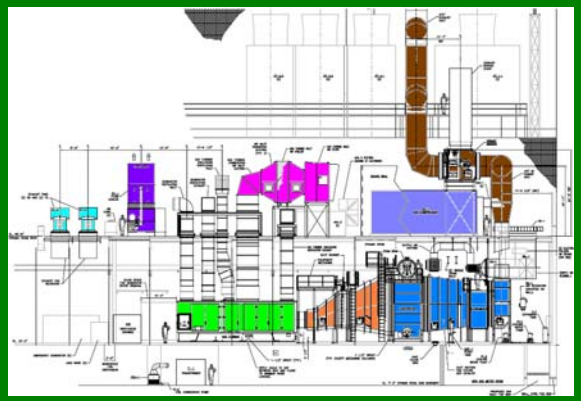
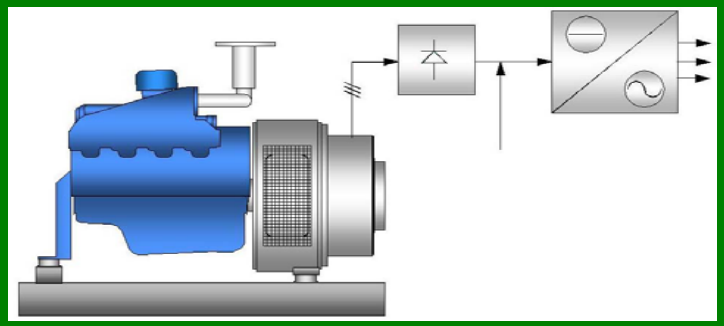
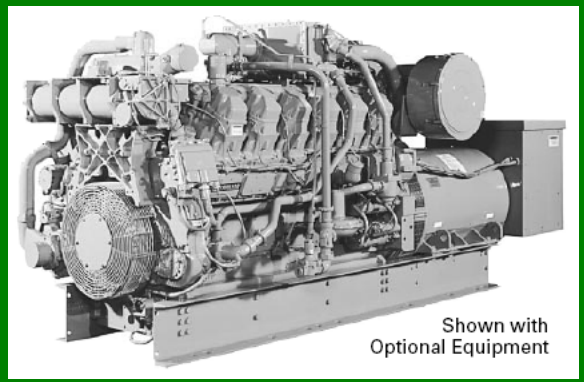
Con Edison

Department of Buildings
Cogeneration Forum

September 24, 2009







Con Edison's Infrastructure Delivers Energy to New York City And Westchester

- 3.3 million electric customers
- 1.1 million gas customers
- 1,800 steam customers
- 690 MW of regulated generation
- 36,000 miles of overhead transmission and distribution lines
- 94,000 miles of underground transmission and distribution lines
- 4,300 miles of gas mains
- 105 miles of steam mains and lines

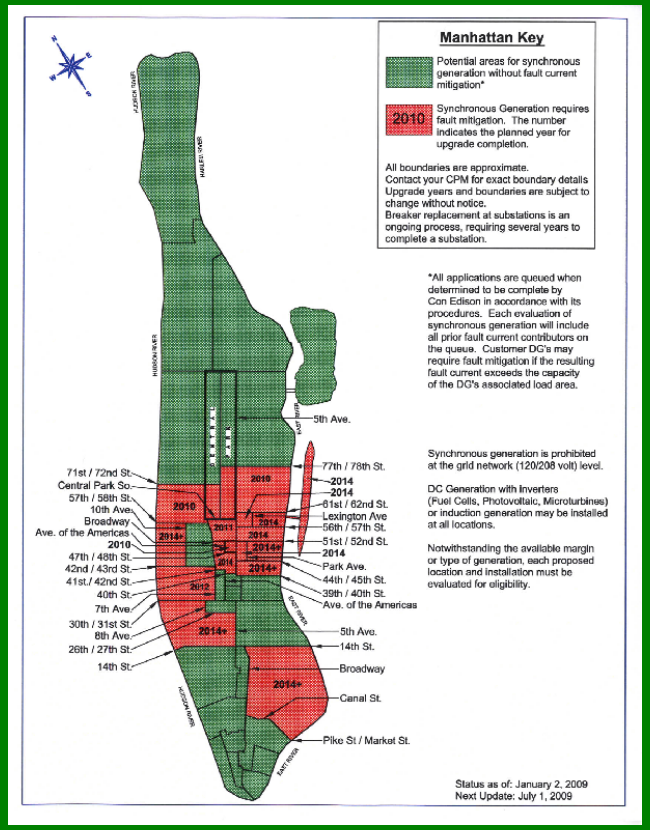
Solar Distributed Generation

Coney Island Terminal (210kW)

