Wafra Joint Operations Leak Response Protocol and Timeline

Anyone can use **Stop Work Authority** in response to a leak, including upon discovery and at any point during litigation or response efforts.

Leak Discovered — *15 Mins* — *1 Hour*

Immediate Actions:

1. **Clear** the site of non-essential personnel. **Do not approach leak site.**
2. **Notify** Emergency Dispatcher for leak response or standby coverage.
3. **Discuss** critical considerations with key stakeholders in a safe location.
4. **Decide** whether to immediately shutdown any facilities or operations.
5. **Notify** WJO leadership as appropriate.

Following Immediate Action:

If Mitigating (Operations in control)

1. **Checklist** for leak response protocol and evaluation of risks completed by on-site personnel.
2. **Review** isolation options and emergency shutdown procedures.
3. **Verify** that it is safe to approach the leak.
4. **Implement** the agreed action plan and notify non-operators (if required).

If Emergency Shutdown (ERT Response)

1. **Implement** emergency shutdown procedures.
2. **Deploy** WJO incident command system ICS system.
3. **Activate** evacuation of area or shelter in place notification as appropriate.
4. **Notify** internal stakeholders and non-operators as appropriate.
5. **Request** additional support from non-operators (if needed).

Leak Response Steps

Step 1

- Limit site access around the leak to essential personnel only. Do not attempt any response outside of trained duties. **Always assume the potential for H2S.**

Step 2

Identify the leaking material…

- Water, oil, gas, hazardous chemical
- Size, location, and accessibility
- Temperature

Warning: Do not remove insulation if the source of the leak or failure mechanism is not well understood.

Step 3

	If the answer is…
1. Does the leak pose an immediate danger to safety or health?	Yes →
2. Can the leak be safely isolated or safely mitigated?	No →
3. Are you in doubt that we can safely continue to operate or safely secure the leak?	No →
4. Is the worst-case failure mechanism understood (ie a pinhole vs. generalized thinning)?	Yes →

Shutdown Operation

WJO Leak Response Protocol Checklist

Emergency response considerations and hazard assessment checklist for loss of containment

this checklist is designed to help guide Operations personnel responses to a loss of containment. Checklist provides discussion questions that the operations and emergency responders should consider as they determine the response plan. Each loss of containment is unique, and the checklist is not a substitute for the experience and technical judgment of responsible personnel.

Date:_____ Time:_____

1	Have personnel been exposed?	Yes	No
2	Have all internal notifications been made, including to Operations and WJO management?	Yes	No
3	Equipment name or description.		
4	Is the location of the leak known?	Yes	No
5	If yes, where?		
6	What is the product or material that is leaking?	□Oil □Water □Gas □Other	
7	What are the PPE requirements? (Safety glasses, FRC, Hardhat, and hard-toed shoes are always required. Respiratory protection may be required; SCBA is required if H_2S concentration is unknown.)		
8	Is the product contained?	Yes	No
9	Can the leak be isolated?	Yes	No
10	If yes, where and how can it be isolated?		
11	Is there any known corrosion history associated with this pipe or equipment?	Yes	No
12	Should people shelter in place or move away from the incident to a safe distance?	Yes	No
13	Is there potential for community impact if the leak gets worse?	Yes	No
14	Are there potential ignition sources identified?	Yes	No
15	Is the leak elevated above ground?	Yes	No
16	Is there a need to pre-stage equipment and resources?	Yes	No
17	Is it safe to approach the leak?	Yes	No
18	Is ground and surface areas stable near the leak?	Yes	No

19	**Gas testing should always be completed when approaching leaks**			Initial Assessment/Action Taken:
Initial testing results:		Reading	Time	
20	LEL			
21	O_2			
22	H_2S			