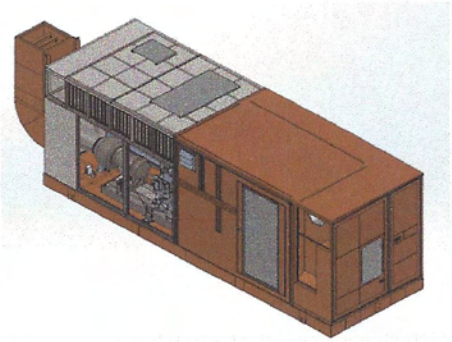
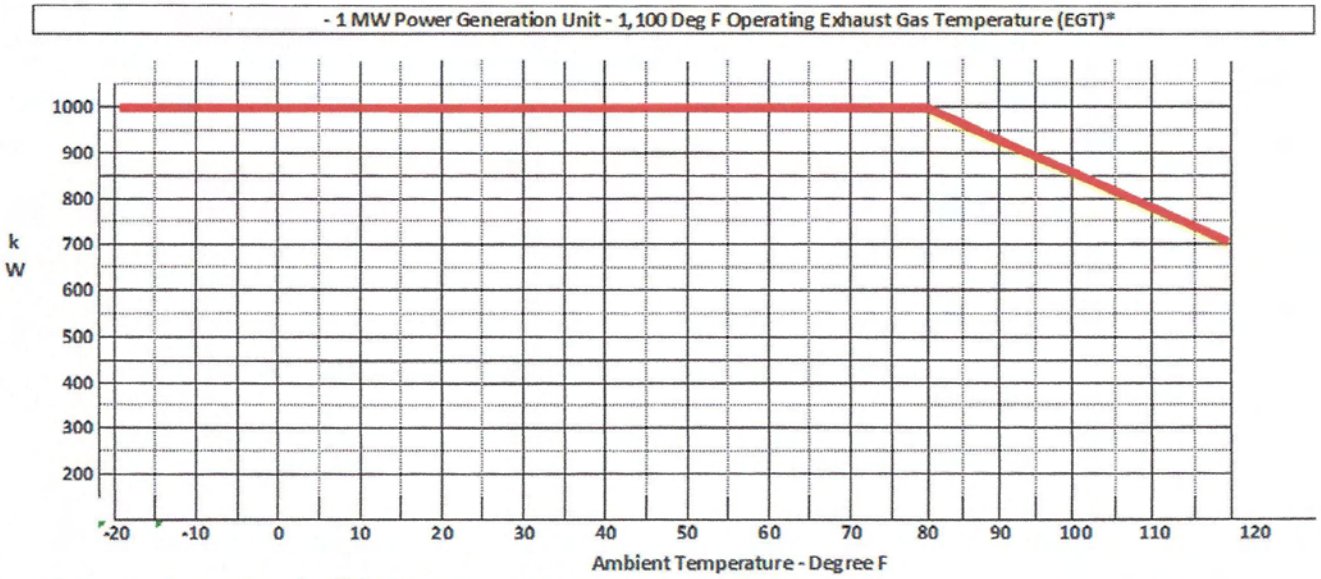
1 MW - Power Generation Unit

Performance



- Output Power 1,000 kW – 480V
- Heat Rate 13,200 BTU/kWe-hr
- Exhaust Flow 11.7 lb/sec
- Exhaust Temperature 1,100 Degrees F
- Nominal Rating – per ISO at 59 Degrees F, Sea Level
  - No Inlet/Exhaust/Accessory Losses
  - Relative Humidity 60%
  - Natural Gas Fuel with LHV = ~1000 BTU/scf

