

# Comparison Of State / Federal Water Quality Regulations Affecting the Towing Industry On The Ohio River

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## **1.0 Introduction**

The 981-mile Ohio River runs through or borders six states, and is a vital component of the transportation system required to move commercial products throughout the nation. According to ORSANCO, each year 230 million tons of material such as coal, coke, grains, iron, sand and gravel, wood products, fertilizer, petroleum and chemical products are transported by the towing industry on the Ohio River.

Being subject to multiple regulatory programs and jurisdictions, towing interests on the Ohio River have expressed concern over differences in water quality regulatory requirements among various federal and state agencies. The purpose of this study was to identify and review regulatory programs pertinent to the towing industry, and to describe regulatory requirements among various federal and state agencies. The results of this study will aid the towing industry in regulatory compliance at multiple facilities in multiple jurisdictions along the Ohio River. This in turn will contribute to the improvement of Ohio River water quality.

## **2.0     Study Tasks Overview**

### **2.1     Review of Previous Regulatory Comparison Studies**

The first task of this study was to determine if prior work had been performed relevant to the purpose of this project. First, the Environmental Resource Management Center of Northern Kentucky University (ERMC) searched for relevant documents at the U.S. Environmental Protection Agency's (EPA) website ([www.epa.gov](http://www.epa.gov)), at the U.S. EPA's Andrew W. Breidenbach Environmental Research Center Library, from ORSANCO's list of publications, and discussions with ORSANCO's staff. Secondly, six professional organizations representing the towing industry were contacted to determine if they had performed or were aware of relevant studies. The organizations and contacts include the following:

- Inland River Ports and Terminals, Inc. (D. McGowan, April 2001)
- Association for the Development of Inland Navigation in America's Ohio Valley (DINAMO) (B. Palmer, May 2001)
- Midwest Area River Coalition 2000 (D. Fisher, May 2001)
- The American Waterways Operators (D. Scheffier, May 2001)
- National Waterway Conference, Inc. (A. Riester, May 2001)
- Waterways Work! (J. Dixon, May 2001)

From the above-referenced sources, no studies were identified specifically addressing water quality regulations and the towing industry. However, six regulatory comparison studies were identified that address issues of multiple regulatory jurisdictions and/or towing industry concerns. These studies were obtained and reviewed to incorporate techniques and formats into the current study. A list of these studies and synopses are provided are Appendix A.

## **2.2 Towing Industry Interviews**

The second task of this study was to identify water quality regulations and specific compliance issues of interest to the towing industry. In order to accomplish this task, a preliminary list of water quality programs and issues was compiled by the ERMCI based upon prior experience working with multiple towing industry facilities. Next, the ERMCI identified and contacted 19 towing industry professionals (Table 1) whose facilities are representative of various towing industry services (e.g., terminals, fleetings, repairs, etc.) along the Ohio River. Each industry professional was provided with a preliminary list of water quality programs and issues, and asked to comment on these issues, including identifying regulatory priorities and areas of uncertainty relative to compliance. Of 21 contacts made, 11 individuals participated with specific input for study consideration.

In addition, the ERMCI presented preliminary findings relative to this study during the American Waterways Operators Interregional Safety Committee Summer Meeting (held on July 11 and 12, 2001 in Cincinnati, Ohio) and during a monthly meeting of the Huntington District Waterways Association (held on November 21, 2001 in Huntington, West Virginia). The ERMCI invited the approximately 80 attendees to participate in the study by voicing their concerns regarding water quality issues as they pertain to the towing industry, and to comment on the preliminary findings.

## **2.3 Regulatory Review and Agency Interviews**

The third task of the study was to compile and review water quality regulations, and subsequently to contact regulatory agencies to obtain clarification regarding compliance questions and issues raised by towing industry representatives. The ERMCI interviewed personnel from the environmental protection agencies representing the states bordering the Ohio River (i.e., Pennsylvania, West Virginia, Ohio, Kentucky, Indiana, Illinois) and the four U.S. Coast Guard Marine Safety Offices (MSOs) with jurisdictions on the Ohio River:

- Pittsburgh MSO – Ohio River Mile 0.0 through 121.6
- Huntington MSO – Ohio River Mile 121.6 through 374.6
- Louisville MSO – Ohio River Mile 374.6 through 867.2
- Paducah MSO – Ohio River Mile 867.2 through 981.0

In discussions with agency personnel, the ERMCM attempted to determine which agencies exercise jurisdiction over various water quality issues, permits that may be required, etc. A summary of the results of these inquiries is provided in Table 2.

Many issues were considered addressing three general scenarios:

1. Discharges from a vessel underway on the Ohio River;
2. Discharges from a vessel tied up (temporarily moored) at a land-based facility; and,
3. Discharges from a vessel permanently moored at a land-based facility.

As an example, the Coast Guard generally regulates the discharge of treated sanitary wastewater from a vessel underway on the river, but the same discharge from a permanently-moored vessel (e.g., an office barge) may be regulated as a land-based permitted outfall by a state agency.

Permanently moored vessels are defined in the Coast Guard Marine Safety Manual Volume II, paragraph 10.I.1 as: Vessels that are securely and substantially moored as approved by the Officer in Charge of Marine Inspections making them, in effect, “substantially land structures”. The mooring must be rigged so that the vessel’s lines cannot be inadvertently or accidentally cast off, it is unlikely to break away from its mooring, and the vessel cannot be moved away from the mooring without special effort. Permanent connection to shoreside facilities is also considered evidence of being a land structure. On December 7, 1999, the Coast Guard Commandant issued the Permanently Moored Vessel Quality Action Team Report, which recommended that a permanently moored vessel be redefined so that a vessel in permanently moored status is one that:

a) is immobilized and removed from navigation; b) cannot be moved except on emergency or deliberate basis where extensive effort and equipment would be required; and, c) has met an acceptable risk assessment.



### 3.0 **Overview of Regulations:**

The following paragraphs provide an overview of water quality laws and regulations determined to be pertinent to the towing industry. An attempt has been made to provide enough detail for the reader to assess the potential applicability of these requirements to specific operations. However, given the volume and complexity of language addressing regulatory applicability, exclusions, requirements, etc., the reader is encouraged to reference the regulatory citations provided in parentheses and/or consult with a regulatory specialist to determine applicability of the regulations to a specific operation.

