



TECHNOLOGY TRANSFER WORKSHOP:  
**PIPELINE BLOWDOWNS IN  
TRANSMISSION AND DISTRIBUTION**

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# Methane Blowdown & Leak Mitigation Technologies on Pipelines & Compressor Station

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# Methane Emission Reduction Initiative 2018

- STAR I – Leak identification and repair (EPA STAR)
- STAR II – Methane conservation
- STAR III - (not part of the MERI\* but for EPA STAR reporting only)

\* Methane Emission Reduction Initiative

# STAR I – Leak identification and repair (EPA STAR)

- Facility Emission Inspection (FEI)
- LiDAR (Light Detection and Ranging)
- Compressor rod packing
- Compressor unit valves
- Pneumatics intermittent and continuous

# STAR II – Methane conservation

- Reroutes
- Pressure reduction using TBS, farm tap, interconnects
- In line compression
- ESD (emergency shut down)
- Flares
- Stopples
- Temporary compression

# STAR III (not part of the MERI but for EPA STAR Transmission reporting only)

- Pressure Reduction (safety considerations)
- Hot taps
- Clock springs
- Patches
- Full-wrap saddle

# Methane Blowdown & Leak Mitigation Technologies on Pipelines & Compressor Stations

- LIDAR – Light Detection and Ranging
- Stopples
- Temporary Compression
- Dump Valves
- Relief Valves
- Portable Flare
- Yale Closures
- Re-Route
- In-line compression

