

Marathon Petroleum Company - Galveston Bay Refinery	<b>Drinking Water Compliance &amp; Safety</b>		
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## 1.0 Purpose

The purpose of this practice is for the safe delivery and consumption of drinking water to employees, vendors, contractors, and visitors to any MPC Galveston Bay Refinery (GBR) owned property and to protect the drinking water distribution system, components, and processes as prescribed by the National Sanitation Foundation, City of Texas City Water Retail Contract, and the State of Texas.

## 2.0 Scope

This practice applies to all MPC Galveston Bay Refinery, MPC Galveston Bay Refinery Docks, including contractor facilities. The entire system includes all drinking water systems inside the fence line of the MPC Galveston Bay Refinery. See EPR-5 Fire Equipment, Emergency Shower and Eye Wash Inspection and Maintenance for inspection and testing requirements for emergency showers and eye wash.

## 3.0 Procedure

### 3.1 Roles and Responsibilities

- 3.1.1 MPC Employees who are not licensed drinking water operators:
    - 3.1.1.1 Shall not alter, affect, or maintain the drinking water system.
    - 3.1.1.2 May connect to the drinking water system:
      - 3.1.1.2.1 For sanitation and human consumption purposes, if an approved NSF61 water hose and proper vacuum breaker are used.
      - 3.1.1.2.2 For other purposes, if a proper vacuum breaker.
- NOTE: The GBR warehouse stocks NSF-61 water hoses and vacuum breakers. These components bear a stamp indicating NSF-61 compliance.
- 3.1.1.3 Shall inform your foreman/coordinator, supervisor, manager, or MPC Representative if you observe a person connecting to or disconnecting from the drinking water system without using an approved NSF61 water hose and proper vacuum breaker.
  - 3.1.1.4 Shall not request additional drinking water meters from the City of Texas City or from any other supplier of piped or bulk trucked drinking water.
- 3.1.2 Maintenance, Building Services, Projects Personnel (MPC and/or Contract), and Vendors
  - 3.1.2.1 Shall not connect to the drinking water system without written authorization from the MPC licensed operator prior to any work, expansion, repair, modification, and/or replacement. This work is covered by the site's Safe Work Practice Procedure and includes a requirement to notify the affected unit by the site's licensed operator.
  - 3.1.2.2 Shall utilize a State of Texas Licensed Plumber or MPC maintenance personnel, who is under the direction and control of the MPC licensed operator, to perform work on the drinking water supply or distribution system.
  - 3.1.2.3 Shall update drinking water drawings, prior to returning to service, to reflect when repair, replacement, expansion, upgrade, etc. to the drinking water system is made. The MOC process is expected to be followed to ensure proper documentation of these changes.

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- 3.1.2.4 Shall adhere to safe distance locations surrounding drinking water systems as required by regulation and identified by the MPC licensed operator.
- 3.1.2.5 Shall adhere to all NSF or ANSI-61, AWWA, WQA standards and requirements for drinking water distribution systems, i.e., pumps, distribution pipelines, fittings, valves, epoxies, adhesives, coatings, etc.  
NOTE: The Site Technical Authority is responsible for maintaining the specifications for color and type of potable water equipment and piping.
- 3.1.2.6 Shall ensure that, in areas or shops where drinking water is used to test analyzers or other equipment, and any other areas identified by the MPC Licensed operator:
  - 3.1.2.6.1 a backflow prevention device is installed by a State of Texas Licensed Plumber or MPC maintenance personnel who work under the direction and control of the MPC licensed operator, and
  - 3.1.2.6.2 the backflow prevention device must be annually tested by a Texas Licensed Backflow Prevention Technician and documented by the MPC licensed operator. This requirement is ensured by assignment of a compliance task to the licensed operator.
- 3.1.2.7 Shall adhere to a safe drinking water system by identifying backflow issues prior to execution and following the SWP process for work authorization by the licensed operator.
- 3.1.2.8 Shall not request additional drinking water meters from the City of Texas City or from any other supplier of piped or bulk trucked drinking water.
- 3.1.2.9 Shall **not** install new piping without system shutdown to verify drinking water pressure is zero **or** without header excavation verification to ensure accurate drinking water system connection from new piping into existing piping.
- 3.1.3 Pipe Fitters and Plumbers (MPC or Contract)
  - 3.1.3.1 Shall properly install NSF or ANSI-61, AWWA, GBR plumbing codes, WQA approved pumps, distribution pipelines, fittings, valves, epoxies, adhesives, coatings, etc.
  - 3.1.3.2 Shall take direction from the MPC licensed operator prior to any work to ensure compliance with drinking water regulations and requirements.
  - 3.1.3.3 Shall have the responsibility to provide communication to the MPC licensed operator prior to any work, expansion, repair, modification, and/or replacement.
  - 3.1.3.4 Shall adhere to safe distance locations surrounding drinking water systems as required by regulation.
  - 3.1.3.5 Shall not request additional drinking water meters from the City of Texas City or from any other supplier of piped or bulk trucked drinking water.
  - 3.1.3.6 Shall **not** install new piping without system shutdown to verify drinking water pressure is zero **or** without header excavation verification to ensure accurate drinking water system connection from new piping into existing piping.
- 3.1.4 MPC Power 2 Asset Coordinator

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- 3.1.4.1 Shall provide a State of Texas Licensed Drinking Water Operator or an MPC State of Texas Licensed Distribution System Drinking Water Operator who will:
  - 3.1.4.1.1 Ensure that proper AWWA disinfection procedures are performed prior to placing the system into service.
  - 3.1.4.1.2 Monitor all maintenance, repair, expansion, replacement, upgrade activities. The SWP process is utilized for this monitoring activity.
  - 3.1.4.1.3 Monitor drinking water disinfection concentrations. A compliance task is assigned to the licensed operator to ensure this work is completed.
  - 3.1.4.1.4 Conduct annual calibration and installation of backflow prevention devices, and pressure of the entire system. A Compliance task is assigned to the licensed operator to ensure this work is completed.
  - 3.1.4.1.5 Request additional drinking water meters from the City of Texas City or from any other supplier of piped or bulk trucked drinking water.
- 3.1.4.2 Shall communicate semi-annually to all areas within MPC owned property to change in-line ice machine or in-line water filters. This work is assigned via a Compliance task to the licensed operator.
- 3.1.4.3 Shall ensure safe distance locations surrounding drinking water systems as required by regulation.
- 3.1.4.4 Shall ensure that the party requesting repair, replacement, expansion, upgrade, etc. to the drinking water distribution system(s) updates drinking water drawings. This is ensured through the Safe Work Permit Procedure process and the licensed operator sign off requirements associated with the process.
- 3.1.4.5 Shall ensure monitor, sample, and record the following: distribution pressure, monthly main line flushing, chlorine residual and bacteriological. This work is assigned via a Compliance task to the licensed operator.
- 3.1.4.6 Shall ensure drinking water storage tanks are inspected and submit to the City of Texas City all results upon request. This work is assigned via a Compliance task to the licensed operator.
- 3.1.4.7 Shall ensure the FDA Vessel Watering Point Sanitation inspection requirements under FDA's ITS (Interstate Travel Sanitation) program are met.
- 3.1.4.8 Shall ensure that he communicates any potable water system scope that involves maintenance activity or new distribution lines that exceed 1,000 linear feet and pipe larger than 3 in. diameter to the HESS Water Quality Engineer.
- 3.1.5 MPC HESS Water Quality Engineer
  - 3.1.5.1 Shall provide regulatory support for the all drinking water distribution systems that reside on MPC property.

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- 3.1.5.2 Shall assist the MPC Utilities Department and all other interested parties
- 3.1.5.3 Shall be the single point of contact with the City of Texas City and/or other drinking water providers.
  - 3.1.5.3.1 Shall give notice, scope and material usage to the City prior to maintenance activity or new distribution lines that exceed 1,000 linear feet and is larger than three inches.
- 3.1.5.4 Shall be the custodian of the annual back flow prevention report for the Galveston Bay Refinery and Chemical Plant. The annual reports are to be maintained in the site's electronic data storage system.
- 3.1.5.5 Shall ensure that a copy of both annual back flow prevention reports are forwarded to the appropriate City of Texas City Representative.
- 3.1.5.6 Shall ensure the site complies with the City's Drought Contingency Plan.
- 3.1.6 MPC Facilities & Services Supervisor
  - 3.1.6.1 Shall support the MPC licensed operator and this Practice by allocating the necessary resources to ensure that projects and maintenance activities exist that will provide for the safe delivery and consumption of drinking water to employees, contractors, and visitors to any MPC owned property and to protect the drinking water distribution system, components, and processes.
  - 3.1.6.2 Shall assist and approve all drinking water piping, components, and lubricants to ensure compliance with National Sanitation Foundation, American Water Works Association, Water Quality Association, requirements found in the Federal Safe Drinking Water Act, and contractual City of Texas City requirements.
- 3.1.7 MPC Docks Personnel
  - 3.1.7.1 Potable water is supplied to the docking facilities by the Port of Texas. The use of this water is cover by the same rules and regulations that cover the potable water supply for the refinery. The US FDA regulates the water supply equipment used to supply potable water to barges and ships.
  - 3.1.7.2 Specific requirements:
    - 3.1.7.2.1 Label all lines in Potable Water Service
    - 3.1.7.2.2 Ensure the use of required materials of construction as described in this practice.
    - 3.1.7.2.3 Only use hoses that as ANSI approved and they must be dedicated to potable water usage. Hose openings must be protected when not in use and disinfected as necessary.
    - 3.1.7.2.4 When not in use filling vessels, hoses must be removed, and end caps must be in place
    - 3.1.7.2.5 End caps must remain attached (via keeper chain or equivalent method) to the piping when a hose is used so that the end cap does not contact the platform.
    - 3.1.7.2.6 Backflow prevention must be provided and meet the conditions of this practice
    - 3.1.7.2.7 Cross connection surveys and disinfection requirements (include

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hoses) apply

### 3.2 General Requirements

- 3.2.1 “MPC licensed operator” throughout this practice refers to an MPC State of Texas Licensed Drinking Water Operator or the MPC State of Texas Licensed Distribution System Drinking Water Operator.
- 3.2.2 MPC employees who are not licensed drinking water operators may connect to the drinking water system:
  - 3.2.2.1 For sanitation and human consumption purposes, if an approved NSF61 water hose and proper vacuum breaker are used.
  - 3.2.2.2 For other purposes, if a proper vacuum breaker is used.
- NOTE: The GBR warehouse stocks NSF-61 water hoses and vacuum breakers. These components bear a stamp indicating NSF-61 compliance.
- 3.2.3 Only MPC licensed operators can authorize work on any equipment associated with drinking water supply or distribution system.
- 3.2.4 Licensed plumbers and qualified pipe fitters, under the direction of an MPC licensed operator, are the only individuals authorized to perform work on the drinking water supply or distribution system.
- 3.2.5 In areas or shops where drinking water is used to test analyzers and other equipment and any other areas identified by the MPC licensed operator, a backflow prevention device must be installed and the backflow device must be annually tested by a Texas Licensed Backflow Prevention Technician and documented by the MPC licensed operator.
- 3.2.6 Only a licensed drinking water operator can request additional drinking water meters from the City of Texas City or from any other supplier of piped or bulk trucked drinking water.
- 3.2.7 Cross connections between the potable water system and any other system are prohibited, per the applicable hose policies.
- 3.2.8 The site licensed drinking water operators must communicate semi-annually to all areas within MPC owned property to change in-line ice machine or in-line water filters. This work is assigned via a compliance task in the compliance task tracking system to the licensed operator.
- 3.2.9 The MPC HESS Water Quality Engineer is the single point of contact with the City of Texas City and/or other drinking water providers.

### 3.3 Maintenance Tracking

The compliance task tracking system is used to initiate and track the cross-connection surveys conducted annually by the Power 2 Asset Coordinator. A report also ensured with a compliance task via the compliance task management system is generated annually by the HESS Water Quality Engineer and is stored in the site’s electronic data storage system.

### 3.4 Exceptions

There are no exceptions for this Practice since these requirements are mandated by regulation and contractual agreements.

### 3.5 Training

Annual environmental department training includes awareness training of this practice. Other required duties conducted by the licensed operator and the certified plumbers are taught in their certification classes and annual renewals are required for these certifications.

3.6 Audit

3.6.1 The compliance task tracking system is used to initiate and track the annual audit conducted by the HESS Water Quality Engineer. The basis of the audit shall be the requirements of the service contract with the City of Texas City referenced in Attachment B.

3.6.2 A cross connection survey shall be conducted every 5 year by the Power 2 Asset Coordinator with assistance from Owing Department personnel.

3.7 Sampling Locations

3.7.1 The locations for sampling and monitoring the drinking water system for chlorine residual are:

1. RHU East Manifold (EOP)
2. Environmental Facility (EOP)
3. Hydrogen Unit maintenance building (EOP)
4. Carbide meter house (EOP)
5. F-864 Tank inlet
6. Discharge line of J-807 pump
7. RHU switchgear building (EOP)
8. Gate 42 Icehouse
9. Central Control Building (CCB)
10. Power Station #4 (EOP)

3.8 System Flush Points

3.8.1 The drinking water system flush point locations are:

Flush Point	Physical Location
1. RHU	East manifold
2. Environmental Facility	South of SDU control room
3. Praxair/Hydrogen Unit	Near sample point #3
4. Carbide meter house	Northeast of meter house
5. F-864 Tank	Tank drain
6. Gate #42 Icehouse	At Icehouse
7. Power Station #4	South of control room

8. Central Maintenance Building	Northeast side of building
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### 3.9 Buildings Water Supply (Source)

3.9.1 These buildings would not be affected by an internal shutdown of East/West Plant drinking water system. They all have separate City water supply connections. All other occupied buildings at East/West Plant would be affected.

- SHGP2 Control Room & Offices **OB265**
- UU3/UU4/DDU Operations Shelter Location 1 (BRM) **OB320**
- UU3/UU4/DDU Maintenance Shelter Location 1 (BRM) **OB321**
- ESB/HESS Employee Services Building **OB016**
- 21<sup>st</sup> Warehouse **OB052**
- Gate 42 Guard House **OB175**
- Gate 42 Icehouse **OB103**
- Bay Plant Buildings

### 4.0 **Definitions**

- 4.1 **Air Gap** – the physical distance between a potable water source and a non-potable water source. This distance must be at least twice the diameter of the potable water pipe but never any less than one (1) inch.
- 4.2 **American Water Works Association (AWWA)** - is the authoritative resource on safe water, providing knowledge, information and advocacy to improve the quality and supply of water in North America.
- 4.3 **American National Standards Institute (ANSI)** – accreditation organization.
- 4.4 Approved Backflow Prevention Devices - Reduced Pressure Principle Assembly (RP) or an air gap. Spill-resistant Vacuum Breakers (SVB), double checks, Atmospheric Vacuum Breakers (AVB), and Pressure Vacuum Breakers (PVB) are not approved for use.
- 4.5 **Backflow Prevention Device** – Air gap or Reduced Pressure (RP) Principle Assembly. Water hose connections shall use an approved vacuum breaker.
- 4.6 **MPC licensed operator** - a MPC State of Texas Licensed Drinking Water Operator or the MPC State of Texas Licensed Distribution System Drinking Water Operator
- 4.7 **Drinking Water** – also called potable water. Any water that is intended for human consumption or any water that encounters human skin.
- 4.8 **National Sanitation Foundation (NSF)** – a not-for-profit, non-governmental organization who sets standards development, product certification, education, and risk-management for public health and safety.
- 4.9 **Non-potable water** – not drinking (potable) water.
- 4.10 **Water Quality Association (WQA)** – not-for-profit international trade association representing the residential, commercial, industrial, and small community water treatment industry.

### 5.0 **References**

- 5.1 EPA - Safe Drinking Water Act Title 40 Code of Federal Regulations (CFR) §141, §142, and §143

- 5.2 TCEQ - 30 TAC Chapter 290 "Public Drinking Water"
- 5.3 Texas Health & Safety Code Chapter 341, Subchapter C
- 5.4 City of Texas City – Contract for Industrial Service for MPC Products North America
- 5.5 Texas City Water Conservation and Drought Contingency Plan

**6.0 Attachments**

- 6.1 None

**7.0 Revision History**

Revision Number	Description of Change	Written by	Approved by	Revision Date	Effective Date
0	Original Issue. Correction 8/11/10: In accordance with IV.E., moved responsibility for requesting drinking water meters from V.E.4 to V.D.1.e.	M. K. Alberts	K. M. Casey S. W. Dio	01-Dec-09	01-Dec-09
1	Updated to reflect current site practices and CTM tasks, incorporate at current Refinery Docks practices, and issue as separate refinery practice.	M. K. Alberts	M. J. Berlinger	20-Jan-12	20-Jan-12
2	Re-formatted as MPC GBR procedure.	M. K. Alberts	B. Contractor	30-Sep-14	30-Sep-14
3	Added Alky 3 drinking water mishap investigation recommendations	Thomas Riley	Larry Darcey	23-Dec-19	1-Jan-20