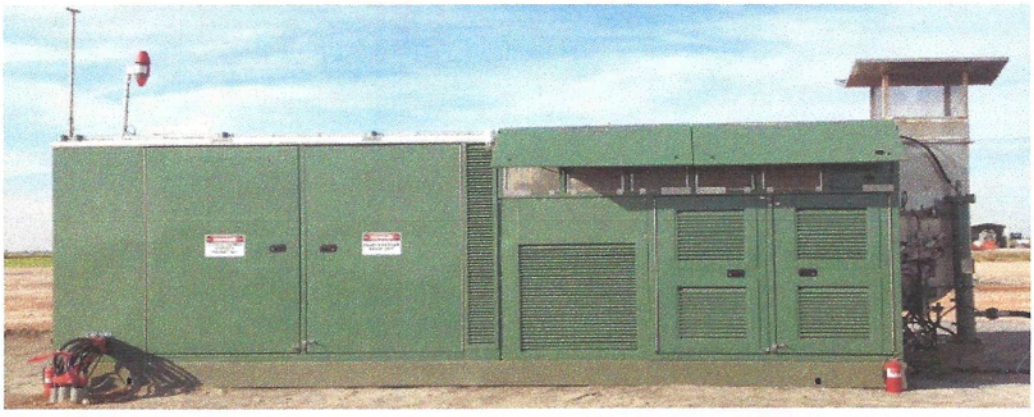


* Projected performance based on 59 DegF amb. Temp. 60% RH, sea level, no inlet/exhaust losses

	Heat Rate
1000 kW	13.2 mBtu/hp-hr Heat Rate
750 kW	14.2mBtu/hp-hr Heat Rate
500 kW	17.4 mBtu/hp-hr Heat Rate

Degree F @ Standard Day

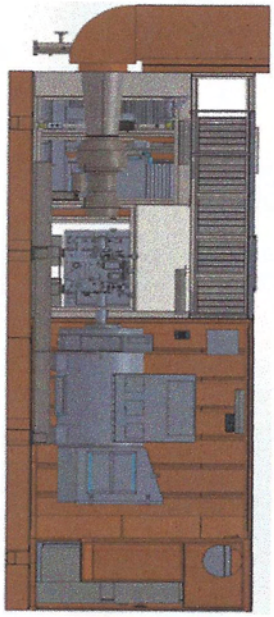
ELEVATION (ft)	
1000	0.964
2000	0.930
3000	0.896
4000	0.864
5000	0.832
6000	0.801



