



INTERNATIONAL ASSOCIATION OF DRILLING CONTRACTORS

IADC GUIDELINE FOR MODUS

SUBJECT TO THE U.S. EPA NPDES PERMIT
REQUIREMENTS FOR DISCHARGES INCIDENTAL
TO NORMAL VESSEL OPERATIONS



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DECEMBER 2013 REVISION

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This document contains recommendations from an IADC Work Group established to develop a guideline for owners and operators of Mobile Offshore Drilling Units (MODUs), including inland barge units, regarding the implementation of, and compliance with, the provisions of the Environmental Protection Agency National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges Incidental to the Normal Operation of a Vessel. The commentaries and recommendations made by this Work Group have neither been reviewed nor endorsed by the IADC Board of Directors.

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Suggested revisions to the guidelines are invited and will be considered along with future changes to its content. Suggestions should be submitted to the Assistant Director-Offshore Technical and Regulatory Affairs, International Association of Drilling Contractors, 10370 Richmond Avenue, Suite 760, Houston, TX 77042. (713-292-1945)

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International Association of Drilling Contractors

Guideline for Mobile Offshore Drilling Units

Subject to the U.S. EPA NPDES Permit Requirements For Discharges Incidental to Normal Vessel Operations

PURPOSE

The purpose of this document is to provide guidance to the owners and operators of Mobile Offshore Drilling Units (MODUs), including inland barge units, regarding implementation of, and compliance with, the provisions of the recently-issued U.S. Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges Incidental to the Normal Operation of a Vessel (the VGP).

EPA's initial issuance of the VGP in 2008 responded to a District Court ruling that vacated a longstanding EPA regulation that had excluded discharges incidental to the normal operation of a vessel from the need to obtain an NPDES permit. This regulation provided an exemption to the prohibition against discharge-without-a-permit under section 301 of the Clean Water Act (CWA). The initial 2008 VGP is in effect until 19 December 2013, when, thereafter, the revised 2013 VGP will be in effect.

The re-issued VGP and its requirements apply to 27 different discharges incidental to the normal operation of all commercial vessels 79 feet or greater in length when operating as a means of transportation within the 3 mile territorial seas of the United States (Permit Waters) commencing on 19 December 2013 2009. The VGP would typically be applicable to a MODU that:

- Is moving between drilling locations within Permit Waters;
- Is dockside, laid-up or stacked¹ within Permit Waters; or
- Enters Permit Waters from overseas or from a location on the OCS.

Because the drilling industry routinely experiences large swings in business activity, it is normal industry practice for MODUs to be laid-up (*i.e.*, warm stacked or cold stacked) for prolonged periods when business activity is low. For further guidance on laid up or stacked status inspections, please refer to the "Extended Unmanned Period" (EUP) explanation contained in the "Inspections" section.

COMPLIANCE APPROACHES

MODUs that routinely operate in Permit Waters should establish an internal program to address compliance with the permit requirements on an ongoing basis.

MODUs that do not routinely, but may or only occasionally, enter Permit Waters (*e.g.*, deepwater units that would typically only enter Permit Waters to transit to a shipyard) need not establish a continuous program for compliance, but should establish a program to assure that appropriate training and inspections have been completed and documented so as to assure compliance with all NPDES Permit requirements prior to entry into Permit Waters.

1 EPA has indicated that the issue of precisely when vessels that are laid-up or stacked cease operating in a capacity as a means of transportation will depend upon the specific facts presented. This would include factors such as the duration the vessel is out of service, normal industry practices with respect to vessel lay-up, and the ability of the vessel to return to transportation service without major renovations.

Because of the possible need to enter Permit Waters for repairs, it is recommended that all MODUs operating on the U.S. Outer Continental Shelf establish programs to assure compliance with the VGP and that a Notice of Intent (NOI) be submitted for such vessels.

EPA Region 6 has confirmed that it is not necessary for MODUs to repeatedly apply for and terminate coverage under the VGP as these vessels move in and out of Permit Waters or when they become subject to an O&G Permit.² IADC has not sought similar confirmation from other EPA Regions.

EPA has stated that vessels when in drydock do not operate “in a capacity as a means of transportation” and thus are not subject to (or eligible for coverage under) the VGP. With respect to vessels under construction, EPA has stated that when the vessel is engaged in sea trials, which result in operational discharges, because testing is a critical part of vessel operation, such discharges would be incidental to the normal operation of a vessel, and thus eligible for coverage under the VGP. However, any discharges resulting from construction activities are not covered by the VGP as they are incidental to vessel construction, not vessel operation. Accordingly, MODU owner/operators should take steps to assure that any discharges not covered by the VGP are covered by the shipyard’s State NPDES permit or are otherwise disposed of in accordance with applicable regulatory requirements.

Considering their unit’s exposure to operations in Permit Waters, MODU owner/operators should give consideration to developing a unit-specific VGP Compliance Plan that takes into account the MODU’s anticipated operations within Permit Waters, the specific equipment installed on the unit, and the EPA-required Best Management Practices (BMPs) applicable to the unit.

The EPA will be migrating to an exclusive electronic notification system for permit seekers looking to initiate, change, or terminate permit coverage through the CDX Database online. Once the 2013 VGP is in effect paper NOIs will no longer be accepted.

IMPORTANT DATES

- 12 December 2013: Deadline for submitting Notice of Intent (NOI) for 2008 VGP coverage holders seeking coverage under the new 2013 VGP. Coverage sought by the eNOI system will be effective 7 days from the date they were submitted. Coverage sought by Paper NOIs will be effective 30 days after the EPA processes the document.
- 19 December 2013: Effective date for 2013 VGP. All current VGP’s will expire and coverage will require to be reestablished by means of an electronic Notice of Intent (eNOI) through the EPA’s CDX Database website located here: <https://cdx.epa.gov/>
- 19 March 2014: Deadline to submit an individual permit application in accordance with 40 CFR §122.21 if you wish to be excluded from coverage under the VGP and apply for an individual permit.
- 28 February 2015: First Annual Report is due, including any analytical monitoring results, if applicable.

VGP REQUIREMENTS

An NPDES Permit authorizes the discharge of a specified amount of a pollutant(s) into U.S waters under certain specified conditions.

2 MODU owners/operators should document when a MODU enters into or exits from Permit Waters and when coverage under an O&G Permit commences or terminates.

The VGP addresses potential vessel discharges by establishing numerical effluent limits for some discharge streams and imposing required Best Management Practices (BMPs) for others where numerical limits are not practicable. Although all discharges covered by the VGP will be covered for the MODU, a MODU owner/operator is required to comply with only those requirements for the effluents that the vessel actually produces, not the entire list of potential discharges.

The VGP was first issued in December 2008, reissued in December 2013, and may be further modified during its current term. It is recommended that MODU owners/operators periodically check to ensure that they are using the most recent VGP. The VGP can be found on EPA website at: <http://cfpub.epa.gov/npdes/vessels/vgpermit.cfm>

In addition to the requirements for specific vessel types, the permit imposes requirements for individual States or Indian Country Lands. As of the date of issue of this Guideline the States and Indian Country Lands which have imposed additional requirements are not areas where MODUs normally operate.

RELATIONSHIP TO OIL AND GAS PERMITS

MODUs not only operate as vessels subject to the VGP, but also conduct operations in a non-transportation capacity (*i.e.*, oil and gas drilling). As a result, MODUs are expected to transition between coverage under the VGP and coverage under a permit for oil and gas operations (O&G Permit). The exact timing of the transition between permits will depend upon the specific circumstances. This is a potential source of confusion and adds to the complexity of assuring compliance with the VGP, particularly for MODUs conducting drilling operations within Permit Waters.

The oil company operator will seek O&G Permit coverage under an Oil & Gas General Permit³ or may obtain coverage under an individual permit, depending upon the location and the oil company's business decisions.

At no time are the VGP and an O&G Permit simultaneously in effect for a MODU. Nonetheless, in order to assure compliance with the VGP, certain inspections and tests under the VGP must be completed while under the coverage of the O&G Permit. There can be significant differences between discharges authorized by (and discharge limitations under) an O&G Permit and those authorized by the VGP. An individual MODU's operations should be controlled to comply with (and where appropriate, take advantage of) the permit in effect at the time.

While this guideline makes recommendations with respect to activities that should be undertaken while a MODU may be subject to an O&G Permit, these recommendations relate to the VGP. This guideline is not intended to provide any recommendations regarding implementation of, or compliance with, any O&G Permit.

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- 3 O&G General Permits applicable to drilling operations in the territorial sea or internal waters include:
- LAG29000 – NPDES General Permit for the Territorial Seas of Louisiana.
 - CWOGF-G – Water Discharge Permit: Oil & Gas Exploration, Development, and Production Facilities in Coastal Waters.
 - TXG260000 – NPDES General Permit for Discharges from the Offshore Subcategory of the Oil and Gas Extraction Point Source Category to the Territorial Seas off Texas.
 - TXG330000 – NPDES General Permit for Discharges from the Oil and Gas Extraction Point Source Category to Coastal Waters in Texas.
 - AKG280000 – Authorization to Discharge under the National Pollutant Discharge Elimination System (NPDES) for Oil and Gas Extraction Facilities on the Outer Continental Shelf and Contiguous State Waters.
 - AKG-31-5000 – Authorization to Discharge under the National Pollutant Discharge Elimination System (NPDES) for Oil and Gas Extraction Facilities in Federal and State Waters in Cook Inlet.

BEST MANAGEMENT PRACTICES (BMPs)

The VGP addresses 27 different effluent streams (not all of which are relevant to MODUs). Because of the nature of vessel discharges, the EPA has determined that it is not practicable to rely on numeric effluent limits for the large majority discharge types until greater information is available. In the VGP, the EPA has included many non-numeric effluent limits and requires permittees to engage in specific behaviors or BMPs.

Annex 1 summarizes the EPA required BMPs and provides additional IADC recommended practices and commentary.

VOYAGE PLANNING

Certain provisions of the VGP limit permissible discharges depending on the location of the vessel, *e.g.*, nutrient impaired waters, or waters that are impaired as a result of nutrient enrichment, or for hypoxic or anoxic waters, or within waters that are federally protected wholly or in part for conservation purposes. In planning for relocation of a unit, consideration should be given to:

- The list of Waters Federally protected wholly or in part for conservation purposes found in Appendix G of the VGP:
http://www.epa.gov/npdes/pubs/vessel_vgp_permit.pdf.
- Also each operator should review the list of nutrient-impaired waters found at:
http://www.epa.gov/npdes/pubs/vessel_impair_nutrient.pdf; and
http://www.epa.gov/npdes/pubs/vessel_impair_copper.pdf.; and
- The information provided regarding hypoxic waters found at:
<http://www.ncddc.noaa.gov/interactive-maps/environmental-monitoring/hypoxia/>

TRAINING

General training is required for effluent limits and related requirements. Owners and operators of vessels must ensure that the master, operator, person-in-charge, and crew members, who actively take part in the management of incidental discharges or who may affect those discharges, are adequately trained in implementing the terms of the permit. Owners and operators must also ensure appropriate vessel personnel are trained in the procedures for responding to fuel spills and overflows, including notification of appropriate vessel personnel, emergency response agencies, and regulatory agencies. The training need not be formal or accredited courses; however, owners and operators are responsible for ensuring their staff is given the necessary information to conduct shipboard activities according to the terms of the permit. Vessel owners and operators must also meet all training-related recordkeeping requirements of the VGP.

Owners and operators of vessels equipped with ballast water tanks must train the master, operator, person-in-charge, and crew members who actively take part in the management of the discharge or who may affect the discharge, on the application of ballast water and sediment management and treatment procedures. As part of Ballast Water Management Plans required by the VGP, a stand-alone training plan, or other recordkeeping documentation, owner and operators must maintain a written training plan describing the training to be provided and a record of the date of training provided to each person trained. Persons required to be trained must be trained promptly upon installation of a treatment technology and in the event of a significant change in ballast water treatment practices or technology.

For MODUs that routinely operate in Permit Waters basic VGP and BMP training should be provided to all personnel, including contractors and visitors. Such basic training should include an introduction to the Vessel General Permit and the MODU BMPs, as well as company/unit specific policies and best management practices. This training may be incorporated into the new employee orientation or on board induction program.

For MODUs that do not routinely, but may or only occasionally, enter Permit Waters, basic VGP and BMP training should be provided to all personnel on board, including contractors and visitors prior to entry into Permit Waters through employee orientation or on board induction. When possible, it is recommended that such training be provided one week prior to entry into permit waters.

BMP training should be given to appropriate facility supervisors and contractor supervisors for the purpose of informing these personnel of the components and objectives of the VGP. The training should address the requirements of each BMP for the MODU, goals for continuous improvement, reporting and recordkeeping requirements, and potential penalties for non-compliance. Training is done on an as needed basis in the event that there is a change in facility or contractor personnel, or a significant BMP Plan modification. Records of training should be maintained for three years.

EVALUATION AND RE-EVALUATION

The operational guidance and instructions should be re-evaluated and appropriately revised when the VGP is amended or re-issued. Other circumstances that will trigger modification of the operational guidance and instructions include, but are not limited to, the following:

- In response to identified shortcomings in the operational guidance and instructions (e.g., following a near-miss, when new equipment is installed, or operating procedures are changed).
- Whenever inspections or incidents reveal a need to modify procedures or equipment to further reduce the potential to release contaminants to the receiving water.

SIGNATORIES

EPA regulations and the VGP require that certain records be signed by a person that is a 'signatory' in accordance with 40 CFR 122.22. The VGP, specifically recognizes that a signatory includes the person in charge (e.g., the Master), or their duly authorized representative. Accordingly, no designation letter is required for the person in charge (Offshore Installation Manager or Master) for most MODUs, but a designation letter would be required to assign or delegate signatory authority to others on the unit or to shore based personnel, who are not a 'responsible corporate officer' under 40 CFR 122.22, in order to serve as a duly authorized representative. Generic examples are provided in Appendix 6. Any duly authorized representative must be designated in writing with notification provided to the EPA Regional office. Rather than naming an individual, it is recommended that any designations refer to an assigned job position.

INSPECTIONS

Routine Visual Inspections

Visual inspections (walk-throughs) should be performed daily and any potential non-conformity, non-compliance, or violation of the VGP should be documented and corrected as necessary. The visual inspection should include:

- Checking for leaks and spills.
- Examination of areas which have been identified of special concern (e.g., recently-repaired equipment).
- Identify equipment and materials that are not properly stored or positioned.
- Initiating corrective actions as necessary.

The person conducting the routine weekly inspection must be a signatory per 40 CFR Part 122.22.

The records of routine weekly inspections must be made available to the EPA or their authorized representative upon request. Unit operators must initiate corrective actions for problems noted in their inspections in the time allotted period. (The next section describes corrective actions.)

