

WISCONSIN LEGISLATIVE COUNCIL STAFF

LCRC
FORM 2

APR 14 1999

RULES CLEARINGHOUSE

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CLEARINGHOUSE REPORT TO AGENCY

[THIS REPORT HAS BEEN PREPARED PURSUANT TO S. 227.15, STATS. THIS IS A REPORT ON A RULE AS ORIGINALLY PROPOSED BY THE AGENCY; THE REPORT MAY NOT REFLECT THE FINAL CONTENT OF THE RULE IN FINAL DRAFT FORM AS IT WILL BE SUBMITTED TO THE LEGISLATURE. THIS REPORT CONSTITUTES A REVIEW OF, BUT NOT APPROVAL OR DISAPPROVAL OF, THE SUBSTANTIVE CONTENT AND TECHNICAL ACCURACY OF THE RULE.]

CLEARINGHOUSE RULE 99-051

AN ORDER to create chapter Comm 46, relating to petroleum environmental cleanup fund interagency responsibilities.

Submitted by **DEPARTMENT OF COMMERCE**

03-15-99 RECEIVED BY LEGISLATIVE COUNCIL.

04-12-99 REPORT SENT TO AGENCY.

RS:MCP:jal;kjf

LEGISLATIVE COUNCIL RULES CLEARINGHOUSE REPORT

This rule has been reviewed by the Rules Clearinghouse. Based on that review, comments are reported as noted below:

1. STATUTORY AUTHORITY [s. 227.15 (2) (a)]

Comment Attached YES NO

2. FORM, STYLE AND PLACEMENT IN ADMINISTRATIVE CODE [s. 227.15 (2) (c)]

Comment Attached YES NO

3. CONFLICT WITH OR DUPLICATION OF EXISTING RULES [s. 227.15 (2) (d)]

Comment Attached YES NO

4. ADEQUACY OF REFERENCES TO RELATED STATUTES, RULES AND FORMS
[s. 227.15 (2) (e)]

Comment Attached YES NO

5. CLARITY, GRAMMAR, PUNCTUATION AND USE OF PLAIN LANGUAGE [s. 227.15 (2) (f)]

Comment Attached YES NO

6. POTENTIAL CONFLICTS WITH, AND COMPARABILITY TO, RELATED FEDERAL
REGULATIONS [s. 227.15 (2) (g)]

Comment Attached YES NO

7. COMPLIANCE WITH PERMIT ACTION DEADLINE REQUIREMENTS [s. 227.15 (2) (h)]

Comment Attached YES NO

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CLEARINGHOUSE RULE 99-051

Comments

[NOTE: All citations to "Manual" in the comments below are to the Administrative Rules Procedures Manual, prepared by the Revisor of Statutes Bureau and the Legislative Council Staff, dated September 1998.]

I. Statutory Authority

a. The current draft of ch. Comm 46 presents substantial obstacles to determining whether the rule is consistent with the requirements of the groundwater law [ch. 160, Stats.]. Chapter Comm 46 uses terms and phrases that are not part of the groundwater law and defines regulatory concepts that are not taken from the groundwater law. The rule does not indicate, in even the most vague or general way, how any of its provisions relate to and satisfy the requirements of the groundwater law. In practice, it might be possible for the rule to be applied consistent with the mandates of the groundwater law. For example, the rule calls for further agency action to determine risk criteria and is based on case-by-case decisions with respect to individual contaminated sites. However, without further clarification, the current draft of ch. Comm 46 fails in many respects to meet the groundwater law requirements. The following comments on statutory authority describe some of the apparent groundwater law issues raised by the rule.

b. One substantial problem with the rule is the use of the terms "granting closure," "closed without requiring additional remediation efforts" and "approval for no further action." A basic principle of legal drafting is that different words and phrases should mean different things. These phrases are not defined in the rule, and it is impossible to determine from the context of the rule the precise meaning of these phrases and whether there are substantive differences between these phrases. The meaning of these phrases may affect whether or not the rule is consistent with actions required under the groundwater law and the hazardous substances spills law [s. 292.11, Stats.].

c. The rule does not refer to the “point of standards application,” which is a critical element for determining the applicability of the groundwater law at a particular site. Many provisions of the rule relating to on-site and off-site contamination appear to ignore this statutory requirement. The Department of Natural Resources (DNR) has promulgated a point of standards application for spill sites in s. NR 140.22 (2). The Department of Commerce does not appear to have promulgated a point of standards application for underground tanks as required by s. 160.21 (2), Stats.

d. Section 101.144 (3m) (a) 3., Stats., requires the departments to set “schedules” for determining whether a petroleum product discharge site should be classified as high, medium or low priority. Nothing in the rule sets or refers to a schedule.

e. The rule introduces the concept of “developable groundwater,” which is defined in s. Comm 46.02 (3) and used in the determination of risk criteria in s. Comm 46.05 (2) and the decisions regarding site closure in s. Comm 46.06. This term raises a number of questions both of clarity and statutory authority.

“Formation” in a geologic sense means soil or rock that has common characteristics and is mapped as a unit, such as the Niagara Escarpment. The rule does not indicate how large or small a “formation” may be and whether the technical geologic definition is intended.

The definition excludes “bedrock,” but does not define that term. Several definitions are possible, such as the definition in the private sewage system regulations in ch. Comm 83, the groundwater monitoring well requirements of ch. NR 141 or the well construction standards in ch. NR 812.

The formation must yield 0.2 gallons per minute or more of groundwater. Should the definition specify a time period during which the formation must produce this yield? That is, must the yield be on a sustained basis or is a shorter period of time acceptable?

The phrase “open bore hole” is used but not defined. Does this mean a well with no casing or screen? How large or deep could the bore hole be constructed? What construction methods could be used for the bore hole? Could the well driller use drilling mud?

The primary concern with respect to the groundwater law is the effect of the rule, which allows greater contamination to remain in nondevelopable groundwater. The first question is whether this distinction is consistent with the groundwater law. The groundwater law permits flexibility in responses, but not in the final goal. Also, the groundwater law generally does not authorize various responses to contamination based on the characteristics of groundwater. The rule does not indicate how the decisions regarding risks and closure in nondevelopable groundwater relate to ss. 160.23 and 160.25, Stats. The second question is how this distinction will be applied in practice. It is not clear how large an area of groundwater can be considered nondevelopable and how many bore holes will be required to determine the nondevelopable status of the area. Will the determination that an area has nondevelopable groundwater take into account the variability of soils, including cracks, fractures or root holes that may act as a conduit for groundwater?

f. Section Comm 46.05 (2) (c) appears to provide that contamination exceeding the enforcement standard below a public roadway or right-of-way is not a risk criterion. How does this

provision relate to the requirement under ss. 160.21 (2) (a) 2. and 160.25 (1), Stats., that an enforcement standard be met at the property boundary, among other places? It should be noted that a “public roadway” need not be in public ownership, only accessible to the public. Also, a public right-of-way could be a highway easement extending onto adjacent property beyond the edge of the pavement, a right-of-way that has been dedicated to public use but not yet constructed as a highway, or a utility easement not connected with a roadway. Is it the intent of the rule to require the closure of sites that involve contamination in excess of the enforcement standard at these locations?

g. Section 160.23 (1), Stats., sets forth certain regulatory responses that apply when the concentration of a substance in groundwater attains or exceeds a preventive action limit, but does not exceed an enforcement standard. Section 160.25 (1), Stats., sets forth regulatory responses that apply when the concentration of a substance in groundwater attains or exceeds an enforcement standard. Section Comm 46.06 (1) requires the closure of sites without requiring additional remedial efforts where contamination is either above the enforcement standard or below the enforcement standard but above the preventive action limit. The rule does not give an indication of how the standards and procedures in s. NR 46.06 (1) will produce results that meet the statutory requirements. The determination of whether the rule is adequate is made particularly difficult by the use of undefined phrases such as “environmental risk factors” and “source control.”

h. Section Comm 46.06 (1) (b) requires the closure of sites with contaminants at or above the enforcement standard on-site and below the enforcement standard off-site under certain conditions. The groundwater law does not make a similar distinction between on-site and off-site contamination. Contamination is measured at a “point of standards application” under ss. 160.23 and 160.25, Stats., to determine the need for a regulatory response. These statutes require a much more complex analysis than is provided in the rule and the procedure in the rule may not comply with the groundwater statutes.

i. Section Comm 46.06 (2) requires the recognition of errors in measurement, repeatability of test results and statistical significance in determining the level of contamination. This provision further requires the DNR and the Department of Commerce to develop a process for taking these issues into account. However, s. 160.19 (6), Stats., requires DNR to “promulgate by rule a scientifically valid procedure for determining if a preventive action limit or enforcement standard is, in fact, attained or exceeded.” The DNR has done so in s. NR 140.14, Wis. Adm. Code. The statute further requires that the procedure developed by DNR be used for “all regulatory and enforcement purposes under [ch. 160, Stats.]” How is it intended that this new procedure will relate to the existing statutory and rule requirements, and what is the authority for Commerce’s involvement in this process?

2. Form, Style and Placement in Administrative Code

a. The parenthetical “s” to indicate singular or plural, as used in s. Comm 46.02 (9) and several other places in the rule, is not proper form. [See, also, ss. 227.27 (1) and 990.001 (1), Stats.]

b. “And/or” should not be used in s. Comm 46.06 (2) or at several other places in the rule.

4. Adequacy of References to Related Statutes, Rules and Forms

The reference to “this section” in s. Comm 46.01 (2) is copied from the statute. The reference should be changed to s. 101.144, Stats., if this purpose is to be restated in the rule. Also, to be consistent with the statute, the rule should reference s. 292.11 (7), Stats.

