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1.0 INTRODUCTION

1.1 Purpose

The purpose of this local policy is to give guidance and references to best understand what processes are considered a utility and how to connect utilities to process in either a permanent or temporary manner. The main goals are to:

- Safely connect permanent or temporary utilities to process piping.
- Show proper connections for each utility, along with the proper piping needed using check valves, blocks, bleeders, etc.
- Give guidance to ensure Hazard recognition is being used, be it PHA, PMOC, or operator training (i.e., procedures, or unit specific/overview training).
- Give guidance on temporary piping, tubing, and hose management.

1.2 Scope

The scope of this local policy is to give guidance and references to best understand what processes are considered a utility and how to connect the utility to the process in either a permanent or temporary manner.

2.0 REFERENCES

2.1 Marathon Standards, Policies & Procedures

- D-53-601, Flexible Hose Management
- R-14-013, Domestic (Potable) Water System
- R-30-009, Refinery Nitrogen System
- RSP-1150-010, Caustic and Utility Connections to Process Lines and Vessels
- RSP-1150-010-PMOC-01, Caustic & Utility Connections to Process Lines and Vessels PMOC Form
- RSP-1171-010, Emergency Isolation Valves (EIV) – Specifically Sub-section 7.2.5
- RSP-1150-010-PMOC01, PMOC Form 01
- SP-50-01, Equipment Layout
- SP-50-03, Piping Material
- SP-50-05, Caustic and Utility Connections to Process Lines and Vessels
- SP-50-14, Rubber and Corrugated Hoses

3.0 DEFINITIONS

Table 1 Definitions

Term	Description
Double Check Connection	Is a hard-piped connection between a utility and the process with a pressure rating difference of greater than or equal to 500 psi between the two systems.
Drop Out Spool Connection	Is a hard-piped connection between a utility and the process with a drop out spool, to be removed after the utility is no longer being used.
Hose Connection	Is a temporary hose connection between a utility and the process. SP-50-14 outlines hose and process compatibility requirements that must be meet before deciding to use a hose to a process permanently or temporarily.
PMOC Form	Shall be used when managing the change associated with a caustic/utility to process connection when that change doesn't meet the criteria based on Appendix A (Hazard Review/MOC Logic for New and recurring Connections).
Permanent Connection	Is any utility to process connection which doesn't meet one of the 3 criteria mentioned in the definition of a temporary Connection. (a) It is used at least once every two-week period, or (b) It is in place and connected for longer than two continuous weeks, or (c) It is intended for unit de-inventory/decontamination associated with a unit shutdown or turnaround and will be disconnected or blinded as per the P&ID at the conclusion of the unit outage.
Process	Refers to any chemical or hydrocarbon service for piping, vessels or other equipment, including flares and oily water sewers.
Single Check Connection	Is a hard-piped connection between a utility and the process with a pressure rating difference of less than 500 psi between the two systems.
Temporary Connection	Is any utility to process connection which meets one of the following criteria: (a) It is used less frequently than once per two-week period, or (b) It is in place and connected for less than two continuous weeks, or (c) It is intended for unit de-inventory/decontamination associated with a unit shutdown or turnaround solely and will be disconnected and removed at the conclusion of the unit outage because it isn't shown on the unit P&ID.
Temporary Piping under Basic Operator/ Qualification Training	Process system is de-inventoried and de-pressured, the utility system being connected has lower design conditions than the process system, and a standard type D connection from SP-50-05 is used.
Temporary Piping Requiring RSP-1150-010-HR01	Process system is de-inventoried and de-pressured, the utility system being connected has lower design conditions than the process system, and a standard type D connection is NOT used.
Temporary Piping Requiring a PMOC	A well understood change as defined on RSP-1150-010-PMOC01. If any questions on the PMOC
Temporary Piping Requiring a full MOC	Any connection that does not fall under basic operator training, HR01, or PMOC requirements.

4.0 HAZARD ANALYSIS GUIDANCE

A hazard analysis shall be on file for every utility connection made to a pressurized process line, vessel or other piece of process equipment.

4.1 Existing Permanent Connections

For existing permanent connections, the hazard analysis occurs during the scheduled HAZOP of the unit.

4.2 Temporary Connections

For a temporary connection that is described in and administered by an operating procedure, the hazard analysis occurs during the review and certification of the operating procedure.

For temporary connections that are not in an operating procedure, refer to section 6.0 of this procedure. This may be completed based on basic operator training, hazard review, PMOC, or a full MOC.

Note: Section 6.0 replaces R-50-002. The temporary piping category 1 and 2 per R-50-002 is replaced by this procedure. If there is a question in regards to temporary piping metallurgy or testing requirements, consult the Area Team Engineer, Area Inspector, Fixed Equipment Engineer or Corrosion Engineer.

4.3 New Permanent Connections

For a new permanent connection or a temporary connection not described in an operating procedure, the hazard analysis occurs during the management of change (MOC) process.

4.4 Isolated Systems from Process

For situations where the system is isolated from the process and de-pressured, and the utility pressure cannot exceed the design pressure of the process piping or equipment, the requirements in Section 4.1 above do not apply. In these cases, the hazard analysis is performed by the operator, prior to making the connection, using the hazard recognition and mitigation techniques that are covered in the basic operator training and qualification programs. Documentation of the successful completion of these programs by the operator performing the work is acceptable in lieu of a written hazard analysis for the connection being made.

4.5 Hazard Review

See Appendix A (Hazard Review/MOC Logic Flow Diagram For Permanent or Temporary Connections) to help determine the hazard review path (training, procedure, PMOC, or MOC) before beginning the installation of these utilities to process equipment.

Note: When determining the documentation requirements for a hazard analysis, a system is considered de-pressured once it is isolated and the process pressure has substantially dissipated. This means that a system that is being drained, de-inventoried or decontaminated is considered de-pressured even if there is some residual back pressure from the disposal system (drain header, flare, etc.)

provided that the pressure gradient at the connection point will not allow the process fluid to flow into the utility supply. This does not imply that a system described as depressured in this document is isolated and safe for high energy (or invasive) work; refer to R-11-032 and R-30-008.

