Natural Gas STAR

Northern Natural Gas Company

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Outline

★ Who is Northern Natural Gas Company?
★ Northern’s STAR I Program
★ Northern’s STAR II Program
★ Overview of dump valves
★ Environmental RESPECT Policy
Northern Natural Gas System Map

- 16,000 miles of pipeline
- 103 Compressor Stations
- 1000 employees
- 2600 TBSs (Gate Stations)
STAR I & STAR II Programs

★ STAR I – The volume of methane from a Facility Leakage Audit (FLA) that was repaired. Un-repaired leaks go into our “unaccounted for” volumes.

★ STAR II – The volume of methane that was conserved during normal pipeline venting operations.
STAR I  GHG – EPA STAR - UAF

★ Mapping
★ Facility Leakage Audit (FLA)
  ▪ Remote Methane Leak Detector (RMLD) - ppm
  ▪ IR Camera – Gas FindIR – ppm & LPM
  ▪ HiFlow - LPM
★ Repairs reported to EPA STAR
★ Unaccounted for (UAF)
STAR I - Natural Gas Leak - FLA

- Separator Dump Valves
- Rod Packing
- Unit Valves/ Station Blowdown
Facility Leakage Audit (FLA)
STAR II – Emission Conservation

- Pressure Reduction
  - Work
  - Blowdown

- Emergency Shut Down - ESD
- Vapor Recovery Units - VRU
- Hot Taps
Separator

- Inlet Stream
- Gas Recycled
- Liquid and Solids Collected in Sump
- "WhirllyJig"
- Liquid and Solids Spun To Wall
- Liquid and Solids Drawn Through Opening

Northern Natural Gas
A MIDAMERICAN ENERGY HOLDINGS COMPANY
Dump Valve
Separator Dump Valve Leak
Gas Loss – MCF/Day

1/32 inch
1/16 inch
1/8 inch
1/4 inch

300 psi
600 psi
Repaired Dump Valve
Separator Dump Valve Data

- ★ 435 dump valves  2.2 cu. ft./min.
- ★ 41 @ one station
- ★ Inspection
  - Daily rounds – feel & listen
  - Trim inspection & repair
- ★ 435 dump valves  0.2 cu. ft./min.
- ★ Volume from dumping operation – flash gas
- ★ Purge volume
MidAmerican Energy RESPECT Policy

- Respect
- Efficiency
- Stewardship
- Performance
- Evaluation
- Communication
- Training
Question?
Contact Information

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