The routine weekly inspection should follow a checklist, developed for the individual unit on the basis of a review of its equipment and operations and should focus on stored materials (new and spent), equipment, and work areas with the potential to pollute. You must document the date and time of this inspection, locations on board the unit inspected, personnel conducting the inspection, location of any visual sampling and observations, note any potential problems and sources of contamination found, and it must be signed by the person conducting the inspection, if not the person in charge. While the weekly checklist must reflect the individual unit, a generic example report is provided in Appendix 2.

The person conducting the inspection is required to sign the weekly inspection form and completed inspection forms are to be maintained on board the unit for a period of three years.

Extended Unmanned Period (EUP) Inspections

A MODU is considered to be in an extended unmanned period (EUP) if the vessel is temporarily (e.g., stacked) unmanned, floated, jacked-up, or otherwise shut down for 13 days or greater. During an EUP, the MODU owner/operator may either continue conducting routine inspections consistent with Part 4.1.1 of the VGP, or conduct an "EUP" inspection as an alternative. This alternative is only available to MODUs that are up-to-date with all other inspection and reporting requirements and have not received a VGP-related violation or enforcement action in the past 24 months. The EUP inspection process is comprised of three primary components: a pre lay-up inspection, periodic external observations of the vessel and surrounding waters, and a post lay-up routine visual inspection.

1. Pre Lay-up Inspection - Immediately prior to placing the MODU in EUP status, the vessel operator should:

- Conduct a routine visual inspection consistent with Part 4.1.1 of the VGP
- Minimize the exposure of potential pollutants per Parts 2.1.1 and 2.1.2 of the VGP
- Ensure oils and oil machinery are properly secured, covered and protected. Any spilled or leaked oils must be cleaned up and leaks must either be stopped or appropriate containment provided to capture leaking oil.
- Document whether automatic bilge water pump(s) will be engaged during the EUP.
- Document the amount of fuel aboard.
- Document the amount of ballast water aboard.
- Document the date the EUP began.

2. Periodic External Observations - During the EUP period, the MODU operator shall:

- Examine the outside of the vessel and surrounding waters every two weeks for evidence of leaks, loss of cargo, or any spills which may result in an unauthorized discharge.
- Document any deficiencies observed while the vessel is in EUP, and document the corrective actions taken to resolve those deficiencies.
- Identify the source of any sheen observed, and take corrective action immediately as well as notify EPA in accordance with Part 4.4 of the VGP.
- Ensure records of these inspections are immediately available for review by the EPA or its authorized representative. It is recommended these inspection records be kept electronically per the requirements in Part 4.2.1 of the VGP

3. Post Lay-up Routine Visual Inspection - Prior to the MODU re-entering service, the owner operator must:

- Document the date the EUP ended.
- Determine whether fluids (e.g. fuel, ballast water) remained at their previously documented, pre-EUP levels.

Document whether any spills or leaks of oily materials are observed and correct any deficiencies prior to the vessel re-entering service.

Comprehensive Annual Vessel Inspections

A comprehensive annual vessel inspection must be conducted by qualified personnel at least once every twelve (12) months. If the annual inspection schedule overlaps with a Part 4.1.1 routine visual inspection, the annual may also be used to meet this requirement. Qualified personnel include the person in charge or the owner/operator of the vessel, if appropriately trained, or appropriately trained marine or environmental engineers or technicians, or an appropriately trained class society representative acting on behalf of the owner/operator. While the annual checklist must reflect the individual unit, a generic example report for this inspection is provided in Appendix 3.

If any portions of the MODU are not able to be inspected without entering drydock, those areas must be inspected during the drydock period. Additionally, the vessel owner/operator must document any inaccessible areas in their recordkeeping documentation.

Annual inspections must also include a review of any monitoring data collected in accordance with Part 5, if applicable, as well as routine maintenance records to ensure the required maintenance is being performed. Consideration of the past year's visual and analytical monitoring results must be reviewed while planning and/or conducting inspections. Furthermore, the annual inspection must verify whether all monitoring, training, and inspections have been logged and documented per the permit requirements

If the inspection reveals deficiencies that would result in a violation of effluent limitations in Parts 2 and 5, or indicates that a control measure is improperly functioning, you must take corrective action in accordance with Part 3 to resolve the deficiency.

Drydock Inspection Reports

A drydock report, prepared by the classification society or their flag administration must be made available to the EPA or an authorized representative of the EPA upon request. In lieu of, or in addition to the classification society or flag report, the owner/operator must prepare their own report and make it available for the EPA. The VGP requirements for the drydock report are specific and may not be addressed in the routine drydock reports provided by classification societies or flag administrations. While the drydock checklist must reflect the individual unit, a generic example report is provided in Appendix 4.

CORRECTIVE ACTIONS

Deadlines for eliminating a problem(s) or violation(s) are determined by the complexity of the corrective action and/or the impact of the problem(s) / violation(s). Corrective actions with respect to many VGP requirements can be accomplished immediately.

Corrective Action types:	Must be completed by:
Housekeeping or operational and maintenance requirements	Immediate Compliance
Corrective actions that can be accomplished with relatively simple adjustments to your control measures, using existing personnel and resources, and not requiring the MODU to be in drydock. . Address the underlying cause of the non-compliance and return to compliance and/or complete necessary adjustments or repairs.	As soon as possible but no later than 2 weeks after the discovery of the problem/violation, or if leaving waters subject to this permit, before expiration of the 2 week period or before re-entering the waters subject to the VGP, whichever is later.

Corrective Action types:	Must be completed by:
Corrective actions that require new parts, require equipment or parts that are not onboard the vessel or readily available, or require the installation of new equipment, not requiring the MODU to be in drydock, the MODU must address the underlying cause of the noncompliance and return to compliance and/or complete necessary repairs.	No later than 3 months after the discovery of the problem , or, if leaving waters subject to the VGP, before expiration of the 3 month period or before re-entering waters subject to the VGP, whichever is later. However, if completing repairs within 3 months is impracticable, you must complete the repairs as soon as possible after 3 months and document the reason why more time is needed as part of your corrective action assessment.
For corrective actions that require large or comprehensive renovations, alterations or repairs to the MODU that can only be achieved while the vessel is in drydock: MODU must address the underlying cause of the noncompliance and return to compliance and/or complete necessary renovations or repairs.	Prior to re-launching the MODU from drydock or prior to re-entering waters subject to the VGP following the next drydock, whichever is later.

Any inspection or observation that results in a problem, non-conformance, non-compliance, or violation will require a corrective action assessment within the above time frames listed.

Corrective Action Assessment Record- A generic example of the information required by this type of record can be found in Appendix 5 and is further explained in section 3.2 of the VGP.

PERMIT COMPLIANCE RECORDS ⁴ / RECORDKEEPING

For recordkeeping purposes each MODU must keep records on the unit. A summary of the required records is contained in Appendix 1 of this guideline. (A more detailed description is available in section 4.2 of the VGP.) Owners and operators may choose how these records will be maintained, but must retain them on the unit for a period of three years

The VGP contains no specific requirements with respect to the form of documentation required to or for demonstration of permit compliance. To assist MODU owners/operators in meeting these requirements, some of the below listed records have generic examples provided in an appendix to this guideline. Those without an example provided in the appendix should already be available within one of the company's current policies or procedures manual(s).

- MODU Relocation / Voyage Record (Company policy),
- Effluent Limit Violations Record (Company policy),
- Routine Weekly Inspection Record (See Appendix 2),
- Results of all monitoring conducted (Company policy),
- Cargo Operations Record (Company policy, if required),

4 A Record developed to achieve and/or demonstrate compliance with the VGP is subject to inspection by the EPA and, once provided to the agency may be subject to public view. If the records maintained for VGP compliance are intertwined (and not extractable) with other records, it may be difficult to produce the required records without disclosing non-required ones. You should be aware of this as you consider the systems (*e.g.*, records) that you will use to comply with the recordkeeping requirements of the VGP.

- Annual Inspection Record (See Appendix 3),
- Additional Maintenance and Discharge Information Record (Company policy),
- Drydock Inspection Record (See Appendix 4),
- Corrective Action Assessment Record (See Appendix 5), and
- Training Record (Company policy)

Alternative forms of recordkeeping, so long as the permit requirements are met, are perfectly acceptable.

The VGP requires that all documentation (except the Notice of Intent, Notice of Termination, and reports submitted to EPA) required under the permit is signed and dated by the person preparing the documentation. The Notice of Intent, Notice of Termination, and reports (including monitoring data) submitted to EPA must include a signed certification in a form specified in the permit. (See example in Appendix 6).

REPORTING

Annual Report

For each vessel, owners/operators are required to submit an Annual Report for each year that they have active permit coverage. For vessels which must file NOIs, this means for as long as they have an active NOI. Annual Reports must be completed each calendar year and submitted by February 28th of the following year (e.g., the 2014 annual report will be due by 28 February 2015). A separate 2013 annual report will not be required; instead, any relevant information from 19 December 2013 –31 December 2013 (if applicable) must be included in the annual report for the 2014 calendar year. Permittees covered under the 2008 VGP must submit reports of all instances of noncompliance which occur before 18 December 2013 to EPA consistent with the terms of that permit.

All analytical monitoring results must be submitted to EPA as part of the Annual Report.

The vessel owner/operator shall complete the Annual Report form provided in Appendix H of this permit and submit it to EPA electronically. It can be completed online by accessing EPA's main NPDES vessel webpage (available via www.epa.gov/npdes/vessels or through EPA's eNOI system

Reportable Quantities of Hazardous Substances or Oil

Owners/operators should follow their standard procedures for this type of discharge, which should require them to report it to the National Response Center (1-800-424-8802 or 202-426-2675). Additionally, the VGP recordkeeping requirement (VGP section 4.4.3) indicates that within 14 calendar days of knowledge of the release that the on board records should indicate:

- a) The discovery date and description of the discharge or release;
- b) The circumstances leading up to it;
- c) The responses employed to handle it; and
- d) The measures taken to prevent re-occurrence of it.

Additional Reporting

Owners/operators must report any non-compliance which may endanger health or the environment to the EPA regional office. The information must be provided orally within 24 hours from the time you become aware of the circumstances. Additionally, a 5-day written follow up report must also be provided within five days of your awareness.

If you report to the NRC as referenced in part 4.4.3 of the permit you do not need to complete reporting under this part.

Recordkeeping - APPENDIX 1

Written records must be kept on the MODU that include the following information:

- Vessel information: Vessel Name, Owner and International Maritime Organization (IMO) number and/or Official number, vessel type owner or operator company name, Owner or operator certifying official's name, Address of owner/operator, Gross tonnage, Call sign, and Port of Registry (Flag).
- Voyage Log: Dates and ports of arrival, vessel agent(s), last port and country of call, and next port or country of call (when known).
- Violation of effluent limits: Description of violation, date, name, title and signature of person identifying the violation, and name, title and signature of person recording violation (if different from person who identified the violation), and location where corrective action assessment or a reference to the previous corrective action is stored.
- Log of findings and any deficiencies and problems: Routine visual inspection and extended unmanned inspections (if applicable) non-compliance issues, date, findings, corrective actions planned or taken, and the inspector's name. If no deficiencies or problems are found during a routine visual inspection, the vessel owner/operator shall record that the inspection was completed with the inspector's name and date. Routine visual inspections and extended unmanned inspections (if applicable) must be recorded as completed according to Part 4.1.1
- Results of all monitoring conducted: Analytical results, which include sample documentation, results, and laboratory quality assurance (QA) documentation.
- Annual inspection report: Findings from comprehensive annual vessel inspection, a description of the corrective actions taken or planned, and the inspector's name.
- Log of findings from drydock inspections conducted under Part 4.1.4 including a discussion of any corrective actions planned or taken required by Part 3. Include date, inspector's name, findings, and a description of the corrective actions taken
- Imposed requirements and actions taken: Written water quality based requirements given to the vessel by the EPA or its authorized representative and how these requirements were met.
- Maintenance and discharge information for the following:
 - Deck maintenance;
 - Bilgewater disposal;
 - Paint application;
 - AFFF discharges;
 - Chain locker inspection;
 - Controllable pitch propellers, stern tube and other oil-to-sea interfaces;
 - Emergencies requiring discharges into prohibited waters;
 - Gas turbine water wash;
 - Graywater discharges;
 - Technical data sheet (i.e., MSDS / SDS) for all EALs used in Oil-to-Sea interfaces onboard the vessel. Document whether the EAL registered under a labeling program (e.g., DfE, Blue Angel), include documentation as to the reason;
 - All other documentation required pursuant to this permit; and
 - Record of training completed as required by this permit.

Annual Inspection Report- APPENDIX 3

To be completed at least once every 12 month period and conducted by qualified personnel.

NOTE: A classification society or flag State report may be used if it contains all the required information and is completed by an appropriately trained surveyor. Full explanations are required any time a section of the inspection cannot be performed.

AREAS THAT MUST BE EXAMINED	RESULTS
Vessel hull, including niche areas, for fouling organisms, flaking anti-fouling paint, exposed TBT or other organotin surfaces	SAT / UNSAT / NA
Ballast water tanks, as applicable	SAT / UNSAT / NA
Bilges, pumps and oily water separator (OWS) sensors, as applicable.	SAT / UNSAT / NA
Oil discharge monitoring system and electronic valve switching function, as applicable	SAT / UNSAT / NA
Protective seals for lubrication and hydraulic leaks	SAT / UNSAT / NA
Oil and chemical storage areas, cargo areas, and waste storage areas	SAT / UNSAT / NA
All visible pollution control measures to ensure that they are functioning properly	SAT / UNSAT / NA
Is visual or analytical monitoring data, if applicable, available for review	YES / NO
Have all monitoring, training and inspections been logged and documented per permit requirements	YES / NO

 Person in charge or duly authorized
 Representative's printed name

 MODU / Vessel Name

Signature _____

Date & Time _____

Call Sign _____

Official Number _____

Gross Tonnage _____

Port of Registry _____

Remarks:

Drydock Inspection Report- APPENDIX 4

Vessel owner/operators must make any drydock reports prepared by the class society or their flag administrations available to EPA or an authorized representative of EPA upon request. If you do not have a drydock report from either of these entities, you must prepare your own drydock report and it must be made available to EPA or an authorized representative of EPA upon request. The drydock report must address applicable inspection criteria shown below and be completed after final completion of a DRYDOCK period.

