

Line Breaking	Document No.: RSW-SAF-008-DT	Approval Date: 12/08/2020	Page 1 of 4
	Revision No.: 21	Next Revision Date: 12/08/2025	
	Document Custodian: Environmental, Safety and Security		

1.0 PURPOSE

This procedure establishes safe work practices for line breaking of refinery equipment and piping.

2.0 SCOPE

This procedure applies to all line breaks on equipment or piping that is or has been in service. These safe work practices are not required for new construction or equipment that has never been in service.

3.0 PROCEDURE

3.1 Responsibilities

- 3.1.1 Determine the minimum energy isolation requirements, refer to [RSW-SAF-002-DT Energy Isolation](#) Attachment A.
- 3.1.2 Line breaking is considered invasive work. Refer to [RSW-SAF-078-DT](#) for instructions on completing the Risk Assessment Matrix.
- 3.1.3 Owning Department Responsibilities
 - 3.1.3.1 Identify the location of the line break during the JJSV.
 - 3.1.3.2 Isolate, depressure and clear the line.
 - 3.1.3.3 Complete a Safe Work Permit with the Servicing Group.
 - 3.1.3.4 Make an SDS for the material in the line available to the Servicing Group.
 - 3.1.3.5 Verify valve position and/or energy isolation/LOTO with the Servicing Group. This should include a conversation with regards to the temperature, pressure and composition of the material in the line.
 - 3.1.3.6 Be present for the breaking of the first flange.
- 3.1.4 Servicing Group Responsibilities
 - 3.1.4.1 Refer to RSW-SAF-017-DT Asbestos Abatement and RSW-SAF-014-DT Lead Abatement if these conditions apply.
 - 3.1.4.2 Complete a Safe Work Permit with the Owning Department.
 - 3.1.4.3 Review SDS for material in the line.
 - 3.1.4.4 Wear Proper PPE for the job as determined by the Risk Assessment Matrix.
 - 3.1.4.5 Verify valve position and/or energy isolation/LOTO with the Owning Department. This should include a conversation with regards to the temperature, pressure and composition of the material in the line.
 - 3.1.4.6 Perform the line break. Owning Department must be present for the first

flange.

3.2 Prior To Line Break

- 3.2.1 The servicing group and owning department must review the scope of the work and discuss the hazards associated with the process.
- 3.2.2 An Operator/Pumper must be present (first flange only).
- 3.2.3 Check to be certain that lines and equipment have been depressured and drained. Be certain that drain valves are open and clear.
- 3.2.4 Barricade the area around and immediately below any elevated work to limit non-essential personnel from possible being exposed to any hydrocarbons.
- 3.2.5 For ring joint flanges, the ring must be removed and physically attached to the blind and remain at the flange location.

3.3 During Line Break

- 3.3.1 Wear PPE or implement proper mitigation methods as determined by the Risk Assessment Matrix. Reference [RSW-SAF-052-DT-Personal Protective Equipment](#) or the SDS for additional PPE requirements.
- 3.3.2 Always open flange on the side away from the workers so any sudden release will be directed away from the personnel.
- 3.3.3 If bolts are so rusted and/or installed such that they must be burned off always burn off one bolt at a time and replace it with new fully tightened one. When all bolts have been changed the flange can be taken apart by removing the new bolts. This process must be performed by cutting and replacing alternating bolts until all bolts have been replaced.
- 3.3.4 Before removing bolts, loosen them in a manner that will allow any residual pressure and material to be relieved away from workers. After loosened, open flange to confirm the status of the line. Use care not to cause sparks or damage to gasket surface.
- 3.3.5 After confirming the status of the line to be in a safe condition, workers may proceed with bolt removal.
- 3.3.6 Flanges should be left open a minimum length of time. This is especially important when working on flare headers to minimize the amount of air introduced into the flare header. Refer to [RSW-SAF-083-DT](#) Live Flare Header Invasive Work.
- 3.3.7 Welding rods may not be used as a “spacer” to purge equipment. Spacer blinds are a best practice however brass wedges may be used.
- 3.3.8 If conditions become hazardous, the servicing group should attempt to mitigate the situation if they are not in immediate danger and only to their level of training. They must report the situation to the owning department and determine if the job is safe to continue.

3.4 Union Connections

- 3.4.1 Slowly loosen the union. Try to relieve any residual pressure by separating the seats before completely parting the union.

3.4.2 After confirming the status of the process line to be in a safe condition, part the union.

3.5 Welded Connections

3.5.1 Verify that the line is depressured (ex., through a bleeder).

3.5.2 After confirming the status of the process line to be in a safe condition, the line may be cut. Consideration to potentially hazardous atmospheres must always be taken. It is recommended that cold cutting methods be used if there is any reason to suspect that a hazardous atmosphere may be present in the line and/or if atmospheric monitoring confirms the need to apply such methods.

4.0 DEFINITIONS

5.0 REFERENCES

5.1 [RSW-SAF-002-DT Energy Isolation](#)

5.2 [RSW-SAF-078-DT Invasive Work Standard Practice](#)

5.3 [RSW-SAF-083-DT Live Flare Header Invasive Work](#)

6.0 ATTACHMENTS

7.0 REVISION HISTORY

Revision number	Description of change	Written by	Checked by	Effective date
16	Corrected auto update of footer dating	F. Ebbert	J. Rabideau	10/30/15
17	Made a change regarding the breaking of the first flange.	M. Godfrey	J. Rabideau	9/23/16
18	3.5 Open Ended Lines. Gaskets must be installed on both sides of the blind	S. Kumpar	Updated from LOTO RSP J. Salewske	6/1/2017
19	Spacer Blinds are exempt from the gasket requirement.	S. Kumpar	Rec. from June MPC DA 2017	6/14/2017
20	Relocated all language pertaining to blinds to RSW-SAF-002-DT. Procedure is now strictly a safe work practice procedure for line breaking.	S. Kumpar	Safety	01/03/2018

21	Administrative changes to 3.1.4.1	J. Taggart	J. Taggart	12/8/2020
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