TECHNOLOGY TRANSFER WORKSHOP:
PIPELINE BLOWDOWNS IN TRANSMISSION AND DISTRIBUTION
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Case Studies of Methane Blowdown Mitigation Technologies on Pipelines

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Methane Emission Reduction Initiative 2016

- 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)

STAR I – Leak identification and repair (EPA STAR)

- Facility leak detection

- 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

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- Stopples

- Temporary Compression

Stopple: isolates a section of pipeline without losing service to the whole system
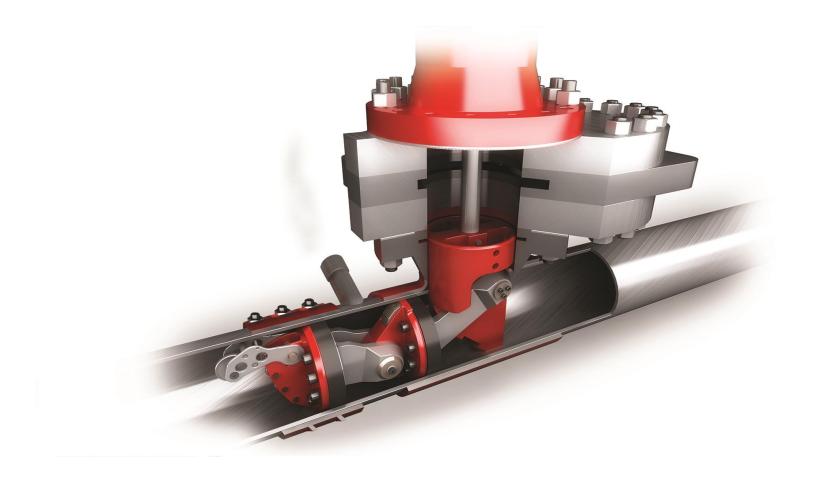
Basic Items

- Cut the pipe open

- Install a high-pressure plug

- Attach a temporary bypass line

Pipe-cutting tool

Internal view of the plugging head

Flanging up the bypass piping

Attaching the bypass piping

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

Questions?