesota Department of Health intends to adopt the above-entitled emergency rule. The statutory authority to adopt the emergency rule is contained in Minnesota Statutes, section 103I, subdivision 2, (5) and Laws of Minnesota 1991, chapter 175, section 1 as codified into Minnesota Statutes, section 103I.222. The Department, in adopting the rule, is following the procedures set forth in the Administrative Procedures Act for adopting emergency rules in Minnesota Statutes, sections 14.29 to 14.36.

(2) All persons have 25 days or until 4:30 p.m. on October 11, 1991, after publication to submit data and views on the proposed emergency rule or any part or subpart of the rule in writing. Any comments must be submitted to:

(3)
Mr. Dan Wilson
Well Management Unit
Minnesota Department of Health
925 Southeast Delaware Street
P.O. Box 59040
Minneapolis, Minnesota 55459-0040
(612) 627-5161

(5) A free copy of the proposed emergency rule is available by contacting Mr. Dan Wilson at the above address.

(6) The proposed emergency rule may be modified if the modifications are supported by data and views submitted to the Department and does not result in a substantial change in the proposed emergency rule as noticed.

(7) Upon adoption of the emergency rule by the Department, the emergency rule as adopted and its supporting documents will be delivered to the Attorney General-Administration for review as to legality and form to the extent form relates to legality. Any person may request notification of the date of submission to the

Attorney General-Administration. Persons who wish to be advised of the submission of this material to the Attorney General-Administration, or who wish to receive a copy of the adopted rule, must submit the written request to Ms. Jane Nelson, Rules Coordinator, Minnesota Department of Health, 925 Southeast Delaware Street, P.O. Box 59040, Minneapolis, Minnesota 55459-0040, (612) 627-5038.

(8) The emergency rule will take effect five working days after approval by the Attorney General-Administration and be effective for 180 days. The emergency rule will be continued in effect for an additional 180 days if the Department gives notice of continuation in accordance with Minnesota Statutes, section 14.35.

Adoption of these rules will not result in additional spending by local public bodies in excess of $100,000 per year for the first two years following adoption under the requirements of Minnesota Statutes, section 14.11.

(9)

Date:
August 28, 1991

Marlene E. Marschall
MARLENE E. MARSCHALL
COMMISSIONER OF HEALTH

Department of Health

Proposed Emergency Rules Relating to Flush Threaded Polyvinyl Chloride (PVC) Casing and Screens Used for Monitoring Wells at Petroleum Storage Tank Sites

Rules as Proposed (all new material)

4725.7605 [Emergency] FLUSH THREADED POLYVINYL CHLORIDE (PVC) CASING AND SCREENS USED FOR MONITORING WELLS AT PETROLEUM STORAGE TANK SITES.

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A. The screen must intersect the surface of the water table.

B. The total depth of the monitoring well must be 50 feet or less.

C. The monitoring well must be constructed in unconsolidated materials.

D. The annular space between the bore hole and the casing must be grouted with neat cement. The grout must be placed from within ten feet of the top of the screen to the established ground surface.

E. The flush threaded polyvinyl chloride casing must meet at least the standards in schedule 80 for polyvinyl chloride (PVC) materials of the American Society for Testing and Materials (ASTM), 1916 Race Street, Philadelphia, Pennsylvania. Schedule 80 standards are contained in the Annual Book of ASTM Standards, Volume 8, Designation D 1785-88 Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120 Tables I and II, published December 1988. The ASTM standards are incorporated by reference, are not subject to frequent change, and are available through the

Approved by Revisor MEO

Minitex interlibrary loan system.

Approved
by Revisor _____

Office of the Revisor of Statutes

Administrative Rules

TITLE: Proposed Emergency Rules Relating to Flush Threaded Polyvinyl Chloride (PVC) Casing and Screens Used for Monitoring Wells at Petroleum Storage Tank Sites

AGENCY: Department of Health

MINNESOTA RULES: Chapter 4725

INCORPORATIONS BY REFERENCE:

Part 4725.7605 [Emergency]: Annual Book of ASTM Standards, Volume 8, Designation D 1785-88 Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120 Tables I and II, published December 1988. Available through Minitex interlibrary loan system.

The attached rules are approved for publication in the State Register

Marie E. O'Neill

Marie E. O'Neill
Assistant Revisor

Department of Health

Proposed Emergency Rules Relating to Flush Threaded Polyvinyl Chloride (PVC) Casing and Screens Used for Monitoring Wells at Petroleum Storage Tank Sites

Rules as Proposed (all new material)

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1 Minitex interlibrary loan system.

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by Revisor _____

Office of the Revisor of Statutes

Administrative Rules

TITLE: Proposed Emergency Rules Relating to Flush Threaded Polyvinyl Chloride (PVC) Casing and Screens Used for Monitoring Wells at Petroleum Storage Tank Sites

AGENCY: Department of Health

MINNESOTA RULES: Chapter 4725

INCORPORATIONS BY REFERENCE:

Part 4725.7605 [Emergency]: Annual Book of ASTM Standards, Volume 8, Designation D 1785-88 Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120 Tables I and II, published December 1988. Available through Minitex interlibrary loan system.

