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Liquefied Natural Gas (LNG)

Tim Flanagan

Penn State Conference

- ✓ Combination Utility – Electric & Gas
 - Electric in Philadelphia & Surrounding Suburbs
 - Gas in Philadelphia Suburbs
 - Bucks, Chester, Delaware, Montgomery, & Lancaster Counties
- ✓ Gas currently approximately 518,000 customers.
- ✓ Approximately 6700 miles of gas main

- ✓ LNG Plant commissioned in 1972
- ✓ Located in West Conshohocken
- ✓ LNG tank is 1.2 BCF (15 Million Gallons LNG)
- ✓ Designed for peak shaving operations
- ✓ Control room on site – manned 24 X 7
- ✓ Feeds - Transco & TETCO

Located in West Consohocken



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Google Earth



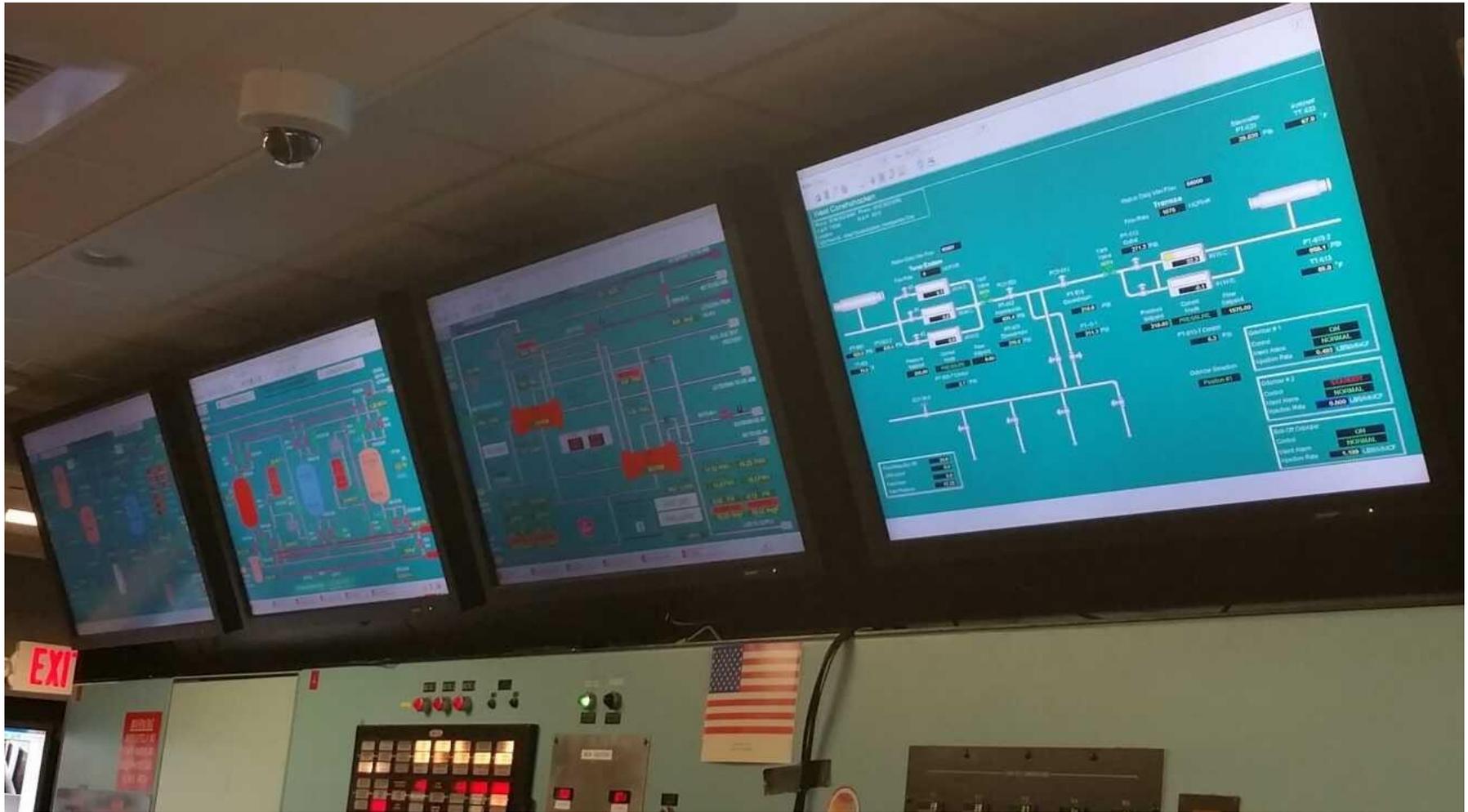
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- ✓ Liquefaction – Turbo expander operation driven by gas combustion turbine – capable of 6 million SCF/Day
- ✓ Gas supplied from either TETCO or TRANSCO – gate stations on site.
- ✓ Typical Liquefaction timeframe – April – October depending upon how much used
- ✓ Goal is to have LNG tank full for internal winter readiness date of November 1st.

- ✓ 5 LNG pumps (built-in redundancy)
- ✓ 5 individual vaporizers in water bath heat exchanger (built-in redundancy)
- ✓ Capable of vaporizing 312 million SCF/Day
- ✓ Vaporization operations coordinated with Gas Control
- ✓ Increase normal staffing when vaporization in progress.



LNG Control Room



LNG Control Room





Security – Cameras & Monitors



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Combustion Turbine Building



Turbine, Nitrogen, Cold Box



Pipe Train & LNG Tank



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Portable Vaporizer



Portable Vaporizer





Pump Skid



Pump Skip Connected to Vaporizer









Vaporized LNG into Distribution System









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Questions