#### 3.1 **Wastewater and Stormwater Discharges:**

The **Clean Water Act (CWA)** of 1977, an amendment of the Federal Water Pollution Control Act of 1972, prohibits the discharge of pollutants from a point source into navigable waters without a permit. Under the CWA, in-stream water quality standards are set for contaminants in surface water, and effluent standards for discharges are determined by a facility's industrial activity and receiving water considerations. Several permits, standards and policies have been established under the CWA, as described in the following paragraphs.

The **National Pollutant Discharge Elimination System (NPDES)** is a permit program under the CWA (Sec. 318, 402, and 405) developed to limit direct discharge to surface water. The NPDES program, as noted in 40 CFR 122.1(b), requires permits for the discharge of "pollutants" from any "point source" into waters of the United States. Pollutants and discharges potentially pertinent to the towing industry include dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial waste discharged into water. *Point source* is defined as any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, conduit, discrete fissure, container, vessel or floating craft from which pollutants are or may be discharged.

The following towing industry discharges are excluded from the NPDES program (but may be regulated by other programs): any discharge of sewage from vessels, effluent from properly functioning marine engines, laundry, shower, and galley sink waste, or any other discharge incidental to the normal operation of a vessel. This exclusion does not apply to the discharge of garbage, rubbish, trash, or other such materials discharged overboard; nor to other discharges when the vessel is operating in a capacity other than as a means of transportation as detailed in 40 CFR 122.3(a). For example, the exclusion does not apply to a vessel operating as or tied up to a shore-side facility. Furthermore, the introduction of sewage, industrial wastes or other pollutants into publicly owned treatment works (i.e., sanitary sewer) by indirect dischargers does not require the discharger to obtain an NPDES permit (40 CFR 122.3(c)), but does require an indirect discharge sampling permit as discussed later.

As noted in 40 CFR 123.1(i), states may choose to implement an NPDES program, and may implement equal or more stringent permit requirements compared to federal requirements. All Ohio River states (Pennsylvania, West Virginia, Ohio, Kentucky, Illinois, and Indiana) operate their own discharge permit programs.

Effluent Standards prescribe the maximum concentrations of various contaminants that may be discharged to surface water by a facility. Most discharge permits require a facility to periodically monitor discharges and file a report regarding its effluent characteristics and/or flow volumes. The presence of potential pollutants is determined by sampling the wastewater outfall(s), and then having the water sample(s) tested at a laboratory for various contaminants as required by the facility's permit. These sampling results are reported to the appropriate regulatory agency in a report, typically called a Discharge Monitoring Report (DMR) along with records of volume or flow rate.

Facilities may have to treat their discharges to reduce levels of contaminants to meet the effluent limits indicated in their discharge permit. For example, a facility might process oily wastewater through an oil / water separator prior to discharging the water to meet their permit limit (e.g., daily average less than 15 milligrams per liter of oil and grease

[O&G]). In another example, a facility may process sanitary wastewater through a treatment system (e.g., aeration and chlorine disinfection) to reduce the number of fecal coliform bacteria to a level that meets the requirements of the facility's discharge permit (e.g., daily average less than 400 bacteria colonies per 100 milliliters).

For some permitted discharges, such as when stormwater is pumped out of hopper areas on spar barges, monitoring requirements may be simply a visual inspection to confirm that the discharge is not producing a foam, sheen, or discoloration on the receiving water.

There are two ways that discharge permit effluent standards are determined. Some states, such as Pennsylvania, determine a facility's effluent limits on a strictly case-by-case basis. Effluent samples are obtained from each outfall, and the resultant laboratory data is used to determine which chemical parameters the facility must test and report. Other states, such as West Virginia, group permitted facilities into Industry Sectors. A facility's Industry Sector then determines what its effluent limits will be.

ORSANCO was created by the Ohio River Valley Sanitation Compact, enacted in 1948. This compact grants ORSANCO the authority to protect and preserve the waters within the ORSANCO eight-state district. ORSANCO's **Pollution Control Standards for Discharges to the Ohio River** sets forth both water quality criteria for the Ohio River and wastewater discharge requirements.

ORSANCO's water quality criteria are intended to protect both aquatic life and human health. These parameters include dissolved oxygen, temperature, pH, ammonia, metals, bacteria, radionuclides, and other toxic substances.

ORSANCO's waste water discharge requirements apply to sewage, combined sewer overflows, industrial wastes, wastes from water treatment plants, cooling water, and other wastes that may cause or contribute to a violation of the water quality criteria as discussed in the preceding paragraph. ORSANCO has established effluent limits for biochemical oxygen demand (BOD), total suspended solids (TSS), pH, bacteria, and

toxic substances (e.g., aldrin, dieldrin, DDT, etc.). Compact signatory states have the responsibility to ensure that effluent limitations specified in any discharge permit are also consistent with ORSANCO's standards. Furthermore, ORSANCO signatory states may establish effluent limits that are more stringent than ORSANCO's standards, but not less stringent.

A **Stormwater Discharge Program** was added to The CWA/NPDES program in 1987 (33 US 1234(q)). The Code of Federal Regulations states that a NPDES permit is required for any stormwater discharge associated with specific industrial activity (40 CFR 122.26 (a)(1)(ii)). Stormwater discharge associated with industrial activity means the discharge from any conveyance that is used for collecting and conveying stormwater that is directly related to manufacturing, processing, or raw materials storage areas at an industrial facility. Industrial activities include, but are not limited to, material handling sites; sites used for maintenance of material handling equipment; shipping and receiving areas; and storage areas (including tank farms) for raw material, intermediate and final products. Material handling areas include storage, loading and unloading, transportation, or conveying of any raw material, intermediate product, final product, by-product or waste product (40 CFR 126.26(b)(14)), for example, on-shore coal storage and handling. Similar to industrial process wastewater, effluent standards may be assigned on a case-by-case basis, or as a function of the facility's Standard Industrial Classification (SIC) code or industrial process.

