

WAFRA JOINT OPERATIONS

PROCEDURE TITLE : **FIRST BREAK PROCEDURE**
ISSUED BY : **MANAGER – WJO EHS, FIRE & SECURITY**
APPROVED BY : **GENERAL MANAGER – WAFRA JOINT OPERATIONS**

Process Name:	SHEERS Control of Work
Expectations:	Operate and maintain facilities to prevent serious injuries or fatalities.
Process Sponsor:	
Process Advisor:	Control of Work Advisor

1.0 Purpose, Objectives & Scope

1.1 Purpose

The purpose of the First Break process is to protect personnel and the environment when there is a potential hazard from exposure into any piping system, piece of equipment, process, product or hazard. This risk will be reduced as follows:

- Personnel -- Reducing the risk of exposure with proper PPE.
- Environment – Mitigating the consequences of a spill with temporary containment.

This Process provides guidelines for determining when additional PPE is required when attempting a First Break.

Note: If there is line cutting taking place the Line Cutting Procedure with the proper safeguards in place shall be used as well.

1.2 Objectives

The objectives of this process are:

- Provide minimum PPE guidelines to protect personnel from exposure to toxic gas and/or chemical hazards during the initial opening of any pipeline or system that has been isolated, depressurized, drained, and cleared by flushing, or steaming, or washing, or purging or when there is potential for unknown hazards from equipment returned from third party servicing before removing first blind/plug/end cap on the equipment.
- Not allow First Break into pipeline or system containing toxic gas or liquid chemical which cannot be safely isolated, depressurized, drained, and cleared by flushing, or steaming, or washing, or purging, without management review and approval.

1.3 Scope

This Process applies to all employees, contractors, and visitors at Wafra Joint Operation facilities working on pipeline or system that has been isolated, depressurized, drained, and cleared by flushing, or steaming, or washing, or purging or when there is potential for unknown hazards from equipment returned from third party servicing before removing first blind/plug/end cap on the equipment.

Out of Scope

- Operations routine tasks such as but not limited to:
 - Opening of a Tank hatch
 - Gauging tanks
 - Sampling
 - Connecting/disconnecting of hoses to/from tanks etc

Operations procedures, Job Aids and or JSA must address the PPE requirement when performing routine tasks.

1.4. SHEERS Expectation Met

This process meets the following SHEERS Expectations: **Control of Work 1.4: 3.2** A comprehensive safety program is in place for each location. Core elements of the program shall include:

Written safe work practices may include permit to work, hot work, confined space entry, equipment isolation (lockout/tag out), opening equipment, excavation, working at heights, electrical work, simultaneous operations (SIMOPS), bypassing critical protections, lifting and rigging, and other applicable practices identified through risk assessment of local operations.

2.0 Roles, Responsibilities & Training Requirements

2.1. Operations Roles and Responsibilities

- 2.1.1. Jointly identify the first break points for the system or equipment by marking them on the P&ID and then showing the break points to the personnel performing work during JSA at the field..
- 2.1.2. Ensure systems and equipment are properly isolated and verified to be empty and depressurized by opening a drain valve closest to the first break point. Verification is made when product and/or a utility service such as steam, water, air or nitrogen exits the drain valve. This verification may be repeated upon the request of the Maintenance and/or contractor personnel prior to permit release.
- 2.1.3. Operations representative(s) do not need to be present for the first break if Maintenance and/or contractor are satisfied that the systems and equipment are empty and depressurized.

However, Operations representative(s) must be present to participate in the first break procedure if the design of the systems makes it difficult for him or her to demonstrate to Maintenance and/or contractor the effectiveness of the preparation work prior to the release of a permit.

Under these circumstances, the Operations representative(s) must the same level of PPE as the person performing the first break and be prepared to render assistance.

2.2. **Work-Team Leader Roles and Responsibilities**

- 2.2.1. Jointly identify the first break points and discuss the tasks with assigned work team members during JSA.
- 2.2.2. Verify the systems and equipment have been isolated and witness that the systems and equipment are empty and depressurized. Also, verify if there is potential for any unknown hazards from equipment returned from service before removing first blind/plug/end cap on the equipment. The PPE requirements shall be documented in JSA for such blind/plug/end cap removal activity.
- 2.2.3. Install barricades with signage around the area/equipment and on all floor levels that could be exposed to material release during first break. The barricade should be large enough to prevent exposure to other personnel who may be working in the area.
- 2.2.4. Provide temporary containment underneath the equipment where first break is performed to prevent a spill to the environment.
- 2.2.5. Ensure the correct and proper donning of PPE by the worker(s) before the commencement of the first break.
- 2.2.6. Assign a standby person with the same level of PPE as the person performing the first break. The standby person will remain in full view of the job and be prepared to render emergency assistance.
- 2.2.7. Must be present to supervise throughout the first break process.
- 2.2.8. Ensure decontamination of First Break PPE after use. PPE decontamination should be done before removal of PPE; else the wearer may come into contact with remnant chemicals left on the PPE.

