

Ohio Environmental Protection Agency

Fact Sheet For

National Pollutant Discharge Elimination System (NPDES)

General Permit for Discharges from
Bulk Fuel Storage Facilities
(previously Petroleum Bulk Storage Facilities)

I. Background

The Federal Water Pollution Control Act [also referred to as the Clean Water Act (CWA)], and the Ohio Water Pollution Control Act and the Ohio Revised Code (ORC Chapter 6111) provide that discharge of pollutants to waters of the state from any point source is unlawful, unless the discharge is in compliance with an effective NPDES permit.

The purpose of issuing NPDES permits to bulk fuel storage operators is to ensure that any wastewater discharges from these systems are in compliance with all applicable state and federal water pollution control laws.

Most of the discharges generated at bulk fuel storage facilities are storm water from the sites. Other wastewaters generated include tank draw waters (water that is removed periodically from the lower level of bulk petroleum storage tanks, including water that has entered the tank along with crude petroleum, condensate resulting from pressure or temperature changes, wash down water from tank maintenance activities or storm water that has seeped into the tank), and certain hydrostatic test waters (pressure cleaning of pipes).

Discharge limitations are listed in Part VI of this fact sheet. Draft changes to the permit are described in Part VII.

II. Description of General Permit Coverage and Type of Discharge

The permit covers primarily storm water discharges from bulk fuel storage facilities to waters of the state. The permit may also cover certain process wastewaters such as tank water draws, if it is adequately treated. The permit does not cover any discharges that the Director of the Ohio EPA has determined to be contributing to a violation of a Water Quality Standard (WQS) as determined in Ohio Administrative Code, Chapter 3745-1.

Bulk fuel storage facilities are facilities that include storage tanks and/or pipelines which provide storage or conveyance for crude oil, petroleum products or other fuel materials such as ethanol or biodiesel. Fuel may be loaded and unloaded to transports (e.g. trucks, rail cars, and barges) at these facilities.

Ohio EPA has elected to issue a statewide general permit to cover discharges from existing point sources. Ohio has 100-150 of these facilities, and discharges from all of these would have similar pollutant characteristics and discharge limits. For the purpose of this permit, an existing point source discharge is one that has been in existence prior to 07/01/93, or any bulk fuel facility that has previously

been covered by an NPDES permit, unless the existing NPDES permit contains more stringent final effluent limitations.

Discharges from these types of plants can meet all applicable NPDES requirements through the limits proposed in this permit.

Dischargers not eligible for coverage under this permit may still obtain an individual NPDES permit by submitting individual permit applications (Form 1, Form 2D or 2E, and an Antidegradation Addendum).

III. Procedures for Participation in the Formulation of Final Determinations

The draft action shall be issued as a final action unless the Director revises the draft after consideration of the record of a public meeting or written comments, or upon disapproval by the Administrator of the U.S. Environmental Protection Agency.

Within thirty days of the date of the Public Notice, any person may request or petition for a public meeting for presentation of evidence, statements or opinions. The purpose of the public meeting is to obtain additional evidence. Statements concerning the issues raised by the party requesting the meeting are invited. Evidence may be presented by the applicant, the state, or other parties, and following presentation of such evidence, other interested persons may present testimony of facts or statements of opinion.

Requests for public meetings shall be in writing and shall state the action of the Director objected to, the questions to be considered, and the reasons the action is contested. Such requests should be addressed to:

**DSW Permits Processing Unit
Ohio Environmental Protection Agency
P.O. Box 1049
Columbus, Ohio 43216-1049**

Interested persons are invited to submit written comments upon the discharge permit. Comments should be submitted in person or by mail no later than 30 days after the date of this Public Notice. Deliver or mail all comments to:

**Ohio Environmental Protection Agency
Attention: Division of Surface Water
Permits and Compliance Section
P.O. Box 1049
Columbus, Ohio 43216-1049**

The OEPA permit number and Public Notice numbers should appear on each page of any submitted comments. All comments received no later than 30 days after the date of the Public Notice will be considered.

Citizens may conduct file reviews regarding specific companies or sites. Appointments are necessary to conduct file reviews, because requests to review files have increased dramatically in recent years. The

first 250 pages copied are free. For requests to copy more than 250 pages, there is a five-cent charge for each page copied. Payment is required by check or money order, made payable to Treasurer State of Ohio.