5. Clarity, Grammar, Punctuation and Use of Plain Language

a. The purpose described in s. Comm 46.01 (1) should be more specific. For example, the rule could state that the purpose is to determine the functions of the two departments “in the administration of [the appropriate statutory cross-reference].”

b. The definition of “enforcement standard” in s. Comm 46.02 (5) conforms with the definition of that term in s. 160.01 (2), Stats. This definition uses the word “substance.” There is no reason why the word “compound” should be substituted for that term in s. Comm 46.02 (6) (c).

c. Section Comm 46.02 (6) (intro.) defines a high priority site as a type of “remediation site.” However, s. 101.144 (3m) (a) 3., Stats., refers to the “site of a discharge of a petroleum product from a petroleum storage tank.” It is not clear why a different term is used in the rule. As defined in the rule, a site cannot be classified as a high, medium or low priority site if it is not yet a remediation site. [See, also, s. Comm 46.02 (7) (intro.) and (8) (intro.).]

d. Section 101.143, Stats., uniformly uses the term “petroleum product.” It is not clear why s. Comm 46.02 (6) (a) and (7) (a) refers only to “petroleum” contamination.

e. The statute refers to the site of a discharge of a petroleum product “from a petroleum product storage system.” It is not clear why the phrase “petroleum product storage tank system” is used in s. Comm 46.02 (6) (a), “petroleum storage tank system” is used in s. Comm 46.02 (8) (a), and the phrase is omitted entirely from s. Comm 46.02 (7) (a).

f. The definitions of “high priority site” in s. Comm 46.02 (6) (a) and “medium priority site” in s. Comm 46.02 (8) (a) do not specifically require that the site be contaminated by a petroleum product. Petroleum product contamination appears to be assumed; it should be expressed.

g. Section Comm 46.02 (6) (b) refers to an “area of exceptional environmental value.” This term is not defined in the rule. The nearest term like this is “sensitive environment” in s. NR 700.03 (55). Is “area of exceptional environmental value” intended to relate to this existing definition? If so, the last phrase in this provision (“pose a greater than normal threat”) is unnecessary, because this is included in the definition of “sensitive environment.” If this phrase has some other meaning, the rule could be clarified to indicate the nature of the “threat.” What is intended to be the subject of the “threat,” and what is a “normal” threat?

h. “Established” as used in s. Comm 46.02 (6) (c) is superfluous. If an enforcement standard is not “established,” then it is not an enforcement standard.

i. The definition of “low priority site” in s. Comm 46.02 (7) (a) states that there must be “no threat” to groundwater. What level of contamination is deemed to pose no threat to groundwater?

j. The definition of “medium priority site” in s. Comm 46.02 (8) (b) requires that there be no confirmed groundwater contamination at or above the enforcement standard. However, this requirement is not restricted to contamination resulting from a petroleum product from a petroleum product storage tank. Is that the intent?

k. Section Comm 46.02 (9) should be rewritten in a less bureaucratic style and clarified to give it focus. If a site is eligible for closure, there does not appear to be any reason to additionally state that closure will be “granted.” Both “institutional control option” and “any other appropriate tool” are so vague as to be essentially meaningless.

l. The authority for a site does not “fall” under an agency’s jurisdiction as provided under s. Comm 46.03 (2). That authority is defined by ss. Comm 46.02 (6) to (8) and 46.03 (1). This sentence should commence: “The authority of DNR and Commerce for a site includes”

m. The agencies should be able to determine the scope of their authority for the various types of sites. This authority should be described specifically, if it is to be described at all, in s. Comm 46.03 (2), rather than using the catchall phrase “but is not limited to”

n. The authority described under s. Comm 46.03 (2) includes “enforcement.” Can the rule be more specific in describing what elements of statute or rule are to be enforced by the agencies?

o. “Decision making” should be hyphenated in s. Comm 46.03 (2) and other places in the rule.

p. The definitions of “Commerce” and “DNR” include “department.” It is therefore unnecessary to refer to the *departments* of Commerce and DNR in s. Comm 46.03 (3) (intro.).

q. The agencies are declared to have separate authority under s. Comm 46.03 (1) but joint responsibilities under s. Comm 46.03 (3) and several other provisions in the rule. The rule fails to specify clearly what it means for either agency to “have authority” for a site but also to have joint responsibilities for all sites.

r. Section Comm 46.03 (3) (a) is unclear. Does this provision mean that sites which are not competitively bid or bundled will not have remediation targets or does this mean that the setting of remediation targets for sites that are not competitively bid or bundled is the separate responsibility of each agency? If the latter is correct, should the setting of remediation targets be added to the authority listed under s. Comm 46.03 (2)? Does this provision intend that remediation targets will be set on a case-by-case basis for each site or will remediation targets be set generically for classes of sites? The rule does not expressly describe the connection between remediation targets and the risk criteria in s. Comm 46.05 (2). If there is a connection, can it be described in the rule? Although s. Comm 46.03 (3) (a) is in a subsection titled “JOINT ADMINISTRATION,” it does not appear to have any relationship to joint administration. How does this “joint administration” relate to the division of site authority under s. Comm 46.03 (1)?

s. Section Comm 46.03 (4) establishes standards for “closure decisions.” These decisions apply to sites with groundwater contamination at or above the enforcement standard. Is there any reason why the defined term “high priority site” is not used to describe these sites? Who prepares the site closure request under par. (a)? Also, par. (a) refers to the “appropriate fee.” What are the fees for this request? In par. (b), the rule does not indicate how DNR determines whether institutional controls are to be imposed or how DNR decisions relate to remediation targets. What are “institutional controls” and “tools”?

t. Section Comm 46.03 (4) (d) and (5) describe a process in which the Department of Commerce can request DNR to solicit a closure request from the site owner and a process for dispute resolution. It is not clear why s. Comm 46.03 (3) (a) allows for the joint setting of remediation target levels, but a process must be included in s. Comm 46.06 (2) (d) if the Department of Commerce believes that a site has met the remediation target. In par. (d), the phrase “they believe” should be replaced by the phrase “it believes” and the word “they” should be replaced by the word “it.”

u. Section Comm 46.03 (5) refers to disputes between the agencies “under subs. (3) or (4).” However, nothing in sub. (4) seems to relate to a possible dispute.

v. The phrase “shall be conducted in a manner designed to meet” in s. Comm 46.04 (1) should be replaced by “shall comply with.” Also, this subsection, like many provisions in the rule, uses the passive voice, and the rule does not indicate who has the responsibility to comply with ch. NR 716.

w. Having defined “Commerce” and “DNR,” the rule should use those terms rather than “the departments” in s. Comm 46.04 (2) and other places in the rule.

x. The intent of s. Comm 46.04 (2) could be substantially clarified. Is the requirement to develop this methodology a separate or joint responsibility of the agencies? What does it mean for the methodology to be “agreed upon”? Who agrees and how will this agreement be reached? Is it the intent that this methodology, when it is developed, will be incorporated into the rule?

y. The risk assessment in s. Comm 46.05 (1) relates to “safety and health” risks. Are these *public* safety and health risks? The phrase “action level” is used in this subsection, but there is no indication of what is meant by this term.

z. Section Comm 46.05 (2) (a) refers to environmental factors “defined in ch. Comm 47.” Chapter Comm 47 does not contain a definition of “environmental factors.”

aa. The rule uses the term “receptor of concern” in s. Comm 46.05 (2) (g). The term is not defined in the rule but will apparently be defined at some time later. If the departments know what is meant by this term, it should be defined or described in the rule.

ab. In the phrase “shall incorporate that” in s. Comm 46.06 (1) (intro.), how do the “actions” of the departments “incorporate” the provisions of that subsection? Could this phrase be replaced by something more understandable, such as “shall be based on the following, as applicable to a particular site”?

ac. The acronym "GIS" used in s. Comm 46.06 (1) (b) should be written out, or it should be defined.

ad. The phrase "may be closed after only the investigation" in s. Comm 46.06 (1) (d) needs to be rewritten. Also, can it be clarified how posing "no additional risk" relates to the risk criteria in s. Comm 46.05?

ae. What is an "additional risk" in s. Comm 46.06 (1) (e) and how does it relate to the risk criteria in s. Comm 46.05? Also, what does it mean to "resolve the risk"?

af. Section Comm 46.06 (1) (f) appears merely to describe the nature and effect of s. Comm 46.05 (2). It is unclear how this adds anything to the rule.

ag. A procedure for electronic tracking of remediation progress is required by s. Comm 46.06 (3). This electronic tracking is required to determine if remediation targets are achieved. However, the definition of "remediation target" relates only to sites which have contamination levels that provide eligibility for closure using institutional controls. Are there sites for which closure is available and institutional controls are not required? If so, should these also be included in the electronic tracking system? Is the achievement of remediation targets to be the only purpose for the electronic tracking system? Will the electronic tracking system be applied only to new claims or will it also be required for claims that are in progress? It appears sufficient to state, as provided in s. Comm 46.06 (3) (b), that DNR and the Department of Commerce will require the use of the reporting system by claimants. It is not clear why the rule must also state that use of the reporting systems will be enforced; all mandatory provisions of the rule are enforced.

ah. Is it intended that DNR requests additional information *from the applicant* under s. Comm 46.07 (1) (a)?

ai. What is the "enforcement action" referred to in s. Comm 46.07 (1) (b)? What is the consequence of an enforcement action initiated by DNR? Section Comm 46.07 (1) (intro.) and (b) require DNR to determine which agency has authority for the site *unless* the site is subject of an enforcement action. Does this mean that neither agency has authority for the site, or that DNR has authority for the site, if it has commenced an enforcement action?

aj. The phrase "they believe has jurisdiction" in s. Comm 46.07 (2) should be replaced by "they believe has authority under s. Comm 46.03 (1)."

ak. Section Comm 46.07 (3) should be rewritten. Obviously, an agency will not "transfer the site." Presumably, this means that the correct agency will be assigned *authority* for the site.

al. Section Comm 46.07 (4) refers to "target levels" and it is not clear how this relates to "remediation targets." If there is no difference, a single phrase should be used.

FEB 15 2000

**ORDER OF THE
DEPARTMENT OF COMMERCE
CREATING EMERGENCY RULE**

The Wisconsin Department of Commerce proposes an order amending Comm 47.53, relating to appeals of decisions issued under the Petroleum Environmental Cleanup Act (PECFA) program.

Analysis prepared by the Department of Commerce

Statutory authority: Sections 227.11 (2) (a) and 227.24, Wis. Stats.

Statutes interpreted: Sections 101.02 (6) and 101.143, Wis. Stats.

The proposed amendment of §Comm 47.53 expands the period for filing appeals from 30 days to 90 days and applies to decisions issued by the department between February 15, 2000 and June 30, 2000.

