



Natural Gas STAR Partner Experiences

Northern Natural Gas Company

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Midland, Texas



Outline



- ★ Who is Northern Natural Gas Company (Northern)?
- ★ Gas STAR Program Overview
- ★ Northern's STAR II Program
- ★ Northern's STAR I Program
- ★ MidAmerican's Environmental RESPECT Policy
- ★ Questions



Who is Northern Natural Gas Company?



- ★ Northern is a wholly owned subsidiary of MidAmerican Energy Holding Company.
- ★ Northern believes responsible environmental management is good business; it benefits our customers and improves the quality of the environment in which we live.
- ★ Our policy establishes the environmental RESPECT principles that guide our corporate commitment to the environment.



Northern Natural Gas System Map



- ★ 13,000 miles of pipeline
- ★ 110 Compressor Stations
- ★ 1100 employees
- ★ 5000 TBSs



The Natural Gas STAR Program



The Natural Gas STAR Program is a *flexible, voluntary partnership* between EPA and the oil and natural gas industry designed to *cost-effectively* reduce methane emissions from natural gas operations.

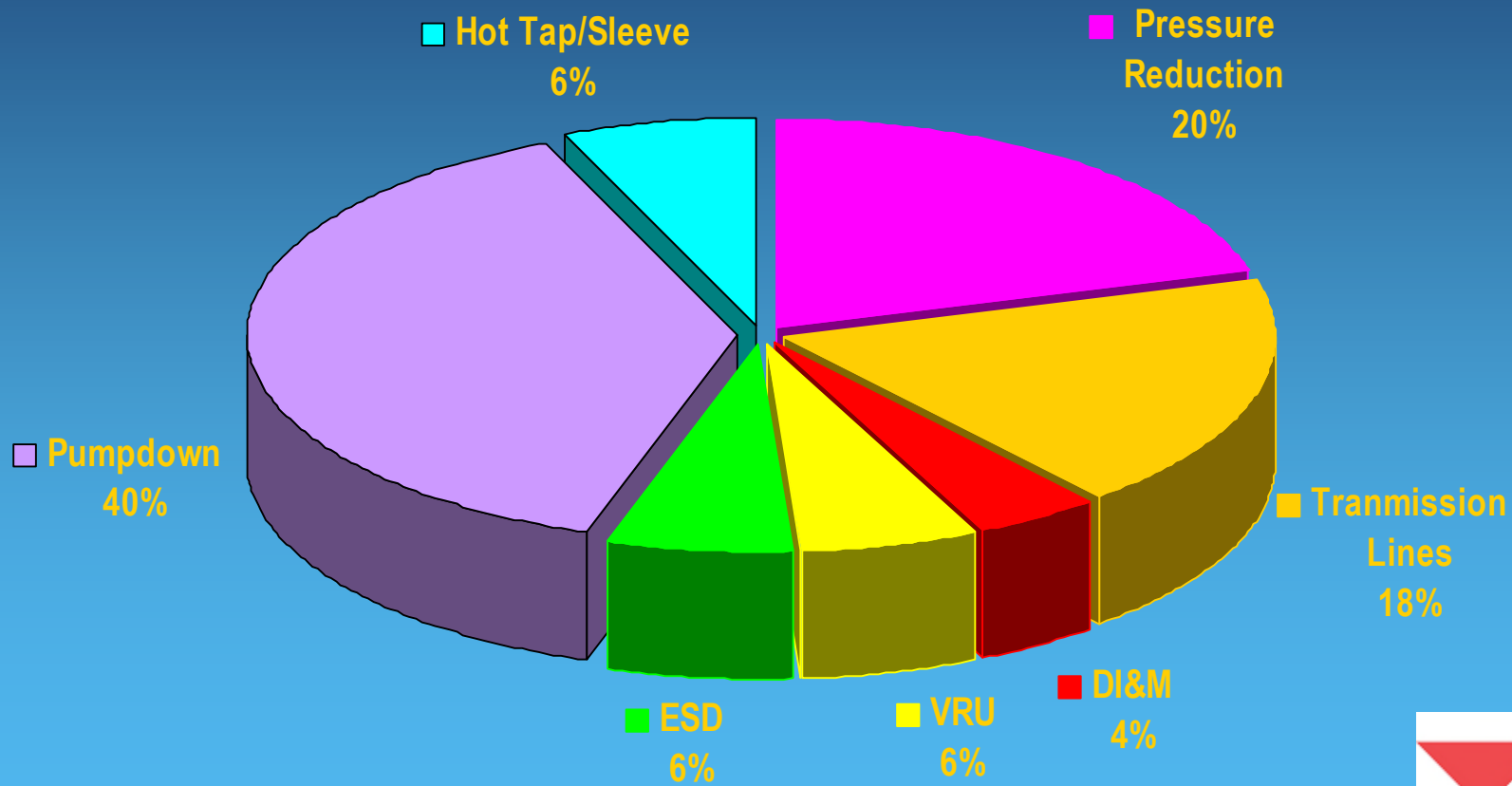


STAR I & STAR II Programs

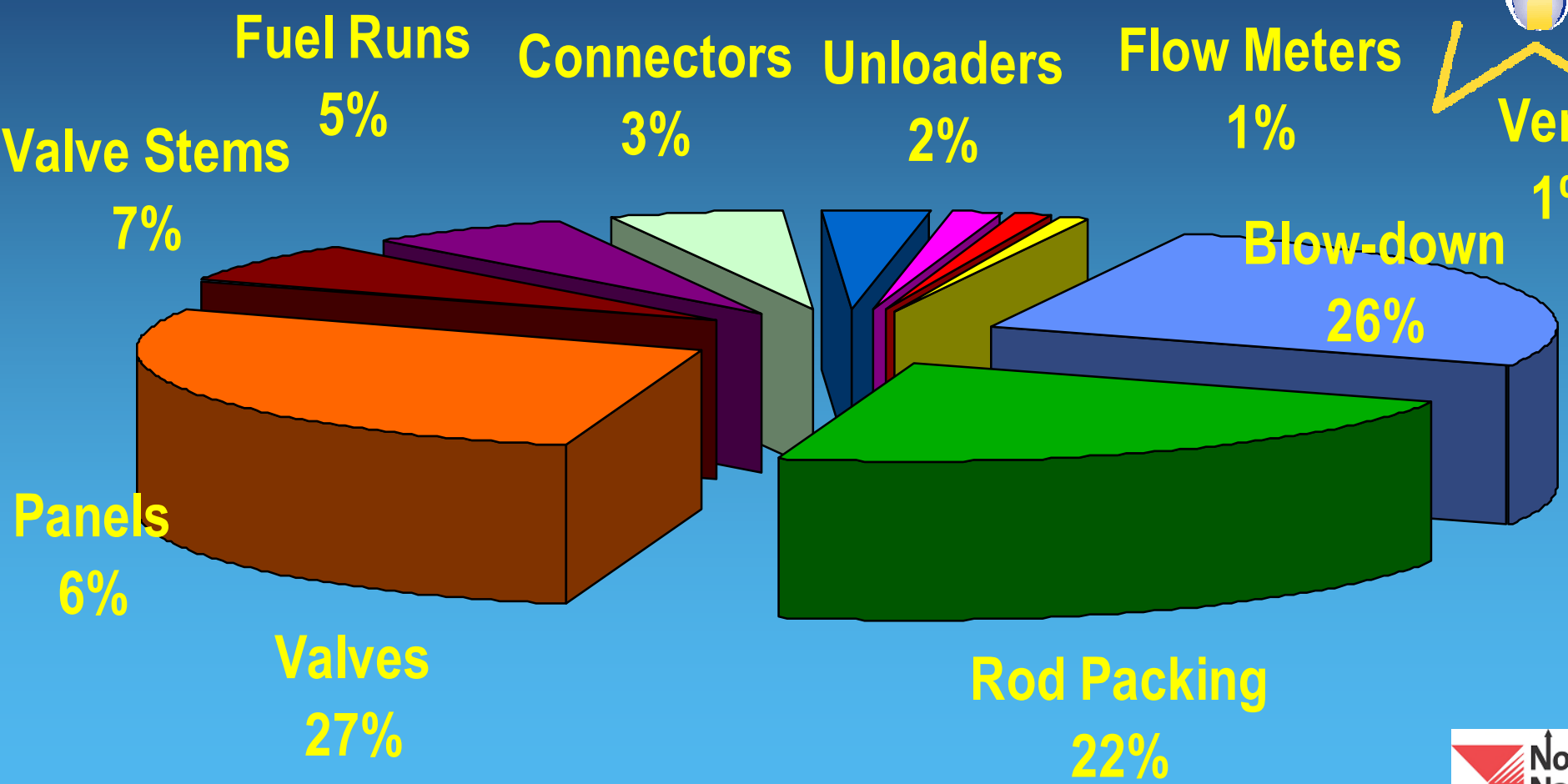


- ★ STAR I – The volume of methane from a leak (Facility Leakage Audit) that was repaired. Un-repaired leaks go into our “unaccounted for” volumes
- ★ STAR II – The volume of methane that was conserved during normal pipeline venting operations.