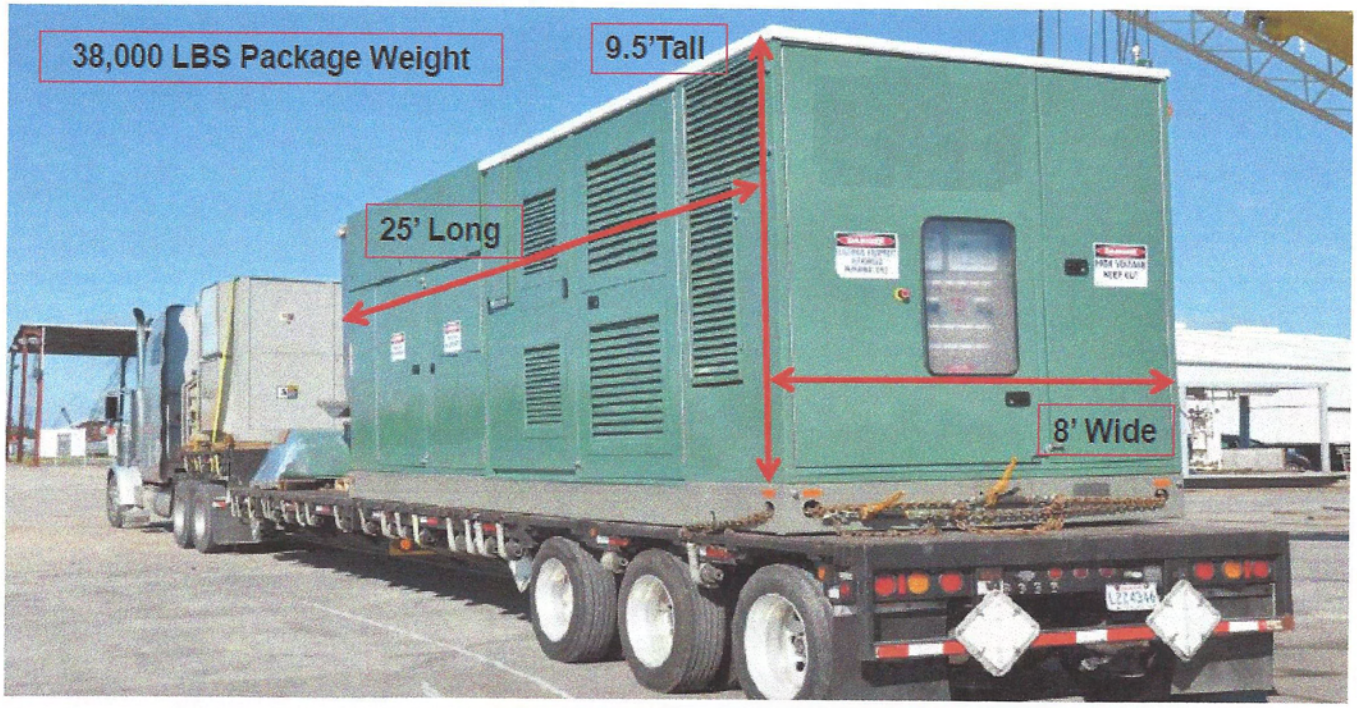
1 MW - Power Generation Unit

General Specifications

- **Engine**
  - Split Shaft Gas Turbine
  - Five Stage Axial – Single Stage Centrifugal Compressor
  - Compressor
    - Variable inlet guide vanes
    - Pressure ratio - 7.2
  - Combustion Chamber, Annular
    - 22 gas nozzles
    - High energy ignition
  - Power Turbine
    - Two stage reactive
    - Power takeoff speed - 60-Hz 5800 rpm
  - Vibration Transducer
    - Accelerometer inlet casing
    - Accelerometer rear turbine (available)

