

# PERMIT FACT SHEET

## General Information

Permit Number:	WI-0046531-06-0
Permit Name:	Petroleum Contaminated Water
Permittee:	Point source dischargers in the state of Wisconsin
Discharge Location:	Land surface or surface water in the state of Wisconsin
Receiving Water:	Surface water or groundwater in the state of Wisconsin

## WPDES Permit Program Background

Wisconsin Statutes and regulations require a Wisconsin Pollutant Discharge Elimination System (WPDES) permit for the discharge of any pollutant through a point source into any waters of the state which includes surface waters and groundwater. WPDES permits are issued by the Department of Natural Resources (department) consistent with applicable federal requirements. These permits contain requirements that include pollutant discharge limitations, monitoring and reporting or record keeping requirements, best management practices and other provisions to reduce, eliminate, or minimize the risk of pollutants impacting human health and water quality.

A WPDES permit is an allowance for a facility to discharge a specified amount of a pollutant into the waters of the state under specific conditions. There are two basic types of WPDES permits:

- Individual permit. An individual permit is a permit specifically tailored to an individual facility. Once a facility submits a complete application(s), the department develops a draft permit for that particular facility based on the information contained in the permit application (e.g., type of activity, nature of discharge, receiving water quality). After a public participation process, the department may issue the permit to the facility for a specific time period (not to exceed five years) with a requirement that the facility reapply 180 days prior to the expiration date. Public notices are posted for each individual permit application and proposed individual permit permittee.
- General Permit. A general permit covers a group or category of dischargers with similar qualities within a designated area of the state under one WPDES permit. A general permit provides coverage to several dischargers. To obtain coverage under a general permit for a discharge of pollutants, an owner or operator must submit a notice of intent (NOI) requesting general permit coverage. General permits have an effective term of 5 years from the date of issuance. If a permittee submitted a complete and timely NOI to be covered by the general permit and the department approves coverage, the discharge of pollutants is then subject to all conditions of the general permit and these terms or conditions shall continue to apply until the effective date of the reissued general permit. Public notices are issued for the general permit and not for the permittee covered under the general permit. A person may apply for general permit coverage at the time a general permit is issued or a person may apply during the term of the permit.

## General Permit Objective

This general permit was created to properly manage discharges of petroleum contaminated water to waters of the state to protect public health and water quality of groundwater and surface water within the state of Wisconsin.

## General Permit Description

This general permit is applicable to point source discharges of wastewater that have been contaminated with petroleum. Petroleum products may include, but are not limited to: gasoline, diesel fuel, aircraft fuel, jet fuel, heating oils, and lubrication oils. The discharge from activities covered under the permit will be intermittent in nature, dependent on storm water runoff or the amount of condensation formed within storage tanks. Flow volumes may range from 1,000 to 20,000 gallons per day. Many of the facilities covered under this general permit will also likely need coverage under a WPDES storm water permit, because these same industrial activities are subject to the storm water discharge requirements in ch. NR 216, Wis. Adm. Code. Four types of water contaminated by petroleum products may be discharged under this permit as defined below:

(1) *Petroleum Contact Water* (excluding tank bottom water): The transfer of petroleum products and the general operation and maintenance of vehicles and equipment at these facilities typically result in small spills and drippings of petroleum products that may commingle with storm water runoff or other sources of water. In addition, storm water that falls within containment areas storing fuel may become contaminated with petroleum products. These contaminated waters contain free phase (not emulsified or dissolved) petroleum products and may be covered by this general permit. Examples of facilities that may be regulated by this general permit include vehicular fueling stations, railroad yards, airports, petroleum tank farm operations, bus parking areas, garbage truck parking areas, wastewater that has been treated with an oil/water separator, or similar facilities.

A standard treatment system for the removal of free phase petroleum products consists of an oil/water separator. The permittee may use an oil/water separator or other similar device to treat this category of wastewater. Oil/water separators provides simple gravity separation of the oil from collected water. A few important common features of oil/water separators include: a small inlet under-flow baffle extending a short distance under the operating level of the wastewater for distribution of the incoming flow across the cross section of the separator, a large outlet under-flow baffle that extends far below the water surface to prevent separated oil from discharging, and a method for removal of the collected oil from the surface of the water. Some of the methods for removal of petroleum products from the oil/water separator include: rope skimmers, paddle skimmers, semi-permeable membranes, absorbents, and manual removal. Oil/water separator equipment may also include: extensive baffle systems, inclined plates, coalescing media, and air flotation systems. The separated petroleum products are usually stored in slop tanks for recycling. Activities that use treatment equipment for other purposes may not be able to meet permit requirements. For example, if an oil/water separator is used to store waste oils and spills, any contact water entering the oil/water separator could result in the discharge of oil and grease in exceedance of permit limits.

(2) *Tank Bottom Water*: Water collects in petroleum storage tanks due to condensation and infiltration of rain and snow. The volume of water collected in a tank over time depends on the tank design, precipitation, ambient temperature, and other factors. The wastewater drained from the storage tanks requires collection and treatment prior to discharge. The largest volumes of wastewaters will come from the bulk petroleum storage tank facilities; these are the facilities anticipated to be regulated by this general permit. However, this general permit may be appropriate for regulating other facilities that store petroleum products and drain the water from the storage tanks.

When water is removed from a tank, it has usually been in contact with petroleum products for an extended period of time. The waste removed from the bottom of the tanks (tank bottoms) contains a limited, and usually small, amount of free product, water saturated with dissolved petroleum products, and sometimes water with emulsified petroleum products. The water removed from petroleum storage tanks requires more extensive treatment than other wastewaters contaminated with petroleum products because of the dissolved and emulsified petroleum products. Commonly, oil/water separators are used as pretreatment to remove free product from the wastewater. Treatment for removal of dissolved petroleum

products may include: air stripping, activated carbon, activated clays, dissolved air floatation (DAF) and or distillation. Activated clays or carbon units are used to remove contaminants from water resulting from contact with the heavier end hydrocarbons. To protect against contaminants breaking through carbon or clay units, two units are required in series when this type of treatment is used. The activated clays and carbon will remove insoluble organics and color. Hydrocarbons are adsorbed in the following order: unsaturates, aromatics, naphthalene, and paraffins. In each series, the high molecular weight hydrocarbons are adsorbed more readily. Resinous and asphaltic substances are actively adsorbed. Since wastewater contaminated strictly with gasoline mostly contains low molecular weight, saturated, paraffin hydrocarbons, these wastewaters are usually not treated by activated clay or carbon filters; rather air stripping is used to volatilize contaminants from the water. Treatment for removal of emulsified petroleum products may include thermal or chemical treatment.

*(3) Scrap and Waste Storage Area Oily Water:* Storage areas for scrap and waste materials, especially scrap metal, may generate an “oily wastewater” from storm water contacting the material during storage. This petroleum contaminated storm water may not be discharged to waters of the state unless it is treated and complies with the treatment technology based effluent limits contained in this permit. This contaminated wastewater may contain a combination of free product and dissolved petroleum products, depending upon the exposure time.

This category of wastewater will contain oil and grease, and dissolved or emulsified petroleum products that may not be able to be removed by an oil/water separator. Methods for removing dissolved or emulsified petroleum products from water would be similar to the tank bottom water described above.

Facilities in the business of recycling of scrap and waste materials are typically covered under one of two storm water permits, either the “Recycling of Scrap and Waste Materials” General Permit WI-S058831, or the “Dismantling of Vehicles for Parts Selling and Salvage” General Permit WI-S059145. When treatment of the “oily wastewater” is necessary, because best management practices cannot control the petroleum product contamination, the facility must obtain coverage under this permit to discharge from the treatment system.

*(4) Secondary Containment Water:* The EPA specifies under 40 CFR 264.193(b) that secondary containment systems are required to prevent any migration of wastes or accumulated liquid out of the system to the soil, ground water or surface water during the use of the tank system. Minimum requirements of how the system must be constructed are listed in 40 CFR 264.193(c). Wastewater collected in secondary containment structure at petroleum bulk stations, terminals, or tank farms is normally clean storm water and may discharge untreated. If oil sheen is present or monitoring indicates contamination, this water must be treated before discharging.

## **General Permit Summary**

This general permit establishes applicability criteria, obtaining permit coverage requirements, monitoring and reporting requirements, and standard requirements for discharges of petroleum contaminated water. The permit requirements are provided to protect human health and protect and maintain the physical, chemical and biological integrity of the waters of the state by eliminating or minimizing the discharge of pollutants.

