



WISCONSIN DEPARTMENT OF NATURAL RESOURCES NOTICE OF FINAL GUIDANCE & CERTIFICATION

Pursuant to ch. 227, Wis. Stats., the Wisconsin Department of Natural Resources has finalized and hereby certifies the following guidance document.

DOCUMENT ID

RR-19-5438-C

DOCUMENT TITLE

Infiltration/Injection Approval Template

PROGRAM/BUREAU

Remediation and Redevelopment

STATUTORY AUTHORITY OR LEGAL CITATION

Wis. Stats. ch. 292; Wis. Admin. Code ch. NR 700

DATE SENT TO LEGISLATIVE REFERENCE BUREAU (FOR PUBLIC COMMENTS)

26-Aug-19

DATE FINALIZED

02-Sept-19

DNR CERTIFICATION

I have reviewed this guidance document or proposed guidance document and I certify that it complies with sections 227.10 and 227.11 of the Wisconsin Statutes. I further certify that the guidance document or proposed guidance document contains no standard, requirement, or threshold that is not explicitly required or explicitly permitted by a statute or a rule that has been lawfully promulgated. I further certify that the guidance document or proposed guidance document contains no standard, requirement, or threshold that is more restrictive than a standard, requirement, or threshold contained in the Wisconsin Statutes.

Signature

September 4, 2019

Date

**DNR - Remediation & Redevelopment
RR-5438, Infiltration/Injection Approval, November 2013**

This template is for Infiltration/Injection approvals. This may include tracers. If the I/I approval is requested under Technical Assistance, the fee is \$700. If the I/I approval is part of a RAP approval, additional language may be needed. The fee is \$1050. If soil is also to be treated by the injectant, add "soil" to the applicable language.

This document is intended solely as guidance and does not contain any mandatory requirements except where requirements found in statute or administrative rule are referenced. Any regulatory decisions made by the Department of Natural Resources in any matter addressed by this guidance will be made by applying the governing statutes and administrative rules to the relevant facts.

date

Recipient name and address

Subject: Infiltration/Injection Temporary Exemption Request for
BRRTS Site name and address, Wisconsin
WDNR BRRTS Activity # BRRTS #

Dear RP/recipient name:

The purpose of this letter is to provide a temporary exemption for the injection of a remedial material into groundwater. A request for a temporary exemption to inject compound/s to be injected into groundwater at the name of site was received from your consultant, name of consultant, on date of report submittal. The Department also received a request for a WPDES General Permit for Contaminated Groundwater from Remedial Action Operations, specific report name on date of report. A review fee of \$enter correct fee was submitted on date. This temporary exemption is intended to provide assurances to name of recipient that the environmental cleanup being conducted in response to a release of contaminants on the Property is being conducted in accordance with s. 292.12, Wis. Stats.

Use the following paragraph if a RAP request was approved.

On date, the Department conditionally approved the *Remedial Design Report*, dated date. The report included provide a brief summary of remedial actions approved. One of the conditions of approval was that "a WDNR injection approval and a WPDES permit are required prior to the injection of remedial materials into the subsurface."

Include a brief paragraph that summarizes the proposed remedial method, the type, manner, general location and amounts of injectant, and describes how and where any contaminated groundwater will be discharged.

Determination on the NR 812 Injection Prohibition:

The injection prohibition under s. NR 812.05, Wis. Adm. Code, is not applicable in this case because the proposed action is a Department-approved activity necessary for the remediation of groundwater. This letter serves as your approval from the Department to inject compound/s to be injected, to treat contaminant/s to be treated in groundwater, in accordance with this temporary exemption.

NR 140 Temporary Exemption:

Department approval is hereby granted to recipient for the injection of compound/s to be injected to groundwater on the name of site property, with certain terms and conditions. The expiration date of this temporary exemption shall be insert timeframe, must be less than 5 years, per NR 140.28(5) (e) 1. from the date of this letter.

The need to obtain a temporary exemption for the injection of a remedial material for which a groundwater quality standard has not been established is required under s. NR 140.28 (1) (d), Wis. Adm. Code. Based on the information provided by your consultant, it appears the requirements for a temporary exemption for the injection of a remedial material for which a groundwater quality standard has not been established under s. NR 140.28 (1) (d) have been or will be met, in accordance with s. NR 140.28 (5) (c) and (d), Wis. Adm. Code.