# LIDAR – Light Detection and Ranging



# Optical Unit – Infrared and Visual



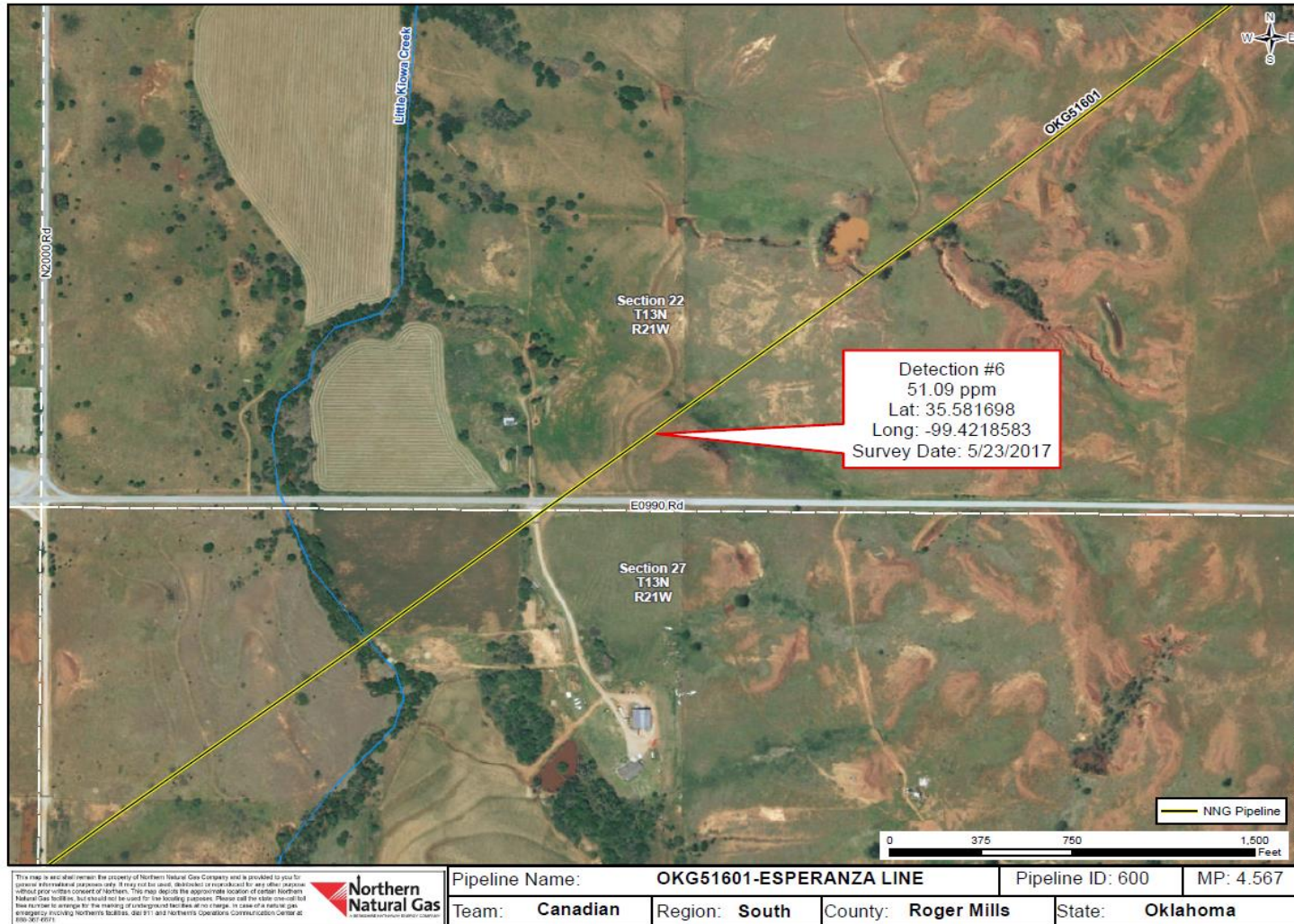


# Field Investigation – Leak Indication Verified

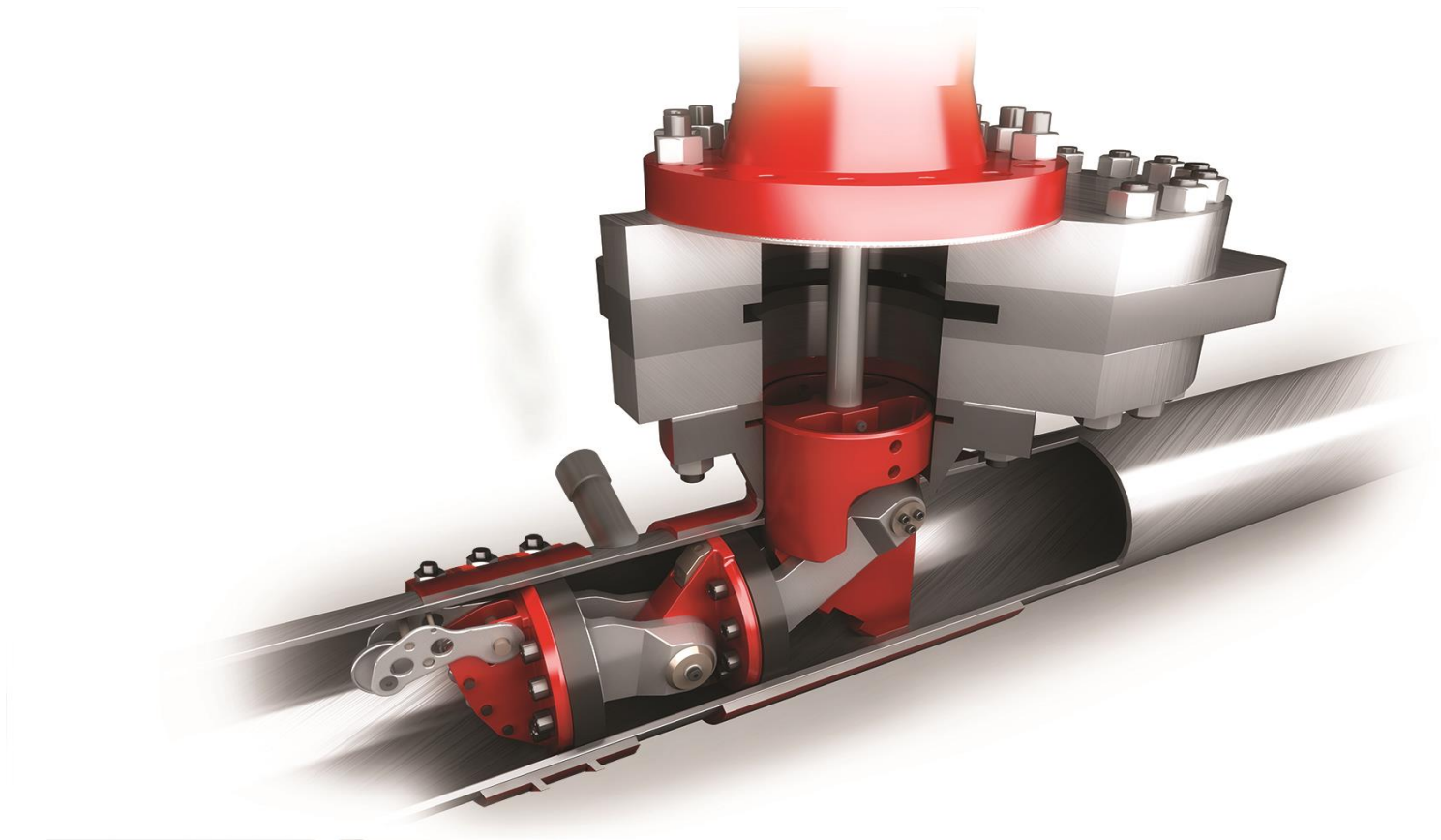
Action Item 61476

05/25/17 08:44 AM - Mike Flynn

Investigated leak detection zzzzz line, found xxxxx pipeline valve setting leaking on the north side of the leak indication. yyyy and wwwwww pipeline companies will be notified of the found leaks on their facilities.