For additional information about this fact sheet or the draft permit, contact Eric Nygaard at (614) 644-2024 (eric.nygaard@epa.state.oh.us).

IV. Description of Application Process

Notice of Intent - Facilities must submit a Notice of Intent (NOI) application to apply for coverage under the general permit. State and federal regulations exclude facilities covered by general permits from requirements to submit an application for an individual permit [OAC 3745-38-02 and 40 CFR 122.21 (a), respectively].

NOI requirements are intended to establish a mechanism that can be used to establish a clear accounting of the number of facilities covered by the general permit, their identities, locations, mailing addresses, and the nature and amount of discharge.

To apply for general permit coverage, all applicants will be required to complete and submit an NOI application form that is available from Ohio EPA, along with an application fee of \$200. The NOI application form and appropriate fees shall be submitted to the following address:

Ohio Environmental Protection Agency
Office of Fiscal Administration
P.O. Box 1049
Columbus, Ohio 43216 - 1049

A copy of the NOI should also be sent to the appropriate district office of the Ohio EPA; a copy of the NOI should also be provided to the MS4 operator.

Facilities who intend to obtain coverage under the general permit shall submit an NOI form within 45 days of the effective date of the permit. Dischargers who fail to obtain coverage under the general permit and are not otherwise covered by an NPDES permit are in violation of Ohio Revised Code (ORC) 6111.

V. Eligibility Determining Factors

- A. Except for discharges identified in paragraph B, this permit may cover discharges of wastewater from bulk fuel storage facilities to waters of the state.
- B. The following wastewater discharges associated with bulk fuel storage facilities are not eligible for coverage under this permit:
 - 1. any discharge that is mixed with another type of discharge prior to reaching the receiving water. If the wastewater discharge does combine with another type of waste stream from the applicant prior to reaching the receiving stream, and it is possible to sample each waste stream separately, the wastewater discharge may be covered by this permit. The other waste stream(s) must be covered under a different NPDES permit;
 - 2. discharges from vehicle washing and maintenance operations;
 - 3. discharges of more than incidental amounts of products or discharge of free product

(see Part VI of the permit for this definition);

4. any discharges that are subject to an existing NPDES permit with an effluent limitation, monitoring requirement, and/or other requirement that is not addressed by this permit, or is more stringent than contained in this permit;
5. wastewater discharges that the Director has determined to be contributing to a potential violation of Ohio's surface water quality standards;
6. bulk fuel storage facility discharges that are discharged to combined or sanitary sewer systems;
7. wastewater discharges associated with bulk fuel storage facilities that take place within five-hundred yards upstream of a public water supply surface water intake and cannot meet Ohio's public water supply standards;
8. wastewater discharges associated with bulk fuel storage facilities that are commingled with hazardous wastes or hazardous substances;
9. wastewater discharges associated with bulk fuel storage facilities to the Ohio River that cannot meet public water supply standards at the point of discharge; ~~and~~
10. discharges associated with bulk fuel storage facilities than have long-term average COD concentrations greater than 120 mg/l;
11. discharges to receiving waters impaired by the pollutants regulated by this permit; and,
12. discharges for which the Director requests an individual permit application.

V. Effluent Limitations and Monitoring Requirements

Treatment-technology based limits and pollutant parameter evaluation

Ohio EPA reviewed the parameters detected to determine if treatment technology limits were needed. The Agency has not established any specific treatment technology limits in this permit because the two pollutants in these wastewaters that are treatable, oil&grease and pH, have water quality-based limits that are more stringent than commonly-used treatment technology limits.

Ohio EPA has a fairly extensive database of pollutant analyses from this industry. The Agency put together data from existing general and individual permits for this industry, and analyzed the data set as a whole.

The organic pollutants detected were those most associated with petroleum oils – benzene, toluene, ethylbenzene, xylenes, naphthalene/polycyclic aromatics, phenol, and 2,4-dimethylphenol; methylene chloride was also detected. No other priority organic pollutants were detected in the sampling results.

Based on these results, two of these pollutants – 2,4-dimethylphenol and methylene chloride - were detected in only one sample. These pollutants are not characteristic of bulk fuel storage runoff and were removed from further consideration. Similarly, polycyclic aromatic compounds were removed because the only PAH compound that was reported as an individual compound was naphthalene.