The attached rules are approved for publication in the State Register

Marie E. O'Neill

Marie E. O'Neill
Assistant Revisor

STATE OF MINNESOTA

MINNESOTA DEPARTMENT OF HEALTH

In the Matter of the Proposed Adoption of the Emergency Rule of the Minnesota Department of Health Governing Flush Threaded Polyvinyl Chloride (PVC) Casing and Screens Used for Monitoring Wells at Petroleum Storage Tank Sites, Minnesota Rules, part 4725.7605

AFFIDAVIT OF MAILING NOTICE OF INTENT TO ADOPT AN EMERGENCY RULE

Susan D. Reese, being sworn, says:

That on the 10th day of September, 1991, in the City of Minneapolis, County of Hennepin, State of Minnesota, I mailed the attached Notice of Intent to Adopt an Emergency Rule by depositing in the State of Minnesota Central Mail System for United States mailing, a copy thereof, with postage prepaid, to all persons and associations on the attached Department list and discretionary mailing list.

Susan D. Reese
(name)

Office Services Supervisor
(title)

Environmental Health
(division)

Subscribed and sworn to before me this 10th day of September, 1991.

Mary N. Quam

MARY N. QUAM
NOTARY PUBLIC — MINNESOTA
HENNEPIN COUNTY
My commission expires 10-18-96

The Department also routinely sends a copy of the rule and notice to all members of the House and Senate.

STATE OF MINNESOTA

MINNESOTA DEPARTMENT OF HEALTH

In the Matter of the Proposed Adoption of the Emergency Rule of the Minnesota Department of Health Governing Flush Threaded Polyvinyl Chloride (PVC) Casing and Screens Used for Monitoring Wells at Petroleum Storage Tank Sites, Minnesota Rules, part 4725.7605

CERTIFICATE

I hereby certify that the list of persons, associations, and other interested groups who have requested, pursuant to Minnesota Statutes, section 14.14, subdivision 1a, that their names be placed on file with, and maintained by, the Minnesota Department of Health for the purpose of receiving notice of rule hearings, is accurate and complete as of

1:00 p.m., this 21st day of August, 1991.

Christine K. Barton

Christine Barton

Michael J. Ahern
4800 Norwest Center
90 S. 7th St.
Minneapolis, MN 55402-4119

Donna M. Anderson
Dakota County Public
Health Department
33 E. Wentworth Ave. #345
West St. Paul, MN 55118

Anoka County Environmental
Services
% Robert Hutchison
Courthouse - 4th Floor
Anoka, MN 55303

Walter A. Baldus
Woodale Management
Services
P.O. Box 1047
Austin, MN 55912

June Barron
115 Cottage Downs
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Discretionary mailing list

Emergency PVC Rule

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MINNESOTA DEPARTMENT OF AGRICULTURE
90 WEST PLATO BOULEVARD
ST. PAUL, MN 55107

MR. KEVIN POWERS
LEGGETTE BRASHEARS AND GRAHAM, INC.
1210 WEST COUNTY ROAD E, SUITE 700
ARDEN HILLS, MN 55112

MR. WES OLSON
BARR ENGINEERING COMPANY
7803 GLENROY ROAD
MINNEAPOLIS, MN 55439

The Minnesota
State Register

Department of Administration—Print Communications Division

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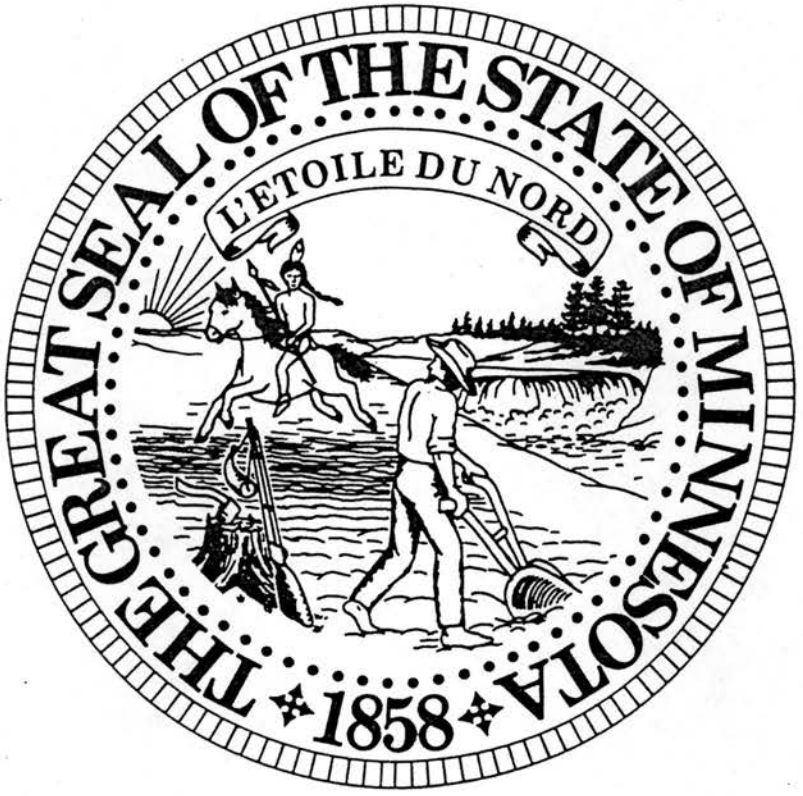

Rules edition
Published every Monday
(Tuesday if Monday is a holiday)

Monday 16 September 1991

Volume 16, Number 12

Pages 569-616

Adopted Rules

The adoption of a rule becomes effective after the requirements of Minn. Stat. §14.14-14.28 have been met and five working days after the rule is published in *State Register*, unless a later date is required by statutes or specified in the rule.