Different types of facilities may be required to test for different types of pollutants. For example, a facility in West Virginia with stormwater discharges associated with industrial activity from vehicle maintenance areas, equipment cleaning areas, or deicing areas would be required to monitor stormwater discharges for BOD, chemical oxygen demand (COD), ammonia, and pH. An automobile salvage yard would be required to monitor for TSS, and total recoverable aluminum, iron, and lead. West Virginia facilities that do not match an industry sector description are grouped into an "all other facilities" category, and are required to monitor for BOD, COD, TSS, ammonia nitrogen, O&G, and pH.



Another program implemented under the CWA is the **Pretreatment Program**. The Pretreatment Program (CWA 307(b)) controls pollutants from “industrial users” transferring wastewater to Publicly Owned Treatments Works (POTW) via a sanitary sewer connection.

There are three objectives under 40 CFR 403.2 that are fulfilled by the Pretreatment Program:

- a) To prevent the introduction of pollutants into POTWs that will interfere with the operation of a POTW, including interference with its use or disposal of municipal sludge.
- b) To prevent the introduction of pollutants into POTWs which will pass through the treatment works or otherwise is incompatible with such works.
- c) To improve opportunities to recycle and reclaim municipal and industrial wastewater and sludges.

*National Pretreatment Standards* are regulations specifying pollutant discharge limits and apply to certain Industrial Users discharging to POTWs (40 CFR 403.3(j)). The term *Pretreatment*, as defined in 40 CFR 403.3(q), means the reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a POTW. An example is a facility that discharges stormwater that accumulates in the hopper of a cargo barge into a nearby sanitary sewer. In some cases, the stormwater may require treatment prior to discharge to the POTW sewer to reduce the levels of certain chemical or other parameters. POTW discharge limits are specified by the POTW, most likely utilizing a “pre-treatment discharge permit” issued by the POTW.

As previously the NPDES or pretreatment programs do not govern stated, sanitary wastes discharged from vessels. 40 CFR 140 addresses **Marine Sanitation Device Standards**. A marine sanitation device includes any equipment installed onboard a vessel which is designed to receive, retain, treat, or discharge sewage and any process to treat such sewage (40 CFR 140.1(c)). The marine sanitation device standards are applicable to vessels that have a marine sanitation device installed. The standards do not state that a marine sanitation device needs to be installed on a vessel if it's not already equipped with one (40 CFR 140.2). Marine sanitation devices should be designed and operated to retain, dispose of, or discharge sewage. Relevant to the towing industry on the Ohio River, marine sanitation devices must be Coast Guard-certified based on a demonstration that the device achieves an effluent quality of greater than 200 count of fecal coliform bacteria per 100 milliliters of waste, and 150 milligrams per liter of suspended solids (40 CFR 140.3(d)).

### **3.2 Oil and Hazardous Material Discharges:**

The **Discharge of Oil and Hazardous Material** is regulated by general prohibition and facility-specific requirements. The general prohibition addresses oil discharges that that “may be harmful” under the Clean Water Act 311(b)(3). Discharge of oil that “may be harmful” includes: a) the violation of applicable water quality standards; or, b) to cause a film or sheen upon or discoloration of the surface water or adjoining shorelines or cause sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines (40 CFR 110.3 (a)(b)).

Specific regulated facilities fall under EPA and/or U.S. Coast Guard jurisdiction depending on the nature of facility operations. In general, EPA regulations (implemented by state agencies) pertain to non-transportation related facilities, whereas U.S. Coast Guard regulations pertain to transportation related facilities. A Memorandum of Understanding (MOU) between the EPA and the Department of Transportation (DOT) published in the Federal Register (Volume 36, No. 244, December 18, 1971) clarifies the definitions of transportation and non-transportation related facilities.

EPA-regulated facilities may require a **Spill Prevention, Control, and Countermeasure (SPCC) Plan** and possibly a **Facility Response Plan (FRP)**. U.S. Coast Guard regulated facilities may require an **Operations Manual** and/or a **Facility Response Plan (FRP)**.

### **3.2.1 U.S. EPA Regulations:**

Non-transportation related onshore and offshore facilities (i.e., EPA/state-regulated) pertinent to the towing industry include:

- oil storage facilities;
- facilities that use and store oil;
- waste treatment facilities;
- loading racks;
- transfer hoses and equipment located at a non-transportation related facility used to transfer oil in bulk from highway vehicles or railroad cars;
- highway vehicles used for the transport of oil within a non-transportation related facility; and,
- pipelines located within a non-transportation related facility.

The Clean Water Act (Section 311(j)) requires a facility to develop an SPCC Plan as per 40 CFR 112.1 if the facility stores regulated amounts of petroleum products. SPCC regulations apply to non-transportation related facilities that meet the following criteria:

- The petroleum product stored at the facility is contained in a single aboveground storage tank with a capacity of more than 660 gallons in a single container; or,
- The petroleum product(s) stored at the facility are contained in two or more aboveground storage tanks with a total capacity of more than 1,320 gallons; or,
- The petroleum product(s) stored at the facility are contained in an underground storage tank(s) with a capacity of more than 42,000 gallons; and,
- The facility could be reasonably expected to discharge oil into or upon the navigable waters of the United States or adjoining shorelines.

An SPCC Plan is applicable to the owners and operators of non-transportation related onshore and offshore facilities engaged in storing, transferring, distributing or consuming oil and oil products, which, due to their location, could reasonably be expected to discharge oil in harmful quantities into or upon the navigable waters of the United States or adjoining shorelines. An onshore facility is defined as any facility in, on, or under any land within the United States, other than submerged lands, which is not a transportation-related facility. An offshore facility is defined in 40 CFR 112.2 as any facility of any kind located in, on, or under any of the navigable waters of the United States, which is not a transportation-related facility.

The 1990 **Oil Pollution Act** (OPA 90) was developed after the release of nearly 3.9 million gallons of No. 2 diesel fuel at the Ashland Oil Company facility in Floreffe, Pennsylvania in January 1988, and the release of over 11 million gallons of oil from the *Exxon Valdez* oil tanker in March 1989.