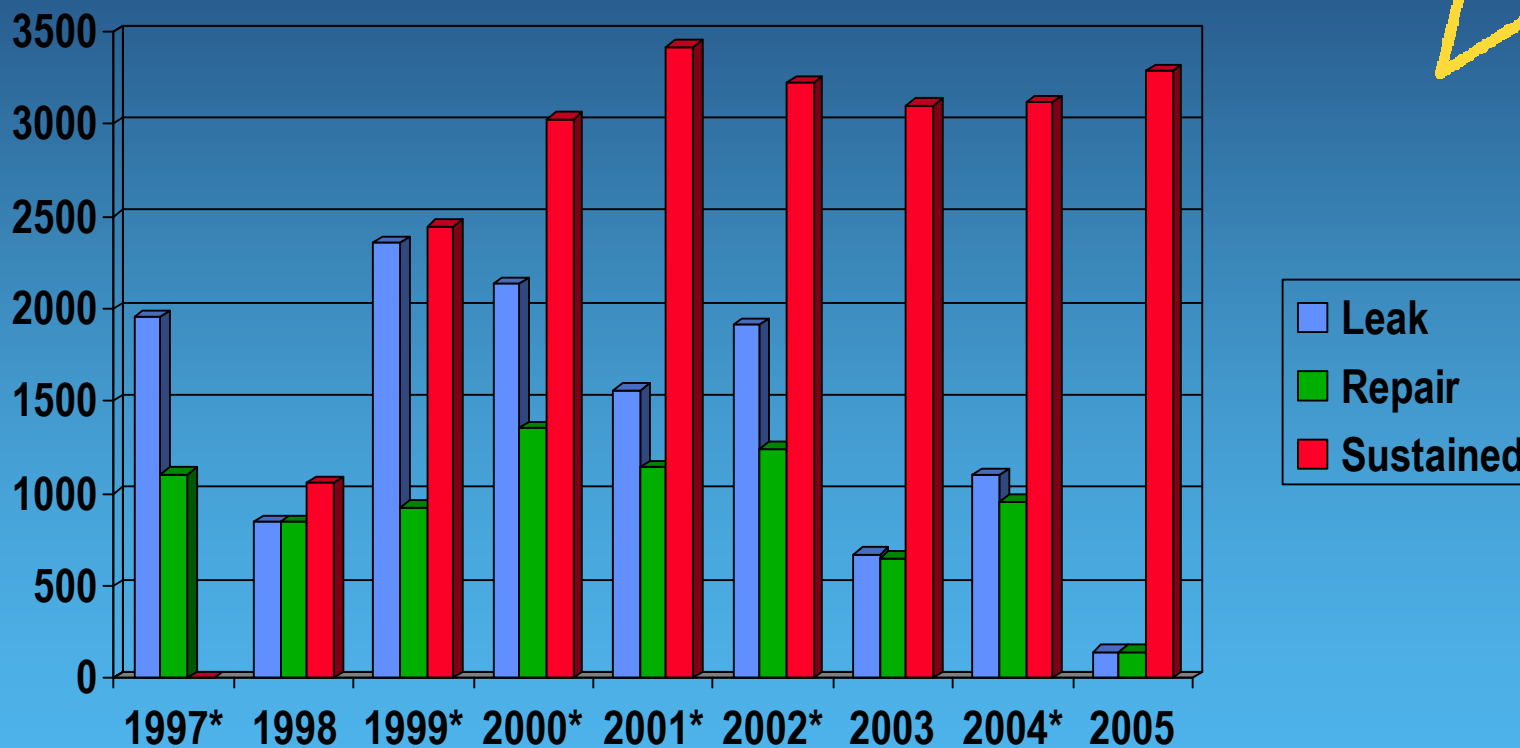
STAR II Emission Categories



STAR I Emission Categories



Facility Leakage Audit (FLA)



