

Ohio EPA Policy	<b>Effluent Limitations and Monitoring Requirements for Petroleum Bulk Storage Facilities</b>	
DSW-0100.024  <b>Removed</b>	Statutory references: Rule references:	Ohio EPA, Division of Surface Water Revision 0, July 30, 1993 Revision 1, September 30, 1999 Removed, December 21, 2006
<b>THIS POLICY DOES NOT HAVE THE FORCE OF LAW</b> Pursuant to Section 3745.30 of the Revised Code, this policy was reviewed and removed.		

This policy has been replaced by the General Permit Authorization to Discharge Wastewater from Petroleum Bulk Storage Facilities for Existing Sources (NPDES Permit No. OHB000001).

**For more information contact:**

Ohio EPA, Division of Surface Water  
Permits & Compliance Section  
P.O. Box 1049  
Columbus, OH 43216-1049  
(614) 644-2001

Ohio EPA Policy	<b>Effluent Limitations and Monitoring Requirements for Petroleum Bulk Storage Facilities</b>	
DSW-0100.024  <b>Final</b>	Statutory reference: ORC 6111.03 Rule references: OAC 3745-31-05, OAC 3745-33-05, OAC 3745-33-07	Ohio EPA, Division of Surface Water Revision 0, July 30, 1993 Revision 1, September 30, 1999
<p><b>THIS POLICY DOES NOT HAVE THE FORCE OF LAW</b> Pursuant to Section 3745.30 of the Revised Code, this policy was reviewed on the last revision date.</p>		

### Purpose

The purpose of this policy is to outline a monitoring program that will adequately characterize the discharges from petroleum bulk storage terminals or similar facilities (i.e., large industrial facilities, airports, etc.). *Ohio EPA will use this policy when drafting NPDES permit terms and conditions as authorized by OAC 3745-33-07: "...The director may impose additional terms and conditions as part of an NPDES permit as are appropriate or necessary to ensure compliance with the applicable laws and to ensure adequate protection of water quality. ..."*

### Background

The following concerns about appropriately addressing petroleum bulk storage facility discharges are addressed by this policy.

- 1) Inadequacy of detection methods for petroleum bulk storage facility-related oil, grease, and petroleum hydrocarbons

Current methods for analysis of oil and grease are inadequate for petroleum-related volatile hydrocarbons. Suitable analytical methods for volatile hydrocarbons, petroleum fuels, and crude oils have not yet been promulgated by U.S. EPA. Analysis of pollutants other than oil and grease and the use of indicator parameters will better characterize discharges.

- 2) Proprietary additives present in petroleum products

The federal NPDES application Form 2C does not mandate analyses of pollutants listed in Parts B and C of that application except where a pollutant is believed to be present. Persons characterizing the effluent for application or permit purposes may not be aware of priority pollutants present, and thus, will not require their analysis.

- 3) NPDES permitted outfalls in relation to hazardous waste regulations

Industrial wastewater discharges which are regulated under NPDES are excluded from hazardous waste rules under OAC 3745-51-04(A)(2) and OAC 3745-65-01(c)(10). NPDES discharges may contain pollutants in characteristically "hazardous" amounts. It is the Division of Surface Water's responsibility to adequately regulate such discharges.

## Procedure

The information contained in Table 1 describes the protocol that staff should use in drafting permit conditions and monitoring requirements for petroleum bulk storage terminals (or similar facilities) *pursuant to the basic authority found at OAC 3745-33-07*. Any variation should be based on the considerations provided below.

- 1) A review of the application Form 2C or previous permit data may suggest a need for deviation from this policy. Data will be reviewed in relation to the Ohio Water Quality Standards to evaluate water quality concerns.

Any operational changes at the facility will be considered when reviewing the data.

- 2) If a facility is willing to disclose the constituents of all additives used by that facility, that information can be used to determine an appropriate monitoring program, thereby possibly eliminating some of the required monitoring.
- 3) For facilities that intermittently discharge hydrostatic test water used for pipe lines and tanks, the permit writer will modify the corresponding Part II requirements as necessary to be more site-specific. Also, an internal monitoring station may be created in the permit to address only the discharge of hydrostatic test waters where appropriate. An internal station may also be used to represent tank draw water discharges (condensate accumulation in tanks), where appropriate.
- 4) Permit requirements will be dependent on the type of operations at a facility. Petroleum bulk storage facilities generally fall under one of the following three categories. The permit writer will use discretion where one of the following types does not directly apply to a specific facility.