OPA 90 addresses any non-transportation-related facility (EPA jurisdiction) or transportation-related facility (Coast Guard jurisdiction, discussed later) that, because of its location, could reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable water or adjoining shorelines. The EPA's substantial harm regulations apply to a facility if:

- The facility transfers oil over water to or from vessels and has a total oil storage capacity greater than or equal to 42,000 gallons; or,
- The facility's total oil storage capacity is greater than or equal to 1 million gallons, and one of the following is true:
  - The facility does not have secondary containment for each aboveground storage area sufficiently large to contain the capacity of the largest aboveground oil storage tank within each storage area plus sufficient freeboard to allow for precipitation.



- The facility is located at a distance such that a discharge from the facility could cause injury to fish and wildlife sensitive areas.
- The facility is located at a distance such that a discharge from the facility would shut down a public drinking water intake.
- The facility has had a reportable oil discharge in an amount greater than or equal to 10,000 gallons within the last 5 years.

Facilities meeting the EPA's substantial harm criteria are required to develop a **Facility Response Plan (FRP)** as detailed in 40 CFR 122.20. Components of an FRP include:

- An Emergency Response Action Plan;
- Facility information and diagrams;
- Emergency response information;
- Hazard evaluation;
- Response planning levels;
- Discharge detection systems and security systems;
- Plan Implementation; and,
- Information on self-inspections, drills and exercises, and response training.

### **3.2.2 U.S. Coast Guard Regulations:**

The U.S. Coast Guard regulates vessels and transportation-related onshore and offshore facilities. Transportation-related onshore and offshore facilities pertinent to the towing industry means terminal facilities including:

- transfer hoses, loading arms, and other equipment used for the purpose of handling or transferring oil in bulk to or from a vessel; and,
- storage tanks and equipment for the reception of oily ballast water or tank washings from vessels.

OPA 90 requires that marine facilities capable of transferring oil or hazardous materials, in bulk, to or from vessels with a total storage capacity of 10,500 gallons or more are required to develop an **Operations Manual** (33 CFR 154, Subpart B) and a **Facility Response Plan** (33 CFR 154 Subpart F) which are submitted to and reviewed by the Coast Guard. An Operation Manual details the facility's procedures to prevent spills and releases. A FRP discusses spill response and clean-up procedures (somewhat similar to the EPA's FRP requirements). The U.S. Coast Guard also enforces these regulations.

### 3.2.3 MARPOL 73/78

**MARPOL 73/78** (The International Convention for the Prevention of Pollution from Ships) is the international treaty regulating the disposal of wastes generated by the normal operations of vessels. MARPOL 73/78 is implemented in the United States by the Act to Prevent Pollution from Ships (33 CFR 151), and is regulated by the U.S. Coast Guard. The various types of marine pollution are addressed under the following 5 annexes.

- Annex I Regulations for the Prevention of Pollution of Oil
- Annex II Regulations for the Control of Pollution by Noxious Liquid Substances
- Annex III Regulations for the Prevention of Pollution by Harmful Substances in Packaged Forms
- Annex IV Regulations for the Prevention of Pollution by Sewage
- Annex V Regulations for the Prevention of Pollution by Garbage

### 3.2.4 Groundwater Protection:

The states of West Virginia, Pennsylvania, and Kentucky have implemented **Groundwater Protection Regulations** to prevent groundwater pollution from the discharge of oil and hazardous materials. Through these regulations, these states have developed groundwater quality standards and procedures that must be followed by any

person who owns or operates facilities or conducts activities subject to these regulations. These regulations detail the Best Management Practices (BMPs) to be implemented by a facility to prevent groundwater pollution. These states also enforce pollution prevention practices and groundwater monitoring. Typical BMPs may include:

- Loading and unloading areas with spill prevention and control features;
- No on-site sewage disposal if a private or public treatment system is available;
- Knowledge of floor drain routing and end points (e.g., do the floor drains discharge to a septic system?); or,
- Storage tank and sump housekeeping practices, operating procedures, operator training, and spill response procedures.

### **3.2.5 Integrated Contingency Plan**

The National Response Team (comprised of the U.S. EPA, U.S. Coast Guard, and other agencies) recognizes that a given facility may be subject to regulations requiring multiple contingency plans such as a SPCC Plan, Facility Response Plan, Groundwater Protection Plan, and non-water quality plans required by other programs such as OSHA. In order for a facility to meet regulatory requirements and also have the most usable efficient plans, the National Response Team has provided guidance for the development of an Integrated Contingency Plan (ICP). A properly prepared ICP incorporates the requirements of all pertinent regulatory programs into one facility-specific document, for example addressing personnel training requirements for all regulatory programs into one section of the ICP. Guidance for the development of a facility ICP is provided Federal Register Volume 61, No. 109, starting page 28642.

#### **4.0 Permit Requirements for Various Discharges**

This section summarizes the findings of the ERM's contacts with regulatory personnel to resolve jurisdiction uncertainties and permitting requirements. Table 2 provides a matrix of discharges versus regulatory agency, and is intended as an aid in determining permit requirements at a particular facility. For example, is a permit required to discharge ballast water from a permanently moored office barge at an Illinois facility?

Answer: The Illinois EPA requires an NPDES permit, with discharge limits to be determined on a case-by-case basis.

As indicated in Table 2, the Ohio EPA did not participate in this survey; the only information that the Ohio EPA provided was that Ohio has not issued any NPDES Permits for these types of discharges taking place on and along the Ohio River in the State of Ohio. Other results reported in Table 2 are discussed below.

The four Coast Guard MSOs interviewed for this study (Pittsburgh, Huntington, Louisville, and Paducah) generally allow all types of wastewater discharges to the Ohio River as long as no oil or hazardous materials are present in the discharge. This is further defined as less than 15mg/L of oil and grease and less than the reportable quantity of hazardous substances. Generally, the Pittsburgh and Huntington MSOs claim jurisdiction over vessels underway on the Ohio River, vessels temporarily moored at a waterfront facility, and permanently-moored vessels. The Louisville and Paducah MSOs differ in that they do not claim jurisdiction over permanently moored vessels.