Northern's STAR Accomplishments



- ★ 5.6 Bcf in total reductions
- ★ Annual Emissions Reductions:

Previous: 144.2 MMCF

1996: 87.6 MMCF

1997: 884.2 MMCF

1998: 731.9 MMCF

1999: 548.1 MMCF

2000: 331.4 MMCF

2001: 107.3 MMCF

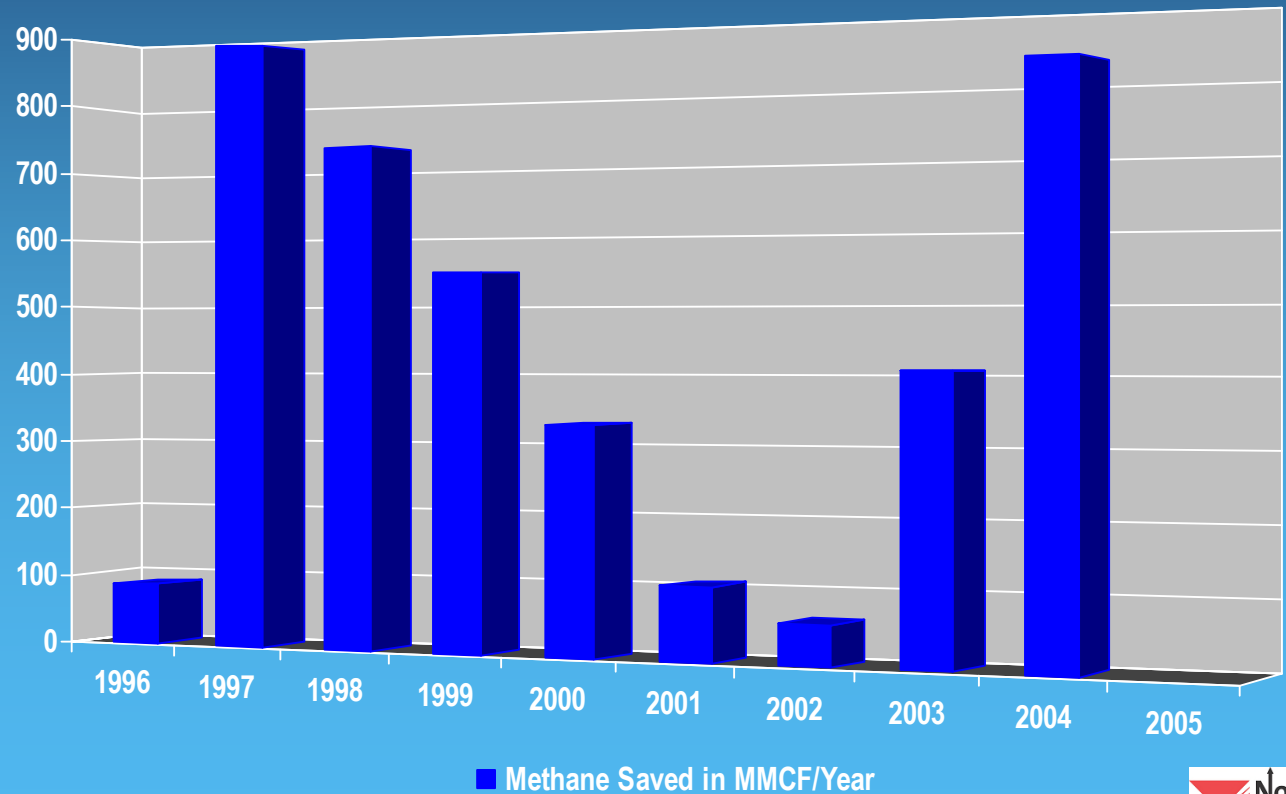
2002: 59.6 MMCF

2003: 408.7 MMCF

2004: 832.8 MMCF

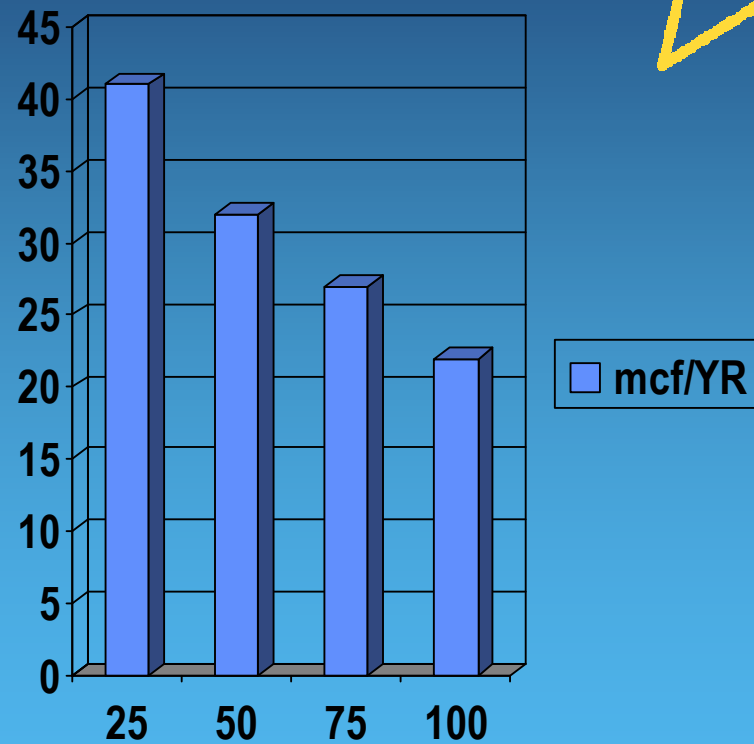
2005: ??? MMCF

Total: 5637.4 MMCF



Leak Breakdown

- ★ >25 MCF/yr 41%