FINDING OF EMERGENCY

The Department of Commerce finds that an emergency exists and that the attached rule is necessary for the immediate preservation of the public peace, health, safety or welfare. A statement of the facts constituting the emergency is:

The department is receiving funds from a bonding initiative to enable it to issue approximately 3,500 decisions on applications for PECFA funding which had been awaiting the availability of funding. Because these decisions will be issued over a very short time frame, parties receiving

decisions and law firms representing them, will be required to review and analyze a large volume of decisions to determine whether they wish to appeal specific departmental decisions. Given the large number of decisions and the normal rate of appeals, it is reasonable to expect that the public will be required to prepare and file a large volume of appeals within a short time period. Attorneys, lenders and consultants representing multiple claimants have expressed concern about the workload associated with having to review decisions and draft appeals on the higher volume of decisions issued by the department within the current 30 day window. The emergency rule temporarily expands the filing period from 30 days to 90 days to provide additional time to evaluate decisions and determine whether an appeal should be filed. The rule covers the time period when the highest volume of decisions are to be issued.


SECTION 1. Comm 47.53 (1) (b) is amended to read:

Comm 47.53 (1) (b)(b) *Appeal requirements*. All appeals pursuant to this chapter shall be filed no later than 30 calendar days from the date of the decision being appealed, except that appeals from decisions issued between February 15, 2000, and June 30, 2000, shall be filed no later than 90 calendar days from the date of the decision being appealed. The department may make a determination not to proceed with a request for a hearing depending on the nature of or amount of the cost item being appealed.

This rule is adopted as an emergency rule to take effect upon publication in the official state newspaper as provided in s. 227.24 (1) (c), Wis. Stats.

Dated at Madison, Wisconsin February 11, 2000

STATE OF WISCONSIN
DEPARTMENT OF COMMERCE

By 
Brenda J. Blanchard, Secretary

(SEAL)

FISCAL ESTIMATE
DOA-2048 (R10/92)

ORIGINAL
 CORRECTED

UPDATED
 SUPPLEMENTAL

LRB or Bill No./Adm. Rule No.
Comm 47
Amendment No. if Applicable

Subject: Petroleum Environmental Cleanup Fund

Fiscal Effect

State: No State Fiscal Effect

Check columns below only if bill makes a direct appropriation
or affects a sum sufficient appropriation

Increase Existing Appropriation
 Decrease Existing Appropriation
 Create New Appropriation
 Increase Existing Revenues
 Decrease Existing Revenues

Increases Costs - May be possible to Absorb
Within Agency's Budget Yes No
 Decrease Costs

Local: No local government costs

1. Increase Costs
 Permissive Mandatory
2. Decrease Costs
 Permissive Mandatory

3. Increase Revenues
 Permissive Mandatory
4. Decrease Revenue
 Permissive Mandatory

5. Types of Local Governmental Units Affected:
 Towns Villages Cities
 Counties Others _____
 School Districts WTCS Districts

Fund Sources Affected

GPR FED PRO PRS SEG SEG-S

Affected Ch. 20 Appropriations

Assumptions Used in Arriving at Fiscal Estimate

The Department is promulgating the rule to temporarily expand a filing period from 30 days to 90 days, to provide PECFA claimants additional time to consider whether a funding decision from the Department should be appealed. There are no fiscal impacts to this rule change.

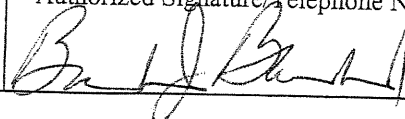
Long-Range Fiscal Implications

None known.

Agency/Prepared by: (Name & Phone No.)

Bill Morrissey 266-7605

Authorized Signature/Telephone No.



Date

2/11/00

FISCAL ESTIMATE WORKSHEET
 Detailed Estimate of Annual Fiscal Effect
 DOA-2047(R02/97)

ORIGINAL
 CORRECTED

UPDATED
 SUPPLEMENTAL

LRB or Bill No./Adm. Rule No.
 Comm 47

Amendment No.

Subject Petroleum Environmental Cleanup Fund

I. One-time Costs or Revenue Impacts for State and/or Local Government (do not include in annualized fiscal effect):

II. Annualized Costs:	Annualized Fiscal impact on State funds from:	
	Increased Costs	Decreased Costs
A. State Costs By Category	\$	\$ -
State Operations - Salaries and Fringes		
(FTE Position Changes)	(0 FTE)	(- 0 FTE)
State Operations - Other Costs		-
Local Assistance		-
Aids to Individuals or Organizations		-
TOTAL State Costs By Category	\$ 0	\$ - 0
B. State Costs By Source of Funds	Increased Costs	Decreased Costs
GPR	\$	\$ -
FED		-
PRO/PRS	0	- 0
SEG/SEG-S	0	- 0
III. State Revenues- Complete this only when proposal will increase or decrease state revenues (e.g., tax increase, decrease in license fee, etc.)	Increased Rev.	Decreased Rev.
GPR Taxes	\$	\$ -
GPR Earned		-
FED		-
PRO/PRS	0	- 0
SEG/SEG-S	0	- 0
TOTAL State Revenues	\$ 0	\$ - 0

NET ANNUALIZED FISCAL IMPACT

	<u>STATE</u>	<u>LOCAL</u>
NET CHANGE IN COSTS	\$ 0	\$ 0
NET CHANGE IN REVENUES	\$ 0	\$ 0

Agency/Prepared by: (Name & Phone No.)

Bill Morrissey, 266-7605

Authorized Signature/Telephone No.

Bill Morrissey

Date

2/11/00



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Madison, Wisconsin 53707
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Tommy G. Thompson, Governor
Brenda J. Blanchard, Secretary

October 12, 2000

Senate Chief Clerk
Room 501
119 Martin Luther King Blvd
Madison, Wisconsin 53703

Assembly Chief Clerk
Room 402
1 East Main Street
Madison, Wisconsin 53703

Dear Chief Clerks:

**TRANSMITTAL IN FINAL DRAFT FORM OF ADMINISTRATIVE
RULES AND REPORT**

CLEARINGHOUSE RULE NO.: 00-130

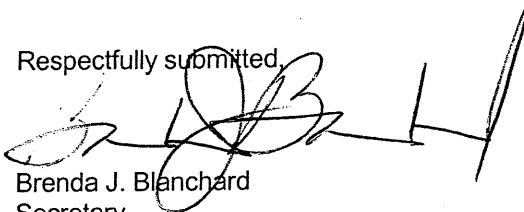
RULE NO.: Chapter Comm 46

RELATING TO: Risk Screening and Closure Criteria for Petroleum Product Contaminated Sites,
and Agency Roles and Responsibilities

Pursuant to section 227.19, Stats., agencies are required to submit, in triplicate, copies of the proposed administrative rules in final draft form together with a rule report and an analysis. The recommendations received from the Legislative Council are also to be submitted.

At this time, this material, together with cover letters to the President of the Senate and the Speaker of the Assembly, is being transmitted for referral to the standing committees for legislative review.

Respectfully submitted,


Brenda J. Blanchard
Secretary

OCT 13 2000

P.O. Box 7970
Madison, Wisconsin 53707
(608) 266-1018
TDD#: (608) 264-8777
www.commerce.state.wi.us



Tommy G. Thompson, Governor
Brenda J. Blanchard, Secretary

October 12, 2000

Senator Fred Risser
President of the Senate
Room 220 South, State Capitol
Madison, Wisconsin 53702

Representative Scott Jensen
Speaker of the Assembly
Room 211 West, State Capitol
Madison, Wisconsin 53702

Dear Senator Risser and Representative Jensen:

NOTICE OF ADMINISTRATIVE RULES IN FINAL DRAFT FORM

CLEARINGHOUSE RULE NO.: 00-130

RULE NO.: Chapter Comm 46

RELATING TO: Risk Screening and Closure Criteria for Petroleum Product Contaminated Sites, and Agency Roles and Responsibilities

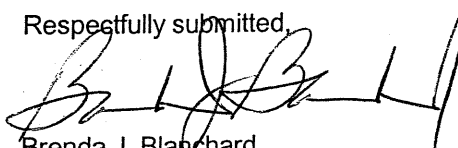
Section 227.19, Stats., requires agencies to submit proposed rules in final draft form to the presiding officer of each house for referral to the appropriate legislative standing committees.

The following information, as required by law, is being submitted to you.

1. Rules in final draft form (in triplicate).
2. Report consisting of:
 - a) Rule Report.
 - b) Public Hearing Attendance Record.
 - c) Public Hearing Comment and Agency Response Form.
 - d) Legislative Council Rules Clearinghouse Report.
 - e) Response to Legislative Council Rules Clearinghouse Report.
 - f) Fiscal Estimate.
 - g) Final Regulatory Flexibility Analysis.

If you have any questions regarding this matter, please do not hesitate to contact us.

Respectfully submitted,


Brenda J. Blanchard
Secretary

FINAL REGULATORY FLEXIBILITY ANALYSIS

Department of Commerce

CLEARINGHOUSE RULE NO.: 00-130

RULE NO.: Chapter Comm 46

RELATING TO: Risk Screening and Closure Criteria for Petroleum Product Contaminated Sites,
and Agency Roles and Responsibilities

Final regulatory flexibility analysis not required. (Statement of determination required.)

1. Reason for including or failing to include the following methods for reducing impact of the rule on small businesses: Less stringent compliance or reporting requirements; less stringent schedules or deadlines for compliance or reporting requirements; simplification of compliance or reporting requirements; establishment of performance standards to replace design or operational standards; exemption from any or all requirements.

The rule by its provisions provides an increased amount of flexibility for all businesses and owners of contaminated property. The rule establishes risk criteria that will allow sites to close after a site investigation if risk screening and closure criteria are satisfied. Comm 46 will allow site owners to make maximum use of the current flexible closure provisions contained in the Department of Natural Resources's Chapter NR 726, Wisconsin Administrative Code.

2. Issues raised by small businesses during hearings, changes in proposed rules as a result of comments by small businesses and reasons for rejecting any alternatives suggested by small businesses.

During the hearing process no unique small business issues were raised. The issues responded to were generally on the technical provisions of the rule. The overall purpose and impact of the rule is to provide more options and risk based decision making for sites that are required to conduct remediations of petroleum contaminations. This will benefit small and large businesses.