Regarding NPDES-regulated discharges from vessels, Pennsylvania, Kentucky, West Virginia and Illinois claimed jurisdiction over both temporarily moored and permanently-moored vessels, but not commercial vessels underway on the Ohio River. The Indiana DEM indicated that they only regulate permanently moored vessels, but not temporarily moored vessels or commercial vessels operating on the Ohio River.



The only agencies that claim jurisdiction over graywater discharges (i.e., wastewater generated from galley sinks, showers, etc.) were the Pennsylvania DEP and the Illinois EPA. All of the other agencies contacted for this study did not claim jurisdiction over graywater discharges. The Pennsylvania DEP indicated that graywater discharges were allowed from temporarily moored and permanently moored vessels without an NPDES Permit, and the Illinois EPA indicated that these discharges would require an NPDES Permit in Illinois. Both the Pennsylvania DEP and Illinois EPA did not claim jurisdiction over graywater discharges from commercial vessels underway on the Ohio River.

Additional discrepancies were noted in regard to treated sanitary wastewater discharges. All four Coast Guard MSOs claimed jurisdiction over these types of discharges from commercial vessels operating on the Ohio River and vessels temporarily moored to shore-side facilities. The Pittsburgh MSO differed slightly in that they also indicated that they also regulate permanently moored vessels.

State agencies responded to the issue of treated sanitary wastewater discharges in the following manner:

- Kentucky did not claim jurisdiction over treated sanitary wastewater discharges from vessels, including commercial vessels operating on the Ohio River, vessels temporarily moored at shore-side facilities, and permanently-moored vessels.
- Pennsylvania and Illinois indicated that they regulate treated sanitary wastewater discharges from permanently moored and temporarily moored vessels, but not vessels that are underway on the Ohio River.

- Indiana indicated that they regulate treated sanitary wastewater discharges from permanently moored vessels, but not commercial vessels that are temporarily moored or underway on the Ohio River.

Regarding barge cleaning rinse water, the Pittsburgh MSO claimed jurisdiction over these types of discharges; the remaining MSOs (Huntington, Louisville, and Paducah) did not. The state agencies responding to this study all indicated that barge cleaning rinse water discharges to the Ohio River require an NPDES Permit.

## **5.0 Discussion of Compliance Issues Raised by the Towing Industry**

The following discussion addresses compliance issues raised by the towing industry. Issues identified by the towing industry are presented as questions, followed by a discussion developed based upon a review of regulations and questions posed to regulatory agency personnel. Note that the ERMCC found few state-level regulatory enforcement personnel had much experience specifically addressing towing industry water quality issues. Many stated that, while the existence of these facilities and their potential stormwater and wastewater discharges was acknowledged, they had no knowledge of specific discharges or discharge permits that had been written for these facilities.

### **Regarding spill prevention measures, where do USEPA and USCG jurisdictions begin and end at my shore-based facility?**

Although the Memorandum of Understanding between the DOT and the EPA discussed in Section 3.2 attempts to clarify the definition of transportation-related and non-transportation-related facilities, these definitions continue to be confusing to the regulated community. A relatively simple shore-based petroleum product storage and transfer facility (where petroleum is transferred to vessels) will have areas that are regulated as non-transportation related (i.e., EPA jurisdiction), and have other areas that are considered transportation-related (i.e., Coast Guard jurisdiction). As a rule-of-thumb, the non-transportation-related portion of the facility is where the product is stored, and the transportation-related portion of the facility is where the product is moved to or from vessels. 33 CFR 154.105 defines the marine transfer area portion of a waterfront facility as the area where oil or hazardous materials are transferred in bulk between the vessel (or where the vessel moors) and the first manifold or shutoff valve located on the piping encountered after the piping enters the secondary containment required under 40 CFR 112.7 or 49 CFR 195.264. Likewise, the non-transportation-related portion (EPA regulated) portion of the facility begins at the above-referenced manifold or valve, and

includes the storage tank and its secondary containment. For example, if the pipeline extends one-mile inland before it reaches its first manifold or valve within secondary containment, the entire length of pipeline is regulated by the Coast Guard, and is considered a part of the transportation-related portion of the facility.

The applicability of SPCC criteria to the storage of bilge water and slop (oil/water wastes) is not as well defined. The MOU discussed above is important to the towing industry because it specifically groups “storage tanks and equipment for the reception of oily ballast water and tank washings from vessels” with transportation-related facilities (which are covered by DOT/Coast Guard regulations, not the EPA). This means that if a facility stores oily ballast water in an on-shore 700-gallon above ground storage tank, the facility is not required to have an SPCC Plan to address EPA requirements; however, if the facility stores used engine oil (a similar waste but different source) in that same tank, it is then required to maintain an SPCC Plan. An EPA SPCC regional coordinator summarized this by indicating that, “Bilge and slop water are invisible to SPCC regulations.”

### **Does a wet barge cleaning operation require a permit to discharge?**

As presented in Table 2, all state regulatory agencies would require a permit to discharge from this type of operation.

As part of the NPDES program, a industry category was created to address certain **Transportation Equipment Cleaning (TEC)** activities (40 CFR 442), including certain barge cleaning operations. TEC regulations apply to discharges resulting from cleaning the interior of tanks or hoppers used to transport chemical, petroleum or food grade cargo. TEC regulations do not apply to:

- 1) Facilities that clean only the exteriors of transportation equipment;



- 2) Wastewater associated with tank cleanings operated in conjunction with other industrial, commercial, or Publicly Owned Treatment Works (POTW) operations, provided that cleaning is limited to tanks that previously contained raw materials, by-products, or finished products that are associated with the facility's on-site processes;
- 3) Wastewater resulting from cleaning the interiors of drums, intermediate bulk containers, or closed-top hoppers; and,
- 4) Wastewater from a facility that discharges less than 100,000 gallons per year of transportation equipment cleaning process water (40 CFR 442.1(b)(1)(2)(3)).

Some of the more common towing industry SIC codes that 40 CFR 442 is applicable to include:

- SIC 4491 – Marine Cargo Handling
- SIC 4492 – Towing and Tugboat Services
- SIC 7699 – Repair Shops and Related Services

Nevertheless, as summarized in Table 2, even wet barge cleaning operations not covered by 40 CFR 442 still require a NPDES permit.

