

January 2025



Environmental, Safety & Security Sequential Safety Meeting



ANACORTES REFINERY

End of 2024 ESS Safety Metrics



DSA Eligible	OSHA rec	ORIR	AFPM 1a/1p	H2S >50 ppm	PSE 1/2	DEI 3/4	Permit deviations
	2	0.23	0/3	1	1/1 ->4	2/0	30
	-	0.30	3	≤ 3	≤ 3	≤ 1	≤ 20

Not eligible for the Distinguished Safety Award (DSA) for 2024

Eligibility based on MPC employee hours and recordables at ORIR of 0.46

Overall ORIR with contractor hours of 0.23

- PSE 2-June 4, 2024, Tank 231 Mixer Seal Leak (LOPC volume above threshold quantity)
- PSE 1-June 15, 2024, E-401A/B Tube Leak into CW Tower 2 (LOPC volume above threshold quantity)
- 2 Recordables: Finger laceration from tightening instrumentation plug & broken finger from breaking union
- Three AFPM 1p-
 - Vehicle rolled back into process equipment
 - Generator to Welders wired up incorrectly
 - Removing tape from lighting fixture when sparks rained down

Live Flare Work

What are some ways you can Start Safe and Stay Safe while working with a Live Flare Opening?



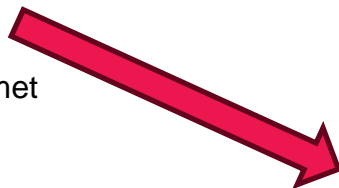


Start Safe Live Flare Work



OBTAIN APPROVAL & COMPLETE THE ITEMS BELOW PRIOR TO LIVE FLARE WORK

- Complete the Live Flare Header Invasive Work Approval & Hazard Mitigation Form
 - Ensure all requirements of the form are met prior to starting work
- Obtain a Safe Work Permit/JSA prior to starting work and perform a thorough Joint Job Site Visit (JJSV)
- Barricade an adequate area. Personnel working down wind may need to leave the area while the flare is open. All hot work in the area must be suspended
- Notify the Utility Board Operator
 - Each zone Board Operator will contact their immediate Supervisor and all their Unit Operators to ensure they are not flaring or are at risk of flaring.



E. Final Pre-Job Checklist (all answers must be answered to proceed with work) This section must be completed by the Owning Department Shift Foreman immediately prior to starting work.	Initial Line Break		Subsequent Line Break		Comments
	YES	NO	YES	NO	
All questions must be answered.					
Are all the units that impact the area where the live flare header will be opened in steady state operation?	<input type="checkbox"/>		<input type="checkbox"/>		
Has all Maintenance work been stopped that could result in a process upset that impacts the flare header with invasive work?	<input type="checkbox"/>		<input type="checkbox"/>		
Have all operators and Owning department supervision in areas impacted by the work been notified that the work will be performed?	<input type="checkbox"/>		<input type="checkbox"/>		
Has any abnormal use of the affected flare header been suspended?	<input type="checkbox"/>		<input type="checkbox"/>		
Is an operator and Maintenance representative on site within visual distance of the work?	<input type="checkbox"/>		<input type="checkbox"/>		
If a location is available, is a nitrogen purge being used?	<input type="checkbox"/>		<input type="checkbox"/>		
Has a pressure gauge been installed that is capable of reading both vacuum and a slight positive pressure?	<input type="checkbox"/>		<input type="checkbox"/>		
Is flare header pressure greater than 0 psig but less than 2.0 psig?	<input type="checkbox"/>		<input type="checkbox"/>		
If available, has liquid been drained from low point bleeders in the vicinity of the work?	<input type="checkbox"/>		<input type="checkbox"/>		
Have all ignition sources been removed from the immediate work area?	<input type="checkbox"/>		<input type="checkbox"/>		
Have affected roadways been closed? (Note which roads.)	<input type="checkbox"/>		<input type="checkbox"/>		
Has the area of live flare header work been cleared of nonessential personnel? This includes caution tape or other barriers to prevent unintentional access.	<input type="checkbox"/>		<input type="checkbox"/>		
Have preparations been made to provide the necessary coverage to allow for the job to be worked continuously until completion, including evaluation of weather conditions?	<input type="checkbox"/>		<input type="checkbox"/>		
Is a safe means of egress provided with unobstructed escape routes?	<input type="checkbox"/>		<input type="checkbox"/>		
Are the additional hazard mitigation steps identified in Section C in place?	<input type="checkbox"/>		<input type="checkbox"/>		
Have arrangements been made for clear communication between workers and support crew?	<input type="checkbox"/>		<input type="checkbox"/>		
Have a toolbox meeting and JJSV be completed?	<input type="checkbox"/>		<input type="checkbox"/>		
Have the bolts been replaced one at a time on the applicable flange(s) to allow for easy disassembly and re-assembly?	<input type="checkbox"/>		<input type="checkbox"/>		
Are all tools involved in the flare header work non-sparking?	<input type="checkbox"/>		<input type="checkbox"/>		
Is all equipment on site that is needed to expedite the duration the live flare header is opened?	<input type="checkbox"/>		<input type="checkbox"/>		
Are workers equipped with required PPE and is there at least one backup person at the work site familiar with the job scope & hazard mitigation plan and equipped with equivalent PPE?	<input type="checkbox"/>		<input type="checkbox"/>		
Is there clear communication between Maintenance and the Owning department on the exact start and stop times of live flare header invasive work?	<input type="checkbox"/>		<input type="checkbox"/>		
List any other required PPE:					
Owning Department Supervisor Sign and Date:			Maintenance Coordinator Sign and Date:		
F. Close Out. Completed by Shift Foreman.					
Live Flare Header Invasive Work Start Time:			Live Flare Header Invasive Work Finish Time:		