## **Fact Sheet Organization**

This fact sheet highlights changes in permit conditions that the department proposes to make when reissuing the Petroleum Contaminated Water WPDES permit. This fact sheet compares conditions in the previous general permit to those in the reissued permit. The previous permit remains in effect until the permit is reissued. The tables that follow were taken from the permit and are numbered in this fact sheet as they are numbered in the permit. Shaded text and cells within tables indicate permit conditions that are new or different from those found in the previous permit.

# 1 Applicability Criteria

According to s. NR 205.08(2), Wis. Adm. Code, the department may include applicability criteria in general permits.

## Changes from Previous Permit

- Section 1.2 was added to the permit.
- The following discharges were added to the discharges not covered under Section 1.3:
  - Discharges from the washing of vehicles, equipment, and/or other objects;
  - Discharges containing municipal, domestic, or process wastewater;
  - Discharges to a publicly-owned treatment works (POTW);
  - Discharges containing water treatment additives where the additive use is not approved in writing by the department;
  - Discharges to waters classified as a public water supply in ch. NR 104, Wis. Adm. Code;
  - Discharges that result in the significant lowering of water quality in fish and aquatic life waters identified in s. NR 102.13, Wis. Adm. Code, Great Lakes system waters, and variance waters identified within ss. NR 104.05 through 104.10, Wis. Adm. Code;
  - Increased discharges to fish and aquatic life waters identified in s. NR 102.13, Wis. Adm. Code, Great Lakes system waters, and variance waters identified within ss. NR 104.05 through 104.10, Wis. Adm. Code.
  - Discharges of hazardous substances that are required to be reported under ch. NR 706, Wis. Adm. Code.
  - Discharges that will adversely affect any historic property that is listed property, or on the inventory or on the list of locally designated historic places under s. 44.45, Wis. Stats., unless the department determines that the discharges will not have an adverse effect on any historic property pursuant to s. 44.40(3), Wis. Stats.
  - Discharges that will adversely impact endangered and threatened species, including causing an incidental take, unless the department determines that the discharges comply with the endangered and threatened resource protection requirements of s. 29.604, Wis. Stats., and ch. NR 27, Wis. Adm. Code; and
  - Discharges from and/or to properties within tribal lands. The Tribe or United States Environmental Protection Agency (EPA) regulates discharges within tribal lands (land owned by or held in trust for the tribes and land within recognized reservation boundaries).

## 1.1 Facilities Covered

In accordance with s. NR 205.08(2), Wis. Adm. Code, general permit may be written to regulate one or more facilities if those facilities meet the requirements in s. NR 205.08(1)(b), Wis. Adm. Code. Based s. NR 205.08(1)(b), Wis. Adm. Code, all the facilities listed in the permit perform the same or substantially similar petroleum operations, produce the same types of petroleum contaminated wastewater streams, employ the same or substantially similar wastewater treatment operations to control petroleum pollutants, are subject to the same effluent limitations and monitoring requirements for petroleum pollutants; and in the opinion of the department, are more appropriately controlled under a general permit than under individual permits.

## 1.2 Discharges Covered

This section identifies the applicable wastewater discharges that have contacted petroleum products from those facilities covered under Section 1.1. Not all discharges from those facilities covered under Section 1.1 are applicable to this general permit.

## 1.3 Discharges Not Covered

According to 40 CFR 122.28(a)(4)(ii), general permits may exclude specified sources from coverage. Below is an explanation for all discharges not covered under the general permit.

**Contaminated Groundwater:** This permit contains a condition that states that this permit does not authorize discharges of contaminated groundwater (treated or untreated). This permit does not contain the conditions and limitations necessary for adequate regulation of contaminated groundwater discharges. The Contaminated Groundwater from Remedial Action Operations WPDES General Permit (No. WI-0046566) may be more appropriate to cover discharges in these situations.

**Washing of Vehicles and/or Equipment:** This permit does not cover the washing of vehicles and/or equipment at the facility site. This permit does not contain the conditions and limitations necessary for adequate regulation of washing discharges from vehicles and/or equipment. The Outside Washing of Vehicles, Equipment, or Other Objects WPDES General Permit (No. WI-0059153) may be more appropriate to cover these separate discharges.

**Municipal, Domestic, or Process Wastewater:** Any discharge containing municipal, domestic or process wastewaters as described in chs. NR 210, and NR 221 to NR 297, Wis. Adm. Code, are not authorized under this permit. Process wastewater may also include discharges from oily scrap waste processing areas such as metal shredding, washing, or engine block breaking. When processing is involved, metal contamination of the wastewater is likely, that requires treatment.

**Publicly-Owned Treatment Works:** Any portion of wastewater directed to a public-owned treatment works (POTW) is not covered under this general permit. Rather, this general permit applies only to direct discharges to waters of the State (i.e. discharges to storm sewers or other conveyances to a surface water, or seepage to the groundwater).

**Unapproved Water Treatment Additives:** The discharge shall not contain a water treatment additive where the additive use is not approved in writing by department. Many additives are toxic at certain rates to fish and aquatic life and require approval by the department prior to initiating use. Facilities discharging wastewater with unapproved additives will be in violation of this permit.

**Waters Classified as a Public Water Supply:** Discharges to public water supply sources listed in ch. NR 104, Wis. Adm. Code, such as Lake Superior, Lake Michigan and Lake Winnebago, are not authorized under this general permit. These waters have more restrictive water quality criteria. Regulation of discharges to water supply sources requires an individual permit which provides the oversight and discharge limitations necessary to protect these drinking water sources.

**Wetlands:** Discharges covered under this permit shall meet the wetland protection requirements of ch. NR 103, Wis. Adm. Code, and shall not adversely impact wetlands in accordance with s. NR 106.61(1)(b), Wis. Adm. Code. For discharges that impact wetlands, a facility will need to submit information that allows the department to determine if a discharge meets code requirements.

**Outstanding and Exceptional Resource Waters:** Discharges to outstanding and exceptional resource waters in ch. NR 102, Wis. Adm. Code, or discharges that would lower the water quality of downstream outstanding and exceptional water resources are not authorized by this permit as specified in s. NR 106.61(1)(c), Wis. Adm. Code. Regulation of discharges to outstanding and exceptional resource waters requires an individual permit which provides the oversight, monitoring and discharge limitations necessary to protect these types of receiving waters. The permittee can use

the surface water data viewer (<http://dnrmaps.wi.gov/sl/?Viewer=SWDV>) to identify the outstanding and exceptional resource waters in the county that the discharge will occur.

**Significant Lowering of Water Quality:** In a case where a proposed discharge would result in the significant lowering of water quality in fish and aquatic life waters identified in s. NR 102.13, Wis. Adm. Code, Great Lakes system waters, and variance waters identified within ss. NR 104.05 through 104.10, Wis. Adm. Code, the discharge would not be authorized under this permit. The department requires that the applicant apply for coverage under an individual permit. The discharge will then be evaluated by the department under the antidegradation requirements of ch. NR 207, Wis. Adm. Code. The department may suggest that applicants evaluate a variety of options to ensure no significant lowering of water quality occurs in the receiving water. Options include improved wastewater treatment effectiveness, wastewater reuse, directing the discharge to a seepage area, an alternate discharge location, process changes to reduce the pollutant discharge level, pollutant prevention activities, etc.

**Increased Discharges:** According to s. NR 207.02(6)(a), Wis. Adm. Code, an “Increased discharge” means any change in concentration, level or loading of a substance which would exceed an effluent limitation specified in a current WPDES permit. If a facility proposes an increased discharge to fish and aquatic life waters identified in s. NR 102.13, Wis. Adm. Code, Great Lakes system waters, and variance waters identified within ss. NR 104.05 through 104.10, Wis. Adm. Code, the discharge is not authorized under this permit. An evaluation of the proposed increased discharge would need to be conducted in accordance with the antidegradation requirements of ch. NR 207, Wis. Adm. Code. Regulation of increased discharges require the oversight, monitoring and discharge limitations of an individual permit as effluent limitations in a general permit cannot be modified for an individual discharger.

**Hazardous Substances:** Discharges of hazardous substances that are required to be reported under ch. NR 706, Wis. Adm. Code are not authorized by this permit. Exemptions for discharge of these substances require an individual permit which provides the oversight, monitoring and discharge limitations necessary to protect receiving waters. Section 292.11(2)(a), Wis. Stats., requires any person who possesses or controls a hazardous substance or who causes the discharge of a hazardous substance to notify the department of Natural Resources **immediately** of any discharge not authorized by the permit.