**Does my SPCC Plan need to address a tanker truck that delivers or picks up petroleum product at my facility?**

As discussed in Section 3.2, an SPCC plan is required when oil storage thresholds are exceeded at a facility. Oil transfers are only SPCC-regulated if the storage thresholds area exceeded. If a facility uses a tank truck or railroad car exclusively on-site (not for highway use) to move oil at the facility, it is covered as non-transportation related and therefore needs an SPCC Plan if the storage thresholds area exceeded. If a facility uses a

tanker truck to refuel its towboats or haul bilge slop off site and storage thresholds area not exceeded, an SPCC Plan does not need to be maintained by the facility.

Relative to tank trucks and railcars used by contractors to deliver or pick up oil, certain DOT requirements apply to the tank truck and its operation, which are detailed in 49 CFR 177.834 (Carriage by Highway, General Requirements). These regulations require that the transfer be performed by trained and qualified individuals, that the transfer is attended by such personnel, and also requires elements such as chocked wheels, electrical grounding straps, no smoking, valve inspections, etc. Note that these types of transfers may be regulated under the Coast Guard's Facility Response Plan Regulations, and are discussed as part of the following question.

The Department of Transportation's regulation regarding oil spill prevention and response plans (49 CFR 130.31) details response plans for vehicles, which state that "...no person may transport oil subject to this part unless that person has a current basic written plan that...sets forth the manner of response to discharges...takes into account the maximum potential discharge...identifies personnel and equipment to respond.... identifies persons and agencies to be contacted", and so forth. This plan is required to be retained on file at that person's principal place of business and at each location where dispatching of motor vehicles occurs (person being defined as an individual, firm, corporation, partnership, etc. that operates the vehicle). Therefore, these requirements apply to transport operators and not to the facility being served.

### **Do I need a USCG FRP to deliver or off-load petroleum to/from a vessel?**

A confusing petroleum product issue is the applicability of Operations Manual and Facility Response Plan regulations to towing industry facilities that transfer petroleum products to and from vessels. As discussed earlier in this study, these regulations "...appl(y) to each facility that is capable of transferring oil or hazardous materials, in bulk, to or from a vessel, where the vessel has a total capacity, from a combination of all bulk products carried, of 39.75 cubic meters (250 barrels, or 10,500 gallons) or more."

This definition is somewhat confusing and its applicability to certain facilities has been the subject of much debate. The Coast Guard's Marine Safety Manual (Volume II, Section B, Chapter 6, May 2000) attempts to clarify applicability by stating:

"Transfers of oil to, from, or within a vessel are regulated if the vessel has a capacity of 250 barrels or greater of *that* oil (including internal fuel and lube oil transfers, which have been the source of numerous spills in the past). The word *that* is emphasized to draw attention to its presence in 33 CFR 156.100 (also 33 CFR 154.100). The regulation was not meant to apply to a vessel with a cumulative on board capacity of 250 barrels of oil, but rather to vessels with an on board capacity of 250 or more barrels of a specific type or grade of oil."

In addition, transfers from tanker trucks to or from vessels meeting or exceeding the 250-barrel volume requirement are also regulated. The trucking company needs to maintain a Facility Response Plan for the tanker truck (identified as a mobile facility by the Coast Guard) to conduct these types of transfers.

As an example, a facility could refuel a 275-gallon diesel fuel day tank on a 420,000-gallon gasoline tank barge and not have to meet the requirements for maintaining an Operations Manual and Facility Response Plan as per 33 CFR 154. If the same facility loaded gasoline, in bulk, into the cargo hold(s) on same tank barge, the facility would then be required to meet the conditions of these regulations.

**Do I need a permit to discharge "clean" river water from wing tanks, void tanks, dry-dock tanks, etc.?**

Based on the questionnaire received by the ERM from the Pittsburgh Coast Guard Marine Safety Office, all water discharge scenarios are allowed by the Coast Guard as long as they do not produce a sheen (evidenced by iridescent sheens, emulsions, discoloration, etc.) on the water. The discharge of oil is clearly prohibited by the Clean Water Act, and towing industry personnel are generally familiar with the stipulation that

if a discharge causes a sheen on the water, the discharge is prohibited and is furthermore considered a reportable release.

The Illinois EPA responded to this question by saying that, due to the fact that dry dock water has the potential to become contaminated (and therefore a wastewater), the Illinois EPA has included reporting requirements to an Illinois facility's NPDES permit for the discharge of dry dock water.

Refer to Table 2 for responses to this question from other agencies.

**Do I need a permit to discharge stormwater collected in hopper barges?**

Several state agencies reported that, because these types of discharges have the potential to become contaminated due to cargo or cargo residue, these waters would be treated as a wastewater (i.e., stormwater that comes into contact with cargo would then be considered a wastewater), and therefore, would require a discharge permit. As noted above, the Pittsburgh MSO indicated that these types of discharges were allowed as long as no oil was present in the discharge.

During the ERM's discussions with towing industry personnel, this topic was discussed. It is apparently common practice to pump accumulated rainwater and river water off of vessels (without treatment) while a tow is underway on the river; however, the same practice requires a discharge permit for temporarily moored or permanently moored vessels, and therefore, this practice is not generally conducted while moored at a facility. These discharges are received by the same body of water (albeit in different mixing zones); however, they are regulated and handled differently based on whether or not the vessel is underway.

**Do I need a stormwater permit for permanently-moored facilities?**

Based on the responses received from (and subsequent telephone conversations with) state-level regulatory personnel, stormwater permits are required from certain facilities falling under specific SIC codes. In addition, state regulators can require stormwater permits from facilities where the regulators feel that there may be the potential for stormwater pollution from on-site activities. The applicability to permanently-moored facilities and temporarily moored vessels is less certain, and may hinge on specific activities and the storage of materials on site.