Technology	MW	%
Internal Combustion Engine	118.0	46%
Combustion Turbine	82.3	32%
Steam Turbine	43.5	17%
Hydroelectric	2.0	1%
Fuel Cell	3.5	1%
Microturbine	5.0	2%
Photovoltaic	3.0	1%
Total	**257**	100%

Potential Impacts of DG on Electric and Gas Distribution Systems

- High pressure gas needed for Cogeneration equipment can impact gas distribution system pressure
- Increased fault duty on company circuit breakers
- Interference with the operation of protection systems
- Islanding
  - System restoration and Power system stability
- Power Quality
  - Harmonic distortion contributions and Voltage flicker



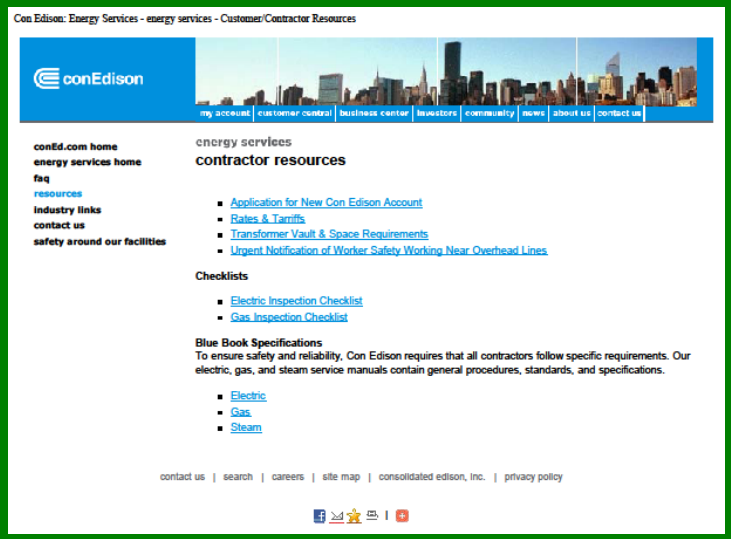
Potential Impacts of DG on Gas Distribution System

- Higher pressure gas to Cogeneration equipment can impact gas distribution system pressure
- Some areas have available high pressure (55 psi) – ConEdison and PSC ruling required
- Transmission Pressure not available to customers.
- For equipment requiring more than 7” wc –(1/4 psi)
  - Pressure switch trips gas booster if gas distribution system drops to 3” wc.
  - Check valve closes on back flow.
  - Gas Blue Book Standard G-2040

Online Information for Distributed Generation

- *www.coned.com/dg*
- Technical requirements, tariffs, application forms, links to PSC, etc.
- DG Technical Expert and Ombudsman – provide additional support
- Interconnection Applications Process – Online early 2010