5.0 MANAGEMENT OF CHANGE GUIDANCE

In addition to R-12-006, this section and Appendix A help the reader better understand what level of hazard review is needed.

5.1 MOC Required

These connections are not eligible for a PMOC; and MOC will be required:

- Any air system to the flare system
- Nitrogen to any air system
- Any air system to any process line, vessel or piece of equipment
- Potable water to any other system

5.2 PMOC

For new utility to process connections that require an MOC, a PMOC may be used if the change is routine, well-understood and meets the requirements laid out in this document. RSP-1150-010-PMOC01, found on the MPC Standards and Specifications website, shall be used to manage these changes.

6.0 TEMPORARY PIPING, TUBING, AND HOSES

6.1 Installation Requirements

The appendix A flowchart lays out the documentation requirements for installing temporary piping. Operations must ensure that temporary piping is installed in accordance with an established operating procedure, a standard type D connection, as defined in the PMOC or as defined in the full MOC. Below is a screenshot of a type D connection from SP-50-05.

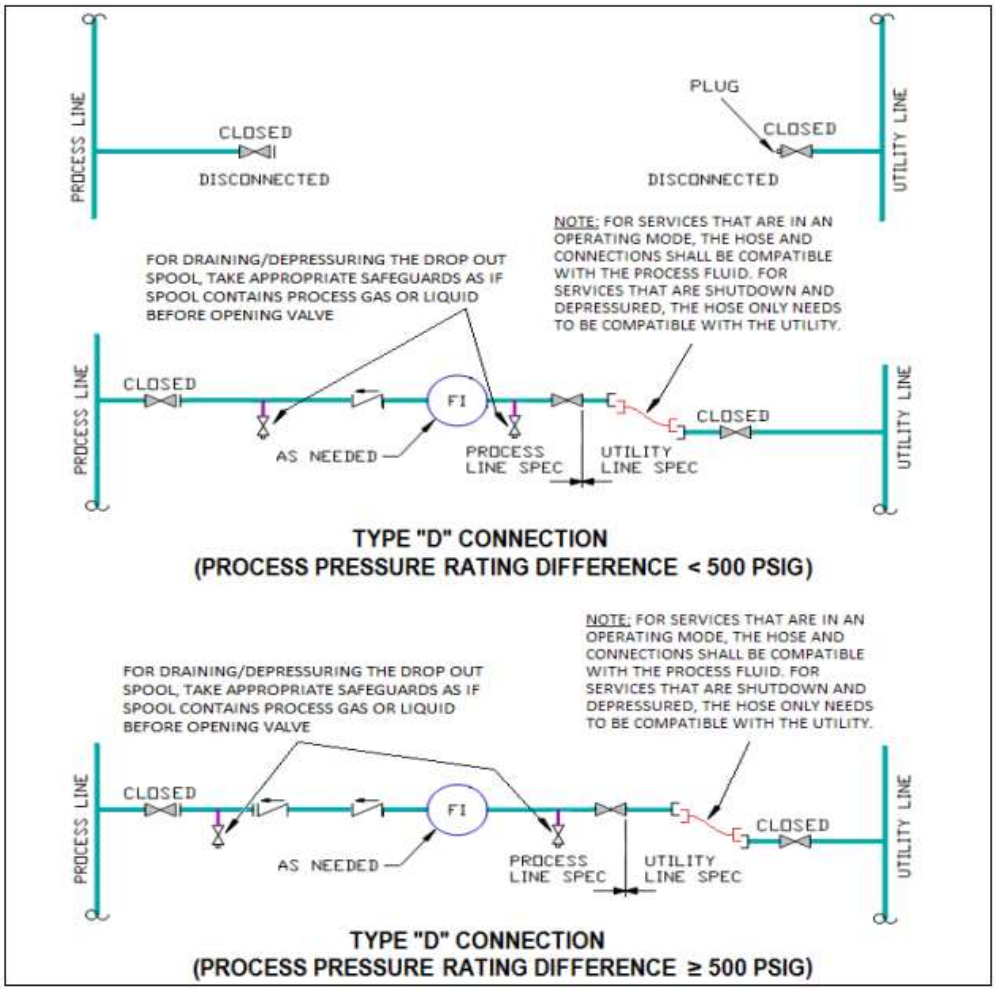


Figure 1 Type D connection from SP-50-05

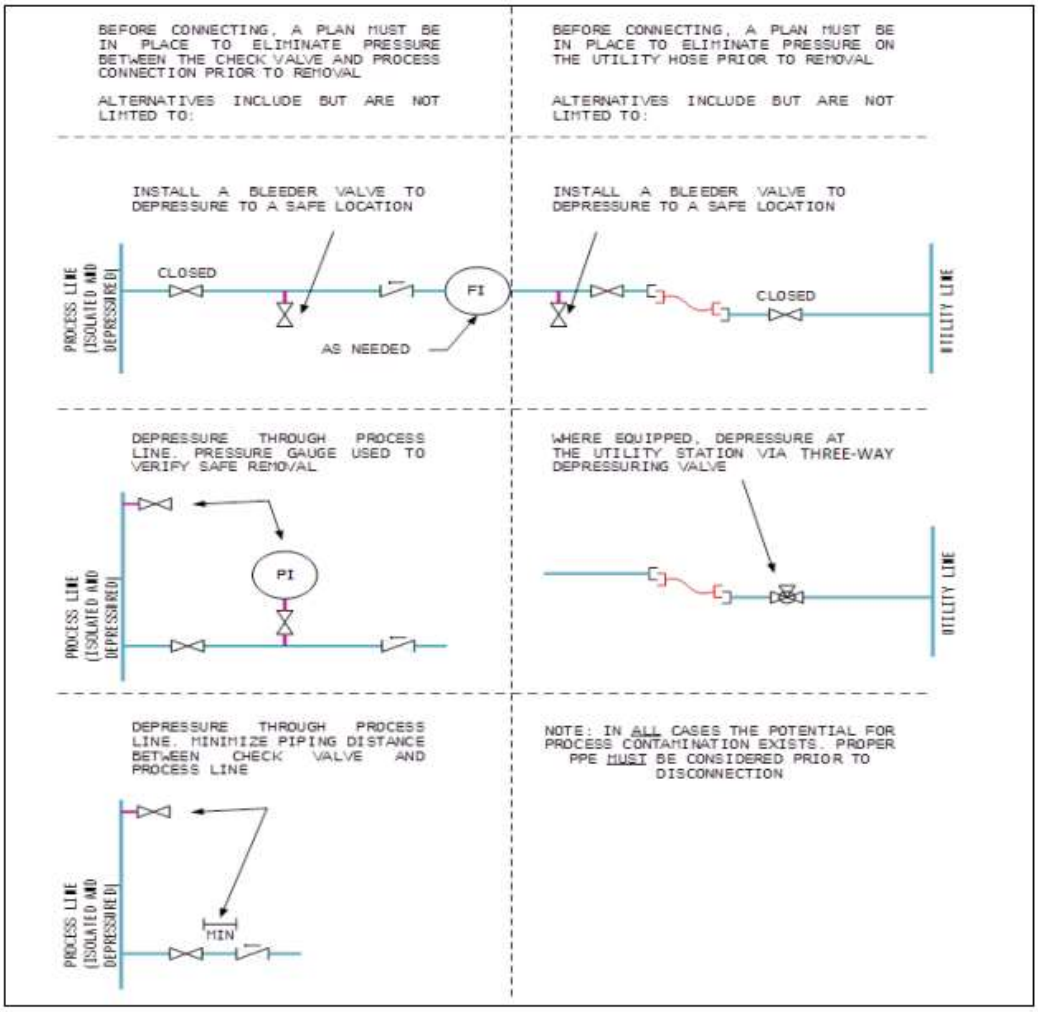


Figure 2 Type D connections continued from SP-50-05

Reference section 7.0, General Guidelines, of this document for check valve requirements. Other than applications requiring a full MOC, most will require a single check valve.

The use of corrugated metal hoses for temporary connections shall meet SP-50-14 and our local site procedure D-53-601. Per D-53-601, metal corrugated hoses shall be permanently marked with the maximum allowable working pressure, manufacture date, serial number, lot number and part number. Additionally, PMI and a hydrotest is required when purchased from the manufacturer. Only hoses with this information can be used in temporary and permanent piping services. The maximum allowable working pressure shall be compared to the process pressure to confirm it is adequate for use. For

temperatures above 300 deg. F, the maximum allowable working pressure will need to be de-rated and verified acceptable by an Area Team Engineer.

If a rubber hose is used, the hose shall be suitable for the utility.

Table 5.6 from SP-50-14 lays out the minimum material requirements. Below is a screenshot of Table 5.6.

Table 5.6: Minimum Material Requirements for Braided Metal Hoses

Corrugated Metal Hose Component	Piping Material Class of Service		
	Carbon Steel Piping Systems	Stainless Steel and Other Corrosion Resistant Alloys	Nickel/Copper Alloy
Corrugated Tube	Stainless Steel Types 316 or 321(1)	Stainless Steel Types 316 or 321(1)	625 Inconel® or C276 Hastelloy®
Wire Braid	Stainless Steel Types 304 or 316	Stainless Steel Type 321 (Unless service dictates use of 625 Inconel® or C276 Hastelloy®)	Stainless Steel Type 321 (Unless service dictates use of 625 Inconel® or C276 Hastelloy®