Department approval is granted with the following terms and conditions:

A. General:

1. The remedial action for restoring contaminated groundwater or soil, and any infiltrated or injected contaminated water and remedial materials, shall achieve the applicable response objectives required by s. NR 140.24 (2) or s. NR 140.26 (2), Wis. Adm. Code, within a reasonable period of time.
2. The type, concentration and volume of substances or remedial material to be infiltrated or injected shall be minimized to the extent that is necessary for restoration of the contaminated groundwater.
3. Any infiltration or injection of contaminated water or remedial material into groundwater shall not significantly increase the threat to public health or welfare, or to the environment.
4. No uncontaminated or contaminated groundwater, substance or remedial material shall be infiltrated or injected into an area where a floating non-aqueous liquid is present in the contaminated groundwater.
5. There shall be no expansion of soil or groundwater contamination, or migration of any infiltrated or injected contaminated water or remedial material, beyond the edge of previously contaminated areas, except that infiltration or injection into previously uncontaminated areas may be allowed if the Department determines that expansion into adjacent, previously uncontaminated areas is necessary for the restoration of the contaminated groundwater, and the requirements of s. NR 140.18 (1), Wis. Adm. Code will be met.
6. All necessary federal, state and local licenses, permits and other approvals are obtained and compliance with all applicable environmental protection requirements is required. *Use the next sentence, unless the only compound being injected is either oxygen or hydrogen peroxide - with no other additives.* A WPDES general permit for Discharge of Contaminated Groundwater from Remedial Action Operations is required for this action.

B. Specific:

7. The remedial materials to be injected to the groundwater shall be limited to insert compound/s to be injected
8. The remedial material and injection project shall be as described in insert reference to the submittal.
9. insert name of consultant shall notify the Department of field activities no less than one (1) week before implementation.
10. In the monitoring plan, include screening for soil vapor as a best management practice.
11. Remediation progress reports shall be submitted with the semi-annual progress reports.

The progress reports shall include the groundwater monitoring results. The first report should be submitted not more than *insert time frame* after the first injection.

Recommendations as to the next phase of sampling and/or the need for additional treatment shall be included in a future report. This report shall be submitted as soon as the necessary information is available, and must be submitted prior to the expiration date of this temporary approval.

12. Any significant changes based on information from the injection groundwater monitoring reports or results shall be submitted to the Department for approval prior to the changes being implemented at the *name of site* site. This includes, but is not limited to, adjustments to the volume/mass of the media injected, additional injection points, number of injection events, and/or changes in the type of remediation media used in the injection points.
13. Modifications to the sampling schedule may be requested.
14. In the event of future injection activities, the responsible party may apply for an extension of this approval. A request for an extension of this approval must be received by the Department before the expiration date.
15. Any permit extension approvals will be dependent on WI DNR review of site-specific data or any other information it deems necessary.
16. Upon completion of the project, the injection holes must be abandoned in accordance with s. NR 141.25, Wis. Adm. Code, and later topped off with grout or native soils if settling occurs, unless converted to NR 141 complying monitoring wells, or an alternative approved by the DNR Project Manager.

Monitoring Conditions: specify the monitoring conditions for evaluation of the remedial action/injection. The conditions listed are examples.

1. That the actual volume injected be recorded on an hourly basis for each day of the project.
2. That baseline monitoring be performed prior to the first injection event, for the following groundwater parameters, at the following wells:
 - a. *Examples include: VOCs, methane, ethane/ethene, total organic carbon, dissolved iron and manganese, sulfate, dissolved oxygen, oxygen reduction potential*
 - b. at monitoring wells: *identify monitoring wells to be sampled*
3. That after completion of the injection phase of the remedial action (between 30 to 40 days), all monitoring wells be sampled for the parameters listed in #2.a.
4. That a Site Specific Health and Safety Plan be followed.
5. That the injection is performed at less than 100 psi at a rate which prohibits solution mounding in the aquifer, and plume disfigurement.

Additional site-specific conditions may be added. See Appendix 1 for additional conditions if using hydrogen peroxide or other aggressive oxidants.

Failure to adhere to the provisions of this temporary exemption may result in the Department requiring revisions to the remedial action design, operation or monitoring procedures, or the revocation of this exemption and the implementation of an alternative remedial action to restore soil or groundwater quality, or both.