**Endangered and Threatened Resources:** Discharges that affect endangered and threatened resources are not eligible for this permit, unless the department determines that the discharges comply with the endangered and threatened resource protection requirements of s. 29.604, Wis. Stats., and ch. NR 27, Wis. Adm. Code. Facilities with discharges that require more oversight to ensure that they do not violate these protection requirements may need to be covered by an individual permit. If the permittee has reason to believe that endangered and threatened resources will be impacted, then further Wisconsin Natural Heritage Inventory (NHI) screening should be conducted by the permittee. Please contact the [ER Review Program](#) if you need information about whether a proposed project may impact rare species or other sensitive resources.

**Historical Properties:** Discharges that will adversely affect any historic property that is listed property, or on the inventory or on the list of locally designated historic places under s. 44.45, Wis. Stats., are not eligible for this permit, unless the department determines that the discharges will not have an adverse effect on any historic property pursuant to s. 44.40(3), Wis. Stats. The department is required by law to review the project for historic preservation compliance. Please contact the [DNR Archaeologist](#) with any questions.

**Discharges within Tribal Lands:** The department does not issue WPDES permits within Tribal lands due to the state delegation agreement with U.S. EPA. In such instances, the Tribe or U.S. EPA regulates the discharge and would issue a discharge permit.

**Surface Water Standards and Groundwater Standards:** The discharges from facilities eligible for this permit shall not have a reasonable potential to exceed any applicable surface water or groundwater standards. This also includes any other applicable surface water quality standards downstream of the discharge (i.e. tribal or other states). Facilities with discharges that have a reasonable potential (as specified in ch. NR 106, Wis. Adm. Code) to violate any applicable surface water quality standards or ch. NR 140, Wis. Adm. Code, groundwater quality standards would normally require the increased oversight, monitoring and water quality limitations found in a site-specific individual permit.

## 2 Obtaining Permit Coverage

### Changes from Previous Permit

None as this is a new section.

#### 2.1 Submittal of a Notice of Intent

In accordance with s. NR 205.08(3), Wis. Adm. Code, on a case-by-case basis the department may by letter require a discharger to submit a notice of intent (NOI) to be covered by a general permit. Additionally, general permits shall specify the deadlines for submitting NOI to be covered under the permit as specified by 40 CFR 122.28(b)(2)(iii). Therefore, the applicant must submit a complete NOI under the general permit to the department at least thirty (30) business days before the expected start date of discharge.

**Note:** As of December 21, 2020, all NOIs submitted in compliance with this section must be submitted electronically by the discharger in compliance with 40 CFR 122.28(b)(2)(i) and 40 CFR 127. The department is in the process of developing and requiring electronic submissions of NOIs to discharge under this general permit. Once the NOIs are online, paper copies will be no longer accepted. The department will post this update on our general permit webpage.

#### 2.2 Incomplete NOI

In accordance with s. 283.37(6), Wis. Stats., the department may require the owner or operator to submit information regarding any discharge. Therefore, the department may require an applicant to submit data necessary to complete any deficient NOI, any additional data other than that requested in the NOI or a new complete NOI where the deficiencies are extensive or the appropriate form has not been used.

#### 2.3 Granting of Coverage

In accordance with s. NR 205.08(3), Wis. Adm. Code, following receipt of a complete NOI, the department shall issue a determination on whether a discharger is covered by a general permit. Additionally, general permits shall specify whether a discharger that has submitted a complete and timely notice of intent to be covered in accordance with the general permit and that is eligible for coverage under the permit, is authorized to discharge, in accordance with the permit upon receipt of notification of inclusion by the department pursuant to 40 CFR 122.28(b)(2)(iv). Therefore, the permit requires that the applicant receive a coverage letter from the department prior to commencing discharge to the waters of the state. Upon receipt of the coverage letter, the applicant is hereby granted coverage and authorized to discharge to the waters of the state under the general permit. If the applicant has not received a coverage letter from the department, they are not permitted to discharge.

**Note:** In accordance with s. NR 205.08(5), Wis. Adm. Code, If the department notifies an applicant that a discharge is ineligible for coverage under this general permit but still requires WPDES permit coverage, the applicant shall apply for and obtain coverage under an individual WPDES permit (or alternative general permit, if available) prior to discharging to the waters of the state. The necessary steps to apply for coverage under an individual permit can be found at the department website:

<http://dnr.wi.gov/topic/wastewater/PermitApplications.html>.



### 3 Surface Water Discharge Requirements

The requirements of this section apply only to surface water discharges. Surface water discharges means any discernible, confined and discrete conveyance system including but not limited to any pipe, ditch, channel, tunnel, conduit, swale or storm sewer that will carry wastewater to creeks, streams, ponds, marshes, bays, reservoirs, rivers, lakes, or other surface water within the state of Wisconsin.

#### 3.1 Sampling Point(s)

In accordance with s. NR 218.07, Wis. Adm. Code, the location of sampling points shall be as specified in an applicable permit. The discharge(s) shall be limited to the waste type(s) designated for the listed sampling point(s).

<b>Sampling Point Designation</b>	
<b>Sampling Point Number</b>	<b>Sampling Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)</b>
001	<b>Petroleum Contact Water: Storm water runoff or other water that contacts petroleum products and becomes contaminated. An oil/water separator is the typical treatment necessary. Samples shall be taken following treatment and prior to discharge to surface water via Outfall 001. The samples taken shall be representative of the discharge that consists solely of the treated effluent before mixing with any other water.</b>
002	<b>Tank Bottom Water: Water that collects in the bottom of petroleum storage tanks that contains dissolved or emulsified petroleum products. An oil/water separator may provide pretreatment to remove free product, followed by advanced treatment processes to remove dissolved petroleum products. Samples shall be taken following treatment and prior to discharge to surface water via Outfall 002. The samples taken shall be representative of the discharge that consists solely of the treated effluent before mixing with any other water.</b>
003	<b>Scrap and Waste Storage Area Oily Water: Storm water runoff from storage areas for scrap and waste materials such as salvage yards contain free product and dissolved or emulsified petroleum products that is collected and discharged to surface water. An oil/water separator may provide adequate treatment, but additional advanced treatment processes to remove dissolved substances may be necessary. Samples shall be taken following treatment and prior to discharge to surface water via Outfall 003. The samples taken shall be representative of the discharge that consists solely of the treated effluent before mixing with any other water.</b>
004	<b>Secondary Containment Water: Water that collects in the secondary containment structures, which surround petroleum storage tanks to capture spills. It may be discharged without treatment if it is uncontaminated. An oil/water separator may provide adequate treatment, but additional advanced treatment processes to remove dissolved substances may be necessary. Samples shall be taken following treatment and prior to discharge to surface water via Outfall 004. The samples taken shall be representative of the discharge that consists solely of the treated effluent before mixing with any other water.</b>

#### 3.2 Monitoring Requirements and Effluent Limitations

According to s. NR 205.08(2), Wis. Adm. Code, the department may include monitoring requirements and effluent limitations in general permits. Samples shall be taken at the frequencies specified in the WPDES permit authorizing discharge pursuant to s. NR 218.10, Wis. Adm. Code. The permittee shall comply with the following monitoring requirements and limitations.

### 3.2.1 Sampling Point (Outfall) 001 – Petroleum Contact Water

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gpd	Daily	Estimated	
Oil & Grease (Hexane)	Daily Max	15 mg/L	Monthly	Grab	
pH	Daily Min	6.0 su	Monthly	Grab	
pH	Daily Max	9.0 su	Monthly	Grab	
BOD <sub>5</sub> , Total	Monthly Avg	20 mg/L	Monthly	Grab	
BETX, Total	Monthly Avg	750 µg/L	Monthly	Grab	
PAHs	Monthly Avg	0.1 µg/L	Monthly	Grab	
Benzo(a)pyrene	Monthly Avg	0.1 µg/L	Monthly	Grab	
Naphthalene	Monthly Avg	70 µg/L	Monthly	Grab	

### 3.2.2 Sampling Point (Outfall) 002 – Tank Bottom Water

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gpd	Daily	Estimated	
Oil & Grease (Hexane)	Daily Max	15 mg/L	Monthly	Grab	
pH	Daily Min	6.0 su	Monthly	Grab	
pH	Daily Max	9.0 su	Monthly	Grab	
BOD <sub>5</sub> , Total	Monthly Avg	20 mg/L	Monthly	Grab	
BETX, Total	Monthly Avg	750 µg/L	Monthly	Grab	
Benzene	Monthly Avg	50 µg/L	Monthly	Grab	
PAHs	Monthly Avg	0.1 µg/L	Monthly	Grab	
Benzo(a)pyrene	Monthly Avg	0.1 µg/L	Monthly	Grab	
Naphthalene	Monthly Avg	70 µg/L	Monthly	Grab	