### Type A

These are terminals with product loading/unloading racks. Any fuel type may be involved. Additives may be metered in at loading racks. On-site storage exists. Most of these facilities have a potential for spills, even after product has been mixed with additives. If there is not possibility for any runoff or other discharge from the loading rack area, the facility shall be considered a Type B.

### Type B

Type B terminals are those without loading racks (may be referred to as tank farms). Product is transported to and from the facility via pipelines only. These are storage only facilities. There is potential for the discharge of tank draw water.

### Type C

These terminals are bulk crude oil storage and pipeline facilities. Crude oil arrives and leaves via pipeline. There is no loading or unloading of product nor tank draw waters. Type C terminals present less potential for product-contaminated discharges than Type A and B terminals.

The items indicated in Table 1 should be addressed in the NPDES permit. Attachments 1 and 2 should be used for the NPDES bulk storage terminal permit. The Part II may also include a storm water best management practices (BMP) plan requirement where the permit writer determines a necessity, based on a site visit. Part II may be revised as necessary, on a case-

by-case basis, to eliminate requirements that do not apply (e.g., some of items may have been completed; a facility may not discharge bottom waters or test waters).

**Table 1. Protocol for developing permit requirements.**

1 Type of Terminal	2 Parameters of Initial Concern	3 Part I Requirements (see Attachment 1)	4 Part II Requirements (see Attachment 2)
A	Benzene Toluene Ethylbenzene Xylene BOD <sub>5</sub> COD Oil and Grease TSS TOC Phenol Napthalene Weather Precipitation	Monitor parameters in column 2 once a month except phenol and naphthalene once per quarter	To reduce the number of organic parameters required in Part II, permittee may submit, within 3 months, a list of priority pollutants present in additives used. MSDs information sheets may be substituted. Within 3 months, permittee shall initiate annual organic pollutant monitoring program. May be modified based on supplemental data. Requirement for tank draw waters may be needed.
B	Benzene Toluene Ethylbenzene Xylene BOD <sub>5</sub> COD Oil and Grease TSS TOC Phenol Napthalene Weather Precipitation	Monitor parameters in column 2 once a month except phenol and naphthalene once per quarter	All Part II requirements apply except annual organic pollutant scan.
C	BOD <sub>5</sub> COD Oil and Grease TSS TOC Phenol Weather Precipitation	Monitor parameters in column 2 once a month except phenol once per quarter	All Part II requirements apply except annual organic pollutant scan.

**Related Policy or guidance**

None

**For more information contact:**

Ohio EPA, Division of Surface Water  
Industrial Permit group leader  
P.O. Box 1049  
Columbus OH 43216-1049  
(614) 644-2001

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Attachment 1 - Example NPDES permit, Part I

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from the following outfall: List Outfalls. See Part II, **OTHER REQUIREMENTS**, for location of effluent sampling.

Effluent Characteristic			Discharge Limitations				Monitoring Requirements	
Reporting Code	Units	Parameter	Concentration Specified Units		Loading kg/day		Meas.* Frequency	Sample Type
			30 Day	Daily	30 Day	Daily		
00045	in	Precipitation (Weather)	--	--	--	--	1/month	Grab
00310	mg/l	Biochemical Oxygen Demand, 5 Day	--	--	--	--	1/month	Grab
00335	mg/l	COD	--	--	--	--	1/month	Grab
00530	mg/l	Total Suspended Solids	--	--	--	--	1/month	Grab
00550	mg/l	Oil and Grease, Total	15	20	--	--	1/month	Grab
00665	mg/l	Phosphorus, Total (P)**	--	--	--	--	1/month	Grab
00680	mg/l	Carbon, Total Organic (TOC)	--	--	--	--	1/month	Grab
34010	µg/l	Toluene	--	--	--	--	1/month	Grab
34030	µg/l	Benzene	--	--	--	--	1/month	Grab
34371	µg/l	Ethylbenzene	--	--	--	--	1/month	Grab
34694	µg/l	Phenol	--	--	--	--	1/quarter	Grab
34696	µg/l	Naphthalene	--	--	--	--	1/quarter	Grab
50050	MGD	Flow Rate	--	--	--	--	1/month	24 hr. Total Estimate
81551	µg/l	Xylene, Total	--	--	--	--	1/month	Grab

\* The permittee shall obtain sample during a discharge event. If no discharge occurs during the monthly reporting period, permittee shall leave the data area blank on the monthly operating report (signature still required) and explain in the remarks section.