If an adopted rule is identical to its proposed form as previously published, a notice of adoption and a citation to its previous *State Register* publication will be printed.

If an adopted rule differs from its proposed form, language which has been deleted will be printed with strikeouts and new language will be underlined. The rule's previous *State Register* publication will be cited.

An emergency rule becomes effective five working days after the approval of the Attorney General as specified in Minn. Stat. §14.33 and upon the approval of the Revisor of Statutes as specified in §14.36. Notice of approval by the Attorney General will be published as soon as practicable, and the adopted emergency rule will be published in the manner provided for adopted rules under §14.18.

Pollution Control Agency

Adopted Permanent Rules Relating to Clean Water Partnership Grants

The rules proposed and published at *State Register*, Volume 15, Number 44, pages 2333-2344, April 29, 1991 (15 SR 2333), are adopted as proposed.

Emergency Rules

Proposed Emergency Rules

According to Minn. Stat. of 1984, §§14.29-14.30, state agencies may propose adoption of emergency rules if: 1) expressly required; 2) authorized by statute; or 3) if the manner permitted by a directive (given by statute, federal law or court order) does not allow for compliance with sections 14.14-14.28. The agency must, however, publish a notice of intent to adopt emergency rules, along with the rules themselves, in the *State Register*. The notice must advise the public:

1) that a free copy of the proposed emergency rule is available upon request from the agency;
2) that notice of the date that the rule is submitted to the attorney general will be mailed to persons requesting notification;
3) that the public has at least 25 days after publication of the proposed emergency rule to submit data and views in writing; and
4) that the emergency rule may be modified if the data and views submitted support such modification.

Adopted Emergency Rules

Emergency rules take effect five working days after approval by the attorney general, and after compliance with Minn. Stat. §§14.29-14.365. As soon as possible, emergency rules are published in the *State Register* in the manner provided for in section 14.18.

Emergency rules are effective for the period stated in the notice of intent to adopt emergency rules. This may not exceed 180 days.

Continued/Extended Emergency Rules

Adopted emergency rules may be continued in effect (extended) for an additional 180 days. To do this, the agency must give notice by: 1) publishing notice in the *State Register*: and 2) mailing the same notice to all persons who requested notification on rulemaking. No emergency rule may remain in effect 361 days after its original effective date. At that point, permanent rules adopted according to Minn. Stat. 14.14-14.28 supercede emergency rules.

Department of Health

Proposed Emergency Rules Relating to Flush Threaded Polyvinyl Chloride (PVC) Casing and Screens Used for Monitoring Wells at Petroleum Storage Tank Sites

Notice of Intent to Adopt an Emergency Rule

NOTICE IS HEREBY GIVEN that the Minnesota Department of Health intends to adopt the above-entitled emergency rule. The statutory authority to adopt the emergency rule is contained in *Minnesota Statutes*, section 103I, subdivision 2, (5) and *Laws of Minnesota 1991*, chapter 175, section 1 as codified into *Minnesota Statutes*, section 103I.222. The Department, in adopting the rule, is following the procedures set forth in the Administrative Procedures Act for adopting emergency rules in *Minnesota Statutes*, sections 14.29 to 14.36.

All persons have 25 days or until 4:30 p.m. on October 11, 1991, after publication to submit data and views on the proposed emergency rule or any part or subpart of the rule in writing. Any comments must be submitted to:

Mr. Dan Wilson
Well Management Unit
Minnesota Department of Health
925 Southeast Delaware Street
P.O. Box 59040
Minneapolis, Minnesota 55459-0040
(612) 625-5161

A free copy of the proposed emergency rule is available by contacting Mr. Dan Wilson at the above address.

The proposed emergency rule may be modified if the modifications are supported by data and views submitted to the Department and does not result in a substantial change in the proposed emergency rule as noticed.

Upon adoption of the emergency rule by the Department, the emergency rule as adopted and its supporting documents will be delivered to the Attorney General-Administration for review as to legality and form to the extent form relates to legality. Any person may request notification of the date of submission to the Attorney General-Administration. Persons who wish to be advised of the submission of this material to the Attorney General-Administration, or who wish to receive a copy of the adopted rule, must submit the written request to:

Ms. Jane Nelson
Rules Coordinator
Minnesota Department of Health
925 Southeast Delaware Street
P.O. Box 59040
Minneapolis, Minnesota 55459-0040
(612) 627-5038

The emergency rule will take effect five working days after approval by the Attorney General-Administration and be effective for 180 days. The emergency rule will be continued in effect for an additional 180 days if the Department gives notice of continuation in accordance with *Minnesota Statutes*, section 14.35.

Adoption of these rules will not result in additional spending by local public bodies in excess of $100,000 per year for the first two years following adoption under the requirements of *Minnesota Statutes*, section 14.11.