Start Safe

Live Flare Work



OBTAIN APPROVAL & COMPLETE THE ITEMS BELOW PRIOR TO LIVE FLARE WORK

- PPE Required - Live flare work will be completed in breathing air and bunker gear
 - In certain systems chemical exposure poses a higher risk. In these cases, chemical gear will be worn instead of bunker gear (Alky Flare)



- Personnel required (Minimum)
 - 2 employees in the proper PPE listed above
 - 1 back-up employee in the same PPE and familiar with the hazard mitigation plan
 - 1 supplied air attendant
 - 1 fire watch manning a fire monitor or hose to suppress vapors in the event of a release. (This position can be filled by the back-up employee or unit operator)

Stay Safe

Live Flare Work



➤ Ensure Proper Training

- Select MPC maintenance employees are trained for live flare work
- Brinderson & Harris are the only Business Partners currently trained for live flare work.

➤ Turn blinds

- All active flare work that has a spec blind downstream that can be turned to the closed position prior to beginning the actual task shall be done.



➤ Non sparking tools are required for all work associated with invasive live flare work.



Start Safe Stay Safe Engagement



Engagement Questions

- **What jobs in the past have we completed where Live Flare mitigations were not considered?**
 - **How are we doing it differently the next time?**
- **Do you know of any workarounds as it relates to Live Flare work?**
- **What role do you have in making sure a Live Flare job is successful?**

Live Flare Work Policy #R-11-012

PSE1 MPC PROCESS SAFETY ADVISORY

CATLETTSBURG GASOLINE LEAK AT CHECK VALVE INC #413573

Published 12/19/2024

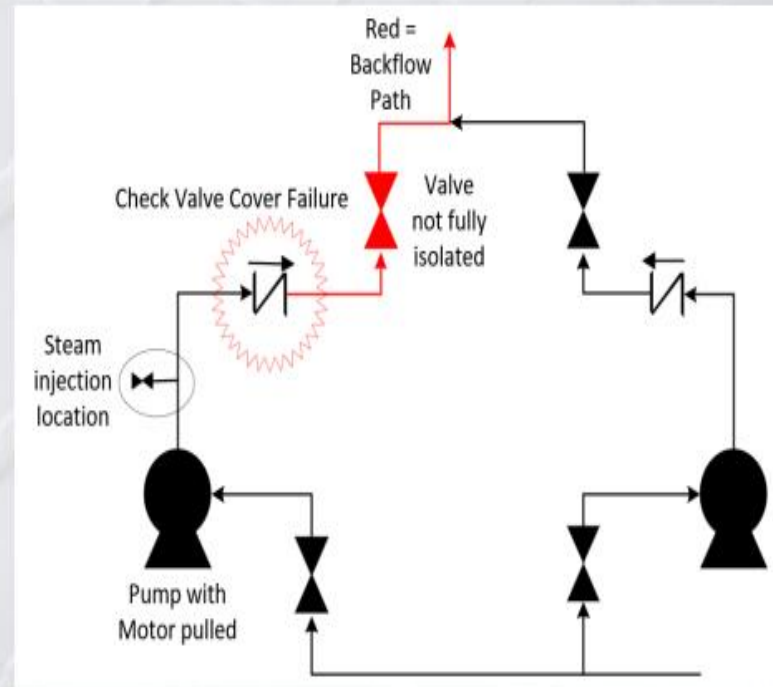
PSA 24-09

On January 18, 2024, while investigating a report of a gas smell at the in-line blender, Operators found gasoline releasing from the discharge check valve, downstream of a transfer pump. The leak was coming from the valve cover flange.