NOTE: Not all items will be applicable to every MODU. Full explanations are required any time a section of the inspection cannot be performed

Inspection criteria	Performed
The chain locker has been cleaned and/or flushed in accordance with the requirements of Part 2.2.8 of the VGP (to remove sediment, living organisms, and other constituents of concern as applicable)	Yes / No / NA
The vessel hull, propeller, rudder, thruster gratings, sea chest, and other surface and niche areas of the vessel have been inspected for attached living organism and those organisms have been removed OR neutralized.	Yes / No / NA
Any antifouling hull coatings have been applied, maintained and removed consistent with the FIFRA label if applicable: any exposed existing or new coating does not contain biocides or toxics that are banned for use in the United States under the Clean Hull Act of 2010 (33 U.S.C. §§.3801 et seq)	Yes / No / NA
All cathodic protection, anodes or dialectic coatings have been cleaned and/or replaced to reduce flaking.	Yes / No / NA
All pollution control equipment is properly functioning.	Yes / No / NA

 Person in charge or duly authorized
 Representative's printed name

 MODU / Vessel Name

Signature _____

Date & Time_____

Call Sign_____

Official Number_____

Gross Tonnage _____

Port of Registry _____

Remarks:

Corrective Action Assessment - APPENDIX 5

Vessel Name: _____

Location on Vessel: _____

Date: _____

Time of Incident: _____

Description of the problem:

Explanation of the cause:

Description of Corrective actions planned:

Drydock required: Yes__ No__

Date and time corrective action implemented:

Summary of Corrected Actions taken:

Recorder name and title

Signature

NOTE: This document shall be retained for a period of 3 years from the date permit coverage expires or is terminated

Designation Letter - APPENDIX 6.1

ADHOC Drilling Company, Inc.

Director, Water Division
EPA Region

Date: _____

Subj: NDPEs Vessel General Permit – Corporate Designation of Duly Authorized Representatives

In accordance with 40 CFR 122.22 and Section 4.2 of the NPDES Vessel General Permit, ADHOC Drilling Company, Inc. delegates the authority to sign documents associated with the Vessel General Permit within its corporate structure as follows:

- Vice President of Regional Operations (responsible corporate officer) designates General Manager(s)
- General Manager(s) designates Operations Manager(s)
- Operations Manager(s) designates Rig Manager(s)
- Rig Manager(s) designates vessel Person(s) in Charge / Offshore Installation Manager(s)
- Person(s) in Charge / Offshore Installation Manager(s) may delegate to senior crewmembers via a duly authorized representative designation letter
[Note: Use position titles appropriate to the company.]

Name _____

Signature _____

Title _____

(Must be a responsible corporate officer identified in 40 CFR122.22 (a)(1)(i))

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information contained therein. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information contained is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

Designation Letter - APPENDIX 6.2

ADHOC Drilling Company, Inc.

Director, Water Division
EPA Region

Date: _____

Subj: DRILLUNIT XX (Identifying number)
NDPES Vessel General Permit – Designation of Duly Authorized Representatives

In accordance with 40 CFR 122.22 and Section 4.2 of the NPDES Vessel General Permit, authority to sign documents associated with the Vessel General Permit related to the DRILL UNIT XX is delegated to the following corporate positions:

- Maintenance Supervisor
- Barge Engineer

[Note: Use position titles appropriate to the company and unit.]

Name _____

Signature _____

Title _____

(Must be a responsible corporate officer identified in 40 CFR 122.22(a)(1)(i)) or identified corporate delegate.)

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information contained therein. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information contained is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

ANNEX 1 to IADC Guidelines for MODUs

1. Deck Washdown and Runoff and Above Water line Hull Cleaning

EPA required BMPs

Vessel owner/operators must minimize the introduction of on-deck debris, garbage, residue and spill into deck washdown and runoff discharges. Before deck washdowns occur, you must broom clean (or equivalent) exposed decks or use comparable management measures and remove all existing debris. When required by their class societies (e.g., oil tankers), their flag Administrations, or the U.S. Coast Guard, vessels must be fitted with and use perimeter spill rails and scuppers to collect the runoff for treatment. Where feasible, machinery on deck must have coamings or drip pans where necessary to collect any oily discharge that may leak from machinery and prevent spills. The drip pans must be drained to a waste container for proper disposal and/or periodically wiped and cleaned. Additionally, to reduce the risk of any leakage or spills of harmful oils into the aquatic environment, EPA strongly encourages the use of environmentally acceptable lubricants in all above deck equipment. The presence of floating solids, visible foam, halogenated phenol compounds, and dispersants, or surfactants in deck washdowns must be minimized. Vessel owners/operators must minimize deck washdowns while in port.

Vessel owners/operators must maintain their topside surface and other above water line portions of the vessel to minimize the discharge of rust (and other corrosion by-products), cleaning compounds, paint chips, non-skid material fragments, and other materials associated with exterior topside surface preservation. Furthermore, vessel owner/operators must minimize residual paint droplets from entering waters subject to this permit whenever they are conducting maintenance painting. Possible minimization techniques include, but are not limited to, avoiding paint spraying in windy conditions or avoiding over-application of paint. This permit does not authorize the disposal of unused paint into waters subject to this permit.

If deck washdowns or above water line hull cleaning will result in a discharge, they must be conducted with minimally toxic and phosphate free cleaners and detergents as defined in Appendix A of this permit. Furthermore, cleaners and detergents should not be caustic or only minimally caustic and should be biodegradable.

Note: EPA provides the following definitions:

“Minimally-Toxic Soaps, Cleaners, and Detergents” means any substance or mixture of substances which has an acute aquatic toxicity value (LE50) corresponding to a concentration greater than 10 ppm and does not produce “byproducts” with an acute aquatic toxicity value (LE50) less than 10 ppm. EPA expects that minimally-toxic soaps, cleaners, and detergents will contain little to no nonylphenols.

“Phosphate Free” soaps, cleaners, and detergents means these materials which contain, by weight, 0.5% or less of phosphates or derivatives of phosphates.

Commentary: Primary changes in the 2013 VGP Permit for this section include 1) the requirement to broom clean or otherwise manage any existing debris on exposed decks prior to deck washdowns; 2) suggestion to use environmentally acceptable lubricants in all above deck equipment; and 3) change in “minimally toxic” definition.

Additional recommended practices:

- If possible, deck washdowns should be postponed until the unit is outside Permit Waters.
- When washdowns are necessary within Permit Waters, collect all debris, garbage and residues for disposal prior to conducting washdowns.

- A procurement process should be established which reviews soaps, cleaners and detergents that are intended for use for deck washdowns or above the water line hull cleaning will meet the VGP requirements.
- Machinery containment/drip pans and containment wells around fuel oil and bulk lubricating oil tank vents, overflows and fill pipes should be routinely maintained and any oily waste disposed of properly or retained on board for discharge in accordance with applicable regulations.
- For MODUs completing drilling operations, consideration should be given to conducting washdowns of the drill floor and drilling fluid processing areas while the O&G Permit remains in effect.

ANNEX 1 to IADC Guidelines for MODUs

2. Bilgewater/ Oily Water Separator Effluent

EPA required BMPs

All bilgewater discharges must be in compliance with the regulations in 40 CFR Parts 110 (Discharge of Oil), 116 (Designation of Hazardous Substances), and 117 (Determination of Reportable Quantities for Hazardous Substances) and 33 CFR §151.10 (Control of Oil Discharges). In addition:

- Vessel operators may not use dispersants, detergents, emulsifiers, chemicals or other substances that remove the appearance of a visible sheen¹ in their bilgewater discharges. This requirement does not prohibit the use of these materials in machinery spaces for the purposes of maintaining or cleaning equipment.
- Except in the case of flocculants or other required additives (excluding any dispersants or surfactants) used to enhance oil/water separation during processing (after bilgewater has been removed from the bilge), vessel operators may not add substances that drain to the bilgewater that are not produced in the normal operation of a vessel. The use of oil solidifiers, flocculants, or other required additives are allowed only as part of an oil water separation system provided they do not alter the chemical make-up of the oils being discharged and any discharge of such material into waters subject to this permit must be minimized. Routine cleaning and maintenance activities associated with vessel equipment and structures are considered to be normal operation of a vessel if those practices fall within normal marine practice.
- All vessels must minimize the discharge of bilgewater into waters subject to this permit. This can be done by minimizing the production of bilgewater, disposing of bilgewater on shore where adequate facilities exist, or discharging into waters not subject to this permit (i.e., more than 3 nautical miles (nm) from shore) for vessels that regularly travel into such waters. Though not regulated under this permit, EPA notes that discharges of bilgewater outside waters subject to this permit (i.e. more than 3 nm from shore) are regulated under Annex I of the International Convention for the Prevention of Pollution from Ships as implemented by the Act to Prevent Pollution from Ships and U.S. Coast Guard regulations found in 33 CFR Part 151.
- Vessels greater than 400 gross tons shall not discharge untreated oily bilgewater (i.e., bilgewater not treated with an onboard separator or bilgewater with a concentration of oil greater than 15 ppm) into waters subject to this permit.
- Vessels greater than 400 gross tons that regularly sail outside the territorial sea (at least once per month) shall not discharge treated bilgewater within 1 nm of shore if technologically feasible (e.g. holding would not impact safety and stability, would not contaminate other holds or cargo, or would not interfere with essential operations of the vessel). Any discharge which is not technologically feasible to avoid must be documented as part of the requirements in Part 4.2. and reported to EPA as part of the vessel's annual report.
- Vessels greater than 400 gross tons shall not discharge treated bilgewater into waters referenced in Appendix G unless the discharge is necessary to maintain the safety and stability of the ship. Any discharge of bilgewater into these waters must be documented as part of the recordkeeping requirements in Part 4.2 and reported to EPA as part of the vessel's annual report.
- For vessels greater than 400 gross tons that regularly sail outside the territorial sea (at least once per month), if treated bilgewater is discharged into waters subject to this permit, it must be discharged when the vessel is underway (sailing at speeds greater than 6 knots), unless doing so would threaten the safety and stability of the ship. EPA notes that vessel operators may also choose to dispose of bilgewater on shore where adequate facilities exist. Any discharge which is made for safety reasons must be documented as part of the requirements in Part 4.2. and reported to EPA as part of the vessel's annual report.¹
- 40 CFR §110.4 states that: "addition of dispersants or emulsifiers to oil to be discharged that would circumvent the provisions of this part is prohibited." 33 CFR §151.10 (g) states that: "No discharge into the sea shall contain chemicals or other substances introduced for the purpose of circumventing the conditions of discharge specified in this regulation."

2.2.2.1 Bilgewater Monitoring

“New Build” vessels built after 19 December 2013 greater than 400 gross tons that may discharge bilgewater into waters subject to this permit must monitor (i.e., sample and analyze) their bilgewater effluent at least once a year for oil and grease content. That monitoring can be conducted as part of the vessel’s annual survey.

To demonstrate treatment equipment maintenance and compliance with this permit, the bilgewater sample must be analyzed for oil by either Method ISO 9377-2 (2000) Water Quality–Determination of Hydrocarbon Oil Index–Part 2: Method Using Solvent Extraction and Gas Chromatography (incorporation by reference, see 46 CFR §162.050–4) or EPA Method 1664. At the time of sample collection, the reading on the oil content meter (OCM) must be recorded such that the oil and grease concentration measured by the laboratory can be compared to the OCM.

If your analytical results show oil and grease concentrations of less than 5 ppm for two consecutive years, you need not sample and analyze subsequent years of permit coverage if:

- Your vessel uses an oily water separator capable of meeting a 5 ppm oil and grease limit, or you use an alarm which prevents the discharge of oil and grease above 5 ppm whenever you discharge in waters subject to this permit,
- You calibrate your OCM at least annually (calibrations during a vessel survey meet this requirement), and
- Your OCM never reads above 5 ppm during discharges into waters subject to this permit. If this information is recorded in the oil record book, you need not record these data in other recordkeeping documentation.

Records of monitoring must be retained onboard for at least 3 years in the vessel’s recordkeeping documentation and must include:

- The date, exact place, and time of sampling or measurements;
- The individual(s) who performed the sampling or measurements;
- The individual(s) who performed the analyses and any meter recalibration;
- The techniques or methods used for sample analyses;
- The results of such analyses and OCM readings.

2.2.2.2 Monitoring Reporting

For those vessels for which monitoring must be conducted, analytical and corresponding OCM monitoring data must be submitted at least once per calendar year no later than February 28 of the year after the data are collected. Additionally, if you have met the requirements in part 2.2.2.1 to waive analytical monitoring after two years, you must note your waiver qualifications on your report. Data may be submitted as part of the vessel’s annual report (Appendix H) on the VGP bilgewater DMR.

Commentary:

(1) All MODUs presently in service are greater than 400 gross tons.

(2) The provisions of 33 CFR 151.10 applicable to a MODU within Permit Waters are as follows:

§ 151.10 Control of oil discharges.

* * * *

(b) When within 12 nautical miles of the nearest land, any discharge of oil or oily mixtures into the sea from a ship other than an oil tanker or from machinery space bilges of an oil tanker is prohibited except when all of the following conditions are satisfied—

- (1) The oil or oily mixture does not originate from cargo pump room bilges;
- (2) The oil or oily mixture is not mixed with oil cargo residues;
- (3) The oil content of the effluent without dilution does not exceed 15 ppm;
- (4) The ship has in operation oily-water separating equipment, a bilge monitor, bilge alarm, or combination thereof as required by Part 155 Subpart B of this chapter; and
- (5) The oily-water separating equipment is equipped with a 15 ppm bilge alarm; for U.S. inspected ships, approved under 46 CFR 162.050 and for U.S. uninspected ships and foreign ships, either approved under 46 CFR 162.050 or listed in the current International Maritime Organization (IMO) Marine Environment Protection Committee (MEPC) Circular summary of MARPOL 73/78 approved equipment.

Note: In the navigable waters of the United States, the Federal Water Pollution Control Act (FWPCA), section 311(b)(3) and 40 CFR Part 110 govern all discharges of oil or oily-mixtures.

* * * *

(e) The provisions of paragraphs (a), (b), (c) and (d) of this section do not apply to the discharge of clean or segregated ballast.

(f) The person in charge of an oceangoing ship that cannot discharge oily mixtures into the sea in compliance with paragraphs (a), (b), (c), or (d) of this section must ensure that those oily mixtures are—

- (1) Retained on board; or
- (2) Discharged to a reception facility. If the reception facility is in a port or terminal in the United States, each person who is in charge of each oceangoing tanker or any other oceangoing ship of 400 gross tons or more shall notify the port or terminal, at least 24 hours before entering the port or terminal, of—
 - (i) The estimated time of day the ship will discharge oily mixtures;
 - (ii) The type of oily mixtures to be discharged; and
 - (iii) The volume of oily mixtures to be discharged.

Note: There are Federal, state, or local laws or regulations that could require a written description of the oil residues and oily mixtures to be discharged. For example, a residue or mixture containing oil might have a flashpoint less than 60 °C (140 °F) and thus have the characteristic of ignitability under 40 CFR 261.21, which might require a description of the waste for a manifest under 40 CFR Part 262, Subpart B. Occupational safety and health concerns may be covered, as well as environmental ones.