(Continued on reverse side)

3. Nature and estimated cost of preparation of any reports by small businesses.

The rule package does not increase the number of reports required from small businesses. The rule does, however, eliminate the need for many owners to prepare a remedial action report. The rule also will eventually decrease the number and scope of progress reporting required by environmental consultants.

4. Nature and estimated cost of other measures and investments required of small businesses.

The rule will not require additional costs or investments on the part of small businesses.

5. Additional cost to agency of administering or enforcing a rule which includes any of the methods in 1. for reducing impact on small businesses.

At this point in time, the long term fiscal impact of the changes cannot be determined. A workload study will follow that will be completed by the DNR and Commerce that will assess the rule for final impact.

6. Impact on public health, safety and welfare caused by including any of the methods in 1. for reducing impact on small businesses.

The rule will not adversely impact public health, safety or welfare.

RULE REPORT

Department of Commerce

Rule No.: Chapter Comm 46

Relating to: Risk Screening and Closure Criteria for Petroleum Product Contaminated Sites, and Agency Roles and Responsibilities

Agency contact person for substantive questions:

Name William J. Morrissey

Title Acting Deputy Administrator, Environmental and Regulatory Services Division

Telephone Number 608-266-7605

Agency contact person for internal processing:

Name Sam Rockweiler

Title Code Consultant

Telephone Number 608-266-0797

1. Agency statutory authority under which the agency intends to promulgate the rule(s).
101.143 and 101.144, Stats.
2. Citation of federal regulations which require adoption or which are relevant to the proposed rule(s).
None known.
3. Citation of court decisions which are applicable to the proposed rule(s).
None known.

4. Description of the proposed rule(s).

The proposed permanent rule would replace an emergency rule that was adopted on May 4, 2000. The rule addresses the interagency responsibilities between the Departments of Commerce and Natural Resources in jointly administering the Petroleum Environmental Cleanup Fund program, such as the classification of sites contaminated by petroleum products and the disbursement of cleanup funds.

5. Reason for the proposed rule(s).

These rules are in response to requirements in section 9110 (3yu) of 1999 Wisconsin Act 9, which required the Departments of Commerce and Natural Resources to promulgate rules codifying their interagency responsibilities in jointly administering the PECFA program.



State of Wisconsin \ Department of Commerce

RULES in FINAL DRAFT FORM

Rule No.: Chapter Comm 46

Relating to: Risk Screening and Closure Criteria for Petroleum Product
Contaminated Sites, and Agency Roles and Responsibilities

Clearinghouse Rule No.: 00-130

**ORDER OF THE
DEPARTMENT OF COMMERCE**

CREATING RULES

The Wisconsin Department of Commerce proposes an order to create ch. Comm 46 as a joint rule with the Department of Natural Resources, relating to sites contaminated with petroleum products discharged from petroleum storage tanks.

Analysis prepared by the Department of Commerce

Statutory authority: Section 227.11 (2)(a), Stats.

Statutes interpreted: Sections 101.143, 101.144, 292.11, and 292.31 and ch. 160, Stats.

Chapter Comm 46 is identical to ch. NR 746 that is being promulgated by the Department of Natural Resources.

Chapter Comm 46 provides that the Department of Natural Resources has authority for “high-risk sites” and that the Department of Commerce has authority for “low and medium risk sites.” The rule requires the Department of Natural Resources to transfer authority for sites with petroleum contamination from petroleum storage tanks to the Department of Commerce once the site is classified, unless the site is classified as a “high-risk site” or the site is contaminated by one or more hazardous substances other than petroleum products discharged from a petroleum storage tank. The rule also establishes procedures for transferring sites from one agency to the other whenever new information relevant to the site classification becomes available.

Chapter Comm 46 also provides jointly developed requirements for:

1. Selecting remedial bids and the setting of remediation targets for sites that are competitively bid or bundled with another site or sites.
2. Determining when sites may close.
3. Determining when remediation by natural attenuation may be approved as the final remedial action for a petroleum-contaminated site.
4. Tracking the achievement of remediation progress and success.
5. Reporting of program activities.

SECTION 1. Chapter Comm 46 is created to read:

CHAPTER COMM 46

RISK SCREENING AND CLOSURE CRITERIA FOR PETROLEUM PRODUCT
CONTAMINATED SITES, AND AGENCY ROLES AND RESPONSIBILITIES

Comm 46.01 Purpose. One purpose of this chapter is to identify the roles, processes and procedures that guide the departments of commerce and natural resources in the administration of their respective responsibilities under ss. 101.143, 101.144, 292.11 and 292.31, and ch. 160, Stats., for oversight and supervision of high, medium and low risk sites where petroleum products have discharged from petroleum storage tanks. This chapter codifies a memorandum of understanding that is required by s. 101.144 (3m), Stats. Another purpose of this chapter is to establish standards to be applied by both agencies for determining when sites can be closed because it can be documented during either the investigation or remediation phase that the risk screening criteria in s. Comm 46.06 and the closure criteria in s. Comm 46.07 or 46.08 have been satisfied. The risk screening and closure criteria in this chapter, when used to make closure decisions, define on a site-specific basis when natural attenuation will achieve groundwater enforcement standards within a reasonable time. Nothing in this chapter is intended to limit the independent authority of either agency to carry out responsibilities not specifically described in this chapter, including, without limitation, the authority of the department of commerce to apply ch. Comm 47.

Note: This rule, adopted jointly by the Department of Commerce and the Department of Natural Resources, also appears in the Wisconsin Administrative Code as ch. NR 746.

Comm 46.02 Applicability. This chapter only applies to sites where petroleum products have discharged from petroleum storage tanks.

Comm 46.03 Definitions. In this chapter:

(1) "Discharge" has the meaning specified in s. 292.01 (3), Stats.

Note: Under s. 292.01 (3), Stats., "discharge" means, but is not limited to, "spilling, leaking, pumping, pouring, emitting, emptying or dumping."

(2) "DNR" means the department of natural resources.

(3) "Enforcement standard" has the meaning specified in s. 160.01 (2), Stats.

Note: Section 160.01 (2), Stats., defines “enforcement standard” to mean “a numerical value expressing the concentration of a substance in groundwater which is adopted under ss. 160.07 and 160.09.”

(4) "Free product" means petroleum product that is not in dissolved phase, and is present with a thickness of 0.01 feet or more as verified by more than one sampling event.

(5) “Groundwater” has the meaning specified in s. 160.01 (4), Stats.

Note: Section 160.01 (4), Stats., defines “groundwater” to mean “any water of the state, as defined in s. 281.01 (18), occurring in a saturated subsurface geological formation of rock or soil.” Section 281.01 (18), Stats., defines “waters of the state” to include “those portions of Lake Michigan and Lake Superior within the boundaries of this state, and all lakes, bays, rivers, streams, springs, ponds, wells, impounding reservoirs, marshes, watercourses, drainage systems and other surface water or groundwater, natural or artificial, public or private, within this state or its jurisdiction.”

(6) “High-risk site” has the meaning specified in s. 101.144 (1)(aq), Stats. (as created by 1999 Wis. Act 9).

Note: Section 101.144 (1)(aq), Stats., defines “high-risk site” to mean “the site of a discharge of a petroleum product from a petroleum storage tank if at least one of the following applies:

1. Repeated tests show that the discharge has resulted in a concentration of contaminants in a well used to provide water for human consumption that exceeds a preventive action limit, as defined in s. 160.01 (6).

2. Petroleum product that is not in dissolved phase is present with a thickness of 0.01 feet or more, as shown by repeated measurements.

3. An enforcement standard is exceeded in groundwater within 1,000 feet of a well operated by a public utility, as defined in s. 196.01 (5), or within 100 feet of any other well used to provide water for human consumption.

4. An enforcement standard is exceeded in fractured bedrock.”

(7) “Low permeability material” means subsurface material above bedrock, as defined in s. NR 141.05 (5), that is at or below the water table and has a hydraulic conductivity less than or equal to 1×10^{-5} centimeters per second that has been determined as required in s. Comm 46.05.

Note: Section NR 141.05 (5) defines “bedrock” to mean “ the solid rock underlying any loose surficial material such as soil, alluvium or glacial drift. Bedrock includes but is not limited to limestone, dolomite, sandstone, shale and igneous and metamorphic rock.” In the absence of evidence to the contrary, the agencies consider all bedrock in Wisconsin to be fractured.

(8) “Low risk site” means the site of a discharge of a petroleum product from a petroleum storage tank where contaminants are contained only within the soil on the source property and there is no confirmed contamination in the groundwater.

(9) “Medium risk site” means the site of a discharge of a petroleum product from a petroleum storage tank where contaminants have extended beyond the boundary of the source property, or there is confirmed contamination in the groundwater, but the site does not meet the definition of a high-risk site.

(10) “Monitoring well” means a groundwater monitoring well designed, installed, constructed and developed in accordance with the requirements of ch. NR 141, for the purpose of monitoring groundwater or obtaining geologic or groundwater related data. The term “monitoring well” includes piezometers and water table observation wells.

(11) “Natural attenuation” has the meaning specified in s. 101.143 (1)(cq), Stats.

Note: Section 101.143 (1)(cq), Stats., defines “natural attenuation” to mean “the reduction in the concentration and mass of a substance, and the products into which the substance breaks down, due to naturally occurring physical, chemical and biological processes.” These processes occur without human intervention or enhancement, and include, but are not limited to, dispersion, diffusion, sorption and retardation, and degradation processes such as biodegradation, abiotic degradation and radioactive decay.

(12) “Permeable material” means a subsurface material that is at or below the water table and that is not a low permeability material.

(13) “Petroleum product” has the meaning specified in s. 101.143 (1)(f), Stats.

Note: Section 101.143 (1)(f), Stats., defines “petroleum product” to mean “gasoline, gasoline alcohol fuel blends, kerosene, fuel oil, burner oil, diesel fuel or used motor oil.” The term “petroleum product” includes substances that are, or once were, constituents of a petroleum product, including petroleum product additives.

(14) "Petroleum storage tank" has the meaning specified in s. 101.144(1)(bm), Stats.

Note: Section 101.144 (1)(bm), Stats., defines "petroleum storage tank" to mean "a storage tank that is used to store petroleum products together with any on-site integral piping or dispensing system." The term "petroleum storage tank" does not include a pipeline facility.