Dated: 28 August 1991

Marlene E. Marschall
Commissioner of Health

Rules as Proposed (all new material)

4725.7605 [Emergency] FLUSH THREADED POLYVINYL CHLORIDE (PVC) CASING AND SCREENS USED FOR MONITORING WELLS AT PETROLEUM STORAGE TANK SITES.

Notwithstanding parts 4725.6900 to 4725.7600, a monitoring well may use flush threaded polyvinyl chloride (PVC) casing and screens used for leak detection or groundwater monitoring at an underground or aboveground petroleum storage tank site if the requirements in this part are met.

A. The screen must intersect the surface of the water table.

B. The total depth of the monitoring well must be 50 feet or less.

C. The monitoring well must be constructed in unconsolidated materials.

D. The annular space between the bore hole and the casing must be grouted with neat cement. The grout must be placed from within ten feet of the top of the screen to the established ground surface.

E. The flush threaded polyvinyl chloride casing must meet at least the standards in schedule 80 for polyvinyl chloride (PVC) materials of the American Society for Testing and Materials (ASTM), 1916 Race Street, Philadelphia, Pennsylvania. Schedule 80 standards are contained in the Annual Book of ASTM Standards, Volume 8, Designation D 1785-88 Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120 Tables I and II, published December 1988. The ASTM standards are incorporated by reference, are not subject to frequent change, and are available through the Minitex interlibrary loan system.

KEY: PROPOSED RULES SECTION — Underlining indicates additions to existing rule language. ~~Strike outs~~ indicate deletions from existing rule language. If a proposed rule is totally new, it is designated "all new material." **ADOPTED RULES SECTION** — Underlining indicates additions to proposed rule language. ~~Strike outs~~ indicate deletions from proposed rule language.

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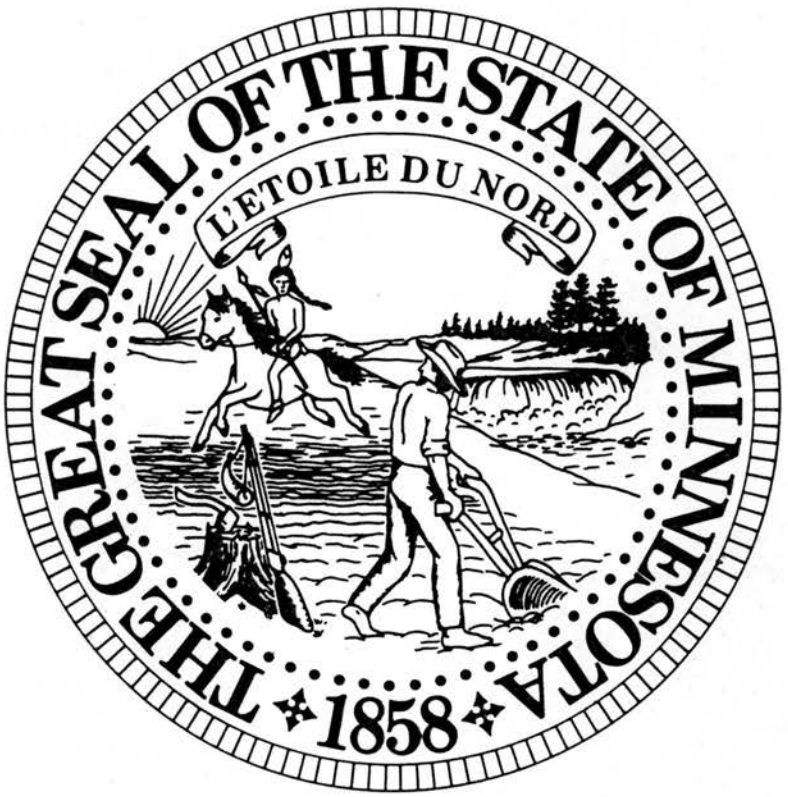
The Minnesota
State Register

Department of Administration—Print Communications Division



Rules edition
Published every Monday
(Tuesday if Monday is a holiday)

Monday 22 July 1991

Volume 16, Number 4

Pages 125-156

My question to the Ethical Practices Board is at what point should the City of Coon Rapids begin to comply with the filing of Statements of Economic Interest as mandated in M.S.A. 10A.09. This section does not obtain transition language for City's reaching the 50,000 population point.

Please advise as to the date the City needs to begin complying with this Statute and who is the "responsible authority" for collecting this data since S.F. #225 did not pass through the Legislature this year.

Department of Health

Notice of Solicitation of Outside Information or Opinions in the Matter of the Proposed Adoption of the Emergency Rules of the Minnesota Department of Health Governing the Use of Flush Threaded Polyvinyl Chloride Casing and Screens for Leak Detection and Monitoring Wells at Underground or Above Ground Petroleum Storage Tank Sites, Chapter 4725

NOTICE IS HEREBY GIVEN that the Minnesota Department of Health is seeking information or opinions from sources outside the Department in preparing to propose the adoption of emergency rules governing the use of flush threaded polyvinyl chloride casing and screens for leak detection and monitoring wells at underground or above ground petroleum storage tank sites, chapter 4725. The adoption of the rule is authorized by *Laws of Minnesota 1991*, chapter 175, section 1, which is codified as *Minnesota Statutes*, section 103I.222.

