Waste Management Plan

MARPOL 73/78 Annex V

This is the Waste Management Plan required by MARPOL Annex V

MARPOL 73/78 Annex V

MARPOL 73/78 is the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978

US Statutes and Regulations

MARPOL 73/78 Annex V was ratified by act of the US Congress in 1987 with the name “Marine Plastic Pollution Research and Control Act of 1987 [MPPRCA]” and can be found in:

- [Statute] 33 U.S.C. 1901-1911 and in
- [Regulation] 33 CFR 151.51—151.79

Purpose and methods

MARPOL 73/78 Annex V applies to garbage generated on ships. Drilling rigs and production platforms are included in this definition of “ships”, and aims to reduce the amount of garbage – both plastic and other persistent wastes – that “ships” dump into the oceans. Annex V prohibits all “ships” from dumping plastics into the sea anywhere in the world.

The Marine Plastic Pollution Research and Control Act of 1987 [MPPRCA] makes the US Coast Guard responsible for implementing Annex V requirements. These responsibilities include:

- Requiring certain “ships” to develop a waste management plan
- Requiring certain manned “ships” to maintain waste disposal records
- Requiring adequate waste reception facilities at U.S. ports
- Requiring manned ships of certain sizes to display pollution prevention placards

The placard requirement:

- does apply to all fixed and floating production platforms
- does apply to all mobile offshore drilling units

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MARPOL 73/78 Annex V, (continued)

Requirements for this Waste Management Plan

The person in charge of every manned fixed or floating platform [or drilling unit] shall maintain on the platform a written Waste Management Plan which:

- Provides for the discharge of victual waste (waste food fit for human consumption) if:
  1. It passes through a grinder that is capable of processing the victual waste so that it passes through a screen with openings no greater than one inch.
  2. The discharge is at least 12 nautical miles from the nearest land.
- Describes the procedures for collecting, processing, storing, all other garbage.
- Designates the person who is in charge of carrying out the plan.
- The discharge of all other garbage into the water is prohibited.

Requirements for Recordkeeping

The person in charge of a manned fixed or floating platform [or drilling unit] shall maintain on the platform for two years a written record. The written record includes each of the following garbage discharge or disposal operations:

- Discharge overboard
- Discharge to another ship
- Discharge to a reception facility
- Incineration on the platform

The format for this written record is found in the Foot Waste Garbage Log in the “Garbage” and in the “Food Waste” sections

Factors considered by USCG enforcement

- Records of garbage received at port reception facilities
- Garbage logs
- Presence of a grinder
- Operability of a grinder
- Presence on the platform and adherence to a written waste management plan
- Absence of [or presence of] plastic in platform stores
- Educational programs to train personnel on garbage handling procedures and the need for these
- Presence of spaces used for collecting, processing, storing and discharging “ship” generated garbage.

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Waste Minimization

Priorities
All waste processes are to be evaluated by the Supervisor of each manned facility. Every attempt shall be made to handle waste in accordance with the priorities listed below. These are listed from most preferred and cost effective to least:

- Eliminate waste production. Use the material for its intended purpose at this location, if possible
- Minimize waste production
- Recycle waste on site
- Recycle waste at another Apache facility
- Recycle waste at an approved contract facility
- Dispose of waste on site
- Dispose of waste at another Apache facility
- Dispose of waste at an approved contract facility

All Personnel
To minimize waste, the following steps shall be taken by all personnel operating on Apache properties:

- Only the needed amount of materials shall be ordered. Any time a hazardous material is ordered, consideration shall be given as to how much of the material is really needed and if a non-hazardous material could be used for the same purpose.
- Prior consideration shall be given to the sizes of containers available when ordering products that could potentially generate waste. The intent is to avoid unused products and/or their containers from becoming wastes that require special handling.
- Segregation of wastes minimizes disposal costs. Commingling of any hazardous waste with a non-hazardous waste will require the entire waste volume to be disposed of as hazardous waste. Commingling may also eliminate the ability to recycle certain waste, such as used motor oils and paint thinners.

Continued on next page
Waste Minimization, *(continued)*

All Personnel *(continued)*

- If a waste is a hazardous waste, a designated hazardous waste staging area shall be identified at each facility and all containers located within this area shall be properly marked to prevent potential commingling. Each type of material shall be placed within its own drum or container. Containers shall be labeled as to the material which they contain, covered and sealed to prevent accidental mixing.

- Materials must be shipped with all the required shipping papers

- Prior to shipping any hazardous materials to a land facility, the following information shall be discussed with the receiving facility:
  
  Type of material
  - Number of containers
  - Size of Containers
  - Estimated time of arrival

- Products shall be utilized to the fullest extent with due consideration being given to safety, and contamination of the product.