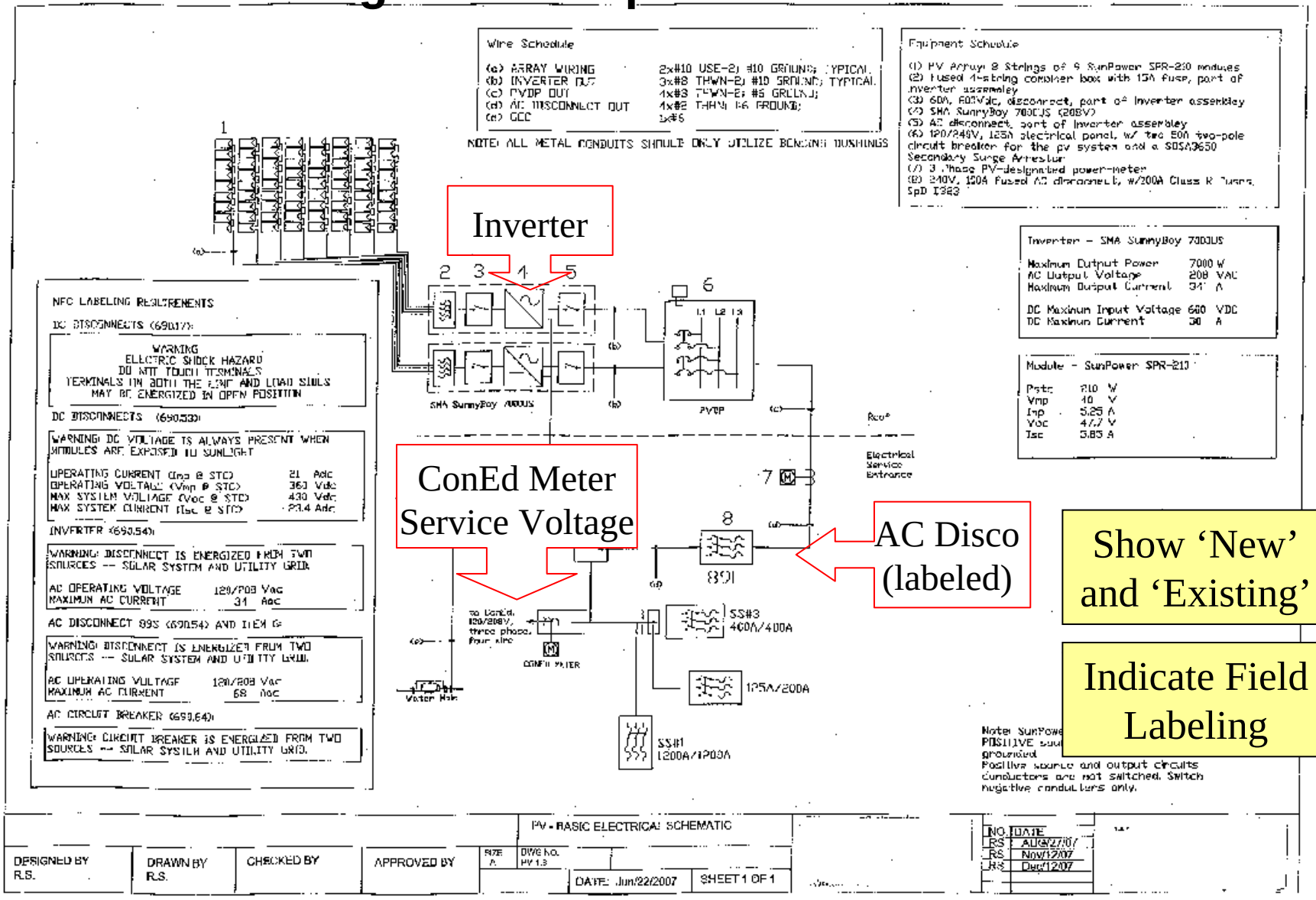
- *www.coned.com/es*
- Single point of Contact – ‘Find my Representative’
- Gas and Electric ‘Blue Book’
- Application for gas and new electric service through ‘Project Center’



Electrical Interconnection Applications

- Authorization letter
- Equipment Detail Application Form
- Standardized Contract
- Three Line Diagram
- Copy of the Manufacturer Data Sheets
- Operations and Verification Test Procedures
- Application Fee