(15) "Preventive action limit" has the meaning specified in s. 160.01 (6), Stats.

Note: Section 160.01 (6), Stats., defines "preventive action limit" to mean "a numerical value expressing the concentration of a substance in groundwater which is adopted under s. 160.15."

(16) "Property boundary" has the meaning specified in s. 160.01(6m), Stats.

Note: Section 160.01(6m), Stats., defines "property boundary" to mean "the boundary of the total contiguous parcel of land owned by a common owner, regardless of whether public or private roads run through the parcel."

(17) "Release" means the discharge to the environment from a petroleum storage tank.

(18) "Remedial action" means a response action taken to control, minimize or eliminate the discharge of petroleum products so that they do not present an actual or potential threat to public health, safety or welfare or the environment. The term "remedial action" includes actions taken to restore the environment to the extent practicable and to meet applicable environmental standards, and includes natural attenuation. Examples include containment, treatment, excavation, disposal, recycling or reuse, and any monitoring required to assure that such actions protect public health, safety and welfare and the environment.

(19) "Remediation target" means a goal that may be set for a site, to clearly establish the contaminant concentration in groundwater or soil, or both, that when achieved will result in the granting of site closure.

(20) "Responsible person" has the meaning specified in s. 101.144(1)(d), Stats.

Note: Section 101.144(1)(d), Stats., defines "responsible person" to mean "a person who owns or operates a petroleum storage tank, a person who causes a discharge from a petroleum storage tank or a person on whose property a petroleum storage tank is located."

(21) "Site" means any area where a petroleum product has discharged.

Note: Because the term "discharge" has been interpreted by the Wisconsin supreme court to include the migration of hazardous substance contamination after it is released to the environment, the term "site" includes all areas to which petroleum-product contamination has migrated, including areas not on the source property. The term "site" and "source property" are not synonymous. A "site" can be larger or smaller than a "source property." The term "site" is synonymous with the term "occurrence" as that term is used by the department of commerce in ch. Comm 47. The term "site" is used here in order to establish common terminology that will be used by both the department of commerce and the department of natural resources in the implementation of ch. Comm 46.

(22) "Site closure" or "site closed" means a determination made pursuant to this chapter and ch. NR 726 that applicable groundwater quality standards in ch. NR 140 have been met or will be met by relying on natural attenuation and that applicable soil cleanup standards in ch. NR 720 have been met or will be met by relying on a remedial action performance standard.

(23) "Soil" has the meaning specified in s. NR 700.03 (58).

Note: Section NR 700.03 (58) defines "soil" to mean "unsaturated organic material, derived from vegetation and unsaturated, loose, incoherent rock material, of any origin, that rest on bedrock other than foundry sand, debris and any industrial waste."

(24) "Source control" means actions taken to remove or treat soil or groundwater contamination, or both, actions taken to minimize the leaching of soil contamination to groundwater, and actions taken to prevent the migration of groundwater contamination. The term "source control" includes tank removal, the removal of free product and contaminant hot spot removal or treatment. The term "source control" does not include groundwater monitoring, soil sampling, recycling or reuse of contaminants, reliance on natural attenuation to address residual contamination, or changes to a facility's design, operation, construction or waste handling or disposal practices.

(25) "Source property" means the parcel of land on which petroleum-product contamination was originally released to the environment.

(26) "Unsaturated" means soil or other material that is found above the water table.

(27) "Utility corridor" has the meaning specified in s. NR 700.03 (66m).

Note: Section NR 700.03 (66m) defines “utility corridor” to mean “any utility line that runs underground and any backfilled trench that was constructed to install a water main or lateral, a sewer main or lateral or other utility line.”

(28) “Water table” has the meaning specified in s. NR 141.05 (45).

Note: Section NR 141.05 (45) defines “water table” to mean “the surface of unconfined groundwater where the water pressure is equal to atmospheric pressure.” The term “water table” is used in this chapter to establish the upper elevation of “groundwater” as that term is defined in s. 160.01 (4), Stats. Section 160.01 (4), Stats., defines “groundwater” to mean “any of the waters of the state, as defined in s. 281.01 (18), occurring in a saturated subsurface geological formation of rock or soil.”

Comm 46.04 Site authority. (1) **ADMINISTRATIVE AUTHORITY.** The administrative authority of the department of commerce and DNR for a site includes enforcement, setting remediation targets, remediation supervision and direction, and decision-making regarding the granting or denying closure and deciding whether or not further remedial action is required. DNR has the authority under s. 292.11 (7) (c), Stats., to issue orders to a person who possesses or controls a hazardous substance that was discharged, or who caused the discharge of a hazardous substance, specifying the remedial action that the responsible person is required to take under s. 292.11 (3), Stats. The department of commerce has the authority under s. 101.144 (2) (a), Stats., to issue orders to a person who owns or operates a petroleum storage tank, a person who causes a discharge from a petroleum tank or a person on whose property a petroleum storage tank is located, to require that person to take remedial action in response to those discharges of petroleum products from petroleum storage tanks over which the department of commerce has jurisdiction. The assignment of administrative authority for high-risk sites and medium and low risk sites, where discharges of petroleum products from petroleum storage tanks have occurred, shall be determined according to the following criteria:

(a) DNR shall have administrative authority for those sites that meet any of the following criteria:

1. Sites that have not been classified.
2. Sites that are classified as high-risk sites.
3. Sites with soil or groundwater that is contaminated by one or more hazardous substances other than petroleum products discharged from a petroleum storage tank, where the

petroleum contamination is commingled with one or more hazardous substances other than petroleum products from a petroleum storage tank.

(b) The department of commerce shall have administrative authority for those sites that meet both of the following criteria:

1. Sites that have been classified as low risk or medium risk.
2. Sites where petroleum contamination is not commingled with one or more hazardous substances other than petroleum products discharged from a petroleum storage tank.

(2) REMEDIATION TARGETS. (a) The department of commerce and DNR shall jointly determine remediation targets for high-risk sites that are competitively bid or bundled with another site or sites pursuant to s. Comm 47.337 (4)(a) 3. and 4., and shall jointly review and select remedial bids.

(b) The department of commerce shall set remediation targets for low risk and medium risk sites that are competitively bid or bundled with another site or sites pursuant to s. Comm 47.337 (4) (a) 3. and 4., and review and select remedial bids.

(c) When a remediation target is not established under par. (a) or (b), the goal that shall be achieved to obtain site closure is prescribed by applicable provisions in this chapter and ch. NR 726.

Comm 46.05 Site investigation. (1) GENERAL. In conducting an investigation of a site where petroleum products have discharged from a petroleum storage tank, the responsible person shall meet the requirements of ch. NR 716 and minimize costs while providing sufficient data necessary for risk assessment screening and decision-making under this section and ss. Comm 47.337 and 47.339, ss. Comm 46.06, 46.07 and 46.08, and chs. NR 720, 722 and 726. If a responsible person does not have the expertise and qualifications required under ch. NR 712 to adequately respond to any of the requirements of this chapter, the responsible person shall retain the services of a qualified consultant to conduct the required work or analysis on behalf of the responsible person.

(2) SITE DATA. (a) *General.* The data collected by the responsible person during the site investigation shall include, but not be limited to, the following information:

1. Whether contamination is found in soil or groundwater, or both.
2. The degree and extent of soil contamination and groundwater contamination, if any.
3. Nature and distribution of geologic materials on the site and general hydrogeologic information.

4. The hydraulic conductivities of materials where contaminated groundwater is found, including the downgradient perimeter of the groundwater contaminant plume.

5. Whether the groundwater contaminant plume is contained within low permeability material or extends into permeable material.

6. Whether there is evidence of migration of petroleum product contamination within a utility corridor or a permeable soil layer along which vapors, free product or contaminated water may flow.

7. Whether there is evidence of migration or imminent migration of petroleum product contamination to building foundation drain tile, sumps or other points of entry into buildings.

(b) *Hydraulic conductivity tests.* During the site investigation, or during the gathering of additional information as directed by the agency with administrative authority under sub. (3), the responsible person shall determine the hydraulic conductivity of materials where contaminated groundwater is found at the site, in conformance with the following requirements:

1. Hydraulic conductivity shall be determined at a monitoring well located within but near the downgradient perimeter of the groundwater contaminant plume unless subd. 2. is applicable.

2. Notwithstanding the requirements in subd. 1., the agency with administrative authority for the site may determine that a hydraulic conductivity result from a monitoring well outside of the plume is representative of the hydraulic conductivity of materials within the plume, based on a comparison of monitoring well logs for monitoring wells installed inside and outside of the plume, and that it is not necessary to conduct a hydraulic conductivity test at a monitoring well within the plume.

(3) **SUPPLEMENTAL SITE INVESTIGATION INFORMATION.** If the site investigation report was submitted prior to May 18, 2000, supplemental site information that is necessary to make the determinations required under sub. (1) may be required by the agency with administrative authority. The responsible person shall use existing site data unless the agency with administrative authority for the site determines that the existing site data are insufficient to make the determinations required in sub. (1). Existing site data may include, but are not limited to, monitoring well development data, monitoring well purging and sampling data, rising and falling head test data, yield test data, pump test data, monitoring well and boring logs, grain size analysis, local and regional geology, subsurface description, depositional environment, expected and actual degree and extent of contamination, or a combination of the data. If a determination is made by the agency with administrative authority for the site that existing site data are insufficient, the responsible person shall then gather the information necessary to make the determinations required under sub. (1), including determining the hydraulic conductivity of the

materials where contaminated groundwater is found at the site in compliance with the requirements of sub. (2)(b).

(4) GROUNDWATER CONTAMINANT BEHAVIOR. (a) Except where par. (b) is applicable, the responsible person shall collect data during the site investigation to determine whether the groundwater plume margin is expanding. Whenever a responsible person is required by s. Comm 47.335 (2) to contact the department of commerce to notify the agency that it will not be possible to complete the site investigation for less than \$40,000, the responsible person shall submit the notice to both DNR and the department of commerce that summarizes the reasons why the \$40,000 cost cap will be exceeded. In the notice, the responsible person shall enumerate which, if any, of the conditions described in s. Comm 46.06 (2) (a), (g), (h) and (i) have been identified at the site.