The Minnesota Department of Health requests information and opinions concerning the subject matter of the rule. Interested or affected persons or groups may submit data or views on the subject matter of concern in writing or orally. Written statements should be addressed to:

Dan Wilson
Minnesota Department of Health
Division of Environmental Health
925 Southeast Delaware Street
Minneapolis, Minnesota 55459

Oral statements will be received during regular business hours over the telephone at (612) 627-5161 by Dan Wilson and in person at the above address.

All statements of information and opinions shall be accepted until further notice is published in the *State Register* or the Notice of Hearing or Notice of Intent to Adopt Rules Without a Hearing is published in the *State Register.* Any written material received by the Minnesota Department of Health becomes part of the rulemaking record to be submitted to the attorney general or administrative law judge in the event that the rule is adopted.

Dated: 15 July 1991

Jane A. Nelson
Rules Coordinator

Department of Health

Notice of Solicitation of Outside Information or Opinions in the Matter of the Proposed Adoption of the Rules of the Minnesota Department of Health Relating to Infectious Waste Generators

NOTICE IS HEREBY GIVEN that the Minnesota Department of Health is seeking information or opinions from sources outside the Department in preparing to propose the adoption of rules relating to infectious waste generators. The adoption of the rule is

KEY: PROPOSED RULES SECTION — Underlining indicates additions to existing rule language. ~~Strike outs~~ indicate deletions from existing rule language. If a proposed rule is totally new, it is designated "all new material." **ADOPTED RULES SECTION** — Underlining indicates additions to proposed rule language. ~~Strike outs~~ indicate deletions from proposed rule language.

→ JANE NELSON

BRAUN[SM]
INTERTEC

Braun Intertec Environmental, Inc.
1345 Northland Drive
Mendota Heights, Minnesota 55120-1141
612-683-8700 Fax: 683-8888

Engineers and Scientists Serving the Built and Natural Environments

ONE "RESPONSE" TO EARLIER S.R. PERTAINING TO ISSUE. Dan

August 2, 1991

Dan Wilson
Minnesota Department of Health
Division of Environmental Health
925 Southeast Delaware Street
Minneapolis, MN 55459

Re: Opinion of Revision to Chapter 4725 Rules

Dear Mr. Wilson:

As requested in the State Register dated July 22, 1991, I would like to offer the opinion of Braun Intertec regarding the revision of chapter 4725 rules. In general, we agree with existing construction standards for monitoring wells with the exception of the current use restriction of flush threaded PVC casing and screens. It is our understanding that the Minnesota Department of Health is preparing to propose the adoption of emergency rules governing the use of flush threaded PVC for leak detection and monitoring wells at petroleum storage tank sites. It is our opinion that flush threaded PVC is an appropriate material to use for monitoring well construction at a majority of the sites our company is involved with. Most of the monitoring wells we install are less than 50 feet deep and are screened to intersect the water table. Past contention against the use of flush threaded PVC would therefore not apply in the majority of situations. That is, leakage through threaded joints (for water table wells) and the ability of the casing to withstand formation pressures (at relatively shallow depths) is not an issue.

Braun Intertec supports the proposed adoption of rules governing the use of flush threaded PVC. However, it is our opinion that the use of this material should be allowed at all types of sites in which it is deemed suitable, not only petroleum sites. It follows that if the use of flush threaded PVC produces a monitoring well which adequately protects the health and general welfare at a petroleum site, it should also perform similarly at other sites.

Sincerely,

Jon E. Scharf, P.E
Registered Monitoring Well Contractor
Registration #M0109



Recovery Equipment Supply Inc.

9060 Zachary Ln N. Ste. 116 P.O. Box 322 Maple Grove, MN 55369
Telephone 612-493-4818 FAX 612-493-4812 WATS 800-541-0518

October 7, 1991

Mr. Dan Wilson
Well Management Unit
Minnesota Department of Health
925 Southeast Delaware Street
P.O. Box 59040
Minneapolis, MN 55459-0040

Re: Monitoring Wells at Petroleum Storage Tank Sites

Mr. Wilson:

I have comments on two lines in this proposed rule:

Line 23: Commercially available bentonite grout with more than 20% solids should be allowed in addition to neat cement. When using bentonite grout, though, the top five feet should still be neat cement to provide a surface seal and support for the protective casing.

Line 27: Schedule 80 should be changed to schedule 40. There is no engineering reason that the heavier wall casing (sch 80) be used for maximum of 50 feet deep wells. The schedule 40 casing has adequate strength for these shallow wells. Furthermore, the reduced inside diameter (ID) of the heavier wall casing poses much difficulty in getting pumps and sampling devices that will fit.

If you have questions about what I have suggested please give me a call.

Sincerely,

David L. Kill

David L. Kill, P.E.
Sales Manager

DLK:yma



Environmental Engineers

Wenck

Wenck Associates, Inc.
1800 Pioneer Creek Ctr
Maple Plain, MN 55359

(612) 479-4200
Fax (612) 479-4242

October 11, 1991

Post-It™ brand fax transmittal memo 7671 | # of pages ▸

To Dan Wilson	From Paul Josephson
Co. MDH	Co. Wenck Associates Inc.
Dept. Well Mgmt Unit	Phone # 479-4207
Fax # 627-5135	Fax # 479-4242

Mr. Dan Wilson
Well Management Unit
Minnesota Department of Health
925 SE Delaware Street
P.O. Box 59040
Minneapolis, MN 55459-0040

Re: Emergency Rule of the MDH
Governing Flush Threaded PVC Casing and Screens
Used for Monitoring Wells at Petroleum Storage Tank Sites,
Minnesota Rules, part 4725.7605

Dear Mr. Wilson:

Wenck Associates, Inc. is pleased to see that the Minnesota Department of Health is considering adoption of the emergency rule for the installation of PVC casing and screens at petroleum storage tank sites. In general, we feel this a good step by the Department of Health.