The notice required in this section is in addition to those required by other Federal, state, and local laws and regulations. Affected persons should contact the appropriate Federal, state, or local agency to determine whether other notice and information requirements, including 40 CFR Parts 262 and 263, apply to them.

(g) No discharge into the sea shall contain chemicals or other substances introduced for the purpose of circumventing the conditions of discharge specified in this regulation.

(h) This section does not apply to a fixed or floating drilling rig or other platform that is operating under a National Pollutant Discharge Elimination System (NPDES) permit.⁵

⁵ Note: 33 CFR 151 and 155 pre-date the issuance of the VGP. The NPDES permit referred to in these regulations is the O&G Permit.

(3) The provisions of 33 CFR 155 applicable to MODUs⁶ within Permit Waters are as follows:

§ 155.400 Platform machinery space drainage on oceangoing fixed and floating drilling rigs and other platforms.

- (a) No person may operate an oceangoing fixed or floating drilling rig or other platform unless it either—
- (1) Complies with the oily-water separating equipment requirements of a valid National Pollutant Discharge Elimination System (NPDES) permit issued in accordance with section 402 of the Clean Water Act and 40 CFR Chapter I;
 - (2) Complies with the oily-water separating equipment requirements for oceangoing ships of 400 gross tons and above as set forth in either §155.360 or §155.370; or
 - (3) Is not equipped with an installed bilge pumping system for discharge of oily mixtures from platform machinery spaces into the sea and has the capacity to retain on board all of these oily mixtures and is equipped to discharge these mixtures for transport to a reception facility.
- (b) When an oceangoing fixed or floating drilling rig or other platform is in a special area, is not proceeding en route, or is within 12 nautical miles of the nearest land; it must either—
- (1) Have the capacity to retain on board all machinery space oily mixtures from platform machinery space drainage and be equipped to discharge these mixtures for transport to a reception facility; or
 - (2) Discharge in accordance with §151.10 (b)(3), (b)(4), and (b)(5) of this chapter, provided the drilling rig or platform is not within a special area.
- (c) Paragraph (b) of this section does not apply to a fixed or floating drilling rig or other platform that is operating under an NPDES permit.

(4) Prior to the effective date of the original VGP, the net effect of these regulations is that MODU had the following options for handling machinery spaced drainage when within what are now Permit Waters:

- They could retain on board all machinery space oily mixtures from machinery space drainage and be equipped to discharge these mixtures for transport to a reception facility.
- They could handle them in accordance with an O&G Permit when such a permit was in force; or
- They could be discharged when all of the following conditions were satisfied—
 - (a) The oil content of the effluent without dilution does not exceed 15 ppm;
 - (b) The ship has in operation oily-water separating equipment, a bilge monitor, bilge alarm, or combination thereof as required by Part 155 Subpart B of this chapter; and
 - (c) The oily-water separating equipment is equipped with a 15 ppm bilge alarm; for U.S. inspected ships, approved under 46 CFR 162.050 and for U.S. uninspected ships and foreign ships, either approved under 46 CFR 162.050 or listed in the current International Maritime Organization (IMO) Marine Environment Protection Committee (MEPC) Circular summary of MARPOL 73/78 approved equipment.

6 33 CFR 151 contains no provisions that are directly applicable to fixed and floating drilling rigs that are not “oceangoing”. 33 CFR 151.05 provides the following definition:

Oceangoing ship means a ship that--

- (1) Is operated under the authority of the United States and engages in international voyages;
- (2) Is operated under the authority of the United States and is certificated for ocean service;
- (3) Is operated under the authority of the United States and is certificated for coastwise service beyond three miles from land;
- (4) Is operated under the authority of the United States and operates at any time seaward of the outermost boundary of the territorial sea of the United States as defined in Sec. 2.22of this chapter; or
- (5) Is operated under the authority of a country other than the United States.

- (5) Amendments to MARPOL Annex I entered into force on 1 January 2007 imposed further restrictions on the discharge into the sea of oil or oily mixtures. Regulation 15/2 of the amended regulations reads:

- 2 Any discharge into the sea of oil or oily mixtures from ships of 400 gross tonnage and above shall be prohibited except when all the following conditions are satisfied:
- .1 the ship is proceeding en route;
 - .2 the oily mixture is processed through an oil filtering equipment meeting the requirements of regulation 14 of this Annex;
 - .3 the oil content of the effluent without dilution does not exceed 15 parts per million;
 - .4 the oily mixture does not originate from cargo pump-room bilges on oil tankers; and
 - .5 the oily mixture, in case of oil tankers, is not mixed with oil cargo residues.

Additional guidance regarding handling of oily wastes in machinery spaces was provided in November 2008.⁷

These amendments have yet been reflected in 33 CFR 151, which makes their enforceability with respect to ships operated under the authority of the United States; however, they should generally be considered applicable to any State party to MARPOL Annex I.

- (6) The following BMPs of the VGP place new restrictions on permitted discharges:

- Vessels greater than 400 gross tons that regularly sail outside the territorial sea (at least once per month) shall not discharge treated bilgewater within 1 nm of shore if technologically feasible (e.g. holding would not impact safety and stability, would not contaminate other holds or cargo, or would not interfere with essential operations of the vessel). Any discharge which is not technologically feasible to avoid must be documented as part of the requirements in Part 4.2. and reported to EPA as part of the vessel's annual report.
- Vessels greater than 400 gross tons shall not discharge treated bilgewater into waters referenced in Appendix G unless the discharge is necessary to maintain the safety and stability of the ship. Any discharge of bilgewater into these waters must be documented as part of the recordkeeping requirements in Part 4.2 and reported to EPA as part of the vessel's annual report.
- For vessels greater than 400 gross tons that regularly sail outside the territorial sea (at least once per month), if treated bilgewater is discharged into waters subject to this permit, it must be discharged when the vessel is underway (sailing at speeds greater than 6 knots), unless doing so would threaten the safety and stability of the ship. EPA notes that vessel operators may also choose to dispose of bilgewater on shore where adequate facilities exist. Any discharge which is made for safety reasons must be documented as part of the requirements in Part 4.2. and reported to EPA as part of the vessel's annual report..

Additional recommended practices:

- Where fitted, oily-water separators (OWS) should be included in the unit's planned maintenance program.
- There have been significant amendments to the IMO standards for oily-water separating equipment [^{3,8}]. Owners of units where oily-water separating equipment is routinely used may wish to consider replacement of existing oily-water separators, particularly if costly repairs to existing systems are needed.

7 IMO Circular MEPC.1/Circ.641, Supplementary Guidelines for approval of bilge and sludge handling systems, and IMO Circular MEPC.1/Circ. 642, 2008 Revised Guidelines for systems for handling oily wastes in machinery spaces of ships incorporating guidance notes from an integrated bilge water treatment system (IBTS).

8 IMO Resolution MEPC.107 (49), Revised Guidelines on specification for pollution prevention equipment for machinery space bilges of ships.

ANNEX 1 to IADC Guidelines for MODUs

3. Ballast Water

EPA required BMPs

2.2.3 Ballast Water

- All discharges of ballast water must comply with the Coast Guard regulations found in 33 CFR 151.
- Additionally, owner/operators of all vessels subject to coverage under this permit which are equipped with Ballast Tanks must comply with any additional BMPs in this section.
- All discharges of ballast water may not contain oil, noxious liquid substances (NLSs), or hazardous substances in a manner prohibited by U.S. laws, including section 311 of the Clean Water Act.

2.2.3.2 Ballast Water Management Plans

- All owner/operators of vessels equipped with ballast water tanks must maintain a ballast water management plan that has been developed specifically for the vessel that will ensure that those responsible for the plan's implementation understand and follow the vessel's ballast water management strategy. Owner/operators must make that plan available upon request to EPA or its authorized representative. Vessel owner/operators must assure that the master and crew members who actively take part in the management of the discharge or who may affect the discharge understand and follow the management strategy laid out in the plan.

2.2.3.3 Mandatory Ballast Water Management Practices

- Masters, owners, operators, or persons-in-charge of all vessels equipped with ballast water tanks that operate in waters of the U.S. must:
 - Avoid the discharge or uptake of ballast water in areas/into waters subject to this permit within or that may directly affect marine sanctuaries, marine preserves, marine parks, shellfish beds, or coral reefs or other waters listed in Appendix G waters.
 - Minimize or avoid uptake of ballast water in the following areas and situations:
 - Areas known to have infestations or populations of harmful organisms and pathogens (e.g., toxic algal blooms).
 - Areas near sewage outfalls.
 - Areas near dredging operations.
 - Areas where tidal flushing is known to be poor or times when a tidal stream is known to be turbid.
 - In darkness when bottom dwelling organisms may rise up in the water column.
 - Where propellers may stir up the sediment.
 - Areas with pods of whales, convergence zones and boundaries of major currents Clean ballast tanks regularly to remove sediments in mid-ocean (when not otherwise prohibited by applicable law) or under controlled arrangements in port, or at drydock.
 - No discharge of sediments from cleaning of ballast tanks is authorized in waters subject to this permit. Where feasible, utilize the high sea suction when the clearance is less than 5 meters (approximately 15 feet) to the lower edge of the sea-chest or the vessel is dockside to reduce sediment intake.
 - When feasible and safe, you must use your ballast water pumps instead of gravity draining to empty your ballast water tanks, unless you meet the treatment limits found in Part 2.2.3.5 of this permit.
 - Minimize the discharge of ballast water essential for vessel operations while in the waters subject to this permit.

2.2.3.4 Mandatory Ballast Water Management Practices for "Lakers"

(See Permit for details regarding Lakers and operations on the Great Lakes)

2.2.3.5 Ballast Water Numeric Discharge Limitations

- Owners/operator must meet the following ballast water discharge limits (expressed as

instantaneous maximum) consistent with the schedule found in Part 2.2.3.5.2, unless you are excluded from these requirements by Parts 2.2.3.5.3 or 2.2.3.8 of this permit:

- For organisms greater than or equal to 50 micrometers in minimum dimension: discharge must include fewer than 10 living organisms per cubic meter of ballast water.
- For organisms less than 50 micrometers and greater than or equal to 10 micrometers: discharge must include fewer than 10 living organisms per milliliter (mL) of ballast water.
- Indicator microorganisms must not exceed:
 - For *Toxicogenic Vibrio cholerae* (serotypes O1 and O139): a concentration of less than 1 colony forming unit (cfu) per 100 mL.
 - For *Escherichia coli*: a concentration of fewer than 250 cfu per 100 mL.
 - For *intestinal enterococci*: a concentration of fewer than 100 cfu per 100 mL.
 -

2.2.3.5.1.1 Ballast Water Management using Ballast Water Treatment System

- Vessel owner/operators utilizing a ballast water treatment system (BWTS) must use a system which has been shown to be effective by testing conducted by an independent third party laboratory, test facility or test organization.
- A system that has been type approved by the U.S. Coast Guard under 46 CFR Part 162.060 or received "Alternative Management System" designation by the U.S. Coast Guard under 33 CFR 151.2026 will be deemed to meet this "shown to be effective" provision.

2.2.3.5.1.1.2 Ballast Water System Functionality Monitoring

- Ballast water treatment systems use physical and/or chemical processes, or a combination thereof, to achieve reductions in living organisms. The use of physical/chemical indicators of treatment performance verifies that the ballast water treatment system is operating according to the manufacturers' operating specifications.
- To assess the BWTS functionality, monitoring indicators of the BWTS functionality is required at least once per month for specific parameters that are applicable to your system. The required parameters to be monitored, with appropriate monitoring approaches are contained in Appendix J.
- If your system uses cavitation, UV, and hypochlorite generation, you must monitor conditions for all three treatment units. EPA expects that most ballast water treatment systems will make use of at least two physical and/or chemical processes.
- Most ballast water treatment systems have control and self-diagnostic equipment such as sensors that continuously measure treatment parameters to verify performance. The metrics to be monitored are based on common approaches used in ballast water treatment systems.

2.2.3.5.1.1.3 Ballast Water Monitoring Equipment Calibration

- At a minimum, all applicable sensors and other equipment must be calibrated annually. Additionally, all applicable sensors and other control equipment must be calibrated no less frequently than recommended by the sensor or other equipment manufacturer, or by the ballast water treatment system manufacturer or when warranted based on device drift from a standard or calibrated setting.
- Calibration of the sensors and equipment can be conducted on-board the vessel or they can be removed and shipped to the manufacturer or other vendor for calibration. During the period when the sensors are not installed (or otherwise inoperable thus significantly compromising the performance of the ballast water treatment system), the vessel must not discharge ballast water.

2.2.3.5.1.1.4 Effluent Biological Organism Monitoring

- Once a ballast water treatment system is required to be installed onboard a vessel (see part 2.2.3.5.2 for applicability and timeframe for installation of such vessels), any ballast water discharges from such vessels will be subject to the effluent limitations in Part 2.2.3.5 of this permit.
- Biological indicator compliance monitoring sampling of ballast water effluent must be conducted 2 times during the first year the system is installed or used for vessels with devices for which high quality data are available.
- For vessels with high quality data, if sampling results are below permit limits for two consecutive

events, the vessel owner/operator may reduce monitoring to one time per year after the first year. However, if the vessel owner/operator exceeds a permit limit on any sampling event, they must return to monitoring two times per year until they have two additional results below permit limits.

- For vessels for which high quality data are not available, monitoring must be conducted 4 times per year. For all vessels, one of those samples may be conducted as part a vessel's annual or other survey, and during the first year, one of those sampling events may be conducted as part of the installation of the system to ensure it is functioning properly.
- Records of the sampling and testing results must be retained onboard for a period of 3 years in the vessel's recordkeeping documentation consistent with Part 4.2. Each sample must be tested independently and the individual results must be reported and not averaged
- Monitoring must be conducted at least 14 days apart from different discharge events. Devices for which high quality data are available means either:
 - any ballast water treatment system type approved by the United States Coast Guard under 46 CFR Part 162.060 or granted alternate management system status by the US Coast Guard under 33 CFR 151.2026; or
 - any ballast water treatment system:
 - type approved by a foreign administration;
 - for which efficiency testing was conducted by an independent third party testing organization, either in accordance with the ETV protocol or in a manner consistent with the ETV protocol with respect to QA/QC procedures, the use of validated methods including appropriate volumes of representative samples, and full description and documentation of test procedures, results and analyses; and
 - all Active Substance or Biocide data (e.g., the full data package as submitted to the International Maritime Organization for approval) have all been made available to the US EPA.