(b) For sites where all groundwater contamination is contained within low permeability material, if no evidence is found of groundwater plume margin expansion during the site investigation, and no release of a petroleum product to the soil or groundwater at the site has occurred within the last 10 years, the assumption for agency decision-making on remedial actions, closure and other related decisions shall be that the groundwater plume margin is not expanding.

Comm 46.06 Risk screening criteria. (1) GENERAL. The risk screening criteria in sub. (2) shall be used by the agency with administrative authority over a specific site for all of the following purposes:

(a) To determine whether a remedial action shall be required, which could include, but is not limited to, source control and measures to address the risk screening criteria.

(b) To set remediation targets.

(c) To evaluate consultant reports required under s. 101.143 (2)(h) and (i), Stats.

(d) To determine whether the site may be closed, as provided in s. Comm 46.07 or 46.08, at the completion of the site investigation or after remedial action.

(2) RISK CRITERIA FOR SCREENING SITES. The department of commerce and DNR shall use the following criteria, as provided in s. Comm 46.07 and 46.08 for identifying sites that are eligible for closure:

(a) None of the following environmental factors are present at the site:

1. Documented expansion of plume margin.

2. Verified contaminant concentration in a private or public potable well that attains or exceeds the preventive action limit.
 3. Contamination within bedrock or within one meter of bedrock.
 4. Petroleum product that is not in dissolved phase is present with a thickness of 0.01 feet or more, and has been verified by more than one sampling event.
 5. Documented contamination discharges to a surface water or wetland.
- (b) No soil contamination is present at the site that exceeds any of the soil screening levels in Table 1.

Table 1
Indicators of Residual Petroleum Product in Soil Pores

	Soil Screening Levels (mg/kg)
Benzene	8.5
1,2-DCA	0.6
Ethylbenzene	4.6
Toluene	38
Xylene	42
1,2,4 – Trimethylbenzene	83
1,3,5 – Trimethylbenzene	11
Naphthalene	2.7

(c) There is no soil contamination within 4 feet of the ground surface that exceeds any of the direct contact soil contaminant concentrations for the substances listed in Table 2.

Table 2
Protection of Human Health from Direct Contact with Contaminated Soil

Substance	Soil Contaminant Concentrations

	(Top 4 ft of the soil) (mg/kg)
Benzene	1.10
1,2-Dichloroethane (DCA)	0.54

(d) For substances not listed in Table 2 that are present within 4 feet of the ground surface and that have been approved by the agency with administrative authority for the site for analysis as contaminants of concern as defined in s. NR 720.03 (2), any potential human health risk from direct contact has been addressed.

(e) Except for the substances listed in Table 2, there is no human health risk from direct contact for a substance listed in Table 1 if the substance's concentration is below the Table 1 soil screening level.

(f) No release of a petroleum product to the soil or groundwater at the site has occurred within the last 10 years.

(g) There is no evidence of migration of petroleum product contamination within a utility corridor or within a permeable material or soil along which vapors, free product or contaminated water may flow.

(h) There is no evidence of migration or imminent migration of petroleum product contamination to building foundation drain tile, sumps or other points of entry into a basement or other enclosed structure where petroleum vapors could collect and create odors or an adverse impact on indoor air quality or where the contaminants may pose an explosion hazard.

(i) No enforcement standard is attained or exceeded in any groundwater within 1000 feet of a well operated by a public utility, as defined in s. 196.01 (5), Stats., or within 100 feet of any other well used to provide water for human consumption.

Note: The definition of "public utility" that is found in s. 196.01 (5), Stats., includes, with certain limited exceptions, "every corporation, company, individual, association, their lessees, trustees or receivers appointed by any court, and every sanitary district, town, village or city that may own, operate, manage or control . . . all or any part of a plant or equipment, within the state, for the production, transmission, delivery or furnishing of heat, light, water or power either directly or indirectly to or for the public." This definition includes all wells operated by any entity (city, village, town or private company) that is in the business of distributing water to the public. It would not include wells operated by commercial establishments that conduct some other kind of business (for example, restaurants, bars or golf courses) where the well water is used by the business or by customers of the establishment.

Comm 46.07 Site closure decisions at the completion of a site investigation. The department of commerce and DNR shall make site closure decisions at the completion of a site investigation based on the following requirements:

(1) **SOIL CONTAMINATION ONLY.** A site that only has soil contamination shall be closed, at the completion of a site investigation that complies with the requirements of ch. NR 716, if the site closure request documents that all of the following requirements have been complied with:

- (a) The site meets all of the risk screening criteria in s. Comm 46.06 (2).
- (b) The requirements of ch. NR 726 have been satisfied, including the signing and recording of any required deed restriction or deed notice.
- (c) There is at least a 5-foot separation between the soil contamination and the water table.

(2) **GROUNDWATER CONTAMINATION WITHIN LOW PERMEABILITY MATERIAL.** A site that has groundwater contamination within low permeability material shall be closed, at the completion of a site investigation that complies with the requirements of ch. NR 716, if the site closure request documents that all of the following requirements have been complied with:

- (a) The site meets all of the risk screening criteria in s. Comm 46.06 (2).
- (b) The requirements of ch. NR 726, other than s. NR 726.05 (2)(b) 1.f. and 2., have been satisfied, including the signing and recording of any required deed restriction or deed notice.
- (c) One of the following criteria is satisfied:
 - 1. All groundwater contamination is contained within low permeability material and there is at least a 5-foot separation between the contamination in the low permeability material and any underlying or downgradient permeable material.
 - 2. If there is any groundwater contamination within downgradient or underlying permeable material, one of the following requirements is satisfied:
 - a. All groundwater contaminant concentrations in permeable material are below preventive action limits.
 - b. All groundwater contaminant concentrations in permeable material are below enforcement standards and where preventive action limits have been attained or exceeded, a preventive action limit exemption has been granted.

c. The requirements of one of the tests listed in sub. (4)(c) have been satisfied for sites where enforcement standards are attained or exceeded in permeable material.

(3) GROUNDWATER CONTAMINATION EXCEEDING PREVENTIVE ACTION LIMITS, BUT BELOW ENFORCEMENT STANDARDS, WITHIN PERMEABLE MATERIAL. A site that has groundwater contamination that attains or exceeds preventive action limits, but does not attain or exceed enforcement standards, within permeable material, shall be closed, at the completion of a site investigation that complies with the requirements of ch. NR 716, if the site closure request documents that all of the following requirements have been complied with:

(a) The site meets all of the risk screening criteria in s. Comm 46.06 (2).

(b) The requirements of ch. NR 726 have been satisfied, including the signing and recording of any required deed restriction or deed notice.

(c) A preventive action limit exemption has been granted.

(4) GROUNDWATER CONTAMINATION EXCEEDING ENFORCEMENT STANDARDS WITHIN PERMEABLE MATERIAL. A site that has groundwater contamination that attains or exceeds enforcement standards within permeable material shall be closed, at the completion of a site investigation that complies with the requirements of ch. NR 716, if the site complies with all of the following requirements:

(a) The site meets all of the risk screening criteria in s. Comm 46.06 (2).

(b) The requirements of ch. NR 726, other than s. NR 726.05 (2)(b) 2., have been satisfied, including the signing and recording of any required deed restriction or deed notice.

(c) One of the following tests has been satisfied:

1. There is a minimum of 4 rounds of sampling data that are free of seasonal variation, and those sample results establish, through the use of the Mann-Kendall statistical test that is set forth in Appendix A, that the concentrations of contaminants with confirmed exceedances of enforcement standards are decreasing at the downgradient perimeter and along the centerline of the contaminant plume.

2. For sampling data not free of seasonal variation, an appropriate number and frequency of sampling rounds has been conducted consistent with the requirements of Appendix A, and the sample results establish, through the use of the Mann-Whitney U statistical test that is set forth in Appendix A, that the concentrations of contaminants with confirmed exceedances of enforcement standards are decreasing at the downgradient perimeter and along the centerline of the contaminant plume.

Note: In compliance with s. 160.21(2)(a), Stats., s. NR 140.22(2)(b) establishes the point of standards application to determine whether an enforcement standard has been attained or exceeded, for facilities, practices or activities that do not have an established design management zone, as “any point of present groundwater use and any point beyond the boundary of the property on which the facility, practice or activity is located and s. NR 140.22 (2)(c) establishes a point of standards application for “discharges, releases, sites or facilities” regulated under s. 292.11 or 292.31, Stats. (among other statutes) as “every point at which groundwater is monitored.” Groundwater contaminant concentrations at points of standards application have been taken into account in the development of the risk screening criteria in s. Comm 46.06 (2) and the closure requirements in s. Comm 46.07 and 46.08.

(5) CLOSURE UNDER CH. NR 726. If the agency with administrative authority for a site determines that the site does not comply with the requirements of this section or s. Comm 46.08, closure may still be granted on a case-by-case basis in compliance with the requirements of ch. NR 726.

(6) ADDITIONAL REMEDIAL ACTION. If closure is not granted, the responsible person shall conduct additional remedial action in compliance with chs. NR 140 and 700 to 726.

Comm 46.08 Site closure decisions after remedial action to address one or more of the risk screening criteria. The department of commerce and DNR shall make site closure decisions after remedial action to address one or more of the risk screening criteria based on the following requirements:

(1) SOIL CONTAMINATION ONLY. A site that has residual contamination only in soil shall be closed without requiring any additional remedial action other than natural attenuation monitoring, if the site closure request documents that all of the following requirements have been complied with:

(a) A site investigation that complies with the requirements of ch. NR 716 has been conducted.

(b) The site meets all of the risk screening criteria in s. Comm 46.06 (2).

(c) The requirements of ch. NR 726 have been satisfied, including the signing and recording of any required deed restriction or deed notice.

(d) There is at least a 5-foot separation between the soil contamination and the water table.

(2) **GROUNDWATER CONTAMINATION WITHIN LOW PERMEABILITY MATERIAL.** A site that has groundwater contamination within low permeability material shall be closed if the site closure request documents that all of the following requirements have been complied with:

(a) A site investigation that complies with the requirements of ch. NR 716 has been conducted.

(b) The site meets all of the risk screening criteria in s. Comm 46.06 (2).

(c) The requirements of ch. NR 726, other than s. NR 726.05 (2) (b) 1.f. and 2., have been satisfied, including the signing and recording of any required deed restriction or deed notice.