### 3.2.3 Sampling Point (Outfall) 003 – Scrap and Waste Storage Area Oily Water

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gpd	Daily	Estimated	
Oil & Grease (Hexane)	Daily Max	15 mg/L	Monthly	Grab	
pH	Daily Min	6.0 su	Monthly	Grab	
pH	Daily Max	9.0 su	Monthly	Grab	
BOD <sub>5</sub> , Total	Monthly Avg	20 mg/L	Monthly	Grab	
Suspended Solids, Total	Daily Max	40 mg/L	Monthly	Grab	
BETX, Total	Monthly Avg	750 µg/L	Monthly	Grab	
Benzene	Monthly Avg	50 µg/L	Monthly	Grab	
PAHs	Monthly Avg	0.1 µg/L	Monthly	Grab	
Benzo(a)pyrene	Monthly Avg	0.1 µg/L	Monthly	Grab	

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Naphthalene	Monthly Avg	70 µg/L	Monthly	Grab	

### 3.2.4 Sampling Point (Outfall) 004 – Secondary Containment Water

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gpd	Daily	Estimated	
Oil & Grease (Hexane)	Daily Max	15 mg/L	Monthly	Grab	
pH	Daily Min	6.0 su	Monthly	Grab	
pH	Daily Max	9.0 su	Monthly	Grab	
BOD <sub>5</sub> , Total	Monthly Avg	20 mg/L	Monthly	Grab	
BETX, Total	Monthly Avg	750 µg/L	Monthly	Grab	
PAHs	Monthly Avg	0.1 µg/L	Monthly	Grab	
Benzo(a)pyrene	Monthly Avg	0.1 µg/L	Monthly	Grab	
Naphthalene	Monthly Avg	70 µg/L	Monthly	Grab	

### Changes from Previous Permit

- The permit includes a definition for surface water discharge under Section 3.
- Sampling Point descriptions have been updated to include the sampling point location under Section 3.1.
- Effluent limitations and monitoring for pH has been added to the permit for Sections 3.2.1- 3.2.4.
- The sample frequencies have been changed to “Monthly” for all parameters except flow rate where the sample frequency has changed to “Daily”. This change was done to improve the effectiveness of the permit in protecting surface water quality. Additionally, this change will reduce the time period when a facility could unknowingly be out of compliance with the permit.
- Sample frequency reduction procedures have been added to the permit under Sections 3.3.
- Section 3.4 was added to the permit explain the requirement of total suspended solids (TSS) monitoring for scrap and waste storage areas.
- Section 3.4.1 was added to the permit to explain solids removal requirements for wastewater treated for TSS.
- Sections on PAH Group of Ten, benzo(a)pyrene, and naphthalene have been revised from the previous permit in Sections 3.5-3.7.
- Information on the policy and regulations on water treatment additives for surface water discharges has been added to the permit in Section 3.9.
- Section 3.10 has been added to the permit with regard to surface water quality narrative standards.
- Sections for flow estimate, grab sample, total BETX have been moved to the definitions under Appendix A.
- Section for floating solids and foam has been removed from the permit as this is covered under the surface water narrative criteria in Section 3.8.

## Explanation of Monitoring Requirements and Effluent Limitations

**Flow Rate:** In accordance with 40 CFR 122.44(i)(1), to assure compliance with permit limitations, monitoring is required for the volume of effluent discharged from each outfall. Therefore, the permittee is required to estimate the flow rate each day there is a discharge. The definition of “estimated” is provided in Appendix A of the permit.

**Oil & Grease Monitoring:** Discharges covered by this permit are expected to contain significant concentrations of oil and grease requiring treatment. Based on observations of field staff and literature indicates that depending on the level of contamination of water to be treated, other types of oily wastewater treatment besides an oil water separator may be acceptable to meet permit limits. Another type of treatment may also be needed to supplement an oil water separator to meet permit limits, such as oil absorbent filtration systems.

The limit for oil & grease of 15 mg/L daily maximum is achievable by application of best practicable control technology currently available for these types of discharges. This established effluent limitation is based on the ability of simple oil/water separator equipment to easily remove oil and grease from the discharge to concentrations below 15 mg/l. This determination was based on best professional judgment in accordance with s. NR 220.21, Wis. Adm. Code. Chapter NR 219, Wis. Adm. Code, specifies that the Freon Oil & Grease test method is no longer approved and shall not be used. Permittees shall either use the hexane extractable material (HEM) or silica gel treated HEM test methods as provided in ch. NR 219, Wis. Adm. Code. The sample frequency for oil & grease shall follow the monitoring frequencies stated for each discharge type.

**pH Monitoring:** The pH is limited to the range of 6.0 to 9.0 standard units, with no change greater than 0.5 units outside the estimated natural seasonal maximum and minimum. This is consistent with the water quality standards pH range for waters classified for fish and aquatic life as defined in ch. NR 102.04(c), Wis. Adm. Code. Any wastewater with a pH outside the range of 6.0 to 9.0 s.u. shall not be discharged directly to surface waters. The pH of the water can be treated through the uses of the following treatment options:

- For high or low pH water can be mixed with other water to bring the mixed water pH to within the 6.0 to 9.0 acceptable range.
- For low pH, the water can be treated with soda ash (sodium carbonate) or any other department approved chemical. The permittee should follow the instructions provided with the chemicals for the optimum dosage rates.
- For high pH, the water can be treated with hydrochloric acid, sodium bisulfate or any other department approved chemical. The permittee should follow the instructions provided with the chemicals for the optimum dosage rates.

**Biochemical Oxygen Demand (BOD<sub>5</sub>):** This parameter is monitored to gather information on BOD<sub>5</sub> levels for all wastewaters that are discharged to surface water. The limit for BOD<sub>5</sub> of 20 mg/L monthly average is achievable by application of best practicable control technology currently available for these types of discharges. This determination was based on best professional judgment in accordance with s. NR 220.21, Wis. Adm. Code.

**Total Suspended Solids (TSS):** The limit for TSS of 40 mg/L daily maximum is achievable by application of best practicable control technology currently available for these types of discharges. This established effluent limitation is based on the average of the best performance of the treatment technologies used for these similar types of discharges. This determination was based on best professional judgment in accordance with s. NR 220.21, Wis. Adm. Code.

For wastewaters treated for suspended solids removal prior to discharge to surface waters, permit effluent limits for suspended solids are achievable through the use of the following treatment options:

- Simple gravity separation (settling) treatment technology. Examples include baffled clarifiers, temporary settling basins like sandbags or straw bales, ditch checks, and settling tanks or ponds. Over time, the settling equipment will fill up with settled solids, resulting in decreased volume and residence time for wastewater and ultimately, ineffective solids treatment. Therefore, captured solids shall be removed from solids separation equipment or facilities as needed to maintain treatment unit hydraulic capacity and prevent carry-over of solids.
- Simple filtration treatment technology. Examples include filter socks, dewatering bags, silt fences, and portable filtration units like multi-bag filters. Over time, filtration equipment will accumulate with solids resulting in decreased solids holding capacity and decreased discharge through the equipment. Therefore, captured solids shall be removed from filtration equipment or filtration equipment should be replaced as needed to maintain solids treatment and prevent failure.

**Total BETX:** Total BETX (benzene, ethylbenzene, toluene, and xylenes) shall include a summation of the following individual compounds: benzene, ethylbenzene, toluene and total xylenes. The sample frequency for Total BETX shall follow the monitoring frequencies stated for each discharge type. The limit for Total BETX of 750 µg/L as a monthly average is achievable by application of best available control technology economically achievable for these types of discharges. This established effluent limitation is based on the ability of simple carbon adsorption treatment or air strippers to easily remove of these volatile organic compounds from the discharge to concentrations below 750 µg/l. This determination was based on best professional judgment in accordance with s. NR 220.21, Wis. Adm. Code.

**Benzene:** This parameter was added as a petroleum contaminant indicator for the tank bottom water and scrap and waste area oily water. The limit for benzene of 50 µg/L as a monthly average is achievable by application of best available control technology economically achievable for these types of discharges. This established effluent limitation is based on the ability of simple carbon adsorption treatment or air strippers to easily remove of this volatile organic compound from the discharge to concentrations below 50 µg/l. This determination was based on best professional judgment in accordance with s. NR 220.21, Wis. Adm. Code.