Typical treatment systems at bulk fuel storage facilities include oil/water separation, a settling pond that can be skimmed for oil removal if necessary, or both. Most facilities do not have specific pollution control facilities for priority organics. Based on the Agency's data set, Ohio EPA believes that most bulk fuel facilities' storm water Best Management Practices will keep the remaining organic parameters below both treatable levels and water quality standards. To ensure this, Ohio EPA has set an eligibility criterion for chemical oxygen demand in this permit as a surrogate for benzene, toluene, ethylbenzene, xylenes, naphthalene and phenol. The Agency believes that this eligibility criterion will screen out bulk fuel facilities that are not well-operated; the screened-out facilities would need individual permits and potentially limits for these parameters. The eligibility of a permittee for this permit can be easily determined using a facility's DMR data (self-reporting data); only existing facilities can be covered by this general permit, so facility-specific information is available.

To set the eligibility criterion for COD, Ohio EPA reviewed data for 120 fuel storage terminal outfalls. Ohio EPA calculated long-term average data for each facility. The Agency then excluded facilities whose average COD concentrations were statistical outliers and determined a 95th percentile of the remaining averages. The resulting value (105 mg/l) is not significantly different from the state/federal storm water benchmark of 120 mg/l, in terms of the number of facilities that meet the value. Therefore, Ohio EPA has adopted the 120 mg/l COD value as an eligibility criterion for this permit. Ohio EPA believes that sound best management practices will keep COD concentrations below this value and keep toxic pollutants below WQS. Average COD concentrations for each outfall are appended to this fact sheet.

Ohio EPA did a similar evaluation for metal parameters and cyanide. The following metal parameters were not detected in bulk fuel facility effluents: antimony, barium, cadmium, chromium (hexavalent), silver and thallium. While detection/quantification levels for silver and thallium analyses were poor, a review of petroleum refining wastewater shows that these two pollutants are not present at treatable levels or levels that would trigger reasonable potential to contribute to exceedances of water quality standards. These parameters do not need further consideration for limits or monitoring.

The following pollutants were detected in only a small percentage of samples: arsenic, chromium, mercury, nickel and selenium. These pollutants are not characteristic of the facilities' discharges and were not considered further for controls. The general prohibition in the permit against discharges that exceed WQS will prevent excessive discharges of these pollutants under this permit.

Other pollutants considered for controls or monitoring include biochemical oxygen demand, chemical oxygen demand, total organic carbon, oil&grease, pH, total suspended solids, total dissolved solids, ammonia-nitrogen and phosphorus. Based on the wastewater characteristics, oil&grease and pH are limited in the permit. An eligibility criteria was set for chemical oxygen demand.

Phosphorus is not included in the general permit because the effluent data shows discharge concentrations to be generally low. Monitored values greater than 1.0 mg/l are very rare.

To control discharges from hydrostatic test waters, Ohio EPA considered setting additional limits for total suspended solids, applicable only when hydrostatic test waters are discharged. However, these limits may not be achievable for combined discharges of hydrostatic test water and storm water. As a result, the Agency has included the specific Best Management Practices for hydrostatic test water, but not the final limits. Between the two sets of BMPs, suspended solids will be adequately controlled.

Water quality-based limits

The permit contains water quality-based limits for oil&grease and pH. Oil&grease limits are the water quality standard numbers applied at the discharge point. Instream mixing is not allowed because oil and water do not mix. The pH limits are also WQS applied at the end of the pipe.

Some dischargers may have the reasonable potential to contribute to exceedances of WQS; however, the general permit does not allow these discharges to be covered. Any discharger that has the reasonable potential to contribute to an exceedance of WQS must obtain an individual NPDES permit for the discharge. Reasonable potential is determined by comparing effluent data to a wasteload allocation to meet WQS. Wasteload allocations are calculated using the WQS and any available dilution in the receiving water. Relevant WQS for the parameters currently monitored by bulk fuel storage facilities are:

Table 1. Ohio Water Quality Standards for Relevant Parameters. Units are micrograms per liter (parts per billion) unless otherwise noted. Water quality standards for copper, lead and zinc are expressed as a range because these WQS are based on the hardness of the receiving water.