Three Line Diagram - Sample

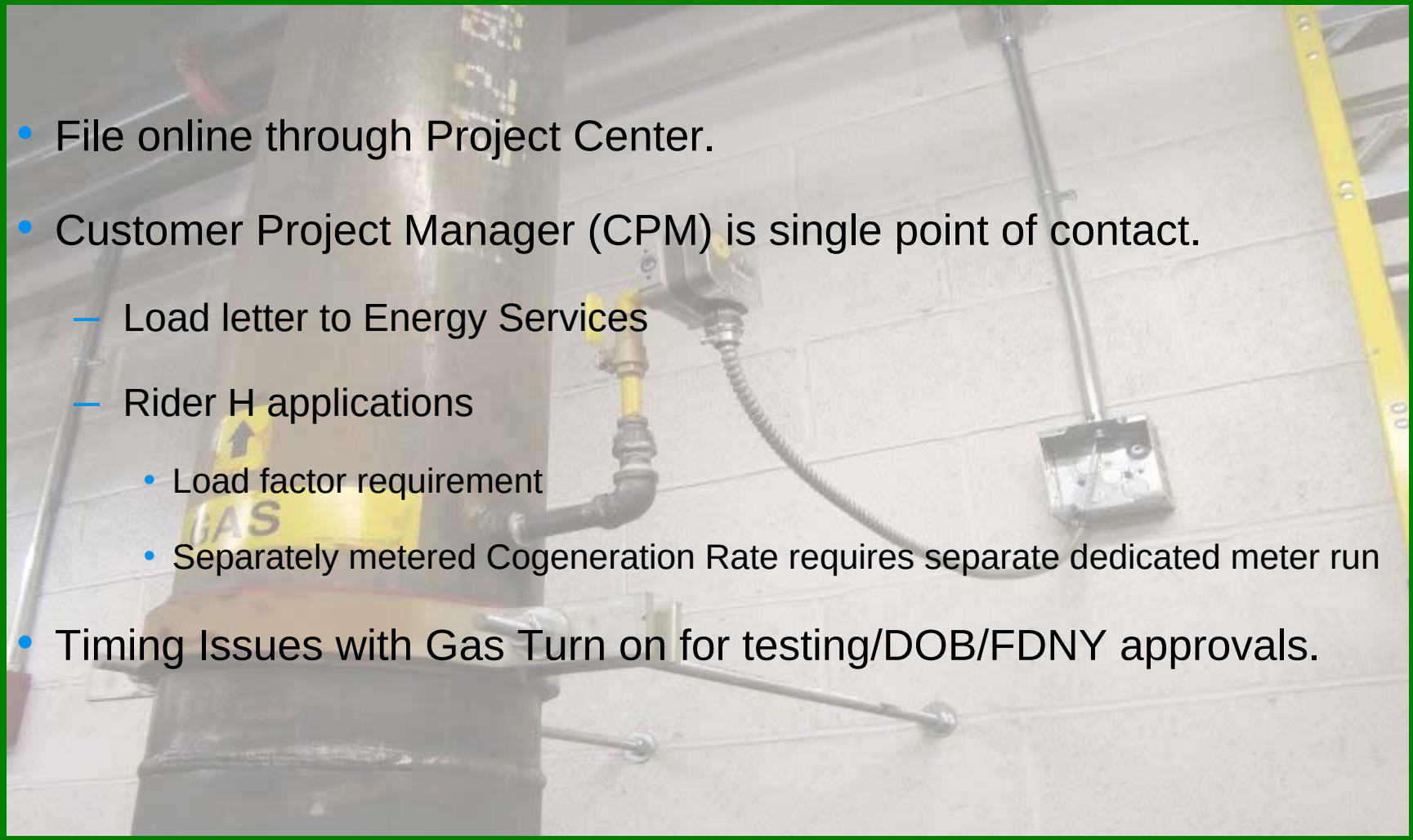


Electrical Interconnection Application Process

- Application review
  - Whether complete
  - Whether meets requirements of the Standardized Interconnections Requirements (SIR) and the Utility
- Cost Estimate for the Coordinated Electric System Interconnection Review (CESIR)
  - Applicant Commits to CESIR
  - Utility Completes CESIR
- Construction
- Metering installed once installation is complete
- System Test
- Final Acceptance Letter and Cost reconcilliation
- Issued once verification test is complete and approved