(d) One of the following criteria is satisfied:

1. All groundwater contamination is contained within low permeability material and there is at least a 5-foot separation between the contamination in the low permeability material and any underlying or downgradient permeable material.

2. If there is any groundwater contamination within downgradient or underlying permeable material, one of the following requirements is satisfied:

a. All groundwater contaminant concentrations in permeable material are below preventive action limits.

b. All groundwater contaminant concentrations in permeable material are below enforcement standards and where preventive action limits have been attained or exceeded, a preventive action limit exemption has been granted.

c. The requirements of one of the tests listed in sub. (4)(d) have been satisfied for sites where enforcement standards are attained or exceeded in permeable material.

(3) **GROUNDWATER CONTAMINATION EXCEEDING PREVENTIVE ACTION LIMITS, BUT BELOW ENFORCEMENT STANDARDS, WITHIN PERMEABLE MATERIAL.** A site that has groundwater contamination that attains or exceeds preventive action limits, but does not attain or exceed enforcement standards, within permeable material, shall be closed if the site closure request documents that all of the following requirements have been complied with:

(a) A site investigation that complies with the requirements of ch. NR 716 has been conducted.

(b) The site meets all of the risk screening criteria in s. Comm 46.06 (2).

(c) The requirements of ch. NR 726 have been satisfied, including the signing and recording of any required deed restriction or deed notice.

(d) The site has been granted a preventive action limit exemption.

(4) GROUNDWATER CONTAMINATION EXCEEDING ENFORCEMENT STANDARDS WITHIN PERMEABLE MATERIAL. A site that has groundwater contamination that attains or exceeds enforcement standards within permeable material shall be closed if the site closure request documents that all of the following requirements have been complied with:

(a) A site investigation that complies with the requirements of ch. NR 716 has been conducted.

(b) The site meets all of the risk screening criteria in s. Comm 46.06 (2).

(c) The requirements of ch. NR 726, other than s. NR 726.05 (2) (b) 2., have been satisfied, including the signing and recording of any required deed restriction or deed notice.

(d) One of the following tests has been satisfied:

1. There is a minimum of 4 rounds of sampling data that are free of seasonal variation, and those sample results establish, through the use of the Mann-Kendall statistical test that is set forth in Appendix A, that the concentrations of contaminants with confirmed exceedances of enforcement standards are decreasing at the downgradient perimeter and along the centerline of the contaminant plume.

2. For sampling data not free of seasonal variation, an appropriate number and frequency of sampling rounds has been conducted consistent with the requirements of Appendix A, and the sample results establish, through the use of the Mann-Whitney U statistical test that is set forth in Appendix A, that the concentrations of contaminants with confirmed exceedances of enforcement standards are decreasing at the downgradient perimeter and along the centerline of the contaminant plume.

Note: Deed restrictions and deed notices may be required as a condition of site closure under s. NR 726.05 (8) (a) or (b). Under some circumstances, deed restrictions and groundwater use restrictions are mandatory under s. NR 726.05 (8) (am) and (9). For example, a deed restriction is required if the responsible person is relying on an industrial land use classification in order to satisfy the requirements of ch. NR 720. A groundwater use restriction is required if groundwater enforcement standards are attained or exceeded.

(5) CLOSURE UNDER CH. NR 726. If the agency with administrative authority for a site determines that the site does not comply with the requirements of this section or s. Comm 46.07, closure may still be granted on a case-by-case basis in compliance with the requirements of ch. NR 726.

(6) ADDITIONAL REMEDIAL ACTION. If closure is not granted, the responsible person shall conduct additional remedial action in compliance with chs. NR 140 and 700 to 726.

Comm 46.09 Remediation and remediation funding for conditionally closed sites.

(1) Additional remedial action, other than natural attenuation, may not be required at sites that are eligible for closure under s. Comm 46.07 or 46.08, unless the agency with administrative authority for the site determines that an actual or potential risk to public health, safety or welfare or the environment exists.

(2) Funding under s. 101.143, Stats., shall be terminated by the department of commerce for sites that are eligible for closure under s. Comm 46.07 or 46.08, even if a groundwater use restriction, deed restriction or deed notice is not signed and recorded for one or more properties, and the site shall be ineligible for additional reimbursement except for post-closure costs that are otherwise eligible for reimbursement under ch. Comm 47.

(3) Sites requiring no action under this chapter other than the signing and recording of a groundwater use restriction, deed restriction or deed notice shall be classified for tracking purposes as "conditionally closed," which means that a closure application has been submitted and the site will be closed when the conditions are satisfied.

Comm 46.10 Tracking of remediation progress. By no later than January 1, 2001, and annually thereafter, responsible persons shall submit an annual report to the agency with administrative authority for the site, as required by s. 101.143 (2) (i) 2., Stats., with a summary of all monitoring data that have been collected, the status of remediation that has been conducted to date and an estimate of the additional costs that must be incurred to achieve site closure.

Comm 46.11 Classification and transfer of sites. (1) GENERAL. (a) The responsible person shall make a preliminary determination as to the classification of a site as high-risk, or medium or low risk based on the definitions in s. 101.144 (1)(aq), Stats., and s. Comm 46.03 (6), (8) and (9), and the data that have been collected during the site investigation.

(b) Until a classification determination is made by the agency that receives a submittal under sub. (2) or (3), DNR has administrative authority for the site.

(2) SUBMITTAL OF SITE INVESTIGATION REPORTS TO THE APPROPRIATE AGENCY. Site investigation reports submitted after May 18, 2000 shall include a statement as

to whether a site is believed to be high-risk, or medium or low risk and shall be submitted directly to the agency with administrative authority for the site under s. Comm 46.04 (1). If a site falls under the authority of the department of commerce, the responsible person shall provide DNR with a copy of the letter that transmits the site investigation report to the department of commerce. The DNR shall transfer the site file to the department of commerce within 14 days after receipt of a copy of the transmittal letter that indicates that the site falls under the authority of the department of commerce.

(3) SUBMITTAL OF CLOSURE REPORTS TO THE APPROPRIATE AGENCY. If the submittal of a site investigation report is not required or the site investigation report was submitted without a determination of whether the site is believed to be high-risk, or medium or low risk, the closure report shall be submitted directly to the agency that is believed to have administrative authority for the site under s. Comm 46.04 (1). If a site falls under the authority of the department of commerce, the responsible person shall provide DNR with a copy of the letter that transmits the closure report to the department of commerce. The DNR shall transfer the site file to the department of commerce within 14 days after receipt of a copy of the transmittal letter that indicates that the site falls under the authority of the department of commerce.

(4) CHANGES IN CLASSIFICATION. If a site has been classified as high-risk, or medium or low risk, and the agency receiving the site investigation report or closure report determines that the classification is incorrect and the site, as reclassified, falls under the other agency's administrative authority, the agency making the determination shall transfer the site file and all related data to the other agency within 14 days after making the determination that the site was incorrectly classified. The agency making the determination shall provide written notice to inform the responsible person that the site has been reclassified, which can be done by sending to the responsible person a copy of the reclassification letter that is addressed to the other agency. The written notice shall state the reasons for the reclassification.

Comm 46.12 Interagency staff training. In order to ensure that employees understand the requirements of this chapter and the NR 700 rule series, and to ensure that the agencies will issue approvals when the requirements of this chapter and the NR 700 rule series are satisfied, the department of commerce and DNR shall:

(1) Identify interagency staff training needs at least once each year. Each agency shall list interagency staff training needs that have been identified in order of priority and shall provide that list to the other agency by May 1 of each year.

(2) Agree by July 1 of each year on the staff training that is to be jointly conducted before July 1 of the following year. This agreement is to include the subject of the training, the approximate date on which it will be conducted, the preferred training provider, and the estimated cost of training.

(3) Develop procedures to receive recommendations on interagency staff training needs from interested parties outside the agencies before finalizing training plans.

Comm 46.13 Dispute resolution. Any disputes between the department of commerce and DNR under this chapter shall be subject to the following dispute resolution process:

(1) Project managers shall discuss their differences, and the basis for them, in an attempt to resolve the dispute.

(2) If the dispute is not resolved by the project managers, the decision shall be referred to the project managers' supervisors.

(3) If the dispute is not resolved by the project managers' supervisors, the decision shall be referred to the appropriate division administrators or deputy administrators.

(4) If the dispute still remains unresolved at the division administrator level, the department secretaries shall make the final decision.

Appendix A

Nonparametric Statistical Tests for Determining the Effectiveness of Natural Attenuation

Two nonparametric statistical tests are described here: the Mann-Kendall (S) and Mann-Whitney (U) statistical tests. These tests can be used to show whether groundwater contaminant concentrations in a monitoring well are increasing, stable or decreasing. However, neither test is able to determine the rate in which the concentrations are changing over time. The Mann-Kendall Test can be used with a minimum of 4 rounds of sampling results; however, the Mann-Kendall Test is not valid for data that exhibit seasonal behavior. The Mann-Whitney U Test is applicable to data that may or may not exhibit seasonal behavior, but the test requires 8 consecutive rounds of quarterly or semi-annual sampling results. To demonstrate that natural attenuation is effective, the chosen statistical test must show decreasing contaminant concentrations at an appropriate confidence level, given in the test methodologies that follow.