Braid Collar	Stainless Steel Types 304 or 316	Stainless Steel Types 316, 321, or 410	625 Inconel® or C276 Hastelloy®
End Connections	Carbon Steel SA-216 Grade WCB	Types 316L or 321 SS or 625 Inconel®	Inconel® or C276 Hastelloy®
Internal Corrosion Liner (when specified)	PTFE (Teflon ®)	PTFE (Teflon ®)	None required
Internal Wear Liner (when specified)	Stainless Steel Types 304L or 316L	Stainless Steel Types 304L or 316L	Consult hose vendor for materials available

Hard piping used to create a type D connection per SP-50-05 shall match the existing pipe class material and schedule. If this cannot be achieved, approval from the Area Inspector, Area Team Engineer, Fixed Equipment Engineer or Corrosion Engineer is required.

When a PMOC or MOC is used, both shall be temporary and the piping must be removed from service by the specified end date of the MOC. Documentation for these applications will be stored in Intelex.

A green "Temporary Piping Tag" shall be hung at each tie in location. The operating unit, item number, and removal date should be indicated on the tag.

Temporary piping will also be subject to fugitive emissions testing in order to comply with environmental regulatory requirements. New components such as valves, pumps, compressors, and PRDs are required to be monitored for leaks within 30 days of equipment startup. In cases where the equipment is expected to be in service for less than 300 hours and is to be used only during process malfunctions or emergencies, or as backup while the primary equipment is out of service, there may be an exemption from this LDAR monitoring requirement. Contact the Environmental Department to ensure the proper monitoring is conducted.

6.2 Removal Requirements

Operations (or other initiating department), is responsible for ensuring that all piping is removed no later than the removal date on the Temporary Piping Checklist. Piping is not considered removed until all tie-ins are physically disconnected, the "Temporary Piping Tags" removed, and the system is restored to match the P&ID before the installation of the temporary piping.

Temporary piping used in an operating procedure or a basic connection without a hazard review, PMOC, or MOC, may be connected to process up to 30 days. If more time is required, the temporary piping shall be inspected to ensure it is safe for continued use.

When a PMOC or MOC is used, the Temporary piping must be removed by the indicated date on the PMOC or MOC. The normal PMOC/MOC extension process must be followed in order to maintain temporary piping in service past the initial removal date.

6.3 Temporary to Permanent

An approved MOC is required to make temporary piping permanent. See R-12-006 for more information. Any temporary piping that is going to be kept as permanent piping will need to meet the requirements of IG-34 Threaded Small-Bore Piping that restricts where and when threaded piping may be used.