**Do I need a permit for my USCG-approved sanitary and graywater systems used on a permanently-moored office barge?**

Coast Guard regulations require vessels operating on the Ohio River to treat sewage with a Coast Guard approved marine sanitation device. Based on the responses received by the ERM, Pennsylvania, Indiana, and Illinois require an NPDES permit for the discharge of treated sanitary wastewater from a permanently-moored vessel. Only the Illinois EPA claims jurisdiction over the discharge of graywater.

## **6.0 Closing**

In closing, water quality regulations affecting the towing industry on the Ohio River have been, and will continue to be, a source of confusion. It is sometimes difficult to determine which regulatory agency has jurisdiction over different types of discharges and regulatory requirements. Additionally, it may be challenging to determine the appropriate personnel within a given agency who are able to address such issues.

Based upon numerous contacts with towing industry and regulatory agency personnel, the ERMCMC has attempted to identify regulatory requirements and areas of uncertainty most pertinent to the towing industry. The ERMCMC hopes that the information in this report provides the reader a greater understanding of water quality issues, so that facilities may achieve regulatory compliance and contribute to the protection of the Ohio River.

## **APPENDIX A**

### **REGULATORY COMPARISON STUDIES**

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Limno-Tech, Inc. Guidelines for Delineating Mixing Zones for Ohio River Discharges: Part I: Calculation of Mixing and Review of State Policies. (Prepared for Ohio River Valley Water Sanitation Commission) Michigan:1999. *Study performed for ORSANCO addressing policies regarding mixing zones from the six states that border the Ohio River. The report provides recommendations for establishing consistent mixing zones.*

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American Inland Mariners Association: 1995. *Summary of regulations affecting the towing industry.*



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United States Environmental Protection Agency Office of Compliance.

Profile of the Water Transportation Industry. Washington: 1997 *Discussion and presentation of federal environmental acts and regulations pertinent to the water transportation industry*

United States Environmental Protection Agency. State Scrap Tire Program.

Washington: 1999. *Comparison of each state's legislation and regulations addressing of scrap tires.*

## **APPENDIX B**

### **TABLES**

ORSANCO – COMPARISON OF WATER QUALITY REGULATIONS AFFECTING THE TOWING INDUSTRY ON THE OHIO RIVER

TOWING INDUSTRY CONTACTS

TABLE 1

Date	Company	Contact Person	Ohio River Mile	Phone/ Fax	OPERATIONS							SURVEY			
					Fleeting	Barge Towing	Refueling	Terminal	Repairs	Bilge/Slop	Barge Cleaning	Received Survey	Participated	Declined	No Response
5/8/01	Walker Boat Yard, Paducah, KY	Jason Adams, Safety Manager	3.0*	270-444-4040 270-444-4043					X	X		X	X		
5/8/01	Hartley Marine, Point Pleasant, WV	Jack Edwards, Facility Manager	265.4	304-675-2010 304-675-6827			X			X		X	X		
5/14/01	Kanawha River Towing, Point Pleasant, WV	Ron Corigliano, Environmental Compliance Manager**	266.9	304-675-1854 304-675-1854	X	X					D	X	X		
5/14/01	American Commercial Terminals, Jeffersonville, IN	Barry Dyer Director Of Environmental Affairs	601.2	812-288-0100 812-288-1668		X					D	X	X		
5/14/01	Ohio Valley Marine Services, Henderson, KY	Bob Farmer Dir. Of Safety and Human Resources	784.9	270-826-9165 270-826-9352	X	X	X		X	X	D	X			X
5/15/01	R&W Marine, Paducah, KY	David Griggs, General manager	3.0*	270-444-4028 270-444-4012		X						X	X		
5/16/01	Mt. Vernon Barge Services Mt. Vernon, IN	Stan Billman, Vice President	828.0	812-838-4889 812-838-8045		X					D	X			X
5/16/01	CGB Marine Services Mound City, IL	Jude Deleam Regional Operations Manager	972.9	618-748-9272 618-748-9279		X					D,H	X		X	
5/17/01	Mid-South Towing Metropolis, IL	Duane Dubrock, Safety Manager	943.5	618-524-3100 618-524-8680	X	X			X			X			X
5/18/01	Ohio River Company Huntington, WV	Buck Leist, Foreman	306.5	304-523-6461 304-523-5263				X				X	X		
5/21/01	Queen City Terminals Cincinnati, OH	Gary Sampson General Manager	465.7	513-871-9018 513-871-0430				X				X			X
5/21/01	Marettta Industrial Enterprises Marettta, OH	Mike Davis, Safety Manager	179.0	740-373-2252 740-373-6359				X			D,H	X	X		
5/21/01	Clark Maritime Center, Jeffersonville, IN	John Huges, Chief Engineer	597.0	219-787-8842 219-787-8842				X				X		X	
5/22/01	River Road Terminal Louisville, KY	Paul Buddeke, President	600.5	502-896-1776 502-896-2502				X				X	X		

ORSANCO – COMPARISON OF WATER QUALITY REGULATIONS AFFECTING THE TOWING INDUSTRY ON THE OHIO RIVER  
TOWING INDUSTRY CONTACTS

TABLE 1

Date	Company	Contact Person	Ohio River Mile	Phone/ Fax	OPERATIONS							SURVEY			
					Fleeting	Barge Towing	Refueling	Terminal	Repairs	Bilge/Slop	Barge Cleaning	Received Survey	Participated	Declined	No Response
6/7/01	Premier Marine, Inc., Pittsburgh, PA	Rex Woodward, Owner	7.7	412-788-8851 412-788-8856		X		X	X		D	X	X		
6/26/01	AEP River Transportation, Lakin, WV	Michael Weisend, Health and Safety Supervisor	257.0	304-675-6300 304-675-4734		X			X	X		X			X
6/26/01	Madison Coal and Supply, Charleston, WV	Bill Barr, Safety Manager	265.0	304-926-1140 304-926-1136	X	X			X			X	X		
6/26/01	Superior Marine South Point, OH	Bill Hunt Environmental Manager	316.0	740-894-6224 740-894-3923		X						X			X
7/5/01	O-Kan Marine Gallipolis, OH	Ed Lewis, Yard Superintendent	266.4	740-446-4686 740-466-4203					X			X			X
7/5/01	Custom Fuel, Cattlettsburg, KY	Franklin Bogs, President	317.7	606-739-4154 606-739-4239			X					X			X
7/5/01	R&D Associates, Ashland, KY	Dan Slayer, President	318.8	606-739-4166 606-739-4168			X		X		D	X	X		