Use the following sections if the approval letter will include approval of the WW general permit.

WPDES Permit

Your proposed discharge is eligible for coverage under the general Wisconsin Pollutant Discharge Elimination System (WPDES) permit WI_0046566-06 for Discharge of Contaminated Groundwater from Remedial Action Operations. You are responsible for compliance with the

conditions contained in this permit. The permit and factsheet can be downloaded from the DNR website at <http://dnr.wi.gov/topic/wastewater/GeneralPermits.html>. The amended water will be discharged to the groundwater. No pollutants shall be injected into the groundwater, with the exception of those present in the groundwater which will be extracted from the site.

Discharges under this permit are required to be consistent with a discharge management plan that has been approved by the Department. Your plan, titled *enter name of submittal* dated *enter date of submittal* will be considered as the required discharge management plan. The analysis results would indicate that monitoring is required for all parameters from ch. NR 140, Tables 1 – 3, detected in the discharge, as specified in part 2.3 of the WPDES permit, except for *list any compound that was found below levels of concern. that was/were* found below levels of concern (PALs).

Treatment will be provided by *identify treatment type*. The *name of injectant/s* will be discharged to the groundwater. *Identify if any treated groundwater will be discharged to surface water*. Any significant system changes will require Department approval.

The Department hereby authorizes your pollutant discharge under the general WPDES permit for Discharge of Contaminated Groundwater from Remedial Action Operations, (WI-0046566-6). The following conditions are highlighted for your information:

Include any site-specific monitoring and reporting conditions in this section. Generally, sections 2 and 6 of the permit apply to injection/infiltration. The following provisions are generally a minimum. Make sure there are no conflicts with the permit.

Monitoring and Reporting Conditions:

Note: These monitoring conditions are in addition to monitoring required by the RR Program for evaluation of remedial action effectiveness.

1. That after completion of the injection phase, quarterly monitoring shall continue for one year from injection completion, with sample collection and analysis completed according to #2 above (baseline monitoring) and the requirements of the accompanying WPDES discharge permit for this site.
2. The discharge limits which must be met are included in the permit as follows:
 - a. *enter titles, section numbers, and page numbers of applicable section/s of the permit*
3. The monitoring results shall be sent to *identify to whom the results should be sent* using *identify if DMRS form is to be used, or other*.

This section may be used ONLY for the WPDES permit approval. Do NOT use appeal rights language for infiltration/injection approvals, as they are not final decisions.

Notice of Appeal Rights for WPDES General Permit:

Section 283.35, Wisconsin Statutes, authorizes the Department to issue general permits for discharges from categories or classes of point sources. If a permittee believes coverage of a facility under a general WPDES permit is not appropriate, the permittee may apply for issuance of an individual WPDES permit pursuant to section 283.35 (2) and may petition the Department for withdrawal of coverage under the general permit. The individual permit application should indicate which site specific factors would justify alternate WPDES limits for the operation. Issuance of such a site specific WPDES permit will provide for a 30 day public comment period, and potentially a public informational hearing and/or an adjudicatory hearing. The Department may withdraw a facility from coverage under a general permit if it is determined that a discharge is a significant contributor of pollutants to waters of Wisconsin, or in certain other cases set out in s. 283.35, Stats. In lieu of general permit withdrawal, the Department may refer any violation of this permit to the Department of Justice for enforcement under s. 283.89, Stats. In order to

avoid any enforcement action, please read the WPDES permit carefully and comply with the permit requirements.

If you believe you have a right to challenge the Department decision to cover this facility with a WPDES general permit, you should know that Wisconsin statutes and administrative rules establish time periods within which requests to review Department decisions must be filed. To request a contested case hearing pursuant to section 227.42, Wis. Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to serve a petition for hearing on the Secretary of the Department of Natural Resources. Such a petition should identify pollutant(s) that are believed to be not appropriately regulated by the general permit for the specific site. All requests for contested case hearings must be made in accordance with section NR 2.05 (5), Wis. Adm. Code, and served on the Secretary in accordance with section NR 2.03, Wis. Adm. Code. The filing of a request for a contested case hearing is not a prerequisite for judicial review and does not extend the time period for filing a petition for judicial review.