Parameter	WQS Average	WQS Maximum
Benzene	160	700
Copper	9.3 - 30	14 - 52
Cyanide, free (L. Erie basin)	5	22
Cyanide, free (Ohio R. basin)	12	46
Dissolved Solids, total	1500 mg/l	--
Ethylbenzene	61	550
Lead	6.4 - 37	120 - 710
Naphthalene	21	170
Phenol (EWH, WWH, MWH)	400	4700
Phenol (CWH, SSH)	160	4600
Toluene	62	560
Xylenes	27	240
Zinc	120 - 390	120 - 390

Ohio EPA also set a water quality-based limit for residual chlorine, applicable only when hydrostatic test waters are discharged. Public drinking water is often used as source water for hydrostatic testing, and often contains chlorine levels higher than water quality standards. Ohio EPA recognizes that the chlorine standard is less than the analytical quantification level for the most sensitive test method. Part IV, Item H contains the quantification level used as the compliance level for any analyses. BMPs for hydrostatic test water or dosing of dechlorination chemicals can provide reasonable assurance that chlorine discharges meet WQS.

VI. Changes from Current Permit

The draft permit contains a few changes from the current permit. The first change is expanding the scope of the permit to cover storage of all fuels, rather than just petroleum-based fuels. With the larger number of fuel sources available, more types of storage facilities now exist than 5-10 years ago, and Ohio EPA believes that they can be covered by the same general requirements as facilities that store petroleum-based fuel. A definition of "Bulk fuel storage facilities" has been added to Part VI of the permit.

Ohio EPA has adjusted the monitoring requirements in Part III of the permit. Biochemical oxygen demand, chemical oxygen demand and total organic carbon are essentially three methods of measuring very similar pollutant characteristics. Concentrations of these three parameters tend to increase or decrease together. To reduce this duplication, Ohio EPA is proposing to let COD be the representative parameter tested and remove BOD and total organic carbon. COD measures the oxygen demand from a discharge, and is a cheaper and more precise test parameter.

Phosphorus monitoring requirements would also be removed because phosphorus concentrations from these facilities, on the whole, do not appear to contribute significant nutrient sources to receiving waters.

Ohio EPA has removed the priority pollutant scan requirement from Part IV of the permit. The data shows that organic pollutants other than those already monitored in Part III are not present in these discharges to any significant degree.

Ohio EPA has added monitoring requirements for residual chlorine and iron when discharges from hydrostatic tests are done. These parameters are included in Ohio's General NPDES Permit for Hydrostatic Test Waters, and are appropriate monitoring requirements for hydrostatic testing done at bulk fuel facilities.

Ohio EPA has removed the current Part IV. B. and several items in Part II related to permit continuance after the expiration date. This material is stated in Part V. B. The Agency has included a new Part IV. B. item that sets test methods for xylene compounds. Xylene monitoring would be done using federally-approved methods for benzene, toluene and ethylbenzene.

Ohio EPA has added oil&grease severity monitoring to the requirements in Part III. The definitions of severity units are included in Part IV, E. Severity units are visual observations of oil in the discharge, rather than an analytical requirement. It allows for quick detection of significant issues with the runoff from the facility. It also provides a check on the analytical methods, as oil&grease sampling is most accurate when the discharge falls at a sampling point, as it would from a wier.

Ohio EPA has also added storm water best management practices (BMPs) for any vehicle maintenance activities at a site (See Part IV, I.). The Agency believes that storm water from maintenance activities may not be covered by spill prevention plans (SPCC requirements), and that BMPs are needed in this situation. Ohio EPA notes a difference between storm water from vehicle maintenance activities (which are covered by the permit) and process waters from vehicle washing and maintenance (which are not covered by the permit).

The standard permit conditions in Part V of the permit have been revised to incorporate the current standard conditions. These affect mostly the REPORTING and NON-COMPLIANCE NOTIFICATION sections.

In the Reporting Section (Part V, L.), Ohio EPA has included electronic reporting instructions for use with the Agency's eDMR self-reporting system. In the Non-Compliance Reporting Section (Part V, S.), Ohio EPA has allowed internet reporting of non-compliance, and provided new phone numbers if the permittee wishes to report by telephone. In Part V, U., the Agency has removed discharge change language related to publicly-owned treatment works (POTWs). This is not needed because the covered facilities do not fit the definition of POTW.

The Agency has also made minor wording changes to the Transfer Section of the permit (Part V, E.).

VII. Notice of Termination

Each individual facility covered by the general permit must submit a Notice of Termination (NOT) form to terminate coverage under this permit. Permittees are to request permit coverage termination once the wastewater discharges are eliminated. Failure to submit an NOT form constitutes a violation of the permit and is a violation of ORC 6111.