We would take exception to one provision in the rule in Paragraph E. The rule states that PVC casing must meet at least standards of Schedule 80 PVC materials. Having worked with PVC materials in monitoring wells in the past we feel that Schedule 40 material would be sufficient in monitoring wells at petroleum storage tank sites where the depth of the monitoring well is limited to 50 feet or less as provided in this emergency rule. Schedule 80 PVC casing has a smaller inside diameter making installation of other materials within the casing difficult and costly, if not impossible.

It is not felt that at these depths the pressure would be sufficient to cause a collapse of the monitoring well casing particularly when the annular space is grouting.

We would recommend that the emergency rules allow for Schedule 40 PVC materials to be used in these monitoring wells.

Thank you for an opportunity to respond to the considered emergency rule.

Sincerely,

WENCK ASSOCIATES, INC.

Paul D. Josephson

Paul D. Josephson, P.E.
Vice President

PDJ/rlb

Ashland

Ashland Petroleum Company
DIVISION OF ASHLAND OIL, INC.

P.O. BOX 391 • ASHLAND, KENTUCKY 41114 • (606) 329-3333

ENVIRONMENTAL AFFAIRS DEPARTMENT

October 10, 1991

Mr. Dan Wilson
Well Management Unit
Minnesota Dept. of Health
925 SE Delaware Street
P. O. Box 59040
Minnesota, MN 55459-0040

Dear Dan:

Re: Emergency Rule 4725.7605
PVC Monitoring Wells

I'd like to take this opportunity to pass on a bit of relevant experience that may be helpful in fine-tuning the above referenced regulation. My comments are presented below and are referenced to the points *A* through *E* as published in the *State Register* (Cite 16 S.R. 585) on September 16, 1991 (Attached).

Point A

I believe a statement should be added to ensure that the screened interval take into account normal fluctuations of the water table.

Points B and C

Ashland Petroleum has installed PVC screens and riser pipes (Schedule 80) in consolidated materials as part of a groundwater monitoring network for a RCRA permitted landfill for petroleum refining wastes. The network has five wells in excess of 300 feet. No chemical or physical integrity problems were encountered. Well deviation was prevented with the use of centering attachments. Ashland has also had experience with 2-inch PVC wells installed to depths of 70 feet through a light phase petroleum layer. No deterioration has occurred in these wells.

Point D

I believe any backfill with low permeability (10^{-7}cm/sec) in the annular space would sufficiently seal the well. This would include bentonite products, natural clays from the borehole and bentonite/cement slurries.

Point E

No comment.

Thank you for the opportunity to comment.

Respectfully,

P. S. McCaffrey

Patrick S. McCaffrey

PSM/rfc:abr

BRUCE A. LIESCH ASSOCIATES, INC.
HYDROGEOLOGISTS • ENGINEERS • ENVIRONMENTAL SCIENTISTS

13400 15th Avenue No. • Plymouth, MN 55441 • 612-559-1423 • FAX No: 559-2202

September 26, 1991

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WELL MGT.

Mr. Dan Wilson
Well Management Unit
Minnesota Department of Health
925 Southeast Delaware Street
P.O. Box 59040
Minneapolis, MN 55459-0040

RE: Emergency Rules Regarding Flush Threaded PVC Casing and Screen

Dear Mr. Wilson:

I write on behalf of Bruce A. Liesch Associates, Inc. (Liesch), an environmental consulting firm who has been in the business of environmental consulting in Minnesota for over 20 years. Over those 20 years, Liesch has installed and coordinated the installation of numerous monitoring wells throughout the state, for projects ranging from water supply development, solid and hazardous waste management, site investigations, as well as petroleum storage tank investigations and remediation. One of the observations we have made in this extensive track record associated with monitoring well installation is the fact that we can see significant changes in the water table elevation based on climatological factors which are out of the control of the driller and the consultant. It is this observation which provides the basis for our concern regarding one of the elements of the proposed emergency rules regarding PVC wells at petroleum storage sites. As outlined in the State Register dated Monday September 16, 1991, one of the elements for a PVC monitoring well to be installed to code is that the screen must intersect the surface of the water table. This requirement begs the question that the well if a well is put in at the anticipated water table surface and the water level subsequently rises, whether it is a day later, month later or a year later, does this suggest that the well is then not installed to code and would require replacement.