- ★ >50 MCF/yr 32%
- ★ >75 MCF/yr 27%
- ★ >100 MCF/yr 22%



Leak Breakdown

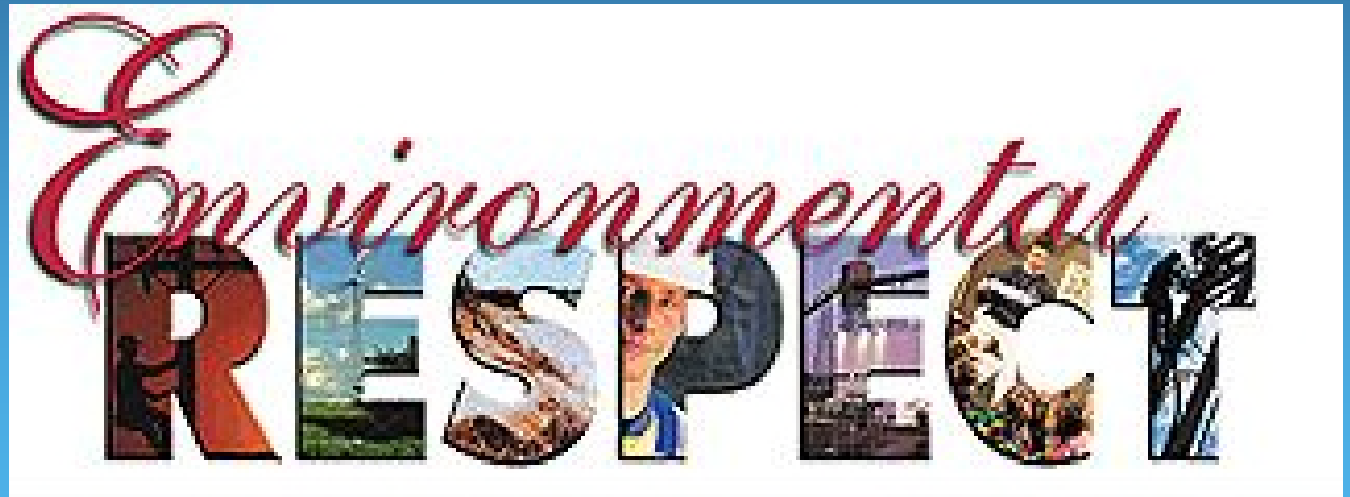


- ★ 5% of leaks equal 62% of volume
(18 rod packing)
- ★ 10 % of leaks equal 79% of volume
(40 rod packing)

MidAmerican Energy RESPECT Policy



- ★ Respect
- ★ Efficiency
- ★ Stewardship
- ★ Performance
- ★ Evaluation
- ★ Communication
- ★ Training



Question?



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