2.2.3.5.1.1.5.1 Authorization of Residual Biocides Associated with Ballast Water Treatment Systems

- Many ballast water treatment systems produce or use biocides as an agent to reduce living organisms present in the ballast water tank. In order to be eligible for coverage under this permit, any ballast water treatment system must not use any biocide that is a "pesticide" within the meaning of the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C §136 et seq.) unless that biocide has been registered for use in ballast water treatment under such Act.
- This requirement does not apply if such biocide is generated solely by the use of a "device" on board the same vessel as the ballast water to be treated by the biocide, as the term "device" is defined in the Federal Insecticide, Fungicide, and Rodenticide Act.
- In addition, if the ballast water treatment system uses or generates biocides and you will discharge ballast water treated with biocides into waters subject to this permit, you must meet one of the following conditions to be eligible for permit coverage, for these conditional limitations see Table 3 in Part 2.2.3.5.1.1.5.1. If the biocide that your system uses is not found in the *EPA's National Recommended Water Quality Criteria*, you must notify the EPA at least 120 days in advance.

2.2.3.5.1.1.5.2 Residual Biocide and Derivative Monitoring

- For vessels subject to Part 2.2.3.5.1.1, you must conduct monitoring of the vessel ballast water discharge for any residual biocides or derivatives used in the treatment process, such as chlorine.
- If your vessel's ballast treatment system utilizes chlorine or other biocides then you must test your system for residuals per Table 4 of Part 2.2.3.5.1.1.5.2.

2.2.3.5.1.1.6 Ballast Water Treatment System Recordkeeping and Reporting

- Records of sampling and testing results required under Part 2.2.3.5.1.1 must be retained onboard for a period of three years. Vessels must also submit testing results to the EPA as part of the vessel's annual report on the VGP ballast water DMR (Appendix H).
- See Part 2.2.3.5.1.1.6 for information regarding data monitoring requirements of ballast water.
- This information can be submitted electronically to www.epa.gov/npdes/vessels/eNOI

2.2.3.5.1.2 Onshore Treatment of Ballast Water

- The owner/operator of a vessel may elect to send ballast water ashore for treatment at a licensed facility. Ballast water must be held on board, treated by a system, or treated by a facility.
- Ballast water sent to a treatment barge is not covered under the VGP as it is considered a *discharge from an industrial operation* and not a *discharge incidental to normal operations*. Permit coverage for such an operation needs to be applied for by the States NPDES authority.

2.2.3.5.1.3 Use of Public Water Supply Water (PWS)

- Vessels may meet the requirements of Part 2.2.3.5 by using only water from a U.S. public water system or Canadian drinking water system are subject to the requirements of 40 CFR141 and 143 or b) Health Canada's "Guidelines on Canadian Drinking Water Quality," as ballast water.
- Vessels using water from a PWS as ballast must maintain a record of which PWS they received the water and a receipt, invoice, or other documentation from the PWS indicating that water came from that system.
- To avoid contamination of the ballast water tank, vessels using PWS water in any given tank as ballast must have:
 - Previously cleaned the ballast tank (including removing all residual sediments) and not subsequently introduced ambient water;
 - Never introduced ambient water to the tank and supply lines
- In the event a vessel that normally uses PWS water as ballast is forced for purposes of vessel safety to take on untreated ballast water from a sea, estuary, lake or river source, such vessel may not return to using PWS water until the tanks and supply lines have been cleaned, including removal of all residual sediments.

2.2.3.5.2 Schedule for when Ballast Water Treatment Becomes BAT (Requirement)

(See Table 6 in this part for details of when this will become a requirement)

2.2.3.5.3 Vessels Not Required to Meet Part 2.2.3.5 Treatment Standards

- Vessels Engaged in Short-Distance Voyages
 - Operates or take on/discharge ballast in one COTP Zone
 - Vessels which do not travel more than 10 nm and cross no physical barriers or obstructions, whether or not they operate within one US COTP Zone.
- Unmanned, Unpowered Barges
 - Unmanned, Unpowered barges such as hopper barges are not required to meet this standard.

2.2.3.5.3.4 Vessels Operate Exclusively on the Laurentian Great Lakes

(See Permit for Details)

2.2.3.5.3.4 Inland and Seagoing Vessels less than 1600 Gross Registered Tons (3000 Gross Tons)

- Inland and seagoing vessels less than 1600 GRT or 3000 GT are not required to meet the numeric treatment limits found in Part 2.2.3.5.
- Seagoing vessels are defined in 33CFR151.2005

2.2.3.6.1 Requirements for Oceangoing Voyages While Carrying Ballast Water

- Any vessel that carries ballast water that was taken on in areas less than 200 nautical miles from any shore that will subsequently operate beyond the Exclusive Economic Zone (EEZ) and more than 200 nm from any shore must carry out an exchange of ballast water for any tanks that will discharge ballast water into waters subject to this permit unless the vessel meets one of the exemptions in Part 2.2.3.6.6
- This exchange must be conducted in compliance with the following standards prior to discharging ballast water into waters subject to this permit:
 - The exchange must occur in waters beyond the U.S. EEZ;
 - The exchange must occur in an area more than 200 nautical miles from any shore; and

- The exchange must be commenced as early in the vessel voyage as possible, as long as the vessel is more than 200 nm from any shore.

2.2.3.6.2 Vessels Carrying Ballast Water Engaged in Pacific Near-shore Voyages
(See permit for details)

2.2.3.6.3 Vessels with any Ballast Water Tanks that are Empty or have Unpumpable Residual

- Applies to Vessels and waters subject to this permit
 - traveling between COTP Zones while engaged in voyages described in Part 2.2.3.6.1
 - NOBOBs or
 - Vessels with tanks containing unpumpable residual water
- These vessels must have no uptake or discharge of ballast water or
- You must conduct salt water flushing in waters outside 200 nm prior to uptake/discharge of ballast.
- For vessels and NOBOBs involved with pacific voyages see Part 2.2.3.6.4.1
-

2.2.3.6.4.1 Near-shore Saltwater Flushing Requirements

- Tanks which are empty or contain un-pumpable residual water must seal the tanks or no discharge/uptake of ballast, or
- Conduct saltwater flushing of such tanks in an area 50 nm from any shore and at least 200m deep
- Vessels engaged in voyages that take them further than 200 nm from any shore and who will remain outside 200 nm for a sufficient period to flush ballast water, are not allowed to exchange ballast water between 50 and 200 nm from shore to meet the requirements of Part 2.2.3.6.3.
- Vessels engaged in the coastwise trade who are not outside 200 nm for a sufficient period to conduct flushing may flush outside 50 nm (even if they voyage beyond 200 nm) to meet the requirements of this permit.
-

2.2.3.6.5 Discharge Prohibitions

(See permit for details, includes areas such as National Parks and National Marine Sanctuaries).

EPA suggested BMPs

Suggested control measures to minimize the discharge of ballast water include, but are not limited to, transferring ballast water between tanks within the vessel in lieu of ballast water discharge. Another option is to use public water supply for ballast or, for vessels not subject to numeric limits in Part 2.2.3.5 for this permit, use water from potable water generator as ballast. EPA notes that vessels not subject to the numeric limits in Part 2.2.3.5 of this permit should endeavor to take all reasonable steps to minimize or eliminate the discharge of untreated ballast water.

Commentary:

- (1) The International Convention for the Control and Management of Ships' Ballast Water.

The International Convention for the Control and Management of Ships' Ballast Water and Sediments will enter into force 12 months after ratification by 30 States, representing 35 % of world merchant shipping tonnage. The Ballast Water Convention is expected to come into effect in 2013. MODUs are treated as 'ships' for the purposes of the Convention, and only the provisions regarding surveys contain any exemptions. Under the Convention, ships are required to have on board and implement a Ballast Water Management Plan approved by the Administration (Regulation B-1). The Ballast Water Management Plan is specific to each ship and includes a detailed description of the actions to be taken to implement the Ballast Water Management requirements and supplemental Ballast Water

Management practices.

Ships must have a Ballast Water Record Book to record when ballast water is taken on board; circulated or treated for ballast water management purposes; and discharged into the sea. It should also record when ballast water is discharged to a reception facility and accidental or other exceptional discharges of ballast water.

The Convention contains specific requirements for ballast water management.

- Ships constructed before 2009 with a ballast water capacity of between 1500 and 5000 cubic metres must conduct ballast water management that at least meets the ballast water exchange standards or the ballast water performance standards (which requires the installation and use of an approved Ballast Water Management System (BWMS)) until 2014, after which time it shall at least meet the ballast water performance standard.
- Ships constructed before 2009 with a ballast water capacity of less than 1500 or greater than 5000 cubic metres must conduct ballast water management that at least meets the ballast water exchange standards or the ballast water performance standards until 2016, after which time it shall at least meet the ballast water performance standard.
- Ships constructed in or after 2009 with ballast water capacity of less than 5000 cubic metres must conduct ballast water management that at least meets the ballast water performance standard.
- Ships constructed in or after 2009 but before 2012, with a ballast water capacity of 5000 cubic metres or more shall conduct ballast water management that at least meets the ballast water exchange standard until 2016 and at least the ballast water performance standard after 2016.
- Ships constructed on/or after 2012, with a ballast water capacity of 5000 meters³ or more shall conduct ballast water management that at least meets the ballast water performance standard.

BWMS must be approved by the Administration in accordance with IMO Guidelines. As of 31 March 2009, there are a limited number of BWMS which have obtained final approval.

All ships using ballast water exchange should:

- whenever possible, conduct ballast water exchange at least 200 nautical miles from the nearest land and in water at least 200 m in depth, taking into account Guidelines developed by IMO;
- be as far from the nearest land as possible, and in all cases at least 50 nautical miles from the nearest land and in water at least 200 m in depth, in cases where the ship is unable to conduct ballast water exchange listed as above.

The ballast water exchange standard requires that ships performing ballast water exchange do so with an efficiency of 95 % volumetric exchange of ballast water. For ships exchanging ballast water by the pumping-through method, pumping through three times the volume of each ballast water tank shall be considered to meet the standard described. Pumping through less than three times the volume may be accepted provided the ship can demonstrate that at least 95 percent volumetric exchange is met.

The ballast water performance standards requires that ships conducting ballast water management discharge less than 10 viable organisms per cubic meter greater than or equal to 50 µm in minimum dimension and less than 10 viable organisms per ml less than 50 µm in minimum dimension and greater than or equal to 10 µm in minimum dimension; and discharge of the indicator microbes shall not exceed the specified concentrations.

The indicator microbes, as a human health standard, include, but are not be limited to:

- a. Toxicogenic *Vibrio cholerae* with less than 1 colony forming unit (cfu) per 100 ml or less than 1 cfu per 1 gram (wet weight) zooplankton samples ;
- b. *Escherichia coli* less than 250 cfu per 100 milliliters;
- c. Intestinal *Enterococci* less than 100 cfu per 100 milliliters.

It is not clear at this time if either EPA or the U.S. Coast Guard will accept flag-State approval of BWMS or operation of such systems as meeting the requirements of the VGP or Coast Guard regulations.

(2) It is perceived that MODUs, which meet all of the IMO and USCG requirements with regards to ballast water management, would also meet all of the VGP requirements too.

Additional recommended practices:

None

4. Anti-Fouling Hull Coatings

EPA required BMPs

2.2.4 Anti-Fouling Coatings/ Hull Coating Leachate

- All anti-fouling coatings subject to this permit must meet the requirements of the Clean Hull Act of 2010 (33 U.S.C. §§ 3801 et seq.)
- All anti-fouling hull coatings subject to registration under FIFRA* (see 40 CFR 152.15) must be registered, sold or distributed, applied, maintained, and removed in a manner consistent with applicable requirements on the coatings' FIFRA label.
- For anti-fouling hull coatings not subject to FIFRA registration (i.e. not produced for sale and distribution in the United States), hull coatings must not contain any biocides or toxic materials banned for use in the United States (including those on EPA's List of Banned or Severely Restricted Pesticides). This requirement applies to all vessels subject to this permit, including those registered and painted outside the US.
- At the time of initial application or scheduled reapplication of anti-fouling coatings, you must give consideration, as appropriate for vessel class and vessel operations, to the use of hull coatings with the lowest effective biocide release rates, rapidly biodegradable components (once separated from the hull surface), or non-biocidal alternatives, such as silicone coatings.
- Some ports and harbors are impaired by copper, a biocide used in anti-foulant paints. These waters include Shelter Island Yacht Basin in San Diego, California and waters in and around the ports of Los Angeles/Long Beach. A complete list of such waters may be found at www.epa.gov/npdes/vessels. When vessels spend considerable time in these waters (defined as spending more than 30 days per year), or use these waters as their home port (i.e. house boats, ferries or rescue vessels), vessel owners/operators shall consider using anti-fouling coatings that rely on a rapidly biodegradable biocide or another alternative rather than copper based coatings. If after consideration of alternative biocides, vessel operators continue to use copper based antifoulant paints, they must document in their recordkeeping documentation how this decision was reached.
- The discharge of Tributyltin (TBT) from any source (whether used as a biocide or not) or any other organotin compound used as a biocide is prohibited by this permit. Therefore, vessel owners/operators covered by this permit have a zero discharge standard for TBT (whether or not used as a biocide) or any other organotin compound used as a biocide. You may not use an antifoulant coating containing TBT or any other organotin compound used as a biocide. If the vessel has previously been covered with a hull coating containing TBT (whether or not used as a biocide) or any other organotin compound used as a biocide, vessels must be effectively over-coated so that no TBT or other organotin leaches from the vessel hull or the TBT or other organotin coating must have been removed from the vessel's hull.
- When used as a catalyst, an organotin compound other than TBT (e.g., dibutyltin) is not to be present above 2500 mg total tin per kilogram of dry paint. Furthermore, the coating shall not be designed to slough or otherwise peel from the vessel hull. Incidental amounts of coating discharged by abrasion during cleaning or after contact with other hard surfaces (e.g., moorings) are not prohibited.

* Federal Insecticide, Fungicide, and Rodenticide Act

Commentary:

(1) An International Anti-fouling System Certificate pursuant to the Convention on the Control of Harmful Anti-fouling Systems on Ships, 2001, may be useful in demonstrating compliance with the VGP with regard to the presence of TBT coatings. The Convention entered into force on 17 September 2008. As of 31 March 2009, States party to the Convention are: Antigua & Barbuda, Australia, Bahamas, Bulgaria, Cook Islands, Croatia, Cyprus, Denmark, Estonia, France, Greece, Hungary, Japan, Kiribati, Latvia, Liberia, Lithuania, Malta, Marshall Islands, Mexico, Netherlands, Nigeria, Norway, Panama, Poland,

Republic of Korea, Romania, Saint Kitts and Nevis, Sierra Leone, Slovenia, Spain, Sweden, Tuvalu and Vanuatu.

(2) The following table provides a list of copper-impaired waters in areas where MODUs currently operate. The list may change, so reference should be made to the EPA website at www.epa.gov/npdes/vessels.