It is our understanding that one of the justifications for requiring the screen to intersect the water table is so that joints connecting casing to casing are above the water table. If this is the concern of the MDH, it would seem prudent to modify requirement that the screen intersect the surface of the water table to indicate that joints between casing, other than the joint attaching the first length of the casing to the screen, may not be below the water table. This would allow wells that are installed at the water table, to still be built to code in the event the water table rises. This modification would appear

to meet the design criteria envisioned by the Department of Health and will not leave ambiguity in the interpretation as to which wells were built to code and which were not. Without this clarification, many consultants and well drillers may be reluctant to install water table wells utilizing PVC materials if they may subsequently be required to replace those wells solely because of additional recharge to the water table. We appreciate any consideration you may provide regarding this matter and are available to provide further comment to the Minnesota Department of Health. If you have any questions regarding our concerns, please call me at (612) 559-1423.

Sincerely,

Kenneth P. Olson

KPO/ljs

ljs:goltrb9-19/GO

CETCO
COLLOID ENVIRONMENTAL TECHNOLOGIES COMPANY

1500 West Shure Drive • Arlington Heights, IL. 60004-1434 • USA
708/392-5800 • Telex ITT 4330321 • FAX 708/506-6150

October 10, 1991

Mr. Dan Wilson
Well Management Unit
Minnesota Department of Health
925 Southeast Delaware Street
P.O. Box 59040
Minneapolis, Minnesota 55459-0040

Dear Mr. Wilson:

We at Colloid Environmental Technologies Company, a subsidiary of American Colloid Company, would like to take this means to express our concern about line 23 of the "Proposed Emergency Rules Relating to Flush Threaded Polyvinyl Chloride (PVC) Casing and Screens Used for Monitoring Wells at Petroleum Storage Tank Sites." Line 23 calls for grouting the annular space with neat cement. We would like high solids bentonite slurry grouts to be included in these regulations as a substitute for neat cement.

The high solids bentonite slurry grouts offer some advantages over neat cement. Some of these advantages include:

1. High solids bentonite grouts remain flexible and will stick to well casing instead of shrinking away from it.

2. No heat of hydration is generated with bentonite grouts so that PVC casing is not harmed.

3. Bentonite grouts have a neutral pH and will not adversely affect water quality.

4. Bentonite grouts are not as detrimental to the drillers equipment as neat cement and the equipment is more easily cleaned when bentonite is used.

5. High solids bentonite grouts provide very low permeability in the range of 1×10^{-7} to 1×10^{-8} cm/sec.

6. High solids bentonite grouts do not begin setting until mixing stops so that they remain pumpable for a long peripd of time.

7. When high solids bentonite grouts are used they require less material handling for the driller because the mix requires less material than the cement mix and in our opinion gives a superior seal.

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CETCO

8. If a well needs to be reconstructed or redrilled, the high solids bentonite grouts allow for this because they remain flexible and can be penetrated with a drill bit.

We hope these items mentioned above will persuade you to include high solids bentonite grouts in these regulations. We feel that in most cases bentonite provides a better seal than cement and therefore should be included.

Thank you for your consideration of this matter.

Sincerely,

Robert L. Oliver

Robert L. Oliver
Division Manager
CETCO

RLO/W009

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Johnson Filtration Systems Inc.
World Leader through Talent & Technology™
P.O. Box 64118 • St. Paul, Minnesota 55164-0118
612-636-3900 • 1-800-VEE-WIRE • FAX 612-638-3132

October 10, 1991

Mr. Dan Wilson
Well Management Unit
MINNESOTA DEPARTMENT OF HEALTH
925 Southeast Delaware St.
PO Box 59040
Minneapolis, MN 55459-0040

EMERGENCY RULE FOR SHALLOW UNDERGROUND STORAGE TANK WELLS

Dear Mr. Wilson:

Enclosed are our comments to consider in adapting the emergency rule for PVC casing and screen in shallow underground storage tank wells.

We feel that incorporating all of these comments will help insure that a high percentage of the completed wells will provide representative samples for analysis.

Sincerely,

George Gillespie
Technical Director Well Products

rv

Enc.

cc: Greg Hanson



Johnson Filtration Systems Inc.
World Leader through Talent & Technology™
P.O. Box 64118 • St. Paul, Minnesota 55164-0118
612-636-3900 • 1-800-VEE-WIRE • FAX 612-638-3132

JOHNSON FILTRATION SYSTEM'S INC.

COMMENTS TO PROPOSED EMERGENCY RULE FOR FLUSH THREADED PVC CASING AND SCREENS USED FOR MONITORING WELLS AT PETROLEUM STORAGE TANK SITES

A. Modifications: We recommend Item E be modified to allow the use of Sch 40 material.

1. Supporting Data: Comprehensive lab tests conducted over a two year period show that Sch 40 PVC material has adequate collapse and tensile strength to withstand the expected forces of installation and well development in fifty foot deep wells. The attached copy of Page 7 of our Environmental Products Brochure describes the values for 2" and larger size PVC products.

   This comment is based on installing the PVC materials through a hollow stem auger.

B. Additions: We recommend the following additions to the emergency well code.

1. The well construction to include filter pack design, slot selection, and cleanliness, will generally follow ASTM STP D5092-90; entitled "Standard Practice for Design and Installation of Groundwater Monitoring Wells in Aquifers".

   Copies of this practice are available from:

   ASTM
   1916 Race Street
   Philadelphia, PA 19103-1187

   Note: Alternate well completions can be utilized for unusual situations like heaving or running sands.

2. To insure effective sampling or recovery rates in silty, fine sand formations, the screen shall have at least 5% open area for a .010" opening.