NOTES:

\*Tennessee River  
\*\*Mr. Corigliano is also the Environmental Compliance Manager for Campbell Transportation Company, Pittsburgh, PA; and C&C Marine Maintenance, Georgetown, PA  
D = Dry Barge Cleaning  
H = Hazardous and/or petroleum product barge cleaning

ORSANCO-1105:T1:09-10-01

NKU-ERM/C

ORSANCO:1105:T1:09-10-01

NKU-ERM/C

TABLE 2

DISCHARGE SCENARIO			PERMIT REQUIREMENT								
DISCHARGE	VESSEL LOCATION	PITTSBURGH MSO	HUNTINGTON MSO	LOUISVILLE MSO	PADUCAH MSO	PENN DEP	WV DEP	OHIO EPA	KENTUCKY NREPC	INDIANA DEM	ILLINOIS EPA
Barge cleaning / rinse water	Tied Up at Facility	None	NJ	NJ	NJ	Permit C	Permit C	**	Permit C	Permit C	Permit C or SIC
Dry dock / ballast water (river water)	While Underway on River	None	None	None	None	NJ	Permit SIC	**	None	NJ	NJ
	Tied Up at Facility	None	None	None	None	None	Permit SIC	**	None	NJ	Permit C
	Permanently Moored	None	None	NJ	NJ	None	Permit SIC	**	None	Permit C/G	Permit C
	While Underway on River	None	None	None	None	NJ	Permit C	**	NJ	NJ	NJ
Treated oil / water mixtures (e.g., bilge water, slop, etc.)	Tied Up at Facility	None	None	None	None	Permit C	Permit C	**	Permit C	NJ	NJ
	Permanently Moored	None	None	NJ	NJ	Permit C	Permit C	**	Permit C	Permit C/G	NJ
	While Underway on River	None	None	None	None	NJ	Permit SIC	**	NJ	NJ	NJ
	Tied Up at Facility	None	None	None	None	Permit N	Permit SIC	**	Permit C/G	NJ	Permit C
Stormwater pumped from open hopper barges	While Underway on River	None	None	NJ	NJ	Permit N	Permit SIC	**	Permit C/G	NJ	Permit C
	Tied Up at Facility	None	None	None	None	Permit N	Permit SIC	**	Permit C/G	Permit SIC	Permit C
	Permanently Moored	None	None	NJ	NJ	Permit N	Permit SIC	**	NJ	NJ	NJ
	While Underway on River	None	None	None	None	NJ	Permit SIC	**	Permit SIC	NJ	Permit SIC
Stormwater pumped from spar barges, work barges, fuel flats, office barges, etc.	Tied Up at Facility	None	None	None	None	Permit N	Permit SIC	**	Permit SIC	NJ	Permit SIC
	Permanently Moored	None	None	NJ	NJ	Permit N	Permit SIC	**	Permit SIC	Permit SIC	Permit SIC
	While Underway on River	None	None	None	None	NJ	Permit SIC	**	NJ	NJ	NJ
	Tied Up at Facility	None	None	None	None	Permit N	Permit SIC	**	Permit SIC	NJ	Permit SIC
Stormwater runoff from vessels	Tied Up at Facility	None	None	NJ	NJ	Permit N	Permit SIC	**	Permit SIC	Permit SIC	Permit SIC
	Permanently Moored	None	None	NJ	NJ	Permit N	Permit SIC	**	Permit SIC	Permit SIC	Permit SIC
	While Underway on River	None	None	None	None	NJ	Permit SIC	**	Permit SIC	NJ	Permit SIC
	Tied Up at Facility	None	None	None	None	Permit N	Permit SIC	**	Permit SIC	NJ	Permit SIC
Stormwater runoff from on-shore facilities	On-Shore Facility	None	NJ	NJ *	NJ *	Permit N	Permit SIC	**	Permit SIC	Permit SIC	Permit SIC
Treated sanitary wastewater from an MSD	While Underway on River	None	None	None	None	NJ	NJ	**	NJ	NJ	NJ
	Tied Up at Facility	None	None	None	None	Permit N	C	**	NJ	NJ	Permit C
	Permanently Moored	None	NJ	NJ	NJ	Permit N	C	**	NJ	Permit N	Permit C
	While Underway on River	NJ	NJ	NJ	NJ	NJ	NJ	**	NJ	NJ	NJ
Graywater (e.g., dishwater, sink water, showers, etc.)	Tied Up at Facility	NJ	NJ	NJ	NJ	None	C	**	NJ	NJ	Permit C
	Permanently Moored	NJ	NJ	NJ	NJ	None	C	**	NJ	NJ	Permit C
	While Underway on River	NJ	NJ	NJ	NJ	None	C	**	NJ	NJ	Permit C
	Tied Up at Facility	NJ	NJ	NJ	NJ	None	C	**	NJ	NJ	Permit C
Indirect discharges to a POTW (sewer)	Any	NJ	NJ	NJ	NJ	POTW Approval	POTW Approval	**	POTW Approval	POTW Approval	POTW Approval

Notes:

None No permit needed. Discharge allowed if no oil or hazardous materials are present. (<15mg/L oil & grease or reportable quantity)

Permit C NPDES Permit required, effluent limits determined on a case-by-case basis

Permit G NPDES Permit required, effluent limits based on general industry category limits

Permit N NPDES Permit required, but none currently issued in this category

Permit SIC NPDES Permit may be required based on facility's SIC code and/or the commissioner's judgment

NJ Indicates that the regulatory agency indicated that it does not have jurisdiction over that discharge scenario.

\* These MSOs indicated that on-shore facilities are not regulated unless they are Marine Transportation Related facilities

\*\* Other than indicating that Ohio has not issued any NPDES Permits for these types of discharges, the Ohio EPA did not provide additional information regarding their jurisdiction over these types of discharges or permit requirements.

MSO -Coast Guard Marine Safety Office  
MSD - Marine Sanitation Device