For judicial review of a decision pursuant to sections 227.52 and 227.53, Wis. Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to file your petition with the appropriate circuit court and serve the petition on the Department. A petition for judicial review must name the Department of Natural Resources as the respondent.

If you have any questions regarding this letter, please contact me at [Staff phone number](#) or [staff email address](#).

Sincerely,

Staff name

Staff title

Remediation & Redevelopment Program

Enclosure

cc: consultant name and address
Brian Austin, DG/5
Bill Phelps, DG/5
Name of Wastewater staff, office

Appendix 1

Include the conditions of the following sections in the NR 140 temporary exemption section if the injectant is hydrogen peroxide, or another compound likely to greatly increase levels of methane. Modify specifics as needed.

All items in this section may not be necessary, but evaluate each as part of the permit process, regardless of the type of chemical being injected or infiltrated.

System and Well Construction, Installation and Abandonment:

1. That the direct injection holes and vapor monitoring points must be constructed as proposed (date and name of request submitted Application Packet)
2. That the system configuration in the Work Plan must be installed and operated as proposed.

System Operation, Maintenance and Inspection:

1. That exclusion zones must be established for the facility during the entire injection process. This means that special safety measures should be taken within these areas.
2. That no injection will occur in areas where measurable free product or non-aqueous liquids (NAPLs) are present.

Monitoring Schedules:

RR – Remedial Action Monitoring:

1. That the actual volume injected be recorded on an hourly basis for each day of the project.
2. That baseline monitoring be performed for the following groundwater parameters: VOCs, methane, ethane/ethene, total organic carbon (TOC), dissolved iron and manganese, sulfate, dissolved oxygen and oxygen reduction potential (ORP) at the following monitoring wells identify which monitoring wells as well as the injection points.
3. That baseline water table monitoring be performed at identify which monitoring wells.
4. That during the injection, water table monitoring points identify which monitoring wells be monitored hourly for the first hour after injection and every 2 hours thereafter during the injection, unless injection is occurring down that monitoring point.
5. That if any water table change of two (1) foot or greater increase occurs at any site monitoring points representing potential migration routes toward nearby building foundations and buried utility and sewer conduits (identified above) then:
 - Cease injection operations completely
 - Evaluate cause of water table change
 - Implement measures, to return the subsurface water table to acceptable levels.
 - Increase monitoring frequency. Rotate between monitoring points in the immediate vicinity of the monitoring point where the elevated water table was detected.
6. That baseline monitoring be performed for vapors, including VOCs using a PID and methane using a landfill gas meter at identify which monitoring wells and at the installed radon type vapor mitigation system.
7. That during injection, vapor monitoring must be done every hour for the first 2 hours, then four times daily for the application duration if measurements remain near background at the locations listed in 6.

Wastewater WPDES monitoring:

8. That after completion of the injection phase of the remedial action, all existing monitoring wells and the chosen injection wells be sampled for the parameters listed in 2 above (baseline monitoring).
9. That after completion of the injection phase, quarterly monitoring shall continue for one year from injection completion, with sample collection and analysis completed according to items 2 and 6 above and the requirements of the accompanying WPDES discharge permit for this site.

Required Response Measures:

1. That if 10% of LEL is reached at any time and at any monitoring point:
 - a. cease injection operations immediately
 - b. evaluate cause of vapors
 - c. implement measures to reduce the vapor concentration to acceptable levels
 - d. increase monitoring frequency. Rotate between monitoring points in the immediate vicinity of the monitoring point where the elevated level was detected.
2. That if vapor levels are detected at or above 10% of the LEL within any building or within 20 feet of the building:
 - a. evacuate persons from the building
 - b. shut down all electrical power
 - c. vent buildings by opening all doors and windows
 - d. follow measures in #1.

Notification Requirements:

1. That in the event that sustained exceedances of the 10% of LEL is present for more than 30 minutes, or if 25% of LEL is reached at any time and at any monitoring point, then immediate notification of the local fire department is required.
2. That the Department be notified immediately of system breakdown or shutdown.
3. That the Department be notified immediately of any new or major increase (10-fold change) of groundwater quality enforcement standard exceedances in the water quality monitoring program.
4. That all owners of utilities and the local fire department and the WI DNR Project Manager/s *name of project manager/s* be notified prior to injection activities and that representatives of each of these entities be allowed to observe the injection activities.