3. If aquifer pumping tests are required, use at least a 4" casing and screen size.

4. Flush thread with two threads per inch as described in ASTM F480 - 90 are preferred because of easy assembly, particularly in cold weather.

Prepared by:
George Gillespie
Technical Director Well Products
October 10, 1991



PVC VEE-WIRE® SCREENS

PIPE SIZE	DIAMETER		SHIP WT (LB/FT)	OPEN AREA (SQ. IN/FT.)			STRENGTH[5]		
	O.D. (IN)	I.D.[1] (clear) (IN)		6-SLOT	10-SLOT	20-SLOT	COLLAPSE[2] (PSI)	TENSILE[3] (LBS)	HANGING[4] WT (LBS)
2 INCH	2.38	1.92	0.8	3.7	6.0	11.3	85	1,700	425
4 INCH	4.62	4.00	1.7	7.2	11.6	21.8	75	2,100	525
6 INCH	6.63	5.75	3.7	8.1	13.2	25.0	75	4,600	1,150
8 INCH	8.63	7.50	4.6	N/A	N/A	40.6	55	5,500	1,375

Specifications are based on heat welded Sch40 F480 flush threads for 2" through 6"PS. Also available are 1¼", 1½", 3" and 5"PS. 2" and 4" sizes are stocked in several lengths (10 and 20 slot).

1. Clear IDs are minimum inside dimensions.
2. Collapse strengths are based on a 20-slot screen.
3. Tensile strengths are based on the total area of the screen support rods.
4. Hanging weights are the maximum combined weight of riser and screen to be hung from the top screen joint.
5. Strength properties are based on 72°F temperature.
6. 8"PS have flush threads with solvent bonded lapstrip. Minimum slot for 8"PS is 15-slot (31.5 sq. in./ft. of open area).

PVC SLOTTED PIPE

PIPE SIZE	DIAMETER		SHIP WT (LB/FT)	OPEN AREA (SQ. IN./FT.)			STRENGTH[5]		
	O.D.	I.D.[1] (clear) (IN)		6-SLOT	10-SLOT	20-SLOT	COLLAPSE[2] (PSI)	TENSILE[3] (LBS)	HANGING[4] WT (LBS)
2 INCH	2.38	2.06	0.8	1.6	2.7	5.1	103	2,100	525
4 INCH	4.50	4.02	2.2	2.4	4.0	7.6	63	7,500	1,875
6 INCH	6.63	6.06	4.0	N/A	6.0	11.3	42	11,000	2,750
8 INCH	8.63	7.96	5.7	N/A	11.0	20.0	31	11,600	2,900

Specifications are for Sch40 material, Sch80 and other diameters up to 12"PS are available. Standard fittings are F480 flush threads. Adaptors required to match Sch80 threads with Sch40 threads. 2" and 4" sizes are stocked in several lengths (10 and 20 slot).

1. Clear IDs are minimum inside dimensions.
2. Collapse strengths are based on a 20 slot screen.
3. Tensile strengths are based on the joint tensile strength of F480 flush threads.
4. Hanging weights are the maximum combined weight of riser and screen to be hung from the top screen joint.
5. Strength properties are based on 72°F temperature.

PVC RISER PIPE

PIPE SIZE	DIAMETER		SHIP WT (LB/FT)	STRENGTH[5]			
	O.D. (IN)	I.D.[1] (clear) (IN)		COLLAPSE (PSI)	TENSILE[2] (LBS)	COLUMN[3] (LBS)	HANGING[4] WT (LBS)
2 INCH	2.38	2.06	0.8	147	2,100	37	525
4 INCH	4.50	4.02	2.2	90	7,500	405	1,875
6 INCH	6.63	6.06	4.0	60	11,000	1,575	2,750
8 INCH	8.63	7.62	5.7	44	11,600	4,140	2,900

Specifications are for Sch40 material. Sch80 and other diameters up to 12"PS are also available. Standard fittings are F480 flush threads. Adaptors required to match Sch80 threads with Sch40 threads. 2" and 4" sizes are stocked in several lengths.

1. Clear IDs are minimum inside dimensions.
2. Tensile strengths are based on the joint tensile strength of F480 flush threads.
3. Column strengths are the axial load for buckling failure based on a 20' span hinged at both ends.
4. Hanging weights are the maximum recommended weight of riser and screen hung as one string in a well. Other considerations may limit this value.
5. Strength properties are based on 72°F temperature.

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For more information call 800-Vee-Wire.

STATE OF MINNESOTA

MINNESOTA DEPARTMENT OF HEALTH

In the Matter of the Adoption of the Emergency Rules of the Minnesota Department of Health Governing Flush Threaded Polyvinyl Chloride (PVC) Casing and Screens Used for Monitoring wells at Petroleum Storage Tank Sites, Minnesota Rules, part 4725.7605

DECLARATION OF COUNSEL

I, Maria Christu, Special Assistant Attorney General, do hereby declare that I have examined the above-captioned rule, and the supporting rulemaking record, and that, based on my examination, the Administrative Procedure Act and Minnesota Rules, chapter 2010 have been followed. Any exceptions are listed below. For Attorney General billing purposes, the four-digit docket client code is 52 0015 · 1210

Maria C. Christu

Special Assistant
Attorney General

Dated: 11/7/91