\*\* Lake Erie basin dischargers only (for at least 12 months; See Part II).

2. The pH (Reporting Code 00400) shall not be less than 6.5 S.U. nor greater than 9.0 S.U. and shall be monitored 1/month\* by grab sample.
3. Samples taken in compliance with monitoring requirements specified above shall be taken at sampling stations described in Part II, **OTHER REQUIREMENTS**.
4. See Part II, Item number for additional monitoring requirements.
5. This discharge shall not contribute oil and grease to the receiving stream in amounts sufficient to cause a visible sheen.

## Attachment 2 - Example NPDES permit, Part II

### PART II, OTHER REQUIREMENTS

#### a. Additional Pollutant Monitoring

1. The permittee shall perform on an annual basis, for a period of five (5) years, a grab sample for volatile pollutants, total cyanide, total phenols, acids, base neutrals, and metals for outfall(s) List Outfall Numbers. Discharge samples for organics shall be prepared and analyzed by GC/MS in accordance with U.S. EPA promulgated methods 624 and 625 (January, 1987). In addition to the quantitative analysis for organic priority pollutants, a reasonable attempt shall be made to identify and quantify any additional substances indicated to be present in the GC/MS fractions by peaks on the reconstructed gas chromatograms (total ion plots) more than 10 times higher than the adjacent peak-to-peak background noise.

Identification shall be referenced to the EPA/NIH computerized library of mass spectra, with visual confirmation by an experienced analyst. Quantification may be an order-of-magnitude estimate based upon comparison with an internal standard. GC/MS analysis results are to be reported to the appropriate district office within 30 days of receiving sampling results from the lab. GC/MS or GC analysis results including copies of the GC strip charts and MS printouts are to be submitted to the name of the respective district district office/DWPC upon written request.

Upon selecting a laboratory to perform the GC/MS analytical work, the laboratory's quality control and quality assurance procedures must be reviewed by the permittee to ensure that the laboratory's quality control and quality assurance procedures meet the minimum requirements as described in the U.S. EPA promulgated methods. The permittee must request and receive copies of all the laboratory's written quality control and quality assurance records used to define the quality of the data generated. These records shall be available for review by representatives of the Ohio EPA. All records shall be kept for at least three years.

Below is a list of priority pollutants and other pollutants to be monitored on an annual basis as described above.

#### GC/MS Fraction-Volatile Compounds

Acrolein	1,1-Dichloroethylene
Acrylonitrile	1,2-Dichloropropane
Bis(Chloromethyl)Ether	1,3-Dichloropropylene
Bromoform	Methyl Bromide
Carbon Tetrachloride	Methyl Chloride
Chlorobenzene	Methylene Chloride
Chlorodibromomethane	1,1,2,2 Tetrachloroethane
Chloroethane	Tetrachloroethylene
2-Chloroethylbinyl Ether	1,2 Trans-Dichloroethylene
Chloroform	1,1,1-Trichloroethane
Dichlorobromomethane	1,1,2-Trichloroethane
Dichlorofluoromethane	Trichloroethylene
1,1-Dichloroethane	Trichlorofluoromethane
1,2-Dichloroethane	Vinyl Chloride

GC/MS Fraction-Base/Neutral Compounds

Acenaphthene	Diethyl Phthalate
Acenaphtylene	Dimethyl Phthalate
Anthracene	Di-N-Butyl Phthalate
Benzidine	2,4-Dinitrotoluene
Benzo(a)Anthracene	2,6-Dinitrotoluene
Benzo(a)Pyrene	Di-N-Octyl Phthalate
3,4-Benzofluoranthene	1,2-Diphenylhydrazine
Benzoghi)Perylene	Fluroanthene
Benzo(k)Fluoranthene	Fluorene
Bis(2-Chloroethoxy)Methane	Hexachlorobenzene
Bis(2-Chloroethyl) Ether	Hexachlorobutadiene
Bis(2-Chloroisopropyl)Ether	Hexachlorocyclopentadiene
Bis(2-ethylhexyl)phthalate	Hexachloroethane
4-Bromophenyl Phenyl Ether	Indeno(1,2,3-cd)Pyrene
Butyl Benzyl Phthalate	Isophorone
2-Chloronaphthalene	Napthalene
4-Chlorophenyl Penyl Ether	Nitrobenzene
Chrysene	N-Nitrosodimethylamine
Dibenzo(a,h)Anthracene	N-Nitrosodi-N-Propylamine
1,2-Dichlorobenzene	N-Nitrosodiphenylamine
1,3-Dichlorobenzene	Phenanthrene
1,4-Dichlorobenzene	Pyrene
3,3-Dichlorobenzidine	1,2,4-Trichlorobenzene