- This incident was categorized as a PSE1 due to a calculated LOPC of 28.1 barrels of flammable liquid in < 1 hour.

▲ Causal Factors:

- The Abandon In Place process was not followed when the motor was pulled from the transfer pump.
- Water was not drained after steaming out the downstream process piping as no bleeder was in place between the pump discharge valve and check valve to ensure the piping section was water free.
- Condensate was trapped within this line, which froze and forced a breach at the check valve cover. The discharge valve wasn't fully isolated and became a path for flammable material to backflow.



“THE REST OF THE STORY”: In March 2021, the motor for 2-37-G-2 was pulled, and after a job scope change, the pump was left abandoned in place. The pump’s status was changed in the Reliability Enterprise Data (RED) to Abandoned in Place (AIP) to prevent further preventative maintenance work orders being executed for the pump. No Management Of Change (MOC) was entered to track the pump status change, and the pump was not removed from service consistent with site requirements. The Area team did not immediately consider the pump AIP; this led to the MOC and AIP procedure not being initiated after the job scope change. In November 2023, piping downstream of G-2 was deconned, using steam, for a piping replacement. An effort to drain condensate was made when blinds were removed, but a lack of a bleeder between the discharge check and block valves, along with the inability to use the pump case drain, allowed condensate to remain in the line. In January 2024, a multi-day event of below freezing weather occurred. Since G-2 was not recognized as AIP by Operations or the Area team, the pump and its associated piping had not been winterized. The trapped condensate froze, which forced a breach at the check valve cover flange. The discharge valve wasn’t fully isolated, so it became a path for material from the pressurized downstream header to leak through at the freeze damaged check valve cover flange.

☒ Operations
☒ Maintenance
☐ Technical
☐ Engineering



Review Similar PSA: [19-06](#) - Canton Frozen Out of Service Line Failure. The use of slip blinds to permanently isolate the out of service piping instead of air gapping the line allowed for exposure to a live process stream.
[19-09](#) - Detroit C3/C4 Splitter Rerun Line Frozen Dead Leg Failure

DISCUSSION TOPICS:

- Operations:**
- Are you aware of any AIP equipment in your area?
 - Definition: AIP– Equipment that has been removed from service and is air gapped and/or physically disconnected (per RSP-1302 PSM/RMP Process Safety Information)
 - Some sites refer to AIP as Retired in Place.
 - Is your AIP equipment air gapped and/or physically disconnected? If not, update immediately.
 - Discuss your site policy for AIP lace equipment. Review isolation RSP and idling reference document:
 - RRD-1337-001 Equipment Rate Reduction and Idling Guidelines
 - RSP-1121-010 Blinding and Energy Isolation
 - Update (as applicable) cold weather prep checklists of out of service and recently decontaminated equipment to verify they are water free and appropriate freeze protection has been installed as needed.
 - Be aware of pump piping circuits where bleeders are not present in between discharge valves, and check valves to provide appropriate verification of de-pressure.
- Maintenance:**
- Review with Reliability Group MOC requirements for placing equipment in AIP status and how it can be related to work the group completes.

Global Action		
Recommendations	Assigned to:	Due Date:
Review this advisory with your leadership team and cascade to your entire organization to ensure site-wide review to improve process safety hazard recognition.	Division Managers	2/28/2024
Operations to review this advisory with all Day and Shift Foremen. Review AIP process and winterization of AIP equipment per local procedure or RRD-1337-001.	Operations Managers	2/28/2024
Operations to ensure all equipment that is AIP is updated in the site list of AIP equipment and that it complies with site policy or RRD-1337-001. Notify Reliability group if AIP equipment does not comply.	Operations Managers	6/30/2024
Ensure equipment flagged by Operations that is AIP has an air gap or is physically disconnected. Reference RRD-1337-001 or site policy.	Maintenance Managers	1/31/2026

2022 Process Safety Culture Survey Site Actions

4th Quarter 2024 Status



- Anacortes has ten recommendations from our 2022 Process Safety Culture Survey.
- The site Process Safety Council completed a review of all survey results after the 2023 TAR and developed these recommendations.
- The recommendations were reviewed by our Refinery Leadership Team and are in Intalex for tracking.
- As of the end of the 4th Quarter of 2024 **six of the ten** actions have been completed.
- One open action has an interim milestone date, and this is completed.(badging stations).
- Details are included on the next slides.