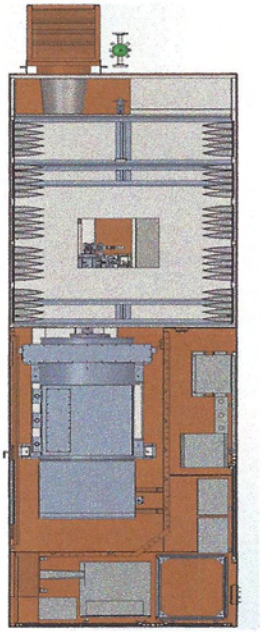


- **Reduction Gearbox**
  - Single Reduction Parallel Shaft 1800 RPM
  - Vibration (casing, radial and proximity probes)
  - Temperature RTD at each Journal Bearing



1 MW - Power Generation Unit

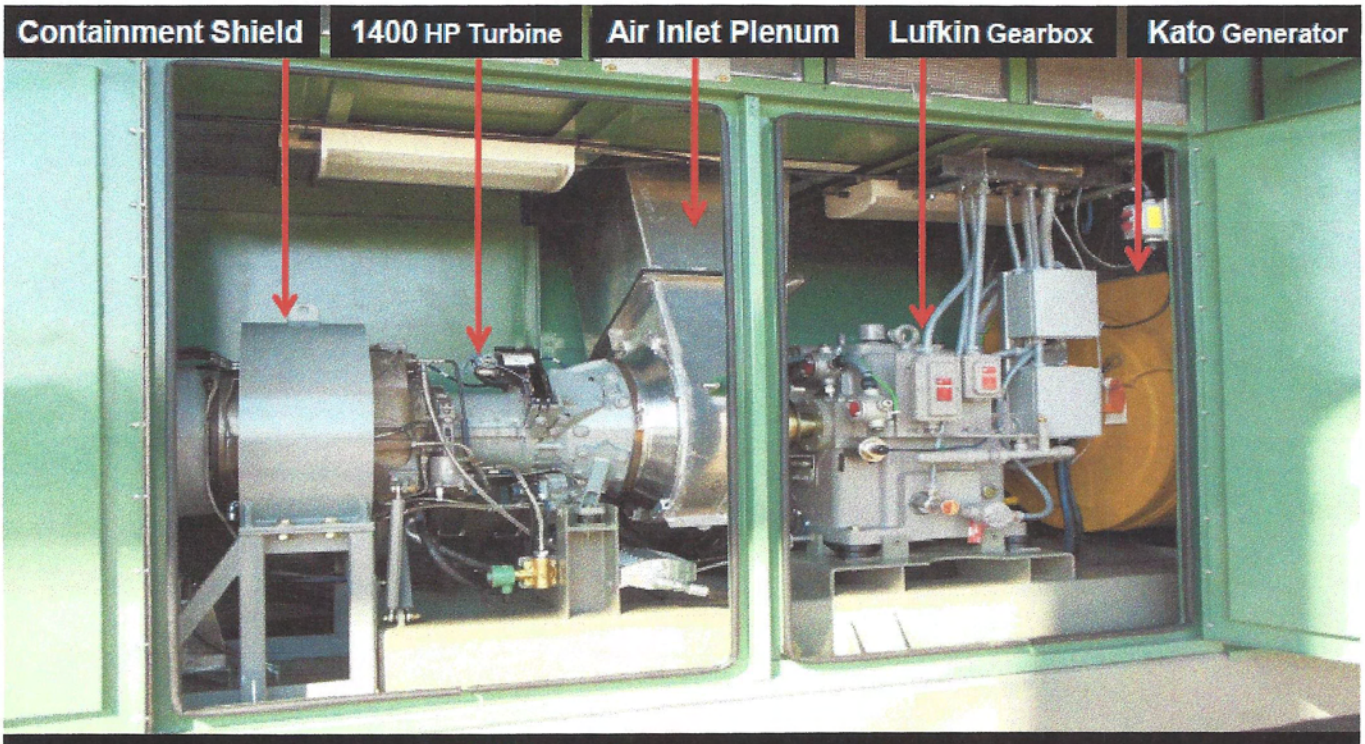
- **Generator**
  - 4 Pole, 3 Phase, 60-Hz, 4 Wire WYE Connection
  - Synchronous w/Permanent Magnet Generator Exciter
  - 2 Regreasable Anti-Friction Bearings
  - Temperature Rise – 105 Deg C / 40 Deg C
  - NEMA Class F Insulation
  - Enclosure IP-23 Open Drip Proof w/Filter