**PAHs:** The polycyclic aromatic hydrocarbons (PAHs) shall include a summation of the following ten individual compounds: benzo(a)anthracene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene. The sample frequency for PAHs shall follow the monitoring frequencies stated for each discharge type. The regulation of PAHs in WPDES permits are based on department released guidance entitled “PAH Group of 10 Calculation of Concentration Using Toxicity Equivalent Factors” (3400-2015-01), which is available at <http://dnr.wi.gov/water/egadSearch.aspx>.

The limit for PAHs of 0.1 µg/L as a monthly average is achievable by application of best available control technology economically achievable for these types of discharges. This established effluent limitation is based on the ability of simple oil/water separators equipment and carbon adsorption treatment to easily remove PAHs from the discharge to concentrations below 0.1 µg/l. This determination was based on best professional judgment in accordance with s. NR 220.21, Wis. Adm. Code.

**Benzo(a)pyrene:** The PAH compound benzo(a)pyrene is regulated separately as it has the most toxicological data. Compliance with monthly average benzo(a)pyrene limit can be demonstrated by using EPA method 610 or other approved method and reporting no detect, or by reporting a detected amount equal to or less than 0.1 µg/L. The limit for benzo(a)pyrene of 0.1 µg/L as a monthly average is achievable by application of best available control technology economically achievable for these types of discharges. This established effluent limitation is based on the ability of simple carbon adsorption treatment to easily remove benzo(a)pyrene from the discharge to concentrations below 0.1 µg/l. This

determination was based on best professional judgment in accordance with s. NR 220.21, Wis. Adm. Code.

**Naphthalene:** The PAH compound naphthalene is regulated separately with a 70 µg/L as a monthly average by application of best available control technology economically achievable for these types of discharges. This established effluent limitation is based on the ability of simple air stripping technology to easily remove naphthalene from the discharge to concentrations below 70 µg/l. This determination was based on best professional judgment in accordance with s. NR 220.21, Wis. Adm. Code.

### **3.3 Sampling Frequency Reduction**

In accordance with s. NR 205.066, Wis. Adm. Code, the department shall determine on a case-by-case basis the monitoring frequency to be required for each effluent limitation in a permit. Therefore, if the permittee has collected 12 representative samples of the discharge and the monitoring results do not exceed the discharge limitations at any time for oil and grease, pH, Total BOD<sub>5</sub>, Total BETX, PAHs, benzo(a)pyrene, naphthalene, benzene or total suspended solids then the department may approve in writing an annual monitoring frequency. Permittees shall submit sampling frequency reduction requests to the department with supporting monitoring results. Permittees may use historical discharge data, if available, in the sampling frequency reduction request. Sampling frequency reductions are only valid for the term of the permit. Permittees shall reapply each permit term. Permittees must be in substantial compliance with effluents to remain eligible for the sample frequency reduction. If limit exceedances occur, monthly monitoring will resume the following month until they can demonstrate the reduction again.

### **3.4 Total Suspended Solids (TSS) Monitoring**

In accordance with 40 CFR 122.28(a)(4), general permits must clearly identify the applicable conditions for each category or subcategory of dischargers covered by the permit. Therefore, TSS monitoring and effluent limitations are only required for scrap and waste storage area oily water discharges to surface water. This parameter was added as potential substances of concern in the runoff from storage areas.

#### **3.4.1 Solids Removal**

In accordance with s. NR 205.07(1)(j), the permittee shall at all times properly operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of the permit. Therefore, the permittee shall remove captured solids from solids separation equipment or facilities as needed to maintain treatment unit hydraulic capacity and prevent carry-over of solids.

### **3.5 PAH Group of Ten**

In accordance with s. NR 205.07(1)(p)3., Wis. Adm. Code, additional test procedures may be specified in the permit on a case-by-case basis. Therefore, permittees shall use EPA test method 610 or other EPA approved method to test for the PAH compounds. Permittees shall demonstrate compliance with the monthly average PAH group limit by reporting no detection of any of these PAH compounds, or by reporting the sum of the PAH group detected amounts equal to or less than 0.1 µg/L. See Appendix C of the permit for the calculation of the concentration of the PAH group of 10 compounds.

### **3.6 Benzo(a)pyrene**

In accordance with s. NR 205.07(1)(p)3., Wis. Adm. Code, additional test procedures may be specified in the permit on a case-by-case basis. Therefore, permittees shall use EPA test method 610 or other EPA approved method to test for benzo(a)pyrene. Permittees shall demonstrate compliance

with monthly average benzo(a)pyrene limit by reporting no detection of benzo(a)pyrene, or by reporting a detected amount equal to or less than 0.1 µg/L.

### **3.7 Naphthalene**

In accordance with s. NR 205.07(1)(p)3., Wis. Adm. Code, additional test procedures may be specified in the permit on a case-by-case basis. Therefore, permittees shall use EPA test method 610 or other EPA approved method to test for naphthalene. Permittees shall demonstrate compliance with monthly average naphthalene limit by reporting no detection of naphthalene, or by reporting a detected amount equal to or less than 70 µg/L.

## **3.8 Impaired Waters & TMDL Requirements for Surface Water Discharges**

### **3.8.1 Report Discharge to an Impaired Surface Water**

Permittees are required to report, on the discharge monitoring report, if the permittee has a detectable pollutant of concern discharge to an impaired surface water or a surface water with a State and EPA approved Total Daily Maximum Load (TMDL) allocation. The permittee does not need to report all pollutants of concern only those pollutants for which the receiving water of the discharge is impaired for or has an approved TMDL. If a facility discharges a pollutant of concern to a 303(d)-listed impaired water body, the goal is to minimize the pollutant discharge as much as possible as part of an overall state effort to reduce the pollutant loading to the water body. The department updates the section 303(d) list approximately every two years. The updated list is effective upon approval by EPA.

### **3.8.2 TMDL Compliance**

Permittees discharging a pollutant of concern that is subject to an approved TMDL under this general shall meet the requirements of a State and Federally approved TMDL wasteload allocation for their discharge location that is in effect on the effective date of this permit. Existing pollutant discharges covered under this permit are expected to be consistent with the baseline wasteload allocation granted to Wisconsin general permit discharges in all State and EPA approved TMDLs in effect on the effective date of this permit.

For this general permit, the most common pollutants of concern may be total suspended solids (TSS) discharges to sediment impaired water bodies. The permittee can use the impaired water search tool (<http://dnr.wi.gov/water/impairedSearch.aspx>) or the surface water data viewer (SWDV) (<http://dnrmaps.wi.gov/sl/?Viewer=SWDV>) to identify waters impaired in the county that the discharge will occur.

### **3.8.3 New or Increased Pollutant Discharge to a 303(d) Listed Impaired Surface Water**

Pursuant to 40 CFR 122.4, the department prohibits the issuance of a WPDES permit to a new source or new discharger that will contribute to a violation of a water quality standard in a 303(d)-listed water. Also, an increased discharge of a pollutant of concern that would cause or contribute to a violation of a water quality standard in a 303(d)-listed water is not to be allowed. Therefore, this general permit specifies that a permittee may not establish a new pollutant of concern discharge to a 303(d)-listed impaired water body or significantly increase the discharge of a pollutant of concern to an impaired water body unless the new or increased discharge does not contribute to the receiving water impairment, or the new discharge is consistent with a department finalized TMDL wasteload allocation for the impaired water body as determined by the department. The general permit cannot be used if this requirement is not met for a new discharge.

In response to a NOI, the department will evaluate the proposed pollutant discharge amount and receiving water to determine if the above requirement can be met. A variety of options are available to the applicant to reduce the discharge of the pollutant of concern, with the goal of eliminating the pollutant discharge, such as on-site capture or an alternate discharge location.

### **3.9 Water Treatment Additives for Surface Water Discharges**

On April 23<sup>rd</sup>, 2015, the department released guidance entitled “Water Quality Review Procedures for Additives” (3400-2015-03), which is available at <http://dnr.wi.gov/topic/wastewater/Guidance.html>. This guidance document establishes procedures to calculate secondary acute and chronic values for water-applied additives pursuant to s. NR 105.05, Wis. Adm. Code. Secondary acute values are the concentrations of a pollutant in surface water that protect aquatic life from adverse short-term effects. Therefore, facilities shall submit information regarding the toxicity of a water treatment additive as specified in the permit, so the department can determine if it is allowable and won't negatively impact aquatic life. The department shall also be informed of significant changes in additive usage that would raise the potential for negative impacts on aquatic life or human health. Facilities are required to maintain records of additive use for department inspection. Recording additive use will provide documentation for the facility and the department to verify that the wastewater additive is being used and discharged in accordance with the permit requirements.