Name/Location	Waterbody Type
Bayou Barataria/Barataria Waterway, LA	Stream/creek/river
Bayou Cane, LA	Wetland
Bayou Trepagnier – NORCO to Bayou Labranche, LA	Stream/creek/river
Cross Lake, LA	Lake/reservoir/pond
Duncan Canal (Parish Line Canal), LA	Stream/creek/river
Lake Pontchartrain, LA	Lake/reservoir/pond
James' Bayou, TX	Lake/reservoir/pond

Additional recommended practices:

- If not already completed, a survey should be undertaken to determine the characteristics of any existing hull coatings. See IMO Resolutions [MEPC.102 \(48\)](#) and [MEPC.104\(49\)](#) - the Organization has developed "Guidelines for Survey and Certification of Anti-fouling Systems on Ships" and "Guidelines for Brief Sampling of Anti-Fouling Systems on Ships", respectively.

5. Aqueous Film Forming Foam (AFFF)

EPA required BMPs

Discharges of AFFF are authorized for emergency purposes when needed to ensure the safety and security of the vessel and crew.

For vessels that sail outside of the territorial sea more than once per month, maintenance and training discharges of fluorinated AFFF are not authorized within waters subject to this permit (i.e., any such discharges should be collected and stored for onshore disposal or scheduled when the vessel is outside such waters). Discharge volumes associated with regulatory certification and inspection must be minimized and a substitute foaming agent (i.e. non-fluorinated) must be used if possible within waters subject to this permit.

For vessels that do not leave the territorial seas more than once per month, if vessel maintenance and training discharges are required, AFFF must be collected and stored for onshore disposal unless the vessel uses a non-fluorinated or alternative foaming agent. Training should be conducted as far from shore as is practicable. Maintenance and training discharges are not allowed in port.

For all vessels, AFFF discharges may not occur in or within 1 nm of a water referenced in Appendix G unless they are discharged:

- For emergency purposes,
- By rescue vessels such as fireboats for firefighting purposes,
- By vessels owned or under contract to do business exclusively in or within 1 nm of those protected areas by the United States government or state or local governments.

If emergency AFFF discharges occur in waters referenced in Appendix G, a written explanation must be kept in the ship's log or other vessel recordkeeping documentation consistent with Part 4.2 of this permit.

Commentary:

This BMP is not intended to interfere in any way with any essential emergency management operations. If an emergency occurs while in Permit Waters that results in an AFFF discharge an explanation of the emergency and the need to discharge AFFF needs to be documented and reported to the appropriate EPA office.

EPA's BMP states "if maintenance and training discharges are required, AFFF must be collected and stored for onshore disposal if technologically feasible unless the vessel uses non-fluorinated or alternative foaming agent." Published reports are available⁹ comparing the acute aquatic toxicity (LC 50) of various AFFF formulations to those of 'fluorine-free' formulations, which show substantially lower LC 50 values for the 'fluorine-free' formulations. It should be permissible to discharge these 'fluorine-free' formulations as 'non-fluorinated' foaming agents in accordance with the BMP. EPA provides no guidance on which to base the selection of any other 'alternative' foaming agent.

Additional Recommended Practices:

- AFFF fire extinguishing systems, if installed, should be included in the unit's planned maintenance system.
- When possible, units that are equipped with AFFF should conduct any inspection, maintenance or training that may result in the discharge of AFFF while outside Permit Waters.

9 E.g., reports by the Fire Fighting Foam Coalition and the U.K. Fire Industry Association.

- Where testing of existing AFFF systems must be undertaken within Permit Waters, the possibility of conducting the tests with a non-fluorinated agent, while maintaining the existing inventory of AFFF, should be investigated with the system manufacturer and regulatory authorities.
- When installing a new fire extinguishing system, or it becomes necessary to replace an existing AFFF fire extinguishing system, consideration should be given to procuring a system using a non-fluorinated agent.
- Should it be necessary to replace an existing AFFF inventory, consideration should be given to procuring a non-fluorinated agent compatible with the existing system, or modifying the system as may be necessary in order to use a non-fluorinated agent.

6. Boiler / Economizer Blowdown

EPA required BMPs

You must minimize the discharge of boiler/economizer blowdown in port if chemicals or other additives are used to reduce impurities or prevent scale formation. For vessels greater than 400 gross tons which leave the territorial sea at least once per week, boiler/economizer blowdown may not be discharged in waters subject to this permit, unless:

- The vessel remains within waters subject to this permit for a longer period than the necessary duration between blowdown cycles,
- The vessel needs to conduct blowdown immediately before entering drydock, or
- For safety purposes.

For all vessels, boiler/economizer blowdown may not be discharged in waters referenced in Appendix G except for safety purposes. Furthermore, boiler/economizer blowdown should be discharged as far from shore as practicable.

Commentary:

MODUs operating in Permit Waters are rarely equipped with boilers or boilers with economizers.

Additional recommended practices:

None

7. Cathodic Protection

EPA required BMPs

Cathodic protection must be maintained to prevent the corrosion of the ship's hull. The discharge of zinc, magnesium, and aluminum are expected from properly functioning cathodic protection sacrificial electrodes. However, vessel operators must minimize the flaking of large, corroded portions of these anodes. Sacrificial anodes must not be used more than necessary to adequately prevent corrosion of the vessel's hull, sea chest, rudder, and other exposed areas of the vessel. Vessel operators must appropriately clean and/or replace these anodes during periods of maintenance (such as drydocking), so that release of these metals to waters is minimized. Furthermore, when feasible, sacrificial anodes should be flush-fitted to the hull, or vessel operators must fill the space between the anode and hull backing to remove the potential for hotspots for fouling organisms.

Vessel operators should note that magnesium is less toxic than aluminum, which is less toxic than zinc. If vessel operators use sacrificial electrodes, they must select electrode devices with metals that are less toxic to the extent technologically feasible and economically practicable and achievable. For vessels that spend the majority of their time in freshwater, if aluminum or zinc is selected, the vessel owner/operator must document in their recordkeeping documentation why the use of magnesium is not appropriate. Likewise, for vessels that spend the majority of their time in saltwater, if vessel zinc is selected, the vessel owner/operator must document why aluminum is not selected. The documentation requirement is applicable after the vessel's first drydocking after December 19, 2013 (e.g., if the vessel drydocks in 2015, the requirement is applicable for that vessel starting in 2015).

EPA suggested BMPs

EPA recommends, particularly for new vessels, the use of Impressed Current Cathodic Protection (ICCP) in place of or to reduce the use of sacrificial electrodes when technologically feasible (e.g. adequate power sources, appropriate for vessel hull size and design), safe, and adequate to protect against corrosion.

Commentary:

Cathodic protection systems typically employ sacrificial electrodes or a combination of sacrificial anodes and ICCP. Consideration should be given to the installation of ICCP where such systems may be feasibly installed.

Additional recommended practices:

An ICCP, if installed, should be included in the unit's planned maintenance program.

8. Chain Locker Effluent

EPA required BMPs

The anchor chain must be carefully and thoroughly washed down (*i.e.*, more than a cursory rinse) as it is being hauled out of the water to remove sediment and marine organisms. In addition, chain lockers must be cleaned thoroughly during dry docking to eliminate accumulated sediments and any potential accompanying pollutants. For vessels that regularly sail outside waters subject to this permit at least once per month, if technically feasible, periodically clean, rinse, and/or pump out the space beneath the chain locker prior to entering waters subject to this permit (preferably mid ocean) if the anchor has been lowered into any near-shore waters. Furthermore, for vessels that leave waters subject to this permit at least once per month, chain lockers shall not be rinsed or pumped out in waters subject to this permit, unless not emptying them would compromise safety. Such a safety claim must be documented in the vessel's recordkeeping documentation consistent with Part 4.2.

Commentary:

None

Additional recommended practices:

None

9. Controllable Pitch Propeller and Thruster Hydraulic Fluid and other Oil to Sea Interfaces, including Lubrication Discharges from Paddle Wheel Propulsion, Stern Tubes, Thruster Bearings, Stabilizers, Rudder Bearings, Azimuth Thrusters, Propulsion Pod Lubrication, and Wire Rope and Mechanical Equipment Subject to Immersion

EPA required BMPs

The protective seals on controllable pitch propellers, azimuth thrusters, propulsion pods, rudder bearings, or any other oil to sea interfaces must be maintained in good operating order to minimize the leaking of hydraulic oil or other oils. The vessel owner/operator must not discharge oil in quantities that may be harmful as defined in 40 CFR Part 110 from any oil to sea interface. If possible, maintenance activities on controllable pitch propellers, thrusters and other oil-to-sea interfaces should be conducted when a vessel is in drydock.

Minimize maintenance activities on stern tube seals when a vessel is outside of drydock. If maintenance or emergency repair must occur on stern tubes or other oil-to sea interfaces which have a potential to release oil in quantities that may be harmful as defined in 40 CFR Part 110, appropriate spill response equipment (e.g., oil booms) must be used to contain any oil leakage. Operators of the vessel must have ready access to spill response resources to clean up any oil spills.

After applying lubrication to wire rope and mechanical equipment subject to immersion, wire ropes and other equipment must be thoroughly wiped-down to remove excess lubricant unless doing so is deemed unsafe by the Master of the vessel.

All vessels must use an EAL in all oil to sea interfaces, unless technically infeasible. "Environmentally acceptable lubricants" means lubricants that are "biodegradable" and "minimally-toxic" and are "not bio-accumulative" as defined in Appendix A of this permit. For purposes of requirements related to EALs, technically infeasible means that no EAL products are approved for use in a given application that meet manufacturer specifications for that equipment, products which come pre-lubricated (e.g., wire ropes) have no available alternatives manufactured with EALs, products meeting a manufacturers specifications are not available within any port in which the vessel calls, or change over and use of an EAL must wait until the vessel's next drydocking.

If a vessel is unable to use an EAL, you must document in your recordkeeping documentation consistent with Part 4.2 why you are unable to do so, and must report the use of a non- environmentally acceptable lubricant to EPA in your Annual Report. Use of an environmentally acceptable lubricant does not authorize the discharge of any lubricant in a quantity that may be harmful as defined in 40 CFR Part 110.

EPA suggested BMPs

EPA recommends that all new build vessel operators endeavor to use seawater-based systems for their stern tube lubrication to eliminate the discharge of oil from these interfaces to the aquatic environment.

Commentary:

For further information regarding EALs please see EPA 800-R-11-002, *EPA Environmentally Acceptable Lubricants*.

The understanding of the term "unless technically infeasible" is at present uncertain, but the following guidelines can be assumed to be acceptable under the VGP:

- 1) If the ship has seals that are not compatible with any EALs, it can continue to use mineral oil until the next planned docking, when the seals are to be replaced.

- 2) If the original equipment manufacturer (OEM) has no recommended seal-EAL combination for its product, the use of EALs can be considered “technically infeasible”.
- 3) For new ships or when replacing equipment, the use of EALs is “technically infeasible” only if no manufacturer can deliver an EAL-lubricated product that is suitable for the purpose.
- 4) If the use of an EAL in an oil-to-sea interface is claimed to be “technically infeasible”, the ship must carry documentation to that effect. Such a document/statement written by the manufacturer or owner shall be not more than one year old and confirm the factual situation.

Additional recommended practices:

- Prepare a unit-specific list of oil-water interfaces subject to the VGP.
- Promptly repair any lubricant seal leaks on equipment subject to immersion.
- Apply only the amount of lubrication necessary for proper maintenance of tow wire, mooring line, or mechanical coupling devices.
- Apply lubrication in a manner that minimizes drips and spills and promptly clean up any drips or spills that occur.
- Establish procurement procedures for acquiring Environmentally Acceptable Lubricants (EALs), except where technically infeasible.
- If maintenance or emergency repair of thrusters must be undertaken while afloat in Permit Waters, use an oil boom to contain possible hydraulic oil leakage and have cleanup/response equipment, such as oil absorbent pads, on hand to clean up any spillage/discharge.

10. Distillation and Reverse Osmosis Brine

EPA required BMPs

Brine from the distillation system and reverse osmosis reject water shall not contain or come in contact with machinery or industrial equipment (other than that necessary for the production of potable water), toxic or hazardous materials, or wastes.

Commentary:

None

Additional recommended practices:

- Minimize the production and associated discharges of distillation and reverse osmosis brine while in Permit Waters.
- On units which will operate a distillation or reverse osmosis unit in Permit Waters, consideration should be given to installing a dedicated line to discharge reject water. In order to eliminate the need for quarterly sampling, the discharge should be located above the waterline in a readily visible location.

11. Elevator Pit Effluent

EPA required BMPs

Discharges of untreated elevator pit effluent are not authorized within waters subject to this permit except in cases of emergency. Elevator pit effluent may be discharged into waters subject to this permit if it is managed with the vessel's bilgewater and meets all the requirements of Part 2.2.2 of this permit or it must otherwise be treated with an oily-water separator and discharged with an oil content below 15 ppm as measured by EPA Method 1664 or other appropriate method for determination of oil content as accepted by the International Maritime Organization (IMO) (e.g. ISO Method 9377) or U.S. Coast Guard. Emergency discharges must be documented in the ship's log or other vessel recordkeeping documentation consistent with Part 4.2.

Commentary:

MODUs operating in Permit Waters are rarely equipped with elevator pits that can be discharged to the sea.

Additional recommended practices:

None

12. Firemain Systems

EPA required BMPs

Discharges from firemain systems are authorized for emergency purposes when needed to ensure the safety and security of the vessel and her crew, other emergency situations, and for testing and inspection purposes as may be required to assure its operability in an emergency. Firemain systems may be discharged in port for certification, maintenance, and training requirements if the intake comes directly from the surrounding waters or potable water supplies and there are no additions to the discharge. Furthermore, firemain discharges may be discharged for deck washdown or other secondary uses if the intake comes directly from the surrounding waters or potable water supplies and the discharge meets all relevant effluent limitation associated with that activity. When feasible, maintenance and training should be conducted outside port and/or outside waters subject to this permit.

Do not discharge firemain systems in waters listed in Part 12.1 except in emergency situations or when washing down the anchor chain to comply with anchor wash down requirements in Part 2.2.8.

Commentary:

This BMP is not intended to interfere in any way with any essential emergency management operations. If an emergency occurs while in Permit Waters that requires use of the firemain system, an explanation of the emergency and the need to use the firemain system will need to be documented and reported to the appropriate EPA office.

Additional Recommended Practices:

None

13. Freshwater Layup

EPA required BMPs

Minimize the amount of disinfection or biocidal agents used in freshwater layup to the minimum required to prevent aquatic growth.

Commentary:

When certain ships are out of service for an extended period and the seawater cooling systems are not circulated, the main condensers are placed in a freshwater layup to prevent the accumulation of biological growth and the resultant loss of condenser efficiency while the seawater cooling system is not in use. The layup is accomplished by blowing the seawater from the main condensers with air and isolating the condensers. The condensers are then filled with potable water to which biocides may be added. Freshwater layup is not generally associated with MODU operations.