2.3. **Training**

All personnel associated in assigning and performing First Breaks are required to have undergone specific training and competency testing related to this First Break procedure. Each employee required to perform a First Break must understand the proper use of PPE equipment before he or she is allowed to perform the work.

All personnel must be re-trained in First Break use when:

- The work team leader / Supervisor believes the trainee completed training without acquiring the required understanding or skill.
- Workplace changes render previous training obsolete.
- The trained person has not retained the required understanding or skill.

3.0 **Terms and Definitions**

- 4.0 **First Break** – The initial opening of any pipeline or system that has been isolated, depressurized, drained, and cleaned by flushing, or steaming, or washing, or purging. Examples of First Breaks include but are not limited to the following:

- Opening flanges
- Installing or removing piping clamps
- Installing or removing blinds
- Removing strainer covers
- Removing manhole covers

Double Block and Bleed – Either a special valve or a combination of valves that closes a line, duct, or pipe by closing (blocking) the main line and opening a drain or vent valve in the line between the two closed valves.

High Risk Work – Is any type of work that presents, or may present, a significant danger to personnel, the environment, and/or a facility’s equipment.

Isolation – The process to segregate the hazardous energy or toxic substance from the recipient. This may be achieved by a number of methods such as blinding, electrical isolation, positive physical isolation, etc.

Job Safety Assessment – A Job Safety Analysis (JSA) is a process where a job task is broken down into the sequence of steps required to perform the task, the potential hazards/risk for each of these steps are determined, and the controls necessary to eliminate or mitigate these risk are developed.

4.1. **Principle of First Break**

4.1.1. A Job Safety Assessment (JSA) must be performed during the work planning stages.

4.1.2. The first step in performing a First Break is to determine if a system has been isolated, de-pressured or flushed or is there any potential for unknown hazards from equipment returned from service before removing first blind/plug/end cap on the equipment. The PPE requirements shall be documented in JSA for such blind/plug/end cap removal activity.

4.1.3. A deviation process must be reviewed and approved by the General Manager before breaking into pipeline or system containing liquid chemical or toxic gases which cannot be safely isolated, depressurized or flushed.

4.1.4. Always treat isolated pipelines or systems as having the potential to release liquids, solids or gases under pressure. While conducting JSA, ask questions such as but not limited to the following:

- Is it depressurized and/or free of materials?
- Where can I verify the pressure?
- What was the service material?
- What are the hazards if exposed to the material?
- Have I reviewed the SDS?
- What if the service material is hot? Can I wait till the service material reach ambient temperature?
- Will there be a lack of oxygen at the point of break opening?
- Where is the nearest eye wash/safety shower? Is the access route obstructed? Is it in good working condition?
- What PPE is required? Is it in good condition? Is it correctly donned?
- What is my emergency escape route if things went wrong? Have I briefed my workers?

5.0 **Minimum Personal Protective Equipment (PPE) Required for First Break**

5.1. H₂S, Odor Gas or Sour Gas Line or System

- 5.1.1. Working in pairs with supplied air (SCBA or Medical air-line system with escape bottle) and an H₂S personal monitor must be worn for any first break on pipelines or systems with the following materials:
- H₂S
 - Sour gas
 - Odor gas

Note: Any H₂S Personal Monitor activation shall be reported to Operations

5.2. Chemical Service Lines or Systems

- 5.2.1. Refer to the SDS of the chemical.

6.0 **Standard Mechanical First Break Practice**

- 6.1. Always loosen the first bolt at the far side of the flange.
- 6.2. Stay out of the line of fire. Never position yourself at a position where the material will hit you.
- 6.3. Do not attempt to unbolt any flanges from below. Provide stable working platforms at the work height.
- 6.4. Advise other personnel to be out of the line of fire.
- 6.5. Identify the nearest emergency shower/eyewash station before proceeding with the work. Ensure it is in working condition and the access route is not obstructed.
- 6.6. Always be aware of the location of emergency access/egress.