An additive review is necessary for substances that may enter surface water without receiving wastewater treatment or substances that are used in a treatment process but are not expected to be removed by wastewater treatment and may contribute to effluent toxicity. In the event that the permittee wishes to commence use of a water treatment additive, or increase the usage of the additives greater than indicated in the NOI, the permittee shall submit a request and receive written approval from the department prior to initiating such changes. The permittee shall maintain records of the monthly water treatment additive use including the additive name, manufacturer, and daily maximum amount used.

For each water treatment additive used, the permittee shall submit a copy of the [Additive Review Worksheet](#) to the department. Examples of water treatment additives are biocides such as microbicides, fungicides, molluscicides, etc. and water quality conditioners such as scale and corrosion inhibitors, pH adjustment chemicals, oxygen scavengers, conditioning agents, water softening compounds, etc. The Additive Review Worksheet is not required for additives with active ingredients consisting of chlorine, hypochlorite, sulfuric acid, hydrochloric acid or sodium hydroxide. Also, chemicals used in an industrial process generating wastewater that eventually receives treatment or chemicals added as part of wastewater treatment process (such as ferric chloride, alum or pickle liquor) are not considered water treatment additives and need not require an Additive Review Worksheet. Water treatment additives can vary from innocuous to highly toxic.

### **3.10 Surface Water Uses and Criteria**

The surface water uses and criteria are based on surface water narrative criteria in s. NR 102.04(1), Wis. Adm. Code. These criteria shall be followed at all times and under all flow and water level conditions.



## 4 Groundwater Discharge Requirements

The requirements of this section only apply to groundwater discharges. Groundwater discharge means any wastewater that is allowed to infiltration or seepage into the soil from a permeable surface including but not limiting to any drain field, agricultural field, ditch, swale, depression, trench or pit, adsorption pond, infiltration pond, rain garden, prairie, or vegetative area that may impact groundwater quality.

### 4.1 Sampling Point(s)

In accordance with s. NR 218.07, Wis. Adm. Code, the location of sampling points shall be as specified in an applicable permit. The discharge(s) shall be limited to the waste type(s) designated for the listed sampling point(s).

<b>Sampling Point Designation</b>	
<b>Sampling Point Number</b>	<b>Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)</b>
005	<b>Petroleum Contact Water:</b> Storm water runoff or other water that contacts petroleum products and becomes contaminated. An oil/water separator is the typical treatment necessary. Samples shall be taken following treatment and prior to discharge to groundwater via Outfall 005. The samples taken shall be representative of the discharge that consists solely of the treated effluent before mixing with any other water.
006	<b>Tank Bottom Water:</b> Water that collects in the bottom of petroleum storage tanks that contains dissolved or emulsified petroleum products. An oil/water separator may provide pretreatment to remove free product, followed by advanced treatment processes to remove dissolved petroleum products. Samples shall be taken following treatment and prior to discharge to groundwater vial Outfall 006. The samples taken shall be representative of the discharge that consists solely of the treated effluent before mixing with any other water.
007	<b>Scrap and Waste Storage Area Oily Water:</b> Storm water runoff from storage areas for scrap and waste materials such as salvage yards contain free product and dissolved or emulsified petroleum products that is collected. An oil/water separator may provide adequate treatment, but additional advanced treatment processes to remove dissolved substances may be necessary. Samples shall be taken following treatment and prior to discharge to groundwater via Outfall 007. The samples taken shall be representative of the discharge that consists solely of the treated effluent before mixing with any other water.
008	<b>Secondary Containment Water:</b> Water that collects in the secondary containment structures, which surrounds petroleum storage tanks to capture spills. It may be discharged without treatment if it's uncontaminated. An oil/water separator may provide adequate treatment, but additional advanced treatment processes to remove dissolved substances may be necessary. Samples shall be taken following treatment and prior to discharge to groundwater via Outfall 008. The samples taken shall be representative of the discharge that consists solely of the treated effluent before mixing with any other water.

### 4.2 Monitoring Requirements and Effluent Limitations

According to s. NR 205.08(2), Wis. Adm. Code, the department may include monitoring requirements and effluent limitations in general permits. Additionally, samples shall be taken at the frequencies specified in the WPDES permit authorizing discharge pursuant to s. NR 218.10, Wis. Adm. Code. The permittee shall comply with the following monitoring requirements and limitations.

#### 4.2.1 Sampling Point (Outfall) 005 – Petroleum Contact Water

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gpd	Daily	Estimated	
Oil & Grease (Hexane)	Daily Max	15 mg/L	Monthly	Grab	
BETX, Total	Monthly Avg	750 µg/L	Monthly	Grab	
PAHs	Monthly Avg	0.1 µg/L	Monthly	Grab	
Benzo(a)pyrene	Monthly Avg	0.02 µg/L	Monthly	Grab	
Naphthalene	Monthly Avg	10 µg/L	Monthly	Grab	

#### 4.2.2 Sampling Point (Outfall) 006 – Tank Bottom Water

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gpd	Daily	Estimated	
Oil & Grease (Hexane)	Daily Max	15 mg/L	Monthly	Grab	
BETX, Total	Monthly Avg	750 µg/L	Monthly	Grab	
Benzene	Monthly Avg	0.5 µg/L	Monthly	Grab	
Ethylbenzene	Monthly Avg	140 µg/L	Monthly	Grab	
Toluene	Monthly Avg	160 µg/L	Monthly	Grab	
PAHs	Monthly Avg	0.1 µg/L	Monthly	Grab	
Benzo(a)pyrene	Monthly Avg	0.02 µg/L	Monthly	Grab	
Naphthalene	Monthly Avg	10 µg/L	Monthly	Grab	

#### 4.2.3 Sampling Point (Outfall) 007 – Scrap and Waste Storage Oily Water

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gpd	Daily	Estimated	
Oil & Grease (Hexane)	Daily Max	15 mg/L	Monthly	Grab	
BETX, Total	Monthly Avg	750 µg/L	Monthly	Grab	
Benzene	Monthly Avg	0.5 µg/L	Monthly	Grab	
Ethylbenzene	Monthly Avg	140 µg/L	Monthly	Grab	
Toluene	Monthly Avg	160 µg/L	Monthly	Grab	
PAHs	Monthly Avg	0.1 µg/L	Monthly	Grab	
Benzo(a)pyrene	Monthly Avg	0.02 µg/L	Monthly	Grab	
Naphthalene	Monthly Avg	10 µg/L	Monthly	Grab	

#### 4.2.4 Sampling Point (Outfall) 008 – Secondary Containment Water

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gpd	Daily	Estimated	

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Oil & Grease (Hexane)	Daily Max	15 mg/L	Monthly	Grab	
BETX, Total	Monthly Avg	750 µg/L	Monthly	Grab	
PAHs	Monthly Avg	0.1 µg/L	Monthly	Grab	
Benzo(a)pyrene	Monthly Avg	0.02 µg/L	Monthly	Grab	
Naphthalene	Monthly Avg	10 µg/L	Monthly	Grab	

## Changes from Previous Permit

- The permit includes a definition for groundwater discharge under Section 4.
- Sampling Point descriptions have been updated to include the sampling point location under Section 4.1.
- The sample frequencies have been changed to “Monthly” for all parameters except flow rate where the sample frequency has changed to “Daily”. This change was done to improve the effectiveness of the permit in protecting groundwater water quality. Additionally, this change will reduce the time period when a facility could unknowingly be out of compliance with the permit.
- Sections for flow estimate, grab sample, Total BETX have been moved to the definitions under Appendix A.
- Sample frequency reduction procedures have been added to the permit under Section 4.3.
- Sections on PAH Group of Ten, benzo(a)pyrene, and naphthalene have been revised from the previous permit in Sections 4.4-4.6.
- Best management practices for groundwater discharges has been added to the permit under Sections 4.7-4.13. Section NR 205.10, Wis. Adm. Code, allows the department to include best management practices to control or abate the discharge of pollutants in WPDES permits if the practices are reasonably necessary to carry out the purposes and intent of ch. 283, Wis. Stats., and the Clean Water Act (CWA). The BMPs are based on similar land treatment activities provided in ch. NR 214, Wis. Adm. Code. These BMPs will help prevent the runoff of the discharge into surface waters and exceedance of any groundwater standards.
- A section on water treatment additives has been add to the permit under Section 4.14 to explain information on the policy and regulations on water treatment additives for groundwater discharges.

## Explanation of Monitoring Requirements and Effluent Limitations

**Flow Rate:** In accordance with 40 CFR 122.44(i)(1), to assure compliance with permit limitations, monitoring is required for the volume of effluent discharged from each outfall. Therefore, the permittee is required to estimate the flow rate each day there is a discharge. The definition of “estimated” is provided in Appendix A of the permit.