- **Footprint**
  - Approximate Weight: 38,000 lbs.
  - Package Dimensions: 25' Long x 8' Wide x 9.5' Tall

- **Enclosure**
  - Complete Package
  - Fire and Gas Detection
  - Fire Suppression (available)

- **Starting System**
  - Hydraulic via Onboard HPU
  - Black Start Capable



1 MW Power Generation Drive Train

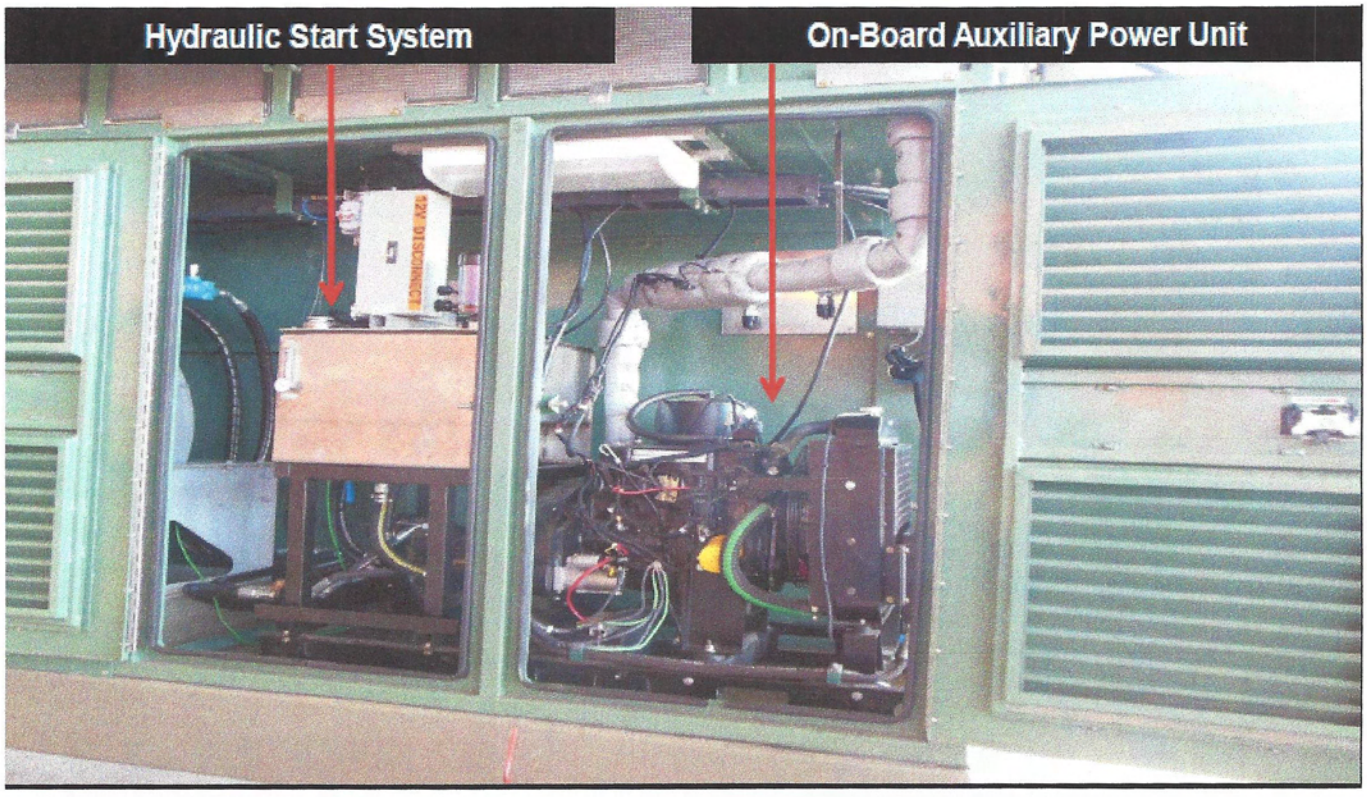
1 MW - Power Generation Unit

- **Package Codes, Regulations and Standards**
  - NEC, NFPA, IEEE, NEMA, API, OSHA

- **Fuel System**
  - Natural Gas
  - Dual Fuel Available (Diesel and Natural Gas)

- **Lube Oil System**
  - Turbine Driven Lube Pump
  - Turbine Lube Oil Tank
  - Reduction Gearbox Driven Lube Pump
  - Reduction Gearbox Lube Oil Pre-Heater
  - Dual Core Air-Oil Heat Exchanger

- **Air Inlet and Exhaust**
  - Dedicated Filtered Gas Turbine Air Inlet Plenum
  - Attenuated Inlet
  - Attenuated Exhaust