6.4 Unscheduled Temporary Piping

When temporary piping must be installed promptly to cope with an unforeseen need that does not meet the standard type D connection and is not established in a certified operating procedure, at a minimum a hazard review must be completed using RSP-1150-010-HR01. If a temporary PMOC is required for this installation, the PMOC form must be filled out and can be signed off by the review team at the next business day. This documentation must be submitted in Intelex for retention. A temporary connection requiring a full MOC cannot be used without going through the full MOC process and without startup approval.

7.0 GENERAL GUIDELINES

When a utility (such as nitrogen, utility steam, etc.) is connected to a process, either permanently or temporarily, the following conditions must be guarded against:

- Contamination or overpressure of the utility system due to backflow from the process.
- Contamination of the process by inadvertent use of a utility.
- Waste of utilities, adding to the Anacortes Refinery utility cost.
- Overpressure of process equipment and/or piping by a higher-pressure utility system.

When connecting utility systems to process equipment the following guidelines apply:

- All intermittently used permanent utility connections to process shall be broken away and plugged or blinded away from the process (i.e., steam out/wash out lines to columns and vessels).
- Unless it is specified in a certified procedure, double check valves shall be used for hard piped or hosed connections between a utility line and a process line.

- Hose Connections where the utility is being connected to a live process stream, the hose material shall be compatible with both the process and utility line class specifications.
- >4-hour continual use of Utility steam must be hard piped.
- Utility hose color code and rating's need to be strictly adhered to.
- Plant air shall not be used as breathing air.
- Hoses must not be kinked, under severe tension, nor their weight allowed to hang unsupported.
- Hoses shall be checked before, and again after putting in service for damage, blisters, and leaks.
- Hoses are to only be used on a temporary basis as directed by this policy and RSP-1150-010.

Important: Appendix B shows hose utility connectors used at this plant. These connectors shall not be installed on process piping for washout or purging without specific permission from Operations Supervision and Safety, and they must be removed once the activity is completed. Each connector has its intended purpose and shall not be used for any other service.

8.0 UTILITY CONNECTIONS TO HYDROCARBON SYSTEM

This section will outline information about each utility and show the reader the connector style, proper support piping/valves, and administrative reference needed before fastening the Utility to process piping for temporary or permanent use.

8.1 Utility Systems

- 200# Utility Steam
- Plant/Utility Air
- Instrument Air
- Process Air
- Nitrogen (N2)
- Utility Water
- Fire Water
- Potable (Domestic) Water
- Condensate
- Cooling Water
- Intra-refinery Caustic Systems
- Boiler Feed Water
    - High Pressure Boiler Feed (HPBFW)
    - Low Pressure Boiler Feed (LPBFW)

8.2 200# Utility Steam

In the refinery there are 3 different types of steams: 650#/200#/50#/15# Process, 200# Generated, and 200# Utility. This policy covers only 200# Utility Steam. Connecting to any other steam system for any reason requires a MOC or PMOC.

200# Utility Steam Connector Style: Steam hoses require the use of ground joint couplings (see below) with permanently crimped on fittings.

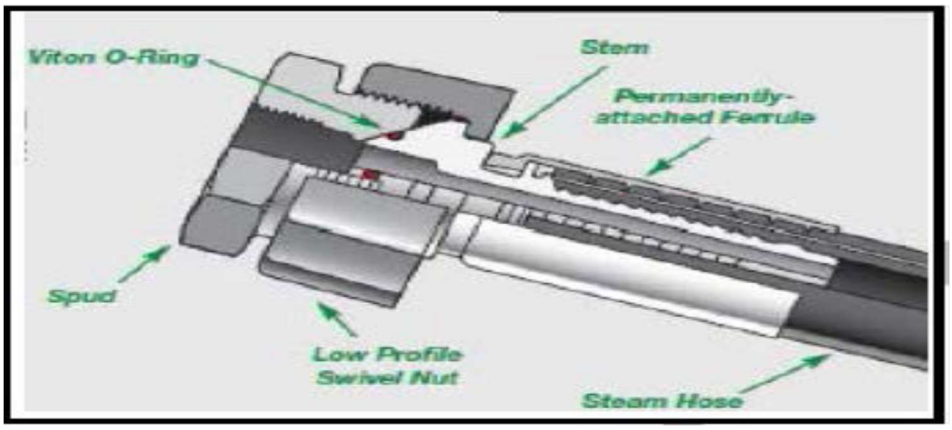


Figure 3 Ground Joint Coupling

8.3 Plant Air

In the refinery there is plant, utility, and instrument air that are distributed to the units from the Zone C Utility Department. Plant and the utility air systems are more closely interconnected to each other, whereas the Instrument air is a standalone system due to its direct connection with the process unit instrumentation.

Caution: Unless blinded away from the process (e.g.: Mechanical Seal leak testing when pump is blinded), plant/utility air must never be connected to hydrocarbon lines or any other process system containing flammable or combustible material.

With the approval of Operations, plant air may be connected to systems containing non-flammable material/chemicals but the connection must be isolated by double-check valves with a bleeder, this must be installed to separate the two systems and prevent a reverse flow.

Caution: Plant air shall not be used as breathing air.

Plant/Utility Air Connector Style: Utility air hose end connections shall be double-locking couplings with light duty interlocking ferrules. The pressure rating of the end connections shall exceed that of the utility air hose.

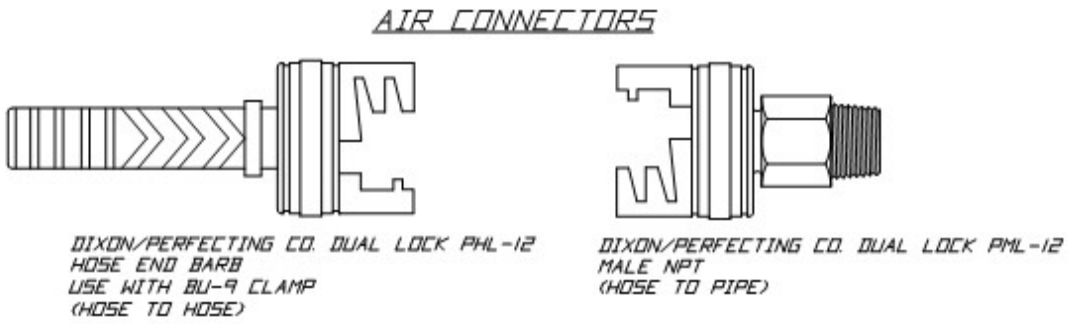


Figure 4 Air Connectors

8.4 Instrument Air

Since Instrument Air is essential to the operation of all refinery processes by providing air to the pneumatic controllers in the plant, it is essential that instrument air isn't mistaken for plant air and used for any other means than supporting instrumentation.