**Oil & Grease Monitoring:** Discharges covered by this permit are expected to contain significant concentrations of oil and grease requiring treatment. Based on observations of field staff and literature indicates that depending on the level of contamination of water to be treated, other types of oily wastewater treatment besides an oil water separator may be acceptable to meet permit limits. Another type of treatment may also be needed to supplement an oil water separator to meet permit limits, such as oil absorbent filtration systems.

The limit for oil & grease of 15 mg/L daily maximum is achievable by application of best practicable control technology currently available for these types of discharges. This established effluent limitation is

based on the ability of simple oil/water separator equipment to easily remove oil and grease from the discharge to concentrations below 15 mg/l. This determination was based on best professional judgment in accordance with s. NR 220.21, Wis. Adm. Code. Chapter NR 219, Wis. Adm. Code, specifies that the Freon Oil & Grease test method is no longer approved and shall not be used. Permittees shall either use the hexane extractable material (HEM) or silica gel treated HEM test methods as provided in ch. NR 219, Wis. Adm. Code. The sample frequency for oil & grease shall follow the monitoring frequencies stated for each discharge type.

**Total BETX:** Total BETX (benzene, ethylbenzene, toluene, and xylenes) shall include a summation of the following individual compounds: benzene, ethylbenzene, toluene and total xylenes. The sample frequency for Total BETX shall follow the monitoring frequencies stated for each discharge type. The limit for Total BETX of 750 µg/L monthly average is achievable by application of best available control technology economically achievable for these types of discharges. This established effluent limitation is based on the ability of simple carbon adsorption treatment or air strippers to easily remove of these volatile organic compounds from the discharge to concentrations below 750 µg/l. This determination was based on best professional judgment in accordance with s. NR 220.21, Wis. Adm. Code.

**Benzene, Ethylbenzene, and Toluene:** These parameters were added as a petroleum contaminant indicator for the tank bottom water and scrap and waste area oily water. The limits for benzene, ethylbenzene, toluene, and xylenes reflect the groundwater preventive action limits (PAL) in ch. NR 140, Wis. Adm. Code, which are designed to ensure groundwater standards are not exceeded.

**PAHs:** The polycyclic aromatic hydrocarbons (PAHs) shall include a summation of the following ten individual compounds: benzo(a)anthracene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene. The sample frequency for PAHs shall follow the monitoring frequencies stated for each discharge type. The PAHs compounds regulated under the permit are separated into three components. The regulation of PAHs in WPDES permits are based on department released guidance entitled “PAH Group of 10 Calculation of Concentration Using Toxicity Equivalent Factors” (3400-2015-01), which is available at <http://dnr.wi.gov/water/egadSearch.aspx>.

The limit for PAHs of 0.1 µg/L monthly average is achievable by application of best available control technology economically achievable for these types of discharges. This established effluent limitation is based on the ability of simple oil/water separators equipment and carbon adsorption treatment to easily remove PAHs from the discharge to concentrations below 0.1 µg/l. This determination was based on best professional judgment in accordance with s. NR 220.21, Wis. Adm. Code.

**Benzo(a)pyrene:** The limit for benzo(a)pyrene reflects the PAL in ch. NR 140, Wis. Adm. Code, which are designed to ensure groundwater standards are not exceeded.

**Naphthalene:** The limit for naphthalene reflects the PAL in ch. NR 140, Wis. Adm. Code, which are designed to ensure groundwater standards are not exceeded.

### 4.3 Sampling Frequency Reduction

In accordance with s. NR 205.066, Wis. Adm. Code, the department shall determine on a case-by-case basis the monitoring frequency to be required for each effluent limitation in a permit. Therefore, if the permittee has collected 12 representative samples of the discharge and the monitoring results do not exceed the discharge limitations at any time for oil and grease, Total BOD<sub>5</sub>, Total BETX, PAHs, benzo(a)pyrene, naphthalene, benzene, or toluene then the department may approve in writing an annual monitoring frequency. Permittees shall submit sampling frequency reduction requests to the department with supporting monitoring results. Permittees may use historical discharge data, if available, in the sampling frequency reduction request. Sampling frequency reductions are only valid for the term of the permit. Permittees shall reapply each permit term. Permittees must be in substantial compliance with effluents to remain to eligible for the sample frequency reduction. If limit

exceedances occur, monthly monitoring will resume the following month until they can demonstrate the reduction again.

#### **4.4 PAH Group of Ten**

In accordance with s. NR 205.07(1)(p)3., Wis. Adm. Code, additional test procedures may be specified in the permit on a case-by-case basis. Therefore, permittees shall use EPA test method 610 or other EPA approved method to test for the PAH compounds. Permittees shall demonstrate compliance with the monthly average PAH group limit by reporting no detection of any of these PAH compounds, or by reporting the sum of the PAH group detected amounts equal to or less than 0.1 µg/L. See Appendix C for the calculation of the concentration of the PAH group of 10 compounds.

#### **4.5 Benzo(a)pyrene**

In accordance with s. NR 205.07(1)(p)3., Wis. Adm. Code, additional test procedures may be specified in the permit on a case-by-case basis. Therefore, permittees shall use EPA test method 610 or other EPA approved method to test for benzo(a)pyrene. Permittees shall demonstrate compliance with monthly average benzo(a)pyrene limit by reporting no detection of benzo(a)pyrene, or by reporting a detected amount equal to or less than 0.02 µg/L.

#### **4.6 Naphthalene**

In accordance with s. NR 205.07(1)(p)3., Wis. Adm. Code, additional test procedures may be specified in the permit on a case-by-case basis. Therefore, permittees shall use EPA test method 610 or other EPA approved method to test for naphthalene. Permittees shall demonstrate compliance with monthly average naphthalene limit by reporting no detection of naphthalene, or by reporting a detected amount equal to or less than 10 µg/L.

#### **4.7 Solids Removal**

In accordance with s. NR 205.07(1)(j), the permittee shall at all times properly operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of the permit. Therefore, the permittee shall visually inspect seepage areas during times of discharge to check that the infiltrative capacity of the soils is sustained. The permittee shall remove any accumulated solids from seepage areas to maintain the infiltrative capacity of the soils.

#### **4.8 Adequate Design**

Permittees shall limit wastewater discharges to absorption or seepage pond systems so that the discharge volume combined with the precipitation from a 10-year frequency, 24-hour duration rainfall event does not reduce the available freeboard to less than one foot below the top of the dike. This condition is based on absorption pond systems in s. NR 214.12(3)(f), Wis. Adm. Code.

#### **4.9 Discharge Location**

Permittees shall direct the discharge to grass, soil, gravel areas, or seepage areas to the extent possible and infiltration of the discharge shall be maximized. This condition is based on spray irrigation systems under s. NR 214.14(2)(a), Wis. Adm. Code.

#### **4.10 Discharge Rate**

Permittees shall limit the discharge flow rate to a rate that can infiltrate into the soil surface. This condition is based on spray irrigation systems under s. NR 214.14(2)(a), Wis. Adm. Code.

#### **4.11 Runoff Control**

Permittees shall limit the discharge flow rate to prevent the runoff of any wastewater from the site. Permittees may not discharge wastewater during any rainfall events that may cause runoff from the site. This condition is based on spray irrigation systems under s. NR 214.14(3)(f), Wis. Adm. Code.

#### **4.12 Erosion Control**

Permittees shall limit the discharge flow rate to prevent erosion when the vegetative cover has not developed sufficiently to anchor the soil and create the filter mat necessary for effective wastewater treatment. This condition is based on overland flow systems under s. NR 214.15(3)(d), Wis. Adm. Code.

#### **4.13 Winter Operations**

Permittees may not discharge during winter months if the soil surface is frozen except permittees may discharge uncontaminated secondary containment water when the soil surface is frozen. Since treatment efficiency and infiltration decreases in the winter, the department may require storage or additional treatment of the discharge during cold weather. This condition is based on overland flow systems under s. NR 214.15(3)(e), Wis. Adm. Code.

#### **4.14 Water Treatment Additives for Groundwater Discharges**

Permittees shall not place water treatment additives in any discharge that is not a part of a water supply system unless the water treatment additive use is approved, in writing, by the department. An additive review is necessary for substances that may enter groundwater without receiving wastewater treatment or substances that are used in a treatment process but are not expected to be removed by wastewater treatment and may impact groundwater quality. In event that the permittee wishes to commence use of a water treatment additive, or increase the usage of the additives greater than indicated in the NOI, the permittee shall submit a request and receive written approval from the department prior to initiating such changes. The permittee shall maintain records of the monthly water treatment additive use including the additive name, manufacturer, and daily maximum amount used.