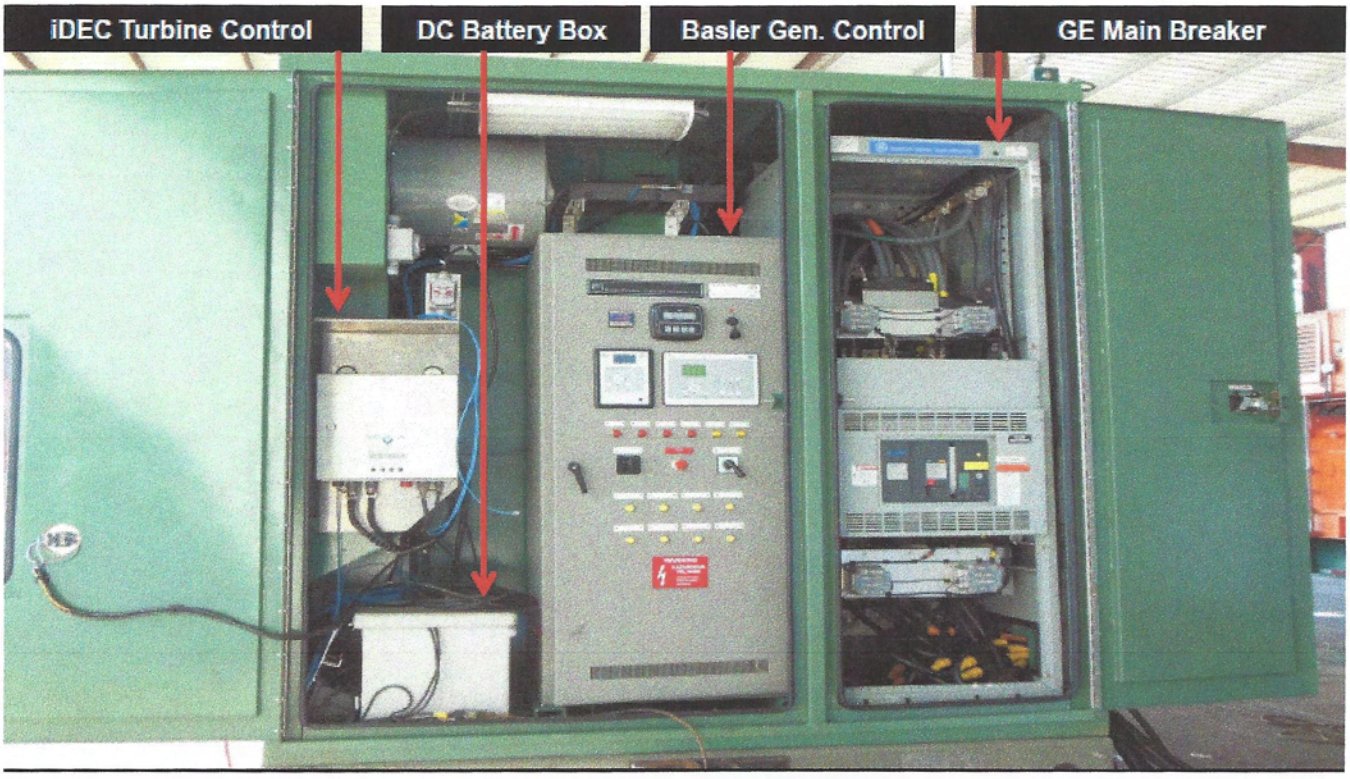
1 MW -Power Generation Unit

- **Gas Turbine Cleaning System**
  - Pre-plumbed
  - Portable Cleaning Tank (available)

- **TPG Package Power**
  - 12V and 24V DC Battery / Charging Systems
  - Solar Panel

- **TPG Engine and Generator Control**
  - TES iDEC Gas Turbine and Generation System Control
  - Basler Generator Controls
  - Lynx CPU, Red Lion Ethernet Modbus Supervisory Interface

- **Field Maintenance**
  - 30,000 Hour Engine Life Before Overhaul
  - On Site Module and Engine Exchanges
  - Follows a Prescribed PM Schedule Based on the Application



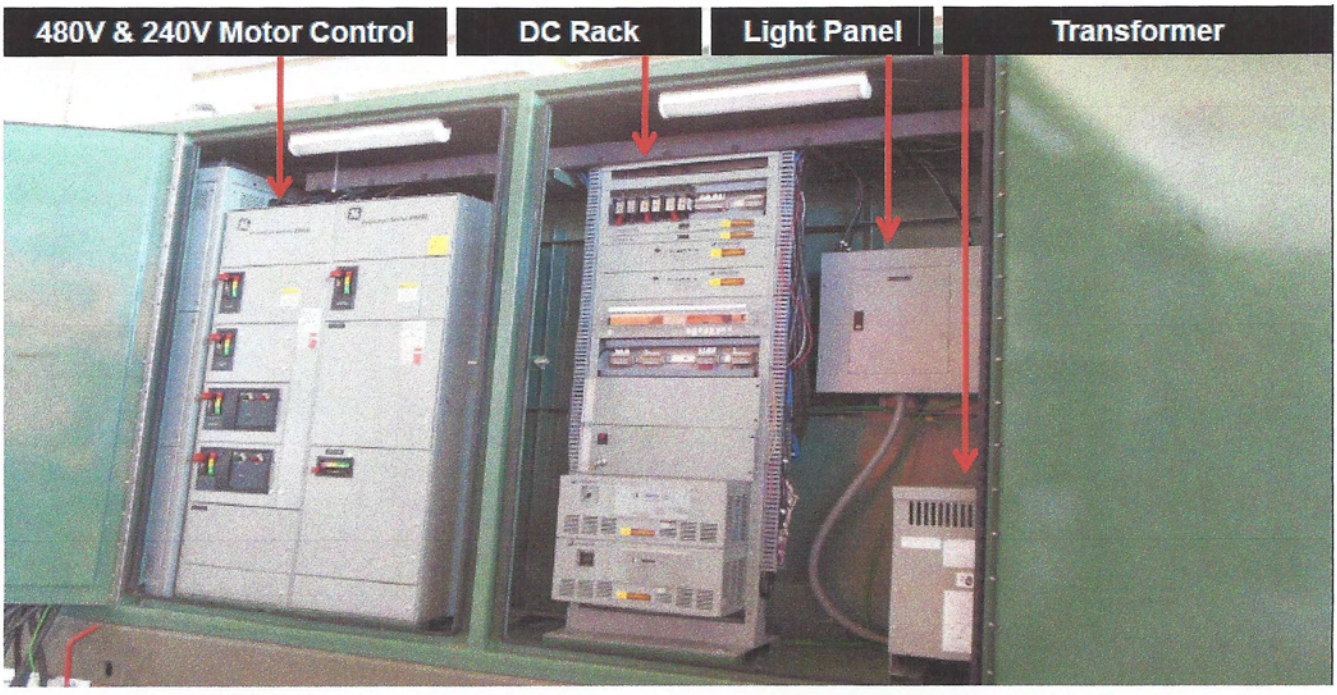
Third Party Emission Readings - November 2013

