

# UTC Incident Investigation Form

<b>Notification ID:</b>	4050	<b>Investigation ID:</b>	8552
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<b>Inspector Name:</b>	Dennis Ritter
<b>Date Report Submitted to Chief Engineer:</b>	September XX, 2022
<b>Date Report Reviewed &amp; Approved by Chief Engineer:</b>	11/16/2022

<b>Operator:</b>	Northwest Pipeline (Williams) OPID 13845 Tayler Jensen Pipeline Safety Engineer Larry West Operations Supervisor Battleground District
<b>District/Unit:</b>	Battleground
<b>Location:</b>	MP 1175.17 (Willard Compressor Station)
<b>Incident Date:</b>	Discovery date 7/28/22 23:00 Determination date: 7/29/2022 00:09

<b>Description:</b>
<p>WUTC received a NRC notice, 1342913, from Northwest Pipeline (Williams) of an equipment failure which allowed up to 52 MMCF of gas to escape out the relief stack at the Willard Compressor Station in Klickitat County Washington. A valve apparently did not seat properly when it was closed allowing high pressure gas to travel through the non-running compressor and out the relief stack. Williams' crews arrived on site at 11:30 pm and started troubleshooting. They confirmed the leak at 00:09 on July 29, 2022. Crews then started the compressor, cycling the valve. Upon shut down, the valve aligned and closed properly and no leaks were evident. As this unit would not be needed for the rest of the night, Unit One was left off and unavailable until the next day. Operations personnel that responded to the incident went home to rest. The following morning Operations and Tech Services employees worked to troubleshoot the valve position indicators and were not able to recreate the problem that caused Unit One suction valve to remain cracked.</p> <p>UTC staff deployed to the site July 29, 2022 and reviewed the key components of the release with the operator.</p>
<b>Facts/Chronology of Events:</b>

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- 7/28/2022-22:10 Skamania 911 dispatch contacted NWP control center to report a strong smell of gas from a neighbor near the Willard compressor station
- 7/28/2022-23:50 NW Pipeline Crew arrive on site.
- 7/29/2022 00:09 Crews confirm leak, not sure if its suction or discharge valve from Unit 1.
- 7/29/2022-00:20 approximately-Crews determine with control room to cycle the compressor to open valves. All valves align properly.
- 7/29/2022 00:25 approximately-Compressor is shut down and all valves align and close properly. No evidence of gas leaking by the valve. Unit 1 would not be running the rest of the night so crews leave to return later that morning.
- 7/29/2022 01:52-NW Pipeline calls National Response Center to report release, NRC No. 1342313
- 7/29/2022 09:00-NW Pipeline crews return to Willard compressor station. Operations and Tech Services employees worked to troubleshoot the valve position indicators and were not able to recreate the problem that caused Unit One suction valve to remain cracked during a remote stop. To better alert operation personnel of a similar incident occurring, pipeline control has placed a temporary pressure alarm to monitor case pressure.
- 7/29/2022 10:00 approximately-WUTC arrive at Williams Battleground office to review incident details. Reviewed P&ID drawings of Unit 1 and traced flow path to relief stack. Then deployed to Willard Compressor station to review actions taken by operator.
- 7/29/2022 17:06-NW Pipeline submits a follow up to National Response Center, NRC No. 1342995 updating volume released from 154 MMCF to 172 MMCF
- 8/25/2022 NW Pipeline submits 30-d report, Form 7100.2, to PHMSA. Volume released was revised to 52 MMCF. No additional information on cause of release. Williams instituted a root cause analysis.

## Causes/Contributing Factors:

Summary from Williams root cause analysis:

The following direct causes of incident consequences were identified by the investigation team.

1. Unit 1 continued to vent for 12-13 hours

Contributing and intermediate task and process control findings include.

- Loading or suction valve failed to close fully.
- Power turbine percent speed and suction / discharge pressures were indicated on local HMI and observable by Gas Control but were not specifically reviewed.

The investigation team identified the following root causes and recommended corrective actions.

1. Debris in the seat of the valve. (Hypothetical; no discoverable debris)  
Recommendation: Communication between Operations and Construction to keep debris free of the pipeline (housekeeping) during projects.
2. Specific observation of turbine speed and S&D pressures not required.

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Recommendation: Implement a continuous venting unit alarm within SCADA, station, or unit control systems.