For each water treatment additive used, the permittee shall submit (1) the commercial name of the additive and the Material Safety Data Sheet (MSDS), (2) the proposed frequency of use, (3) the amount or concentration to be used and (4) the anticipated discharge concentration. Examples of water treatment additives are biocides such as microbicides, fungicides, molluscicides, etc. and water quality conditioners such as scale and corrosion inhibitors, pH adjustment chemicals, oxygen scavengers, conditioning agents, water softening compounds, etc. An additive review is not required for additives with active ingredients consisting of chlorine, hypochlorite, sulfuric acid, hydrochloric acid or sodium hydroxide. Also, chemicals used in an industrial process generating wastewater that eventually receives treatment or chemicals added as part of a wastewater treatment process (such as ferric chloride, alum or pickle liquor) are not considered water treatment additives and need not require an additive review. Water treatment additives can vary from innocuous to highly toxic.

The language from section 3.7 has been modified to be more appropriate for groundwater discharges. The permittee shall submit the above information regarding the water treatment additive as specified in the permit, so the department can determine if it is allowable and won't negatively impact groundwater standards in ch. NR 140, Wis. Adm. Code. The department's determination may include consulting with other agencies as appropriate if groundwater standards have not been developed for compounds of concern.

## **5 Secondary Containment Water**

Section NR 205.10, Wis. Adm. Code, allows the department to include best management practices to control or abate the discharge of pollutants in WPDES permits if the practices are reasonably necessary to carry out the purposes and intent of ch. 283, Wis. Stats., and the Clean Water Act (CWA). The department believes that secondary containment water discharges that are uncontaminated with petroleum products do not pose a reasonable potential to exceed any surface water quality standards or groundwater quality standards. By implementing the BMPs in the permit, applicants will help ensure proper disposal of the water into surface waters or groundwaters while meeting the goals of the CWA. Additionally, the BMPs will help alleviate burdensome monitoring for permittees and minimize efforts of the department for these low risk discharges.

### **Changes from Previous Permit**

- The secondary containment water exemption includes a requirement for a discharge management plan under Section 5.2.
- Section 5.3 has been added to the permit which includes information on how to demonstrate compliance and reporting when the exemption conditions are met for secondary containment water discharges under Section 5.1.
- The permit removes the requirement of taking a representative sample during the first year of coverage for secondary containment water discharges.

### **5.1 Uncontaminated Water Exemption**

Wastewater collected in secondary containment structures at petroleum bulk stations, terminals, or tank farms is storm water that either does not contain petroleum products or may contain such low concentrations that treatment and monitoring is unnecessary prior to discharge. The permit takes this into account by allowing the water that collects in secondary containment structures that meets the uncontaminated conditions in the permit to be discharged to surface water or groundwater without treatment or monitoring. The main criterion is that the wastewater cannot contain a visible oil sheen or film, in such a case it would comply with the 15 mg/L limit for oil and grease.

### **5.2 Discharge Management Plan**

In accordance with s. 283.37(6), Wis. Stats., the department may require the owner or operator to submit information regarding any discharge. Therefore, the permittee is required to prepare a discharge management plan and submit it with the NOI to the department. The discharge management will assist the department in determining the applicable uncontaminated conditions under the permit are being met and help the permittee properly plan, operate and manage all uncontaminated secondary contaminated water discharges.

Applicants shall submit the discharge management plan with the general permit NOI or existing permittees shall submit the plan within sixty (60) days from the date of reissuance of this general permit. The department coverage letter will explicitly indicate approval of the discharge management plan. Permittees shall notify the department when the discharge management plan is amended to determine if the amendment requires department approval.

### **5.3 Demonstrating Compliance and Reporting**

The permittee shall demonstrate compliance with the limits in Section 3.2.4 or Section 4.2.4 by certifying each month that the facility has operated consistent with the approved discharge management plan and met the conditions in Section 5.1 of the permit for the discharge of secondary containment water to the waters of the state. The permittee shall report the certification statement as a facility comment on the monthly electronic discharge monitoring report forms.

## **5.4 Contaminated Secondary Containment Water**

If the secondary contaminant water does not meet the requirements of Section 5.1, permittees shall treat and monitor the discharge of secondary containment water in accordance with Section 3.2.4 for surface water discharges or Section 4.2.4 for groundwater discharges. Permittees shall continue to treat and monitor the wastewater until the conditions in Section 5.1 can be met.



## 6 Standard Requirements

Both the current permit and new permit provide a Standard Requirements (SR) section that contains conditions and requirements that are, for the most part, applicable to all industrial permittees.

### Changes from Previous Permit

Both the current permit and new permit provide a Standard Requirements (SR) section that contains conditions and requirements that are, for the most part, applicable to all industrial permittees. Changes to the standard requirements section include:

- SR Section 6.1.1: The permit now requires that monitoring results be submitted on an electronic discharge monitoring report (eDMR) instead of a paper annual report. The monitoring forms are due 21 days after the end of the reporting permit.
- SR Section 6.2.1: The permit now explains requirements on how to delegate signature authority for a duly authorized representative.
- SR Section 6.2.2: The permit now explains requirements on how to transfer permit coverage to a new permittee.
- SR Section 6.2.3: The permit now explains requirements on how to terminate permit coverage.
- SR Sections 6.3.1-6.3.2, 6.3.7-6.3.10, 6.3.12, 6.3.16, and 6.3.18: These sections are required to be included all WPDES permit issued by the department.
- SR Sections 6.3.11-6.2.13: The permit now explains sampling and testing procedures as well as the requirement for testing performed by a certified or registered laboratory with exclusions.

### 6.1 Reporting Requirements

According to s. NR 205.08(2), Wis. Adm. Code, the department may include reporting requirements in general permits. The reporting requirements are included by reference from chs. NR 106.07(6)(e), NR 106.14(3), and NR 205.07(1) and (3), Wis. Adm. Code.

### 6.2 General Conditions for General Permits

According to s. NR 205.08(2), Wis. Adm. Code, the department may include general conditions in general permits. The general conditions for general permits are included by reference from 40 CFR Parts 122.28(b)(2)(i), 122.61(b) and 122.64(c), and s. NR 205.07(1), Wis. Adm. Code.

### 6.3 General Conditions for WPDES Permits

The general conditions for WPDES permits are included by reference from chs. NR 205.07(1) and (3), NR 219.037, Wis. Adm. Code, and 33 USC 1251.

## 7 Summary of Reports Due

A summary of reports due has been added for informational purposes for permittee and to be consistent with individual WPDES permits.

## Appendix A – Definitions

The standard definition section is provided to permittees to help clearly define terms used throughout the permit. The definitions of these terms are included by reference from department guidance, 40 CFR 122.2 and chs. NR 200, NR 205, NR 211, and NR 218, Wis. Adm. Code. Definitions not specifically outlined in this section can be found in Wisconsin Administrative Code, Wisconsin Statutes, or 40 CFR. Each term is provided with its code reference. If the terms below are found to be inconsistent with the definition in code, permittees shall refer to the code definition.

## **Appendix B – Notice of Intent Form**

The contents of the notice of intent (NOI) shall be specified in the general permit and shall require the submission of information necessary for adequate program implementation pursuant to 40 CFR 122.28(b)(2)(ii). The NOI, at a minimum, shall include the legal name and address of the owner or operator, the facility name and address, type of facility or discharges, the receiving stream(s), and other required data elements as identified in 40 CFR Appendix A to Part 127. Authorized state programs may require regulated entities to submit more data than what is listed in Appendix A. All NOI must be signed and certified in accordance with s. NR 205.07(1)(g), Wis. Adm. Code.

## **Appendix C – PAH Calculation**

The calculation of the concentration for the PAH group of ten compounds in WPDES permits is based on department released guidance entitled “PAH Group of 10 Calculation of Concentration Using Toxicity Equivalent Factors” (3400-2015-01), which is available at <http://dnr.wi.gov/water/egadSearch.aspx>.

## **Other Changes from Previous Permit**

- Section 2 “Requirements for all Discharges” has been removed. This includes sections on treatment, design, operation requirements, and treatment system plan approval. The department does not want to limit permittee to certain types of treatment. Additionally, the plan approval requirements are not consistent with s. 281.41, Wis. Stats., and ch. NR 108, Wis. Adm. Code.
- Sections on reporting of tank bottom water disposal and disposal of waste oil and solids were also removed from the permit. The department no longer requires this information.

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