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Waste Identification

General Trash  **Boxes, scrap lumber, rags, etc.** are to be placed in trash baskets. If properly handled, several other wastes can be disposed of as general trash, such as:

- Pallets and wooden crates
- Paint brushes, and empty paint cans if dried
- Plastics
- Rope
- Styrofoam cups and packing materials
- Paper
- Glass

This type of waste generally includes "common household" waste. These wastes are to be collected in waste drums placed in various locations around the platform. These solid wastes may be crushed in trash compactors, where available. Compactor bags are then to be transported to the appropriate onshore operating base. Non-compacted trash and trash that is too large to be placed in a compactor is to be transported to the appropriate onshore operating base in containers that are properly equipped to prevent loose trash from being blown overboard. These wastes are then collected at the appropriate operating base by an approved waste transportation contractor for shipment to, and disposal at, an appropriate approved solid waste landfill.

Paint  **Paint and solvents** - Make every effort to use up all vendor-supplied products. This reduces the potential expense and liability of hazardous material transportation. Once all of the material has been used allow the container to dry. Return any unused product to the vendor.

*Continued on next page*
Waste Identification, (continued)

Kitchen Waste  Empty food cans are to be washed out, crushed and treated as scrap metal.

Paper products and other dry refuse are to be placed in Garbage Compactor, and placed in the General Trash for landfill disposal.

**Wet garbage** - food wastes shall be handled as follows:

- If within 12 miles of shore - Segregate in drum, properly marked and send in for land fill disposal.
- If over 12 miles of shore - grind up in garbage disposal that reduces the size of the food scraps to no larger than 1 inch (25 millimeters) particle size in order to allow discharge into the sea, otherwise it must be sent in for appropriate land fill disposal.

**Cooking oil** shall be handled as follows:

- Cooking oils can be collected in clean drums (do not use used chemical drums) and shipped to the appropriate onshore operating base for recycling. The dispatcher will make arrangements for transportation of the cooking oil to an approved recycle facility.

Batteries  Spent Batteries - Transfer on Apache Shipping Manifest in the Hazardous Material Section [Section I] as a trade-in for a new battery, taking special precautions so batteries will not be damaged or dumped during transportation. Leaking batteries may be placed within a 1H2 or 3H2 plastic drum. **Note:** Unlined metal drums are not legal packaging for battery acid or leaking batteries.

Scrap Metal  Scrap metal shall be sent ashore for recycling. These materials include:

- Tin cans
- Crushed and non-crushed paint cans
- Crushed drums after emptying etc
- Scrap piping
- Valves and fittings
- Unusable Construction Materials

These materials shall be placed in a basket designated for use as scrap metal containers for transport.

**Continued on next page**
NORM - All production components (scrap piping, valves, fittings, vessels, etc.) shall be evaluated for NORM potential prior to disassembly for shipping and discarding. NORM contaminated components shall carry a separate designation and be kept segregated from other scrap metal.

Empty Chemical Drums - Chemical drums are not considered empty until they have been completely drained of residue. Every effort should be made to ensure the drums are empty, crushed and sent in as scrap metal. Draining consists of, tipping the drum until all residues is emptied into its intended system, etc. making sure the entire product is utilized. This will prevent classifying "Non-Empty" drums as hazardous waste due to flashpoint, etc. Empty chemical drums are NOT to be used for transporting waste materials, trash, etc. Be sure all bungs are in place before shipping. Open drums may collect rainwater and will no longer be considered empty non-hazardous containers.

Uncontaminated used oil is not considered a waste if it can be recycled. This requires that the oil not be contaminated with solvents, paint related materials, heavy metals, or have a flashpoint below 140° F (60° C). Used oil that exhibits one or more of the characteristics of hazardous waste but is recycled in some manner other than being burned for energy recovery is a Recyclable Material. Examples: Used Motor Oil, gearbox oil, water contaminated diesel, etc.
**E&P Exempt Waste**

**E&P waste** – Many wastes generated through the course of operations associated with the exploration, development or production of crude oil, natural gas or geothermal energy are considered E&P exempt waste (formerly known as Non-Hazardous Oilfield Waste or NOW). It is preferable to handle the waste listed below as E&P Exempt materials rather than hazardous wastes due to less stringent disposal guidelines. It is, however, important to ship and dispose **only** the materials listed below as E&P exempt waste:

- Salt water (produced brine or produced water), except for salt water whose intended and actual use is in drilling, workover or completion fluids or in enhanced mineral recovery operations
- Oil based drilling mud and cuttings
- Water based drilling mud and cuttings
- Synthetic based drilling muds and cuttings
- Drilling, workover, and completion fluids
- Production pit sludge’s
- Production storage tanks sludge’s
- Produced oily sands and solids
- Produced fresh water
- Washout water generated from the cleaning of vessels (barges, tanks, etc.) that transport non-hazardous oilfield waste and are not contaminated by hazardous waste or materials
- Pipeline test water which does not meet discharge limitations established by the appropriate state agency, or pipeline pig water, i.e., waste fluids generated from the cleaning of a pipeline
- Rainwater from ring levees and pits at production and drilling facilities