## STOPPLE Bypass - Internal view of the plugging head



**Stoppie:** isolates a section of pipeline without losing service to the whole system

### Basic Items

- Cut the pipe open
- Install a high-pressure plug
- Attach a temporary bypass line





## Smaller-diameter pipeline stopple bypass

# Temporary Compression

- Three 300-hp portable compressors
- Evacuated 42 miles of 20-inch-diameter piping at a valve tie-over
- The B-line gas was pumped to the C-line service
- 590 psig to 430 psig using system demand
- 430 to 50 psig using portable compression
- Remaining 50 psig was vented

Starting gas – 20,440.8 Mcf  
Gas released – 2,030.4 Mcf  
Gas loss avoided – 18,410.4 Mcf

During an evacuation a combination of parallel and multi-staging is used as suction pressure decreased



Three 300-hp compressors in parallel operation

# Separator Dump Valves



# Separator Dump Valve

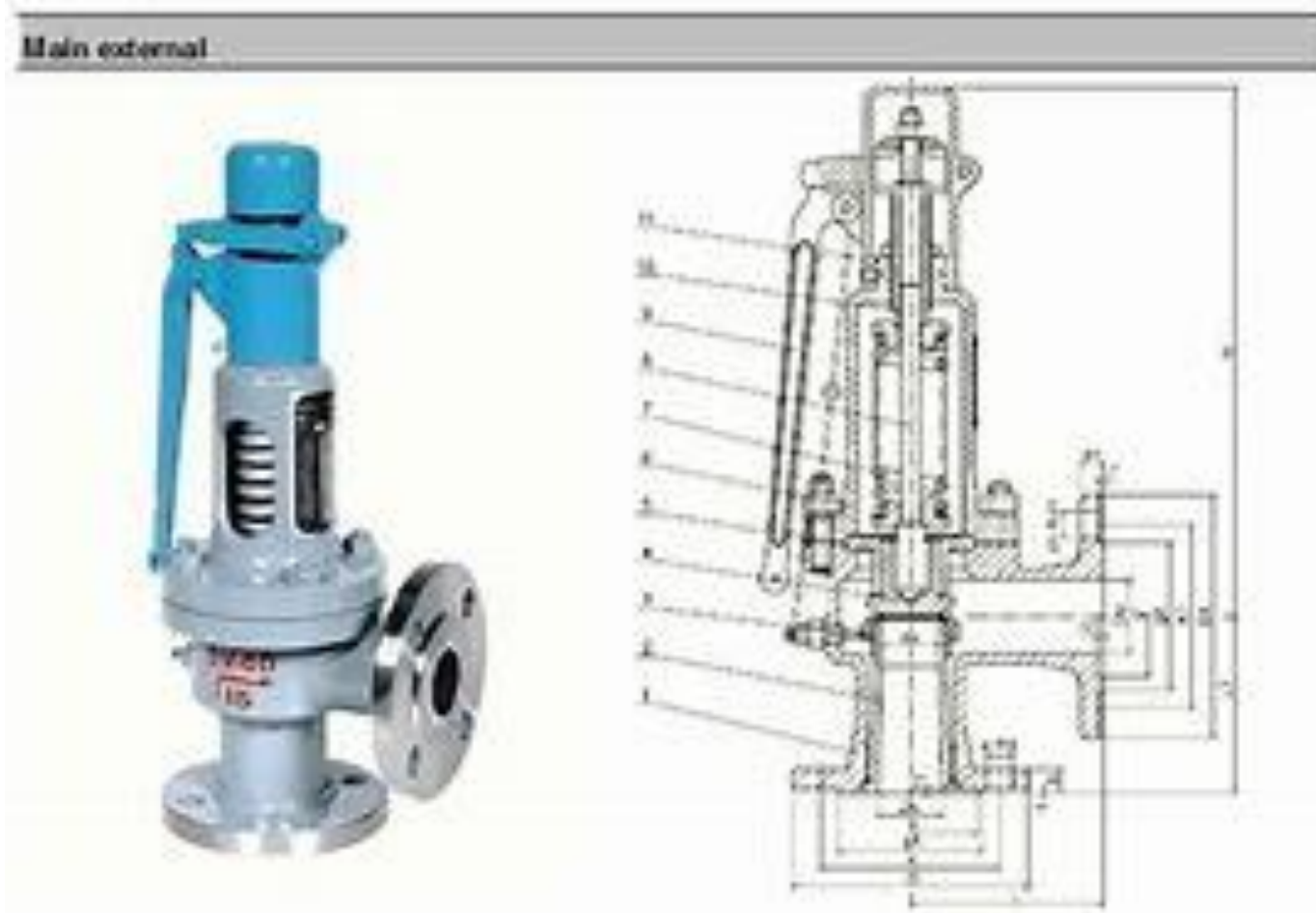




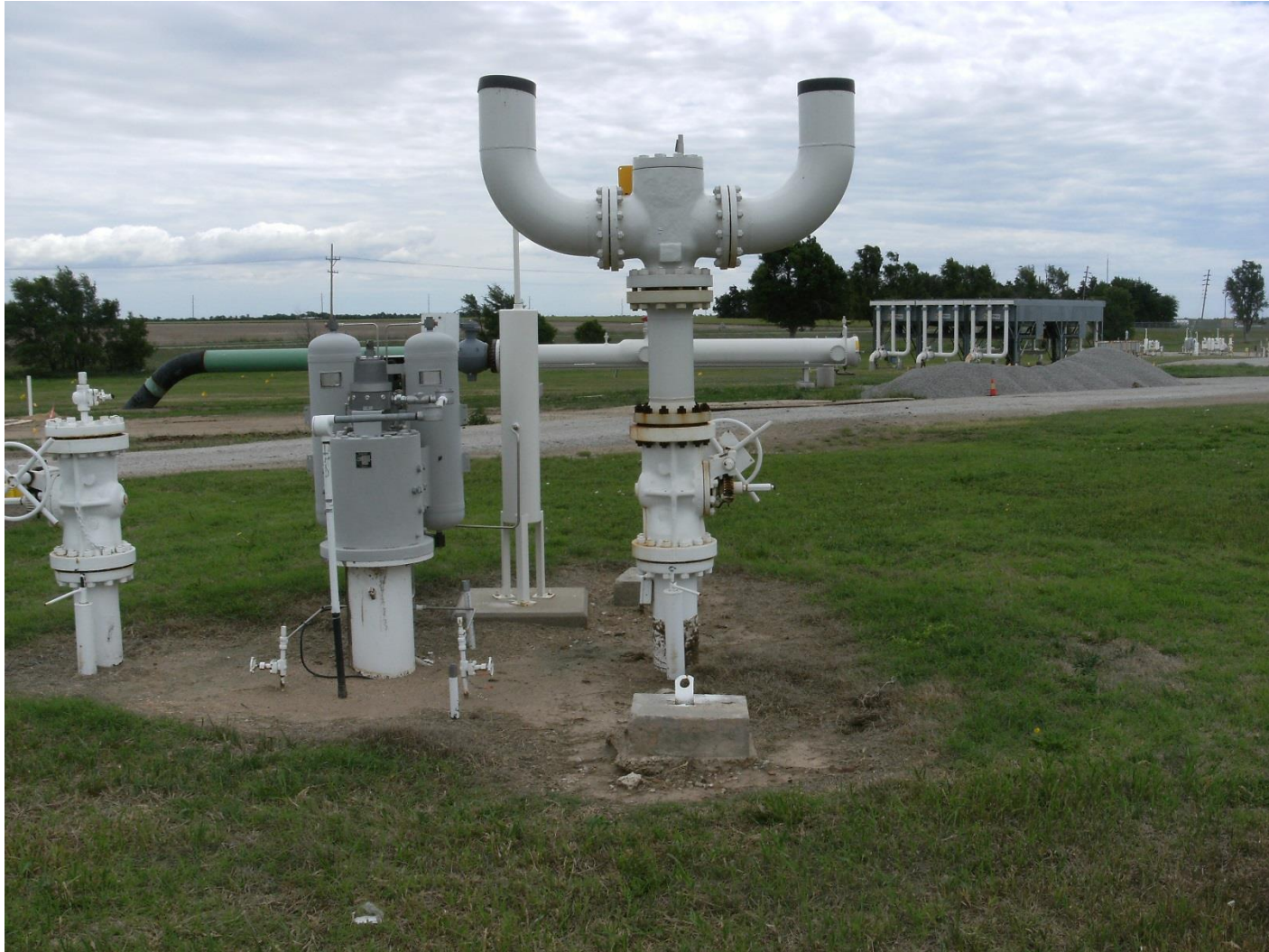
# In-Line Compression



# Relief Valves



# Relief Valve - Blowdown



# Portable Flares



# Yale Closures



# Reroutes



# Questions ?