Mann-Kendall Test

1. Assemble well data for at least 4 sampling events for each contaminant in the order in which the data was collected. Include all contaminants that have exceeded the ES at one or more monitoring wells. Include data from:

- a. One or more contaminated monitoring wells near the downgradient plume margin, which may include piezometers,
 - b. A monitoring well near the source zone, and
 - c. At least one monitoring well along a flow line between the source zone well and plume margin well.
2. For purposes of the Mann-Kendall test, all non-detect data values should be assigned a single value that is less than the detection limit, even if the detection limit varies over time.
 3. Tests for Seasonality in Data. For seasonally affected data, either remove the seasonality in the data (e.g., by only testing data from the seasons with the highest contaminant concentrations) or use a statistical test that is unaffected by seasonality, such as the Mann-Whitney U Test. To test for data seasonality:
 - a. Determine if groundwater flow direction changes with season by comparing a water table map from each season that the contaminant concentrations are measured. If the flow direction changes from one sampling period to another and shifts the plume away from the wells being used in the statistical test, then data from those seasons that are shifted away from the centerline monitoring wells can not be used in the Mann-Kendall Test.
 - b. Determine if groundwater elevation and contaminant concentration change seasonally. Plot contaminant concentration versus groundwater level for each well to be assessed by the Mann-Kendall Test. If groundwater concentrations change as water level changes, then the data is seasonally affected. The seasons with the highest contaminant concentrations should be included in the Mann-Kendall Test.
 4. Calculate the Mann-Kendall Statistic (S) using a manual method or a DNR supplied spreadsheet. Assess all contaminants in the plume for the selected wells being assessed with the Mann-Kendall Test. Enter data for each contaminant in the order it was collected.
 - a. Manual Method to Calculate Mann-Kendall Statistic. Compare data sequentially, comparing sampling event 1 to sampling events 2 through n, then sampling event 2 to sampling events 3 through n, etc. Each row is filled in with a 1, 0 or -1, as follows:

Along row 2, if:

- Concentration of event $x_i >$ event 1: Enter +1
- Concentration of event $x_i =$ event 1: Enter 0
- Concentration of event $x_i <$ event 1: Enter - 1

Where: n = total number of sampling events
 x_i = value of given sample event, with $i = 2$ to n

Continue for the remaining rows. Sum each row and enter result at the end of the row. Add the sum of each row down to obtain the Mann-Kendall Statistic (S). See Table A as an example.

Table A
Mann-Kendall Statistic

	Sampling Event 1	Sampling Event 2	Sampling Event 3	Sampling Event 4	Sampling Event 5	Sum Rows
Contaminant concentration →	100	50	85	75	50	
Compare to Event 1 →		-1	-1	-1	-1	-4
Compare to Event 2 →			+1	+1	0	+2
Compare to Event 3 →				-1	-1	-2
Compare to Event 4 →					-1	-1
						Mann Kendall Statistic (Total) = -5

b. Manual Mann-Kendall Statistic Look up Table. Table B gives the maximum S statistic (S_{max}) to accept a declining trend alternative at an α level of significance. If the computed S is greater than S_{max} (or S is a smaller negative number than S_{max}), then there is either a no-trend or an increasing trend in the data.

Table B
Mann-Kendall Statistic Look Up Table

N	Range of S	S_{max} $\alpha = 0.2^*$
4	- 6 to + 6	- 4
5	- 10 to + 10	- 5
6	- 15 to + 15	- 6
7	- 21 to + 21	- 7
8	- 28 to + 28	- 8
9	- 36 to + 36	-10
10	- 45 to +45	-11

* The probability that the computed Mann-Kendall statistic $S \leq S_{max}$ is at most α .

4. Test for a declining trend. Evaluate data trends for each contaminant identified in the plume. Evaluate the null hypothesis of no trend against the alternative of a decreasing trend. The null hypothesis can be rejected in favor of a decreasing trend if both of the following conditions are met:

- a. S is a large negative number (see Table B for magnitude of S)

- b. The probability value, given n (number of data) and the absolute value of S , is LESS than the a priori significance level, α , of the test. An $\alpha \leq 0.2$ is acceptable.
5. Test for an increasing trend. An increasing trend alternative (i.e., an advancing plume) is shown if both of the following conditions are met:
- S is positive.
 - $S \geq |S_{\max}|$ at a given α level of significance (see Table B). If the computed S is equal to or greater than the absolute value of S_{\max} , then it can be concluded the plume is advancing at an α level of significance. An $\alpha \leq 0.2$ is acceptable for this test.
6. Test for Plume Stability. If the Mann-Kendall Test indicates no-trend is present, perform the coefficient of variation test. As a non-parametric test, the Mann-Kendall Test does not take into account the magnitude of scatter in the data. A data set with a great deal of scatter may return a Mann-Kendall test indicating there is no trend, when, in fact, no conclusion can be drawn regarding trend because of data variability. In this case, additional data collection may be necessary to determine that the plume is stable, declining or advancing. As a simple test, the coefficient of variation can assess the scatter in the data:

$$CV = \frac{\text{standard deviation}}{\text{arithmetic mean}}$$

Where: CV = coefficient of variation

CV should be ≤ 1 to say that the no-trend hypothesis also indicates a stable plume configuration.

Mann-Whitney U Test. This test is equivalent to the Wilcoxon Rank Sum Test.

- Assemble well data for the most recent 8 consecutive quarterly or semi-annual sampling events for each contaminant that has exceeded the ES at one or more monitoring wells. Include data from:
 - One or more contaminated monitoring wells near the downgradient plume margin, which may include piezometers,
 - A monitoring well near the source zone, and
 - At least one monitoring well along a flow line between the source zone well and plume margin well.
- Enter the data into a DNR supplied spreadsheet or manually assemble the data into a table (e.g., Table C) in the order the data was collected. Assign a rank to each sample value, with the smallest value ranked #1 and the largest value ranked #8.

3. For purposes of the Mann-Whitney U test, all non-detect values should be assigned a data value of zero (0).

Table C
Example Data Set for the Mann-Whitney U Statistical Test

Year/Date	Benzene Concentration (ug/l)	Rank	Rank Sum of 1 st Year (Wrs)
1 st Year, 1 st Quarter	160	8	} 25
1 st Year, 2 nd Quarter	130	7	
1 st Year, 3 rd Quarter	80	4	
1 st Year, 4 th Quarter	100	6	
2 nd Year, 1 st Quarter	89	5	
2 nd Year, 2 nd Quarter	0	1	
2 nd Year, 3 rd Quarter	53	3	
2 nd Year, 4 th Quarter	24	2	
		U = 26 - Wrs = 1	

4. Sum the ranks for the data in the 1st year. Denote this sum as Wrs (or the Wilcoxon rank sum).

5. Calculate the U Statistic. $U = 26 - Wrs$

6. Interpreting U Statistic. For 2 groups of 4 samples, at $U \leq 3$, the probability that year 2 data show a decrease relative to year 1 data is at least 90%, and so $U \leq 3$ will be acceptable to show that contaminant concentration is declining.

7. If there are ties in sample data, calculate an average rank value for the tied data and assign this average rank to the tied sample data. See example in Table D.

Table D
Example of Rank Sum Value for Tied Data

Year/Date	Benzene Concentration (ug/l)	Check for Ties	Rank	Rank Sum of 1 st Year (Wrs)
1 st Year, 1 st Quarter	300		8	} 24.5
1 st Year, 2 nd Quarter	280		7	
1 st Year, 3 rd Quarter	105		4	
1 st Year, 4 th Quarter	110	*	5.5	
2 nd Year, 1 st Quarter	83		3	
2 nd Year, 2 nd Quarter	50	√	1.5	
2 nd Year, 3 rd Quarter	110	*	5.5	
2 nd Year, 4 th Quarter	50	√	1.5	
			U = 26 - Wrs = 1.5	

8. Probability and the U Statistic. Table E shows the α value and the confidence level for values of U calculated for 2 groups of 4 samples each.

Table E
Probability and U Statistic
 (For 2 Groups of 4 samples each)

U Statistic	Level of significance (α)	Confidence Level (%)
0	0.014	98.6
1	0.029	97.1
2	0.057	94.3
3	0.100	90.0

9. If more than 8 consecutive rounds of data are available, a Mann-Whitney U statistic can be calculated similar to the method presented here. Each set of data to be compared should represent the same span of time (e.g. 1 year) and the same time interval between samples (e.g., quarterly). The test must be conducted at a level of significance (α) of ≤ 0.10 .

References:

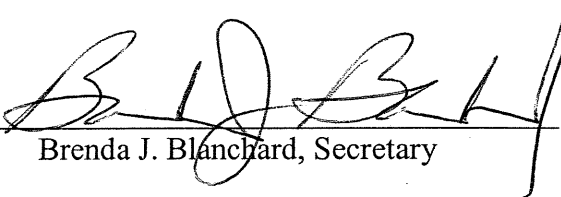
Conover, W.J., Practical Nonparametric Statistics, 2nd Ed., John Wiley & Sons, 1971, pp. 216-223.

Gilbert, R.O., Statistical Methods for Environmental Pollution Monitoring, Van Nostrand Reinhold, 1987, pp. 204 – 240 and 272.

This rule takes effect on the first day of the month following publication in the Wisconsin administrative register as provided in s. 227.22 (2) (intro.), Stats.

Dated at Madison, Wisconsin October 12, 2000

STATE OF WISCONSIN
DEPARTMENT OF COMMERCE

By 
Brenda J. Blanchard, Secretary

(SEAL)

RESPONSE TO LEGISLATIVE COUNCIL CLEARINGHOUSE REPORT

Department of Commerce

CLEARINGHOUSE RULE NO.: 00-130

RULE NO.: Chapter Comm 46

RELATING TO: Risk Screening and Closure Criteria for Petroleum Product Contaminated Sites, and Agency Roles and Responsibilities

Agency contact person for substantive questions.

Name: William J. Morrissey

Title: Acting Deputy Administrator, Environmental and Regulatory Services Division

Telephone No. 608-266-7605

Legislative Council report recommendations accepted in whole.

Yes

No

1. Review of statutory authority [s. 227.15(2)(a)]

a. Accepted

b. Accepted in part

c. Rejected

d. Comments attached

2. Review of rules for form, style and placement in administrative code [s. 227.15(2)(c)]

a. Accepted

b. Accepted in part

c. Rejected

d. Comments attached

(Continued on reverse side)

3. Review rules for conflict with or duplication of existing rules [s. 227.15(2)(d)]

- a. Accepted
- b. Accepted in part
- c. Rejected
- d. Comments attached

4. Review rules for adequate references to related statutes, rules and forms [s. 227.15(2)(e)]

- a. Accepted
- b. Accepted in part
- c. Rejected
- d. Comments attached

5. Review language of rules for clarity, grammar, punctuation and plainness [s. 227.15(2)(f)]

- a. Accepted
- b. Accepted in part
- c. Rejected
- d. Comments attached

6. Review rules for potential conflicts with, and comparability to, related federal regulations [s. 227.15(2)(g)]

- a. Accepted
- b. Accepted in part
- c. Rejected
- d. Comments attached

7. Review rules for permit action deadline [s. 227.15(2)(h)]

- a. Accepted
- b. Accepted in part
- c. Rejected
- d. Comments attached