Tidelands Oil Production
Company

Methane Reduction Actions

EPA’s Natural Gas Star
Producers Technology Transfer Workshop
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Replaced Old Gas Stretford Processing facility with Sulfa Treat System

**Issue:** Inefficient processing facility for changes in gas production.

**Answer:** Replace with Sulfa Treat System, for current and project gas production.
Replaced Old Gas Stretford Processing facility with Sulfa Treat System

- **What did we do:** Shut-in 11 “1920s” vintage ICEs
- **Benefit:** Removed old engines with inefficient combustion process that had a high blow-by of un-combusted fuel. (>100 tons/year);
- **Technical Issues:** New process and how do we manage the gas at the new facilities;
- **Additional Benefits:** Provided clean, efficient and reliable system
Consolidate Tank Facilities

**Issue:** Neighboring facilities were now under common ownership, duplication of facilities existed.

**Answer:** Consolidate facilities accordingly for current and project production needs.
Consolidate Tank Facilities

• What did we do: Combined production at 7 tank facilities into 2;

• Benefit: Eliminated over 80 processing tanks and associated equipment containing Methane;
Consolidate Tank Facilities

• Technical issues: How do we get the production there and accommodate unique production issues (hot fluids from steam fluid);

• Additional Benefits: Reductions in staffing needed to run facilities and reduction in maintenance, reduced other liabilities.
Consolidated and Electrified hydraulic pump operations

**Issue:** Multiple small (50–120 bhp) old internal combustion engines driving power oil pumps;

**Answer:** Replace with electric motors
Consolidated and Electrified hydraulic pump operations

• What did we do: Reduced over 30 ICE powered Kobe hydraulic pumps to 12 electric motor powered units;

• Benefits: Removed old engines with inefficient combustion process that had a high blow-by of un-combusted fuel.
Consolidated and Electrified hydraulic pump operations

- Technical Issues: How do you make best use of existing equipment;

- Additional Benefits: Reductions in staffing needed to run facilities and reduction in maintenance, reduced other liabilities.
Installation of Molecular Gate® CO₂ Removal system.

**Issue:** Desire to take non-merchantable gas and make utility spec gas instead of flaring gas.

**Answer:** Install Acid Gas Removal system.
Installation of Molecular Gate® CO₂ Removal system.

• What did we do: Installed Molecular Gate CO2 Removal system;
• Benefits: Created merchantable gas instead of flaring;
• Technical issues: New technology: 2nd unit to be installed in the world;
• Additional Benefits: Increase in revenue.
Use of Ultra Efficient ICEs

**Issue:** Desire to use non-merchantable gas, instead of flaring gas, to run ICEs instead of electric motors.

**Answer:** Install large ICEs capable of using gas to drive water injection pumps.
Use of Ultra Efficient ICEs

- What did we do: Designed ICEs to allowed the use of non-merchantable gas to be used as fuel.
- Benefits: Significantly reduced flaring (800 mscf/day)
- Technical Issues: How do you control emissions with varying quality gas;
- Additional Benefits: Reduction in electrical cost ($3,000/day/unit)
Methane is higher in FY03/04 because SCAQMD changed method for calculating methane emissions.