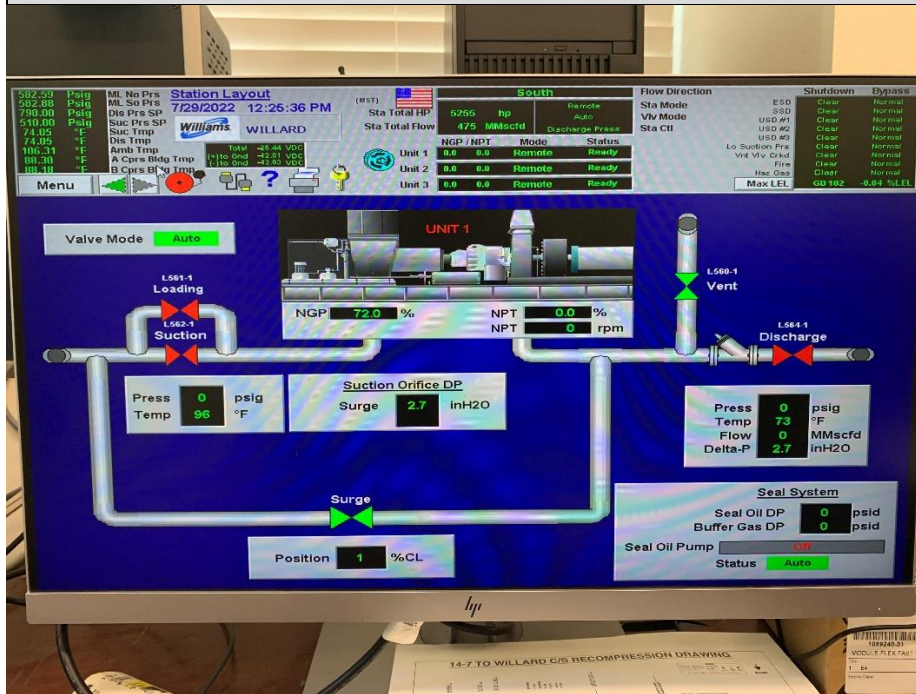
## Regulatory Analysis/ Violations:

There does not appear to be a violation of CFR or WAC regulations as the cause is unknown. After reviewing all the facts and Williams' root cause summary, this incident appears to be isolated and random. With the new procedures and alarms proposed by Williams to indicate continuous venting and better communication after pigging/construction, no further action is required. The procedures and alarms proposed should be reviewed during the next Integrated Inspection.

## Follow up/ Recommendations:

The procedures and alarms proposed should be reviewed during the next Integrated Inspection.

## Photos:

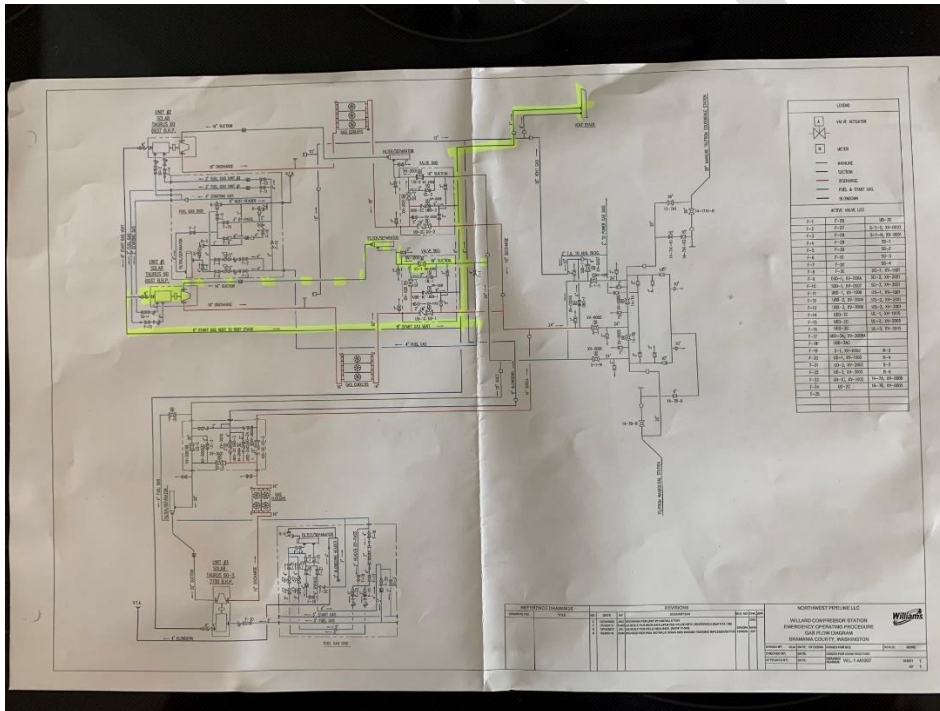


Local HMI showing Unit 1 suction valve closed.

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Unit No. 1



P&ID drawing showing schematic of Unit 1. Yellow highlight is flow path to vent stack

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Unit 1 Suction valve. Note indicator is showing closed.



Looking east from outside Unit 1 suction valve building at vent stack. Pipe in foreground is 16" Unit 1 inlet.

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Looking south at inlet piping for three compressors at Willard station.