GC/MS Fraction-Acid Compounds

2-Chlorophenol	4-Nitorphenol
2,4-Dichlorophenol	P-Chloro-M-Cresol
2,4-Dimethylphenol	Pentachlorophenol
4,6-Dinitro-o-cresol	Phenol
2,4-dinitrophenol	2,4,6-Trichlorophenol

Metals

Antimony, Total	Mercury, Total
Arsenic, Total	Nickel, Total
Beryllium, Total	Selenium, Total
Cadmium, Total	Silver, Total
Chromium, Total	Thallium, Total
Copper, Total	Zinc, Total
Lead, Total	

Others to be Included

Cyanide, Total	Phenols, Total
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2. Upon review of the results of the pollutant monitoring program, the Ohio EPA may propose effluent limitations for specific pollutants, or continue or modify the monitoring program as appropriate.
- b. Grab samples shall be collected at such times and locations, and in such fashion, as to be representative of the facility's performance.
- c. Discharge of Tank Draw Waters

The permittee shall employ treatment for the discharge of any tank bottom waters to a surface water. Best available treatment technology

of an oil/water separator followed by an activated carbon treatment unit (or an equally effective treatment system) is required for this discharge. The permittee shall provide to Ohio EPA, within 7 days of a written request, a record of all tank bottom water disposal, including:

- 1) tank identification;
  - 2) date of draw-off;
  - 3) type of product in tank;
  - 4) gallons removed
  - 5) method of treatment or disposal; and
  - 6) disposal location (if off-site).
- d. Within 3 months of the effective date of this permit, the permittee shall submit to the respective district office (Division of Water Pollution Control) of Ohio EPA a report documenting existing on-site environmental controls (for water pollution purposes), which may include any ground water protection controls and spill/runoff containment measures. Information submitted as a result of SPCC requirements may be submitted.
- e. After 12 months from the effective date of this permit, the permittee may apply for a modification to reduce or eliminate monthly monitoring requirements for benzene, toluene, ethylbenzene, xylene, TOC, phenol, naphthalene, and phosphorus.
- f. Hydrostatic Testing Wastewaters Discharged to Surface Water
- 1) The permittee shall take practical actions to mitigate the harmful effects of any discharges to waters of the state. This includes effects from pollutants and/or erosion.
  - 2) Ohio EPA, respective district office (Division of Water Pollution Control), shall be notified in writing, at least one month in advance prior to the commencement of hydrostatic testing in order to evaluate the proposed discharge site.
  - 3) Only good quality water (free from solids, oil and grease, scum, etc) shall be used for the hydrostatic test.
  - 4) No chemical additives are to be used at any time during the hydrostatic test without prior Ohio EPA Central Office approval. (Contact the Division of Water Pollution Control, Enforcement and Compliance Section.)
  - 5) Splash plates and straw bales shall be used to filter all discharges and to control soil erosion.
  - 6) Dispose all hazardous solid wastes, which may include the straw used for filtering and erosion control, in accordance with all federal and state laws.
  - 7) Refer to Part III, Items 20 and 21, of this permit regarding disposal of pipeline liquids and sludges pushed out ahead of the pigg.
  - 8) Grab samples of all discharges should be collected and analyzed for pH, total iron, total suspended solids, total dissolved solids, chemical oxygen demand, total organic carbon, benzene, toluene, ethylbenzene, phenols, chlorine (when city water is used), and oil and grease. Unless the effluent is retained,

combined with other sources prior to discharge, a set of three grab samples shall be collected: one at the beginning, one in the middle, and one at the end of each discharge. All sample results shall be reported on the monthly operating report forms.

- 9) The permittee must provide to Ohio EPA, within 7 days of a written request, a record containing the following information:
- a) date discharges occurred;
  - b) location of all discharges (include map);
  - c) volume and duration of discharges;
  - d) analytical summary of grab samples collected from discharge points;
  - e) description of visual observations on the effects of the discharge to the receiving stream(s);
  - f) description of pollution and erosion prevention measures used for the test; and
  - g) the volume of petroleum-related liquids and sludges collected and method of collection; identify the disposal point or facilities used for all collected liquids, sludges, and solids (including straw bales, if used).