2022 Process Safety Culture Survey Site Actions

Closed Actions



Completed as of 3Q2024

PSM Council Outreach Team to develop and support a site wide communication strategy for 2022 Process Safety Culture Survey; Council review and site actions; to include frequency and communication venue(s).

Develop and Execute Safety Meeting Leader training plan to address:
Meeting facilitation / public speaking training for meeting leaders (in progress)
Audience engagement tools
Documentation and follow-up of “Bring it up” items.
RLT / ES&S review and approval scope of sequential safety meetings.

Develop quarterly site communication for ANA Capital/ER/TAR/RM project list including status, schedule, and progress. This can highlight both approved projects as well as potential projects (formerly known as the “Pie in the Sky” list) around which the organization is passionate to enhance engagement.

Develop periodic (Monthly/Quarterly) report-out including in 2024 townhalls on ANA site through MPC Refining Vision Program covering:

Safety as a Core Value – Johnson
Employee Experience – Cassidy
Advanced Data Technology-Kravtsov
Next Gen Maintenance – Emmons
Sustainability – Bohnert
Strategic Investment - Nightingale

Completed in 4Q2024

- ✓ Develop plan to evaluate, improve, rationalize effectiveness of Web-Based Trainings
- ✓ Develop Periodic (Monthly/Quarterly) site communication plan detailing:
 - Posted positions / hiring-in-progress
 - Any local/global employee benefit changes
 - Attract/Develop/Retain updates (e.g. Employee Experience Refining Vision effort)

2022 Process Safety Culture Survey Site Actions

Open Actions



Open Actions

Develop Process Safety Training Workshop and schedule.

- Determine appropriate scope for workshop.
- Consider catering some training specific to the job (e.g., Operations, Maintenance, Lab etc.)
- Determine required attendees and frequency.
- Schedule training
- Execute Training

Status: Topic is HOP; extended to March 2025

Develop cross-shift/cross-department communication system (e.g., Ops Core) for Suspended (Stopped) Work to document why the work was initially suspended, and what risk evaluation or risk mitigations were executed to allow work to continue.

Status: extended to 6/13/2025

Develop employee and contractor initial and refresher training for Suspend/Stop Work Obligation including its importance, how to support it, and any new systems developed in the previous bullet point.

Status : extended to 8/15/2025

Evaluate project to increase unit badging locations to address unaccounted unit entries, efficiency.

- Complete a survey and submit a PRF-July 1, 2024(completed)
- Implement changes-December 15, 2026

Questions?

Contact PS Council Members:

- Represented Members:
 - Maintenance: Trevor Smith(Machinist); David Arellano(IE&A)
 - Operations:
 - Tami Straub(Zone C);
 - Rachael Pletenik, John Carlson, Clay Hathaway(Zone A);
 - Aaron Eastwood, Bret Fritch, Joel Vidmore(Zone B)
 - Process Safety Rep, Jeremiah Harju
- Staff Members
 - Kyle Cassidy, Process Engineering
 - Terry Jackson, Operations
 - Trent Kies, Safety
 - Joshua Bertch, Projects
 - Marc Ranieri, Reliability
 - Diane Rusher, Process Safety

Sponsor, Cameron Hunt

COMING SOON-NEXT SURVEY



*2025 PROCESS SAFETY
CULTURE SURVEY*



*PLANNED FOR
SEPTEMBER 2025*

2025 TAR Process Safety Sticker Contest

(Open to MPC and Business Partner employees)



The Anacortes Process Safety Council is seeking a winning sticker design for our upcoming 2025 Crude TAR.

We are seeking a design and message around Process Safety that can promote an Incident-Free TAR and Leak-Free startup.

Bring your passion for Process Safety to the table and into a design that helps us be successful during this event.

The winning design will be used to reinforce the Process Safety message during the TAR.

There will be three winners selected. The top prize winner will receive a meal for themselves and their immediate group. The two runners-up will receive a prize from the Safety Swag options.

Please submit entries to Jeremiah Harju by Feb 7th via email jlharju@marathonpetroleum.com or his office.

Below are the three winners from the '23 TAR



Bring It Up!!!



If there are Safety questions or concerns you wish to discuss, please bring them up!