**Non-Hazardous Industrial Waste**

**Examples of Non-hazardous industrial waste:**

- Drained crankcase oil filters
- Drained glycol filters
- Glycol unit ceramic saddles
- Material used in crude oil spill cleanup operations

These wastes are to be collected in separate containers and shipped to the appropriate onshore operating base to be recycled. The dispatcher at the operating base will make arrangements for the transportation to and disposal of the non-hazardous industrial waste at an appropriately approved non-hazardous waste recycler.

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A hazardous waste must first be a waste.

- A waste is any material for which no use or reuse is intended and which is to be discarded.
- The EPA defines a hazardous waste as "Any solid or liquid waste that is either listed by the agency or is ignitable, corrosive, reactive or toxic."
- The EPA excludes E&P waste from classification as hazardous waste. [40 CFR 261.4.b.(5)]

**Listed** - Those chemicals and process streams whose hazardous nature has been prescribed by prior determination or testing. They are listed in the hazardous waste regulations by name or process. Subcategories of these types of wastes include:
- Specific sources
- Non-specific sources
- Acute
- Toxic

**Characteristic** – Hazardous wastes are wastes designated based on classical analytical test procedures relative to characteristics as listed below:

**Ignitability** – must meet one of the following properties:
- It must be a liquid and contain less than 24% alcohol and have a flash point less than 140°F as determined by a closed cup tester.
- If it is not a liquid and can cause fire through friction (under standard temperature and pressure), absorption of moisture or spontaneous chemical change, and burns so vigorously and persistently that it creates a hazard.
- It must be an ignitable compressed gas
- It must be an oxidizer

**Corrosivity** - testing of the sample reveals one of the following:
- It is aqueous and has a pH less than or equal to 2 or greater than 12.5.
- It is a liquid and corrodes steel at a rate of 0.250 inches per year or more at 131°F (55°C).
Hazardous Waste (continued)

**Reactivity** - must meet one of the following criteria:
- Normally unstable and readily undergoes violent change without detonating
- Reacts violently with water
- Forms potentially explosive mixtures with water
- Generates toxic gases, vapors or fumes in a quantity sufficient to present danger to human health or the environment
- It is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5 can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.
- It is capable of detonation or an explosive reaction if it is subjected to a strong initiating source or if heated under confinement.
- It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure.
- It is a forbidden explosive as defined by the Louisiana Department of Public Safety Regulations or it is a Class A, or B explosive.

**Toxicity** - testing of the sample using the Toxicity Characteristic Leaching Procedure (TCLP).
- Involves producing a leachate that is analyzed for certain predetermined contaminants. The material is hazardous if any contaminants are found in the leachate equal to or above a certain concentration for that contaminant. The following table presents the waste number, the trigger contaminant concentrations and the contaminants that are included in this test. Any value found in this test above the concentrations listed below, classifies the waste material as a hazardous waste.

Continued on next page
### Toxicity Table

<table>
<thead>
<tr>
<th>WASTE NUMBER</th>
<th>MAXIMUM CONCENTRATION (PPM)</th>
<th>CONTAMINANT</th>
</tr>
</thead>
<tbody>
<tr>
<td>D004</td>
<td>5.0</td>
<td>Arsenic</td>
</tr>
<tr>
<td>D005</td>
<td>100.0</td>
<td>Barium</td>
</tr>
<tr>
<td>D006</td>
<td>1.0</td>
<td>Cadmium</td>
</tr>
<tr>
<td>D007</td>
<td>5.0</td>
<td>Chromium</td>
</tr>
<tr>
<td>D008</td>
<td>5.0</td>
<td>Lead</td>
</tr>
<tr>
<td>D009</td>
<td>0.2</td>
<td>Mercury</td>
</tr>
<tr>
<td>D010</td>
<td>1.0</td>
<td>Selenium</td>
</tr>
<tr>
<td>D011</td>
<td>5.0</td>
<td>Silver</td>
</tr>
<tr>
<td>D012</td>
<td>0.02</td>
<td>Endrin</td>
</tr>
<tr>
<td>D013</td>
<td>0.4</td>
<td>Lindane</td>
</tr>
<tr>
<td>D014</td>
<td>10.0</td>
<td>Methoxychlor</td>
</tr>
<tr>
<td>D015</td>
<td>0.5</td>
<td>Toxaphene</td>
</tr>
<tr>
<td>D016</td>
<td>10.0</td>
<td>2,4-D</td>
</tr>
<tr>
<td>D017</td>
<td>1.0</td>
<td>2,4,5-TP Silvex</td>
</tr>
<tr>
<td>D018</td>
<td>0.5</td>
<td>Benzene</td>
</tr>
<tr>
<td>D019</td>
<td>0.5</td>
<td>Carbon Tetrachloride</td>
</tr>
<tr>
<td>D020</td>
<td>0.03</td>
<td>Chlordane</td>
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<td>D021</td>
<td>100.0</td>
<td>Chlorobenzene</td>
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<td>6.0</td>
<td>Chloroform</td>
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<tr>
<td>D023</td>
<td>200.0</td>
<td>o-Cresol</td>
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<tr>
<td>D024</td>
<td>200.0</td>
<td>m-Cresol</td>
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*Continued on next page*
Waste Identification, (continued)

Hazardous Waste (continued)

<table>
<thead>
<tr>
<th>WASTE NUMBER</th>
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<th>CONTAMINANT</th>
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</thead>
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<tr>
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<td>D026</td>
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<td>D027</td>
<td>7.5</td>
<td>1,4-Dichlorobenzene</td>
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<td>D028</td>
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<td>1,2-Dichloroethane</td>
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<tr>
<td>D029</td>
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<td>1,1-Dichloroethylene</td>
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<tr>
<td>D030</td>
<td>0.13</td>
<td>2,4-Dinitrotoluene</td>
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<tr>
<td>D031</td>
<td>0.008</td>
<td>Heptachlor (and its hydroxide)</td>
</tr>
<tr>
<td>D032</td>
<td>0.13</td>
<td>Hexachlorobenzene</td>
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<tr>
<td>D033</td>
<td>0.5</td>
<td>Hexachloro-1, 3-butadiene</td>
</tr>
<tr>
<td>D034</td>
<td>3.0</td>
<td>Hexachloroethane</td>
</tr>
<tr>
<td>D035</td>
<td>200.0</td>
<td>Methyl ethyl ketone</td>
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<tr>
<td>D036</td>
<td>2.0</td>
<td>Nitrobenzene</td>
</tr>
<tr>
<td>D037</td>
<td>100.0</td>
<td>Pentachlorophenol</td>
</tr>
<tr>
<td>D038</td>
<td>5.0</td>
<td>Pyridene</td>
</tr>
<tr>
<td>D039</td>
<td>0.7</td>
<td>Tetrachloroethylene</td>
</tr>
<tr>
<td>D040</td>
<td>0.5</td>
<td>Trichloroethylene</td>
</tr>
<tr>
<td>D041</td>
<td>400.0</td>
<td>2,4,5-Trichlorophenol</td>
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<td>D042</td>
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<td>2,4,6-Trichlorophenol</td>
</tr>
<tr>
<td>D043</td>
<td>0.2</td>
<td>Vinyl Chloride</td>
</tr>
</tbody>
</table>
Waste Segregation and Containerization

Hazardous Waste Staging Area

It shall be the responsibility of the Person In Charge to establish a hazardous waste staging area.

These areas shall be marked and/or chained or roped off to prevent accidental entry into this area. In this area, all materials shall be distributed in accordance with this manual to provide functionally economic, effective handling of waste streams.

Waste Segregation

Wastes to be kept in staging areas shall be segregated and handled as follows:

**Scrap Metals**

- Chemical drums are to be emptied completely, crushed and placed in the scrap metal container for transport ashore as scrap metal.
- If unable to be cleaned of residue to remove any potential hazard, drums are to be labeled and marked consistent with the original drum contents and shipped with DOT shipping papers.
- Bungs are to be in place unless the drum is to be crushed. Place bung in crushed drum, if possible, or otherwise seal openings in drum.
- Empty paint cans, metal buckets, galley waste food cans, etc. shall be emptied, allowed to dry and crushed.
- With any potentially NORM contaminated equipment such as scrap flowlines, valves, vessels, evaluate for NORM, and see the [NORM Equipment and Piping](#), section.

*Continued on next page*
Waste Segregation and Containerization, (continued)

**Hazardous Materials or Wastes**
Used chemicals, oily sump sludge’s, waste paint, solvent, or other potentially hazardous wastes if handled correctly can be recycled. Do not mix or commingle different types of waste in each drum, as in many cases it will mandate disposal rather than recycling. Be sure that each drum is properly sealed to prevent leakage of contents outward or water inward and label the contents, stencil the container Apache, facility of origin, and accumulation start date.

**General Trash**
Under no circumstances is any type of trash to be put in any oil or special waste container. All trash is to be put in a covered container.

**Other Wastes**
Wastes not otherwise listed within this manual and those requiring special attention will be handled on a case by case basis by contacting the E H & S Specialist for proper instructions.