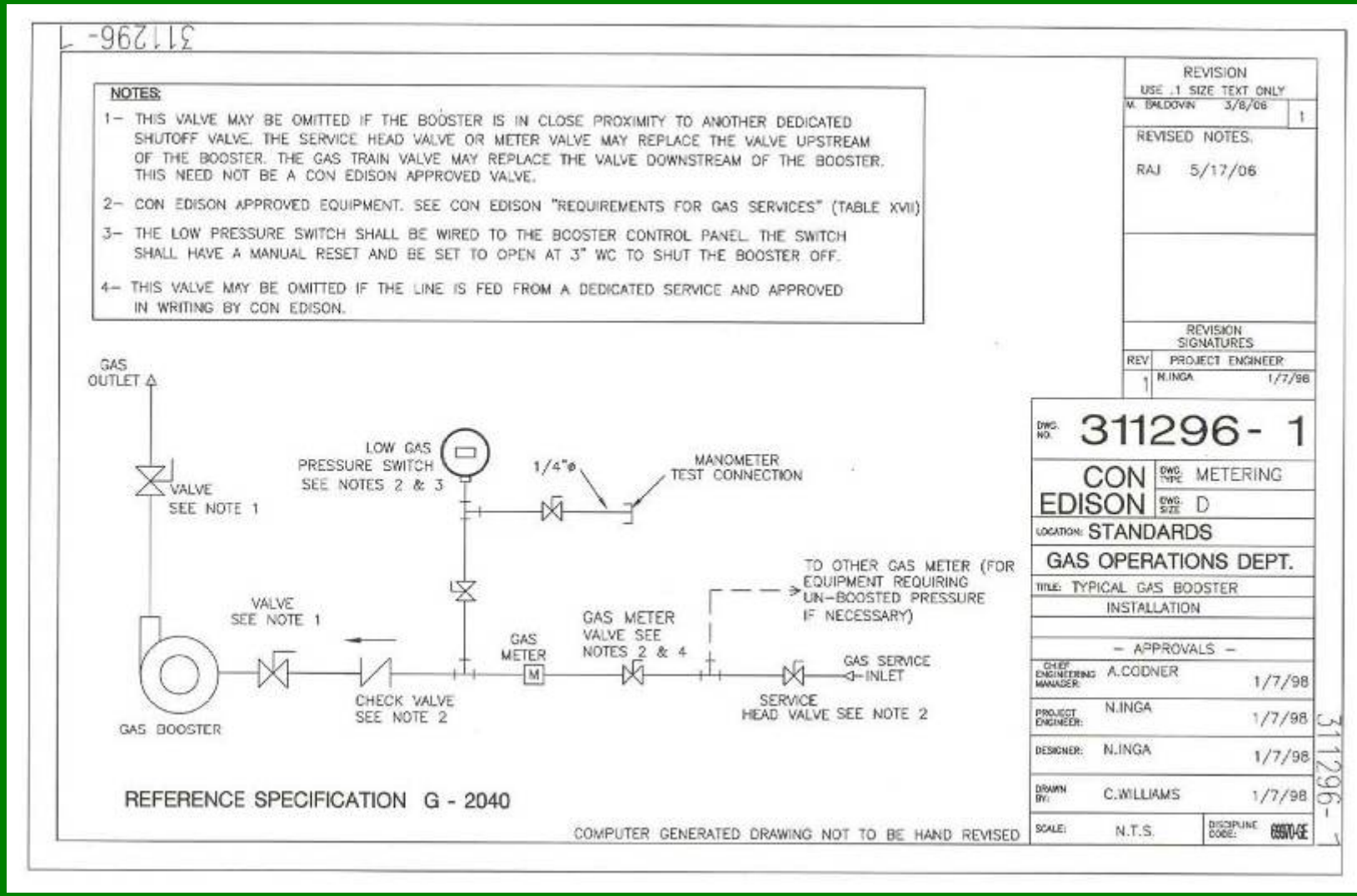
http://www.dps.state.ny.us/Final_SIR_02-12-09_Clean.pdf

Cogeneration Gas Application Process



- File online through Project Center.
- Customer Project Manager (CPM) is single point of contact.
  - Load letter to Energy Services
  - Rider H applications
    - Load factor requirement
    - Separately metered Cogeneration Rate requires separate dedicated meter run
- Timing Issues with Gas Turn on for testing/DOB/FDNY approvals.