COD Values for Outfalls Evaluated for this Permit

Outfall	Mean COD	>500	minus other high outliers
001	261.5	261.5	
001	31.9	31.9	31.9
002	19.2	19.2	19.2
001	53.1	53.1	53.1
001	4.5	4.5	4.5
001	62.1	62.1	62.1
001	235.7	235.7	31.8
001	31.8	31.8	93.6
001	93.6	93.6	78.7
001	78.7	78.7	51.8
001	51.8	51.8	63.8
001	63.8	63.8	55.7
001	55.7	55.7	81.9
001	81.9	81.9	41.7
001	41.7	41.7	32.9
001	32.9	32.9	0
001	0	0	13.3
001	1256	13.3	37.2
002	2094	37.2	39.2
001	13.3	39.2	29.4
002	37.2	29.4	76.3
001	39.2	76.3	49.5
001	29.4	49.5	52
001	76.3	52	57.7
001	49.5	57.7	35.3
001	52	35.3	23.6
002	57.7	23.6	24.7
001	35.3	24.7	31.3
001	23.6	31.3	44.5
001	24.7	44.5	22.3
002	31.3	22.3	21.4
003	44.5	21.4	20.4
004	22.3	20.4	19.7
001	21.4	19.7	6.6
001	20.4	6.6	20.8
002	19.7	20.8	28.7
001	6.6	28.7	52.9
001	20.8	52.9	60.8

001	28.7	60.8	25.8
001	52.9	25.8	31.1
002	60.8	31.1	35.9
001	25.8	35.9	14.8
002	31.1	14.8	15.8
001	35.9	15.8	16.3
001	14.8	16.3	25.6
002	15.8	25.6	24.9
003	16.3	24.9	46.8
002	25.6	46.8	104.5
001	24.9	104.5	76.9
001	46.8	169.9	98.1
001	104.5	76.9	146.5
001	169.9	98.1	77.4
001	76.9	146.5	106.5
001	98.1	77.4	63.1
001	146.5	106.5	47.8
001	77.4	63.1	48.7
001	106.5	47.8	46.1
001	63.1	48.7	89.7
001	47.8	46.1	58.6
001	48.7	89.7	126.6
001	46.1	58.6	62.5
001	89.7	126.6	37.4
001	58.6	62.5	37.3
001	126.6	37.4	42.1
001	62.5	37.3	77.5
001	37.4	42.1	40.8
001	37.3	77.5	10.5
001	42.1	40.8	25.5
001	77.5	10.5	27.3
001	40.8	25.5	13.5
001	10.5	27.3	18.5
001	25.5	13.5	18.5
002	27.3	18.5	44.5
001	13.5	18.5	158.9
001	18.5	44.5	19
002	18.5	158.9	40.8
001	44.5	19	19.8
001	158.9	40.8	104.6
001	19	19.8	25.3
001	40.8	104.6	22.3

002	19.8	25.3	9.8
003	104.6	22.3	8.9
004	25.3	9.8	15.5
001	22.3	8.9	27.7
001	9.8	15.5	79.1
001	8.9	27.7	10.8
001	15.5	79.1	58
001	27.7	10.8	60.1
001	79.1	58	42.9
001	10.8	60.1	44.9
001	58	42.9	43.4
001	60.1	44.9	41.1
001	42.9	43.4	96.6
001	44.9	41.1	42
001	43.4	96.6	55.3
001	41.1	42	45.6
001	96.6	55.3	34.8
001	42	45.6	46.9
001	55.3	34.8	11.1
001	45.6	46.9	90.9
001	34.8	11.1	43.4
001	46.9	90.9	12.4
001	11.1	43.4	121.7
001	90.9	12.4	23.1
002	43.4	121.7	20.2
001	12.4	23.1	10.7
001	121.7	280	17.2
001	23.1	20.2	2.4
001	280	10.7	84.6
002	20.2	17.2	53.9
001	10.7	2.4	85.9
001	17.2	84.6	55.5
002	2.4	53.9	47.4
001	84.6	85.9	81.7
001	53.9	55.5	41.1
001	85.9	47.4	58.6
001	55.5	81.7	88.94
001	47.4	392.7	104.54
001	81.7	mean 55.16695	167.3785
001	392.7	std. dev. 56.10576	
mean	82.1641667		
std dev	221.41261		