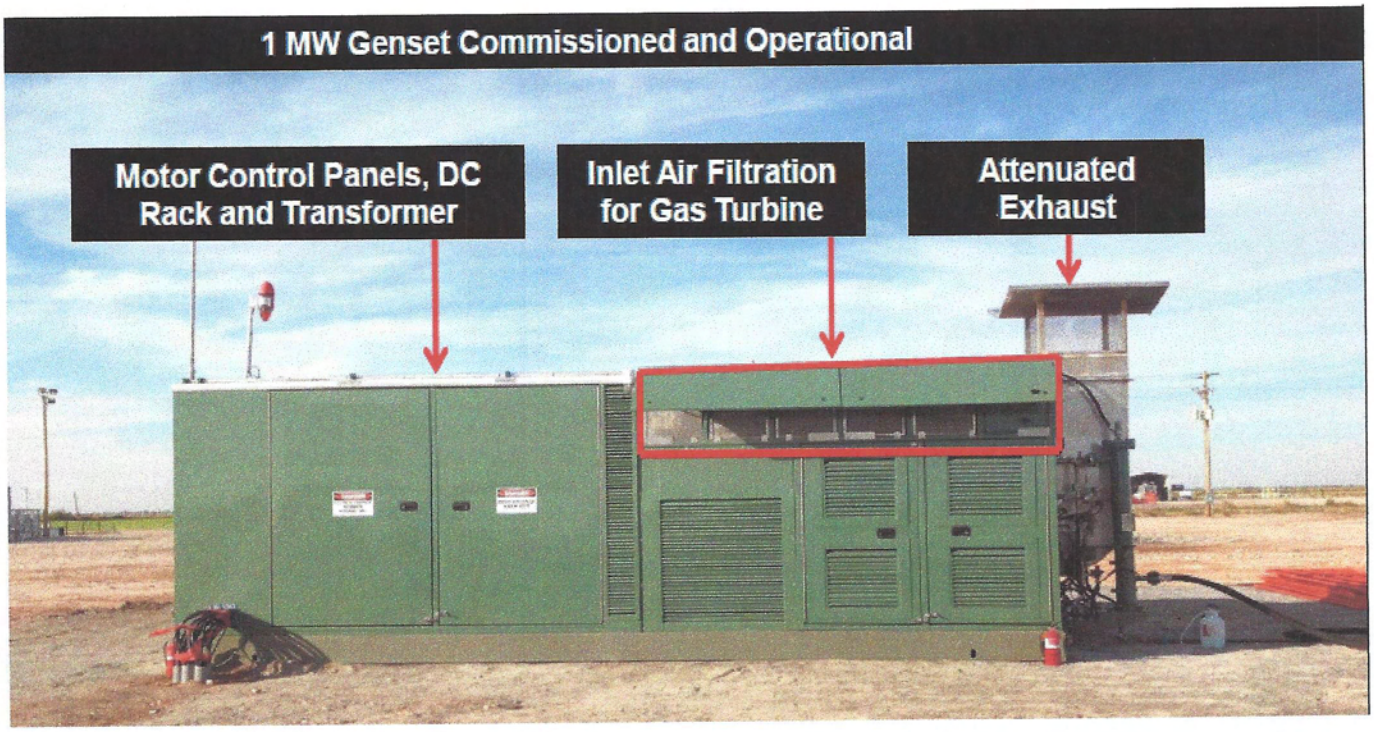
Emissions Data - November 2013
- 004 - T53 on Compressed Natural Gas (CNG)

Engine Percent of Power	KW Load	CO PPM	NOX PPM @ 15%	SO2 PPM	NMHC PPM
30%	300	173.10	31.73	0.11	1.71
50%	500	73.05	41.04	0.33	0.01
75%	750	34.47	50.73	0.69	0.00
100%	1000	8.66	68.00	0.79	0.00

Emissions Data - November 2013
- 004 - T53 on #2 Diesel Liquid Fuel

Engine Percent of Power	SHP at Dyno	CO PPM	NOX PPM @ 15%	SO2 PPM	NMHC PPM
30%	400	355.35	37.33	3.38	33.93
50%	670	205.05	48.46	2.06	12.07
75%	1005	79.29	61.58	1.31	1.16
100%	1340	27.75	74.58	0.93	0.03




1 MW Genset Commissioned and Operational
Motor Control Panels, DC Rack and Transformer
Inlet Air Filtration for Gas Turbine
Attenuated Exhaust