Additional Recommended Practices:

None

14. Gas Turbine Washwater

EPA required BMPs

Gas turbine washwater must not be directly discharged within waters subject to this permit. Where feasible, gas turbine washwater must be prevented from commingling with bilge water that will be discharged in waters subject to this permit, for example by collecting it separately and properly disposing of it at an onshore facility. Under no circumstances may oils, including oily mixtures, from gas turbine washwater be discharged into waters subject to this permit in quantities that may be harmful as determined in accordance with 40 CFR Part 110.

Commentary:

There are no known MODUs operating in Permit Waters equipped with gas turbines.

Additional recommended practices:

None

15. Graywater

EPA required BMPs

All vessels must minimize the discharge of graywater while in port. For those vessels that cannot store graywater, the owner or operator and their crews must minimize the production of graywater in port. Examples of ways to minimize production of graywater include delaying laundry, scullery activities, and restricting length of showers while in port, and using high efficiency faucets and showerheads. All vessels that have the capacity to store graywater shall not discharge that graywater in waters listed in Appendix G. For vessels that cannot store graywater, vessel operators must minimize the production of graywater while in waters listed in Appendix G.

For vessels greater than 400 gross tons that regularly travel more than 1 nm from shore that have the capacity to store graywater for a sufficient period, graywater must be discharged greater than 1 nm from shore while the vessel is underway, unless the vessel meets the treatment standards and other requirements contained under Parts 5.1.1 and 5.1.2 or 5.2.1 and 5.2.2 of this permit. Additional specific requirements for Graywater apply to cruise ships (Parts 5.1 and 5.2) and Large Ferries (Part 5.3).

Vessels that do not travel more than 1 nm from shore shall minimize the discharge of graywater and, provided the vessel has available graywater storage capacity, must dispose of graywater on shore if appropriate facilities are available and such disposal is economically practicable and achievable unless the vessel meets the treatment standards and other requirements contained under Parts 5.1.1 and 5.1.2 or 5.2.1 and 5.2.2 of this permit. You must also minimize the discharge of graywater when the vessel is not underway.

If graywater will be discharged in waters subject to this permit, the introduction of kitchen oils to the graywater system must be minimized. When cleaning dishes, you must remove as much food and oil residue as practicable before rinsing dishes. Excess oils used in cooking including animal fats and vegetable oils shall not be added to the graywater system. Under no circumstances may oil from the galley and scullery shall not be discharged in quantities that may be harmful as defined in 40 CFR Part 110.

Vessel owner/operators must use phosphate free and minimally toxic soaps and detergents as defined in Appendix A of this permit, for any purpose if graywater will be discharged into waters subject to this permit. Soaps and detergents must be free from toxic or bio-accumulative compounds and not lead to extreme shifts in receiving water PH. For purposes of this part, extreme shifts means causing pH to fall below 6.0 or rise above 9.0 as a direct result of the discharge

If you are underway in a nutrient impaired water, or a water that is impaired as a result of nutrient enrichment (such as waters listed as impaired for phosphorus, nitrogen, or for hypoxia or anoxia (low dissolved oxygen concentrations)) you must follow these additional requirements:

When the vessel has adequate graywater storage capacity, the vessel owner/operator shall not discharge graywater into nutrient impaired waters subject to this permit (e.g., the Chesapeake Bay). A complete list of such waters can be found at www.epa.gov/npdes/vessels. Where the vessel does not have adequate storage capacity to eliminate such discharges, graywater production and discharge must be minimized in such waters. Any such discharge must be conducted while the vessel is underway in areas with significant circulation and depth to the extent feasible. Graywater stored while in such waters can later be disposed of on shore or discharged in accordance with the other requirements of this permit.

Additional Graywater Requirements for Certain VGP Vessels Operating in the Great Lakes (see permit for guidance)

Graywater Monitoring

The following monitoring requirements are applicable to vessels which discharge graywater into waters subject to this permit and meet one of the following conditions:

- The vessel is a new build vessel constructed on or after 19 December 2013, has a maximum crew capacity greater or equal to 15, and provides overnight accommodations to those crew; or
- The vessel is subject to Part 2.2.15.1 of this permit.

Vessel owners/operators must collect and analyze two samples per year, collected at least 14 days apart, and report the results of those samples as part of their Annual Report. Samples must be taken for Biochemical Oxygen Demand (BOD), fecal coliform, suspended solids, pH, and total residual chlorine. Vessel owner/operators may choose to conduct monitoring for e. coli in lieu of fecal coliform. Fecal Coliform or e.-coli must only be analyzed once per year if vessels have difficulty analyzing the results within recommended holding times. Sampling and testing shall be conducted according to 40 CFR Part 136. If the vessel is subject to Part 2.2.15.1, measured samples must meet the standards specified in that part.

Records of monitoring information shall include:

- The date, exact place, time, and sampling port location(s) of sampling or measurements;
- The individual(s) who performed the sampling or measurements;
- The date(s) analyses were performed;
- The individual(s) who performed the analyses;
- The analytical techniques or methods used;
- The results of such analyses; and
- Proportions of waste streams being treated and sampled (such as mixed graywater, mixed graywater and blackwater, and galley. If actual amounts are not available, the estimated proportions should be provided).

Vessels subject to this part must note whether the graywater effluent is treated or untreated, and also note whether the effluent is graywater alone or if it is mixed with another effluent type (e.g., graywater mixed with sewage). Records of the sampling and testing results must be retained onboard for at least 3 years in the vessel's recordkeeping documentation consistent with Part 4.2.

Vessels which do not enter waters subject to this permit for the calendar year need not conduct monitoring for that year, but must clearly indicate on their Annual Report that they did not enter waters subject to this permit during that year.

EPA suggested BMPs

None

Commentary:

The provisions of parts 5.1 (Large Cruise Ships) and 5.2 (Medium Cruise Ships) referred to in the EPA required BMPs do not apply to MODU operations.

Additional recommended practices:

- Unit managers should ascertain whether unit graywater systems are arranged to discharge through the sewage treatment system and document their findings.
- Procurement procedures should be established to assure that soaps and detergents that could be discharged as graywater (e.g., for galley, laundry, or personal use) will meet the VGP requirements.
- Where graywater is discharged:
 - Minimize the introduction of kitchen oils to the graywater system.
 - When cleaning dishes, remove as much food and oil residue as practicable before rinsing dishes.
 - Vessel owners/operators must collect and analyze two samples per year, collected at least 14 days apart, and report the results of those samples as part of their Annual Report. (Vessels which do not enter waters subject to this permit for the calendar year need not conduct monitoring for that year, but must clearly indicate on their Annual Report that they did not enter waters subject to

this permit during that year

- Consider providing shore-side washrooms, kitchen and laundry facilities when practicable when a MODU is at the dock or in dry-dock. Examples of ways to minimize production of graywater include delaying laundry, scullery activities, and restricting length of showers while in port, and using high efficiency faucets and showerheads
- Use tie-ins to shore-side treatment facilities when feasible.
- Minimize the production of graywater through:
 - Promptly repairing leaky fixtures.
 - Using sinks, showers, washing machines, etc. in most economic operating condition.
 - Educating crew members on steps to be taken to reduce the production and contamination of graywater; and
 - Posting signs on the MODU to remind crew of the need to minimize production of graywater.

16. Motor Gasoline and Compensating Discharge

EPA required BMPs

The discharge of motor gasoline and compensating effluent must not have oil in quantities that may be harmful as defined in 40 CFR 110.3, which includes discharges resulting in a visible sheen, or an oil concentration that exceeds 15 ppm. Determination of oil concentration may be measured by EPA Method 1664 or other appropriate method for determination of oil content as accepted by the International Maritime Organization (IMO) (e.g. ISO Method 9377) or U.S. Coast Guard. Compliance with the 15 ppm oil concentration limitation may be established with visual monitoring for an oily sheen. Minimize discharge of motor gasoline and compensating discharge in port. If an oily sheen is observed, the vessel operator must deploy appropriate oil containment practices. Vessels shall not discharge motor gasoline and compensating discharge in waters subject to this permit listed in Appendix G.

Commentary:

There is no known use of Motor Gasoline and Compensating Discharge by MODUs.

Additional Recommended Practices:

None

17. Non-Oily Machinery Wastewater

EPA required BMPs

If discharged directly overboard, non-oily machinery wastewater, technical water, or potable water must be free from oils (in quantities that may be harmful pursuant to 40 CFR Part 110) and any additives that are toxic or bio-accumulative in nature. Non-oily machinery wastewater may also be drained to the bilge.

Any discharge of packing gland or stuffing box effluent must not contain oil, including oily materials, in quantities that may be harmful. These discharges must not produce a visible sheen of oil or oily materials.

Commentary:

As this discharge stream can be discharged without treatment, it is necessary to review the drainage arrangements to assure that the possibility of contamination with oil or oily mixtures is minimized. Separation of non-oily and oily discharge streams minimizes the need for treatment of discharges.

Alternatively, the drainage may be directed to the discharge stream for discharges of oil, including oily mixtures, or the discharge stream for bilgewater.

Additional recommended practices:

None

18. Refrigeration and Air Condensate Discharge

EPA required BMPs

You must not allow refrigeration and air condensate discharge to come into contact with oily or toxic materials if it is discharged directly overboard. Refrigeration and air conditioning condensate that is collected and plumbed for internal recycling (e.g. recycled as “technical water”) is allowed to commingle with oily water; however, the commingled discharge must meet all requirements of Part 2.1.4 of this permit and Part 2.2.2 of this permit if applicable.

Commentary:

As this discharge stream can be discharged without treatment, it is necessary to review the drainage arrangements to assure that the possibility of contamination with oil or oily mixtures or toxic materials is minimized. Separation from the oily discharge streams minimizes the need for treatment of discharges.

Alternatively, the drainage may be directed to the discharge stream for discharges of oil, including oily mixtures, or the discharge stream for bilgewater.

Additional recommended practices:

None

19. Seawater Cooling Overboard Discharge

EPA required BMP

When possible, non-contact engine cooling water, hydraulic system cooling water, refrigeration cooling water and other seawater cooling overboard discharges should occur when the vessel is underway to minimize any thermal impacts to the receiving water.

Maintenance of all piping and seawater cooling systems must meet the requirements of Part 2.2.20 (Seawater-Piping Biofouling Prevention).

EPA suggested BMP

To reduce the production and discharge of seawater cooling overboard discharge, EPA recommends that vessel owner/operators use shore based power when the vessel is in port if:

- Shore power is readily available for vessel owner/operators from utilities or port authorities,
- Shore based power supply systems are capable of providing all needed electricity required for vessel operations; and
- The vessel is equipped to connect to shore-based power and such systems are compatible with the available shore power.

Commentary:

None

Additional recommended practices:

None

20. Seawater Piping Biofouling Prevention

EPA required BMPs

Seawater piping biofouling chemicals subject to FIFRA* registration (see 40 CFR 152.15) must be used in accordance with their FIFRA label. No pesticides or chemicals banned for use in the United States may be discharged into waters subject to this permit.

Vessel owner/operators must use the minimum amount of biofouling chemicals needed to keep fouling under control. Discharges containing active agents must contain as little chlorine as possible.

Vessel owner/operators must remove fouling organisms from seawater piping on a regular basis and dispose of removed substances in accordance with local, state, and federal regulations. Removed fouling organisms shall not be discharged into waters subject to this permit.

* Federal Insecticide, Fungicide, and Rodenticide Act

EPA suggested BMPs

EPA recommends that if removed fouling organisms are discharged into any waters, they should be discharged more than 50 nm from shore. Vessel owner/operators should remove any organisms while at sea where technically feasible to reduce the risk of invasive species introduction in ports.

Commentary:

While the suggestion regarding removal and discharge of fouling organism in waters more than 50 nm from shore is noted, it may not be practicable in the case of units that are outside Permit Waters and are undergoing required inspections that necessitate cleaning of sea valves and seachests and strainers.

It should also be noted that many units are not moved between areas having differing ecosystems, so the risk of introduction of an invasive species posed by removal of fouling organisms outside Permit Waters is minimal.

Additional recommended practices:

None

21. Boat Engine Wet Exhaust

EPA required BMPs

Vessel engines generating wet exhaust must be maintained in good operating order, well-tuned, and function according to manufacturer specifications to decrease pollutant contributions to wet exhaust. Vessel owner/operators should use low sulfur or alternative fuels for their vessels to reduce the concentration of pollutants in discharges from boat engine wet exhaust.

EPA suggested BMPs

EPA encourages vessel operators to consider four-stroke engines instead of two-stroke engines for vessels generating wet exhaust that are covered under this permit. Use of a four-stroke engine may minimize the discharge of pollutants to waters subject to this permit. Where vessels utilize two-stroke engines, environmentally acceptable lubricants (as defined in Appendix A of this permit) must be used unless technologically infeasible. If technologically infeasible, the vessel owner/operator must document in their recordkeeping documentation why they are not using environmentally acceptable lubricants..

Commentary:

None

Additional recommended practices:

None

22. Sonar Dome Discharge

EPA required BMP

The water inside the sonar dome shall not be discharged into waters subject to this permit for maintenance purposes. Vessel operators should not use biofouling chemicals that are bio-accumulative for the exterior of sonar domes when non-bioaccumulative alternatives are available.

Commentary:

MODUs are rarely, if ever, equipped with sonar domes.

Additional recommended practices:

None

23. Underwater Ship Husbandry and Hull Fouling Discharges

EPA required BMPs

Vessel owner/operators must minimize the transport of attached living organisms when traveling into U.S. waters from outside the U.S. economic zone or between Captain-of-the-Port (COTP) zones. Management measures to minimize the transport of attached living organisms include selecting an appropriate anti-foulant management system and maintaining that system, in water inspection, cleaning, and maintenance of hulls, and thorough hull and other niche area leaning when a vessel is inn drydock.

Whenever possible, rigorous hull-cleaning activities should take place in drydock, or at a land-based facility where the removal of fouling organisms or spent antifouling coatings paint can be contained. If water-pressure based systems are used to clean the hull and remove old paint, you must use facilities which treat the washwater prior to discharging to waters subject to this permit in order to remove the antifouling compound(s) and fouling growth from the washwater. If mechanical means (scraping, etc.) are used to clean the hull and remove old paint, the materials removed from the hull during that process must be collected and disposed of properly (e.g., onshore). These materials must not be allowed to contaminate nearby waters.

Vessel owner/operators who remove fouling organisms from hulls while the vessel is waterborne must employ methods that minimize the discharge of fouling organisms and antifouling hull coatings. These shall include:

- Use of appropriate cleaning brush or sponge rigidity to minimize removal of antifouling coatings and biocide releases into the water column.
- Limiting use of hard brushes and surfaces to the removal of hard growth.
- When available and feasible, use of vacuum or other control technologies to minimize the release or dispersion of antifouling hull coatings and fouling organisms into the water column.

Vessel owner/operators must minimize the release of copper-based antifoulant paints during vessel cleaning operations. Cleaning of hull surfaces coated with copper-based antifoulant paint must not result in any visible cloud or plume of paint in the water: if a visible cloud or plume of paint develops, shift to a softer brush or less abrasive cleaning technique. A plume or cloud of paint can be noted by the presence of discoloration or other visible indication that is distinguishable from hull growth or sediment removal. Production of a plume or cloud of sediment or hull growth is normal in some cases during vessel hull cleaning, but this plume or cloud must be substantially paint free (e.g. paint should not be clearly identifiable in the plume or cloud). When feasible, attempts must be made to minimize the release of fouling organisms and antifouling systems (including copper-based coatings) into surrounding waters.

Vessels that use copper based anti-fouling paint must not clean the hull in copper impaired waters within the first 365 days after paint application unless there is a significant visible indication of hull fouling. EPA maintains a list of copper-impaired waters on its webpage at www.epa.gov/npdes/vessels. If you clean before 365 days after paint application in copper-impaired waters, you must document in your recordkeeping documentation why this early cleaning was necessary.

Commentary:

None

Additional recommended practices:

- If not already completed, a survey should be undertaken to determine the characteristics of any existing hull coatings. See IMO Resolutions [MEPC.102 \(48\)](#) and [MEPC.104\(49\)](#) - the Organization has developed "Guidelines for Survey and Certification of Anti-fouling Systems on Ships" and "Guidelines for Brief Sampling of Anti-Fouling Systems on Ships", respectively.

When feasible, extensive hull cleaning shall be conducted when the rig is in drydock or when the byproducts of the cleaning can be contained and disposed of properly, especially when cleaning hulls

using water pressure based systems. This BMP encourages all waste to be collected and disposed of properly to ensure that they are not washed into waters subject to the Vessel General Permit (VGP). While these practices do not specifically address the release of antifouling materials from hulls during vessel operations (i.e., hull coating leachate), they are critical to controlling levels of contaminants that result in the same type of environmental degradation. In addition, these same practices will reduce the potential for release of introduced species during hull cleaning and paint preparation activities.

Vessel owner/operators who remove fouling organisms from hulls while the vessel is waterborne must employ methods that minimize the discharge of fouling organisms and antifouling hull coatings. These shall include:

- Selection of appropriate cleaning brush or sponge rigidity to minimize removal of antifouling coatings and biocide releases into the water column.
- Limiting use of hard brushes and surfaces to the removal of hard growth.
- When available and feasible, use of vacuum control technologies to minimize the release or dispersion of antifouling hull coatings and fouling organisms into the water column.

24. Welldeck Discharge

EPA required BMPs

Welldeck discharges that contain graywater from smaller vessels should not be discharged within waters subject to this permit except in cases of emergency. Welldeck discharges from washdown of gas turbine engines may not be discharged within waters subject to this permit. Welldeck discharges from equipment and vehicle washdowns must be free from garbage and must not contain oil in quantities that may be harmful as defined in 40 CFR Part 110.

Commentary:

MODUs operating in Permit Waters are rarely, if ever, configured with welldecks.

Additional recommended practices:

None

25. Graywater Mixed with Sewage from Vessels

EPA required BMPs

The commingled discharge of graywater mixed with sewage from vessels must comply with the effluent limits for graywater discharge in Part 2.2.15 or Part 5 of this permit if applicable. Though not a requirement of this permit, vessel owner/operators are advised that all discharges commingled with sewage must meet the requirements set forth in section 312 of the Clean Water Act and its implementing regulations found at 40 CFR Part 140 and 33 CFR Part 159. Hence, discharges of graywater mixed with sewage must meet both standards to be in compliance with the Clean Water Act.

Commentary

None

Additional recommended practices

Unit managers should ascertain whether their unit graywater systems are arranged to discharge through the sewage treatment system.

Where existing systems on units are combined, consideration should be given to making each system independent in order to avoid commingling sewage with graywater.

26. Exhaust Gas Scrubber Washwater

EPA required BMPs

Exhaust gas scrubber washwater discharge must not contain oil, including oily mixtures, in quantities that may be harmful as determined in accordance with 40 CFR Part 110. Sludge or residues generated in treating exhaust gas scrubber washwater discharge must not be discharged in waters subject to this permit and must be delivered ashore to adequate reception facility.

In addition, owner/operators of vessels with exhaust gas cleaning systems that result in washwater discharges must meet the numeric effluent limits found in Part 2.2.26.1 and the monitoring requirements found in Part 2.2.26.2 this permit. These limits are consistent with the IMO washwater guidelines set forth in section 10 for Exhaust Gas Cleaning (EGC) Systems (resolution MEPC.184 (59)). Among other things, these guidelines recommend the establishment of limits for concentrations of pollutants in the effluents.

2.2.26.1 Exhaust Gas Scrubber Washwater Discharge Standards

2.2.26.1.1 pH

The discharge of washwater from the exhaust gas scrubber treatment system must have a pH of no less than 6.0 measured at the ship's overboard discharge, with the exception that during maneuvering and transit, the maximum difference between inlet and outlet of 2.0 pH units is allowed. This difference is to be measured at the ship's inlet and overboard discharge.

2.2.26.1.2 PAHs (Polycyclic Aromatic Hydrocarbons)

The maximum continuous PAH concentration in the washwater must not be greater than 50 µg/L PAHphe (phenanthrene equivalence) above the inlet water PAH concentration for washwater flow rates normalized to 45 t/MWh. MWh refers to the maximum continuous rating (MCR) or 80 percent of the power rating of the fuel oil combustion unit. For the purposes of this criterion, the PAH concentration in the washwater must be measured downstream of the water treatment equipment, but upstream of any washwater dilution or other reactant dosing unit, if used, prior to discharge.

The 50-µg/L limit is adjusted upward for lower washwater flow rates per MWh, and vice-versa, and the applicable permit limits are contained in Table 7.

Table 7: PAH Permit Limits in Exhaust Gas Scrubber Discharge

Flow Rate (t/MWh)	Discharge Concentration Limit (µg/L PAHphe equivalents)	Measurement Technology
0 - 1	2,250	Ultraviolet Light
2.5	900	Ultraviolet Light
5	450	Fluorescence ²
11.25	200	Fluorescence
22.5	100	Fluorescence
45	50	Fluorescence
90	25	Fluorescence

For a 15-minute period in any 12-hour period, the continuous PAH concentration limit may exceed the limit described above by 100 percent. This is to allow for an abnormal startup of the exhaust gas scrubber unit.

2.2.26.1.3 Turbidity

The washwater treatment system must be designed to minimize suspended particulate matter,

including heavy metals and ash. The maximum turbidity (monitored continuously) in washwater must not be greater than 25 FNU (formazin nephelometric units) or 25 NTU (nephelometric turbidity units) or equivalent units, above the inlet water turbidity. However, during periods of

2 For any flow rate greater than 2.5 t/MWh fluorescence technology should be used.

high inlet turbidity, the precision of the measurement device and the time lapse between inlet measurement and outlet measurement are such that the use of a difference limit is unreliable. Therefore, all turbidity difference readings must be a rolling average over a 15-minute period to

a maximum of 25 FNU or NTU. For the purposes of this criterion, the turbidity in the washwater must be measured downstream of the water treatment equipment but upstream of washwater dilution (or other reactant dosing) prior to discharge. For a maximum of one 15-minute period within any 12-hour period, the continuous turbidity discharge limit may be exceeded by 20 percent.

2.2.26.1.4 Nitrates +Nitrites

The washwater treatment system must prevent the discharge of nitrates, plus nitrites beyond that associated with a 12 percent removal of NO_x from the exhaust, or beyond 60 mg/l normalized for washwater discharge rate of 45 tons/MWh, whichever is greater. MWh refers to the MCR or 80 percent of the power rating of the fuel oil combustion unit. For the purposes of this criterion, the nitrate concentration in the washwater must be measured downstream of the water treatment equipment, but upstream of any washwater dilution or other reactant dosing unit, if used, prior to discharge.

The 60-mg/L limit is adjusted upward for lower washwater flow rates per MWh, and vice-versa, and the applicable permit limits are contained in Table 8.

Table 8: Nitrates + Nitrites Permit Limits in Exhaust Gas Scrubber Discharge

Flow Rate (t/MWH)	Discharge Concentration Limit (mg/L nitrate + nitrite)
0 - 1	2,700
2.5	1,080
5	640
11.25	240
22.5	120
45	60
90	30

2.2.26.2 Exhaust Gas Scrubber Analytical Monitoring Requirements

2.2.26.2.1 Continuous Monitoring

The data recording system must comply with the guidelines in sections 7 and 8 of MEPC.184(59) and must continuously record pH, PAH (as available), and turbidity. The vessel owner/operator must continuously monitor for PAH discharges where continuous monitoring technologies (e.g., probes/analyzers) are available (availability should include the technology's robustness, reliability and ability to perform over for a minimum of two years). When the EGC system is operated in waters subject to this permit, the washwater monitoring and recording must be continuous. The values monitored and recorded must include pH, PAH (as available), turbidity, and temperature.

The pH electrode and pH meter must have a resolution of 0.1 pH units and temperature compensation. The electrode must comply with the requirements defined in BS 2586 or of equivalent or better performance and the meter should meet or exceed BS EN ISO 60746-2:2003.

The PAH monitoring equipment must be capable of monitoring PAH in water in a range of at least twice the discharge concentration limit given in the table above. A demonstration must be made that the equipment operates correctly and does not deviate more than 5 percent in washwater with turbidity within the working range of the application. For those applications discharging at lower flow rates and higher PAH concentrations, ultraviolet light monitoring technology or equivalent should be used due to its reliable operating range.

The turbidity monitoring equipment must meet requirements defined in ISO 7027:1999 or USEPA 180.1.

All continuous monitoring equipment must be calibrated as recommended by probe manufacturers or Exhaust Gas scrubber manufacturers. At a minimum, all probes must be calibrated at least annually. EPA expects many probe types (e.g., turbidity probes) will need to be calibrated on a more frequent basis.

2.2.26.2.2 Analytical Monitoring

In addition to the continuous monitoring found in Part 2.2.26.2.1 of this permit, vessel owner/operators must collect and analyze two samples in the first year of permit coverage or system operation, whichever is first, for each of the constituents analyzed in Part 2.2.26.2.3 to demonstrate treatment equipment maintenance, probe accuracy, and compliance with this permit. Samples must not be collected within 14 days of each other. Samples must be collected for inlet water (for background), water after the scrubber (but before any treatment system), and discharge water. For all vessels, one of those samples may be conducted as part a vessel's annual or other survey, and during the first year, one of those sampling events may be conducted as part of the installation of the system to ensure it is functioning properly.

After the first year, samples must be collected at least once per calendar year for inlet water (for background), water after the scrubber (but before any treatment system), and discharge water, and may be collected as part of the vessel's annual survey as appropriate. Records of the sampling and testing results must be retained onboard for a period of 3 years in the vessel's recordkeeping documentation consistent with Part 4.2.

2.2.26.2.3 Analytes for Analytical Monitoring

Vessels conducting monitoring as required by Part 2.2.26.2.2 must monitor for the following parameters, choosing either sufficiently sensitive EPA Part 136 methods or other methods if specifically allowed:

- Dissolved and Total Metals, including, Arsenic, Cadmium, Chromium, Copper, Lead, , Nickel, Selenium, Thallium, Vanadium, and Zinc (recommend using EPA Methods 200.8 or 200.9. Because matrix interference is a known issue for arsenic and selenium in saltwater samples, the Agency strongly recommends operators using Octopole Reaction Cell ICP-MS, Dynamic Reaction Cell ICP-MS, hydride generation with a graphite furnace, or other appropriate approach consistent with 200.8 or 200.9 to minimize this interference);
- PAHs including Acenaphthylene, Acenaphthene, Anthracene Benz[a]anthracene, Benzo[ghi]perylene, Benzo[a]pyrene, Benzo[b]fluoranthene +, benzo[k]fluoranthene, Chrysene, Dibenz[a,h]anthracene, Fluoranthene, Fluorene, Indeno[1,2,3,c,d]pyrene, Naphthalene, Phenanthrene, and Pyrene (recommend using EPA Methods 550.1, 610, 625, 8100, 8270c, 8310);

- Nitrate-Nitrite (recommend using EPA Method 353.2);
- pH (using Standard Methods (SM) 4500-H B);

2.2.26.2.4 Monitoring Reporting

Vessel owners/operators must submit all monitoring data to EPA electronically, unless exempted from electronic reporting consistent with Part 1.14 of this permit. Monitoring data must be submitted at least once per calendar year no later than February 28 of the following year on the vessel annual report. Data must be submitted on or attached to the exhaust gas scrubber DMR available in Appendix H of this permit or submitted to EPA electronically. The system is scheduled to be available at www.epa.gov/vessels/eNOI. Data may be submitted as part of the vessel's annual report.

EPA suggested BMPs

None

Commentary:

Exhaust gas scrubbers are rarely, if ever, installed on MODUs.

Additional recommended practices:

None

27. Fish Hold Effluent

EPA required BMPs

If large solid pieces of fish waste are contained in the fish hold effluent (e.g., fish heads, internal organs) the fish hold effluent may not be discharged while the vessel is pier-side and stationary, unless a physical separation method is used (e.g., ½ inch coarse screens or smaller, a screened hose having ½ inch screen openings or smaller, filters, or other methods to remove large solids).

Solid fish waste must be disposed of shore-side on land or at sea (but outside of harbors or other protected and enclosed coastal waters, and other areas where EPA has found that such deposits could endanger health, the environment, or ecological systems in a specific location under the Marine Protection, Research and Sanctuaries Act, 33 U.S.C 1412(d)).

Except for discharges from holding tanks for the sole purpose of keeping the catch alive during transit by pumping continuous “once through” ambient water into and through the tank prior to immediate discharge (e.g., crabbing/lobster vessels), if you are unloading your catch at a shore-based seafood processor or other pier and a shore-based discharge facility is available and economically achievable, you must discharge your effluent (including dirty ice) to that shore-based facility instead of discharging to surrounding waters if:

- Its use is economically achievable, and
- The facility has a valid NPDES permit, or
- That facility discharges to an NPDES-permitted sewage treatment facility.

Do not discard any unused live bait overboard, unless you caught that bait in that waterbody or watershed. Unused live bait purchased from a bait shop or dealer may not be discharged overboard unless the vessel operator has documentation from the dealer that the bait was caught in that waterbody.

EPA suggested BMPs

All reasonable steps must be taken to prevent the discharge of excess fish hold water and ice while the vessel is stationary at the pier.

Commentary:

None

Additional recommended practices:

None