Caution: Never connect instrument air to any other system.

If instrument air needs to be temporarily piped/tubed/hosed to an instrument for any reason, an MOC shall be conducted.

8.5 Process Air

Process air is generally categorized as atmospheric air that is being used for the inlet/suction of an air blower or air compressor and discharged into a process line and or piece of equipment.

Air injection via compressor or from the plant air system that use a small amount of air injected into the process (Merox for example) to provide oxygen for the desired chemical reaction.

Note:

- Use of air from a dedicated source should be considered.
- Limit the calculated flow by a restriction orifice or other flow limiting device.
- Make sure a needle valve, a check valve and a sight flow indicator are in the air line in series with the orifice as a backup control.

For process air, hard pipe is the preferred method of application. If a hose along with its quick connectors is considered, these components need to meet the criteria stated in SP-50-14 section 3.0 (Design and Selection for Rubber Hose Assemblies).

8.6 Nitrogen (N_2)

Review R-30-009 for greater details of how the N_2 system is set-up in the refinery. R-30-009 gives the reader guidelines on how to protect against cross contamination, over pressure protection for the system, and hazards associated with its use.

Double check valves with a bleeder shall be installed to separate the two systems and prevent reverse flow.

Nitrogen (N+) Connector Style: Nitrogen hoses require the use of a male/female Bowes interchange end connection fitting on both ends.

Figure 5 Bowes Interchange Fittings for Nitrogen

8.7 Utility Water

Caution: Water lines must never be connected to any line which contains a product or chemical which is water reactive. When injecting water to certain products (Ex: light hydrocarbon), freezing conditions may develop causing lines to plug with ice. Steam or nitrogen may be a better alternative.

Double check valves with a bleeder, must be installed to separate the two systems and prevent a reverse flow.

Utility Water Connector Style shown below:

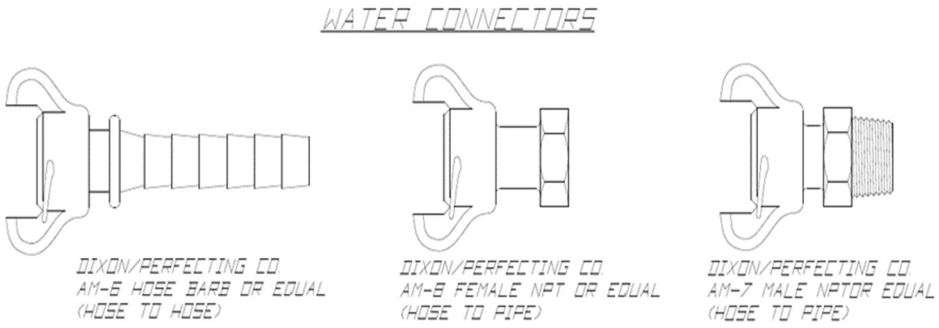


Figure 6 Water Connectors

8.8 Fire Water

Delivering high pressure water from a reliable and uncontaminated source to the site of a fire is an essential piece of the emergency response plan for this location. The Safety department manages the fire water system at this site with help from Zone C operations.

Caution: Never connect fire water to any other system without first involving a site Safety representative. Then follow the utility connection requirements and hazard review process described in this document.

8.9 Potable (Domestic) Water

Zone C manages the Domestic water in the refinery for human consumption, cooking, lavatories, and showers. R-14-013 has information on the system service connections, existing backflow prevention mitigations, and contact information.

Caution: Never connect domestic water to any other system without first involving a Zone C Process Specialist or the Area Team Lead (ATL). Then follow the utility connection requirements and hazard review process described in this document.

8.10 Condensate

Zone C manages and treats most of the condensate that is produced by process equipment throughout the refinery. This condensate is treated and re-used as boiler feed water. There are condensate systems from steam traps that are captured within the process units that are managed in a way that these streams can be used as wash-water for process equipment. For the purpose of this document both these condensate systems if tied into either temporarily or permanently need to abide to the utility connection requirements and hazard review process described in this document.

Caution: Never connect another process to the condensate system unless approved following the MOC process.

8.11 Cooling Water

Zone C manages the Cooling water in the refinery for cooling equipment and process streams.

Caution: Never connect Cooling water to any other system without first involving a Zone C Process Specialist or the Area Team Lead (ATL). Then follow the utility connection requirements and hazard review process described in this document.

8.12 Intra-Refinery Caustic Systems

Zone C manages all the refinery caustic (fresh and spent) receiving, mixing, and delivery via pumps and pipelines to the process units. The process units manage the caustic injection and or circulation systems with-in the units. Should there be a need to connect to this utility follow the guidelines laid out in this document. An MOC or PMOC is required to connect caustic to process.

8.13 Boiler Feed Water Systems

Zone C manages the Boiler Feed Water (HPBFW and LPBFW) for the refinery.

Caution: Never connect boiler feed water to any other system without first involving a Zone C Process Specialist or the Area Team Lead (ATL). Then follow the utility connection requirements and hazard review process described in this document.

8.14 Chemical Truck Unloading

Unloading of non-pressurized chemical trucks may be accomplished using adapters to standard truck fittings. These adapters are to be controlled by Operations and are to be used only for this purpose.

Utility systems used for unloading trucks must be compatible with product. Nitrogen should be used whenever possible. Plant air may be used on nonflammable products only, and only when nitrogen is unavailable.

9.0 OVERPRESSURE PROTECTION OF PROCESS EQUIPMENT/PIPING

The following requirements ensure that process equipment and piping will not be over pressured by a higher-pressure utility system.

9.1 Temporary Connections

Temporary connections should only be left connected for as short a time as practical and at least one of the following overprotection methods must be employed:

- Equipment/piping MAWP (maximum allowable working pressure) greater than or equal to maximum utility pressure.
- Connection is attended at all times (i.e., Operator monitors process side pressure and takes action if pressure approaches MAWP).
- Equipment protected by a pressure relief valve known to be suitable to protect against overpressure by the utility.
- For 200 psig utility system and nitrogen systems connected temporarily by piping and/or hoses not exceeding 1" nominal diameter, the equipment is vented to atmosphere or flare through a nozzle 2" or larger, or protected by a pressure relief valve with an inlet size of 3" or larger, and a set pressure 15 psig or higher.

  Note: This is not an option for tanks or for vessels rated at less than 15 psig.
- Another method approved by Engineering for the specific application.

9.2 Permanent Connections

Over pressure protection for permanent connections will be evaluated through the MOC process.

9.3 Petrochemical Transfer Hose

The following type of utility hose will be used for hydrocarbon and chemical transfer. This hose should not be used in another service or at higher than design pressure or temperature.

Hose Description:	1" or 2" synthetic high tensile fabric wired helix and crossed linked polyethylene tube, petrochemical transfer hose, green in color with a yellow stripe. Hoses not manufactured with an integral electrical bond, shall be bonded externally.
Hose Couplings:	Hoses will use stainless steel female screwed fittings.

Hose Limitations: 1" 350 psi and 160°

2" 200 psi and 160°

9.3.1 Non-use of Petrochemical transfer hoses

Petrochemical transfer hoses should not be used for:

- Steam, water or air: Use suitable ANR standard hose.
- These Chemicals/Hydrocarbons: Asphalt/tar, natural gas, nitric acid, sulfur, and oleum (i.e., fuming sulfuric acid).

9.3.2 Temporary Connection of Petrochemical Transfer Hose

- Any connections to a process shall be made following this document and R-50-002 guidelines. Any connection to a process must include a check valve in the system.
- Hoses must not be kinked, under severe tension, nor their weight allowed to hang unsupported.
- Hoses shall be checked before, and again after putting in service for damage, blisters, and leaks.

9.4 Backflow Prevention Devices

Domestic water line connections are required to have air gaps or backflow prevention devices. Any backflow prevention devices are subject to routine inspection as specified in R-14-013.

10.0 HOSE MAINTENANCE

In order to insure hose integrity, all non-metallic utility and chemical hoses shall be replaced at five-year intervals. Typically, hose replacements should align with Cat Block TA cycles as the majority of hoses are historically replaced at this time. Hoses shall be marked and tagged for the purchase year (for example, all hoses purchased in 2018 through 2022 would be tagged with a green zip tie and all hoses purchased in 2023 through 2027 would be tagged with a pink zip tie). Post TA, an audit of all non-metallic hoses shall identify any hoses not purchased in the current cycle and replace them within the calendar year. Hoses that have not been placed in service may be retagged to the current cycle color.

Metallic hoses shall follow D-53-601. See section 4.2.1.4 for hose testing and tagging requirements. Section 4.3 of D-53-601 also provides hose installation guidelines.

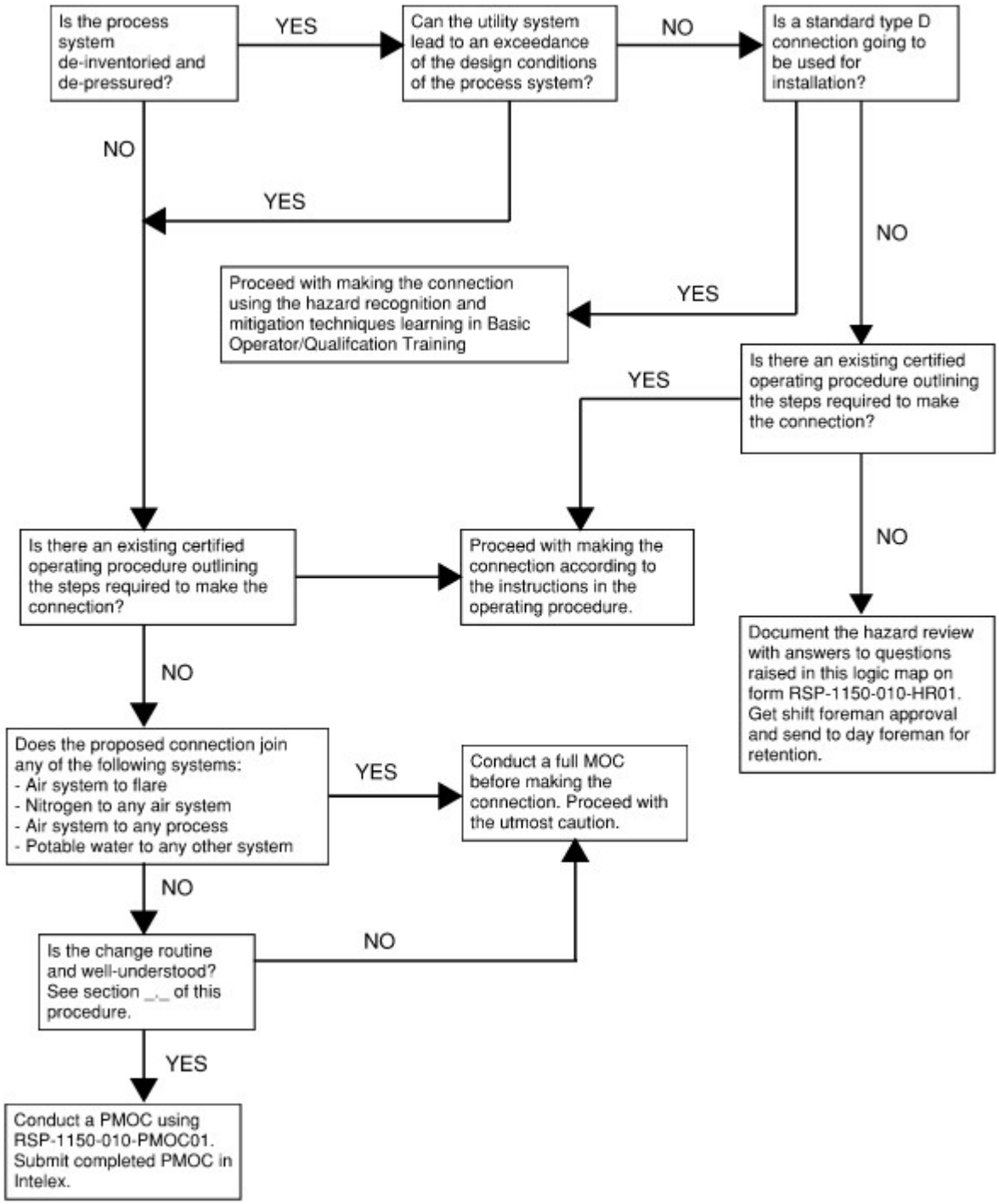
11.0 TRAINING

All persons whose duties will require them to utilize plant utility systems shall be trained prior to assuming those duties.

12.0 REVIEW AND REVISION HISTORY

Revision #	Preparer	Date	Description
0	Mark Willand	11/21/2021	Reformatted and Numbered per Document Control Policy, R-63-001.
1	Brady Emmons	12/13/2021	Complete Revision. Line-by-line review. Compliance with RSP-1150-010.
2	Brady Emmons	4/5/2022	Updated Appendix A flowchart to match RSP-1150-010.
3	Jake Stringfellow	8/27/2024	Line-by-line review. Combined Temporary Piping, Tubing and Hoses Procedure, R-50-002, into this procedure. Added Appendix A Flow Chart. Changed Content Custodian to Jake Stringfellow and approver to Marc Ranieri.
4	Jake Stringfellow	10/15/2024	Added form R-11-010-F01

13.0 APPENDIX A – HAZARD REVIEW/MOC LOGIC FOR PERMANENT OR TEMPORARY CONNECTIONS



14.0 APPENDIX B – HOSE EXAMPLES

15.0 ATTACHMENT 1 – TEMPORARY PIPING CHECKLIST SAMPLE (R-11-010-F01)

Marathon Petroleum Company LP	REFINERY-WIDE	R-11-010-F01
ANACORTES REFINERY	Temporary Piping Checklist	Page 1 of 2
		REVISION: 4

Unit:

Reason for Piping:

Utility	Other

Earliest Date Piping is Connected:

Latest Date Any Temporary Piping will be Removed:

Checklist Prepared by:

Item No.	Location and/or Description of Piping and processes connected	Approval Category N/A, Hazard Review, PHSC, or MOC	Installed		Remove Prior to Startup		Removed	
			OPR	Date	Yes	No	OPR	Date
	Connections:							
	Connections:							
	Connections:							
	Connections:							
	Connections:							
	Connections:							

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R-63-001-T02 This copy was printed on 10/15/2024

16.0 ATTACHMENT 2 – RSP-1150-010-HR01

For the most up to date document, please refer to:

https://mympc.sharepoint.com/sites/mpc-REF-RSS/Style%20Library/RSP-1150-010-HR01.DOCX

Marathon Petroleum Company
Process Safety Management Procedure

Hazard Review for Temporary Utility to Process Connection Installation			
	Document No.: **RSP-1150-010-HR01**	Effective Date:	Page 1 of 1
	Revision No.: 0	Revision Date:	
	Records Retention:	Next Rev. Date:	
	Document Custodian: **Refining Operations Manager**		

	Question	
Hazard Review	1. Is the process system lower than the utility pressure?	If yes, proceed with this form. If not, refer to PMOC form in ***Appendix B*** of RSP-1150-010.
	2. Is the installation compliant with the appropriate configuration outlined in SP-50-05?	If yes, stop. This form is not required.
	3. What is the plan to eliminate pressure between the check valves and process connection prior to removing the hose?	
	4. What is the plan to eliminate pressure on the utility hose prior to removal?	
	5. What is the proper valve sequencing to minimize the chance for process fluid to flow back into the utility connection?	
	6. What is the appropriate PPE for disconnection in case the utility connection becomes contaminated?	
Hazard Review Team	The Hazard Review has been completed. All Hazard Review Team members are to document their names. (Print/sign) _____ Date_____ Responsible Person *(required)* (Print/sign) _____ Date_____ Other (Print/sign) _____ Date_____ Other	
Approval to Implement Change	(Print/sign) _____ Date_____ Shift Foreman	

Send form to Day Foreman for retention for the life of the temporary connection.

17.0 ATTACHMENT 3 – RSP-1150-010-PMOC01

For the most up to date document, please refer to:

https://mympc.sharepoint.com/sites/mpc-REF-RSS/Style%20Library/RSP-1150-010-PMOC01.DOCX

Marathon Petroleum Company Process Safety Management Procedure			
PMOC for Utility to Process Connection Installation	Document No.: **RSP-1150-010-PMOC01**	Effective Date: 6/7/2018	Page 1 of 4
	Revision No.: 0	Revision Date: 6/7/2018	
	Records Retention:	Next Rev. Date: 6/30/2023	
	Document Custodian: **Refining Operations Manager**		

Initiation and Initial Review

Initiator: _____ Date: _____

Responsible Person: _____ Target Completion Date: _____

Area / Unit: _____

Description of Change

_____

Technical Basis for Change _____

_____

Temporary Change (circle one): Yes / No Expiration Date: _____

Priority (circle one): Next Shutdown / Specified Date / Compliance Driven Date / 1-2 Weeks / 24 Hours

Turnaround Required (circle one): Yes / No

Project ID No.: _____ Project Group: _____

Can this PMOC be used?	
Select the utility system(s) in scope for the proposed connection. **If the utility system is not listed, STOP a full MOC is required (PMOC does not apply).**	Steam Plant, Instrument or Process Air Nitrogen Utility Water (except potable water) Fire Water Boiler Feed Water Condensate Cooling Water
Does the proposed connection join any of the following systems together? **If YES, STOP a full MOC is required (PMOC does not apply).**	Flare and Air Nitrogen and Air Potable Water and any other system Any Process to Air

(Print/sign) _____ Date_____

Shift Supervisor

Hazard Review

NOTE: IF ANY OF THE ANSWERS IN THE HAZARD REVIEW SECTION IS "NO", DO NOT PROCEED. Review this checklist as a part of the MOC Review Team

Question	Response *(circle appropriate response)*
1. What type of connection is being proposed? *Refer to SP-50-05 for additional information on the types of connections.*	Type A-Hard piped, single check* Type B-Hard piped, double check* Type C-Hard piped, check valve*, drop out spool Type D-Hose, check valve* **the number of check valve(s) based on ΔP*
2. Is the installation compliant with the appropriate configuration outlined in SP-50-05?	Yes No
3. Have pressure readings been taken of both the utility and the process to ensure that the flow will go in the intended direction?	Yes No

	4. If the safe use of the utility could be compromised by the process backing into the utility, has a monitoring plan been put in place to make regular checks of the relative pressure readings or flow direction while the connection is in place?	Yes No
	5. For temporary connections, have arrangements been made to physically disconnect it as soon as practical after use?	Yes No N/A – permanent installation
	6. To mitigate an unsafe condition from excess flow of the utility into the process, has a restriction orifice been specified for the connection?	Yes No N/A – excess flow is safe
	7. If flow of the utility into the process could cause an overfill situation, are level indication(s) and alarms installed?	Yes No N/A – flow will not cause overfill situation
	8. If the flare or flare gas recovery system operation can be adversely impacted as a result of the connection, are measures in place to mitigate the impact? *(document the measures taken)*	Yes No
	9. If the utility pressure can exceed the design pressure of the process piping or equipment, has the necessary instrumentation and equipment been installed to eliminate an overpressure scenario? **Note: Never add heat to a closed or blocked in system.**	Yes No N/A – the utility cannot exceed the design pressure of the equipment
	10. Was it verified that the relief system design can accommodate the changes imposed by the utility to process connection?	Yes No
	11. If low or no flow of the utility can cause an unsafe situation, has the necessary steps been taken to verify the intended flow?	Yes No N/A, no or low flow will not create a safety hazard
	12. Can the utility be safely isolated from the process when not in use?	Yes No
	13. If steam is used as the utility, are the necessary precautions taken to prevent unintended vacuum and associated damage to equipment?	Yes No N/A – steam not used
	14. Has a way to safely depressure the connection been provided, assuming that the connection contains the process fluid when depressuring begins?	Yes No
	15. For process or utility streams that could contain water/steam has the piping connection been designed to eliminate the potential for freezing or accelerated corrosion of any piping or equipment? Design considerations could include free draining pipe, blinds, heat tracing/insulation, etc.	Yes No N/A – cannot contain water/steam
	16. For process streams that contain, or could contain, HF acid, has the connection been reviewed to ensure that there are no glass components in the connecting piping and associated equipment?	Yes No N/A – No HF acid possible
	17. If this is a Type D connection to a pressurized process stream or a stream that contains, or could contain, HF acid, is the hose material compatible with both the HF acid and the utility?	Yes No N/A – Depressured and no HF acid possible
	18. If firewater is used as the utility, have the impacts to firefighting capability been evaluated and the appropriate notifications made?	Yes No N/A – Firewater not used
	19. If the addition of the utility impacts the calibration of any instruments, have the instruments been recalibrated?	Yes No N/A – No impact to the instrumentation

	20. Was it verified that that addition of the utility to the process stream would not result in an unintended chemical reaction or temperature change?	Yes No
	21. Are the check valves installed as specified in SP-50-05?	Yes No
Hazard Review Team	The Hazard Review has been completed. All Hazard Review Team members are to document their names. (Print/sign) _____ Date_____ Responsible Person *(required)* (Print/sign) _____ Date_____ Day Foreman *(required)* (Print/sign) _____ Date_____ Environmental Area Team Rep *(required)* (Print/sign) _____ Date_____ Other (Print/sign) _____ Date_____ Other	
Approval to Implement Change	(Print/sign) _____ Date_____ Area Team Leader	

	Description	Completed by/ Date
Implementation Actions	1. Redline or update P&IDs/PFDs.	
	2. Update operator training (including Operators working in other areas that may be impacted).	
	3. Create or update operating procedures, troubleshooting guides, or other documents in the operations information center.	
	4. Communicate changes to affected maintenance personnel.	
	5. Communicate changes to affected operations personnel (including Operators working in other areas that may be impacted).	
	6. Update routine round sheets/ RADAR systems.	

	Description	Completed by/ Date
Pre-Startup Safety Review	1. Confirm that the connection(s) was installed per SP-50-05.	
	2. Confirm that the affected personnel (operations, maintenance, and operations personnel working in other areas) have been informed of or trained on the change.	
	3. Confirm that identified procedure(s) were updated.	
	4. Confirm that all post-startup actions are identified, entered into KMS/Intelex and assigned to responsible parties.	

Approval to Startup	Print/sign) _____ Date_____ Area Team Leader

	Enter Post-Startup action items into KMS/ Intelex	Assigned to / Due Date / N/A
Post Startup Action Items	1. If temporary, return to normal conditions and remove any redlined P&IDs updates.	
	2. If temporary, return to normal conditions and remove any SCADA updates.	
	3. If temporary, notify ops personnel that the change has been removed.	
	4. Update master P&IDs and PFDs *(required for permanent changes).*	
	5. Update piping isometrics/line lists/ [illegible] lists/ master isolations lists *(required for permanent changes).*	
	6. Update inspection records or the MI program to reflect the connection *(required for permanent changes).*	
	7. Update training lesson plans and other training materials. *(Likely required for permanent changes).*	

Attach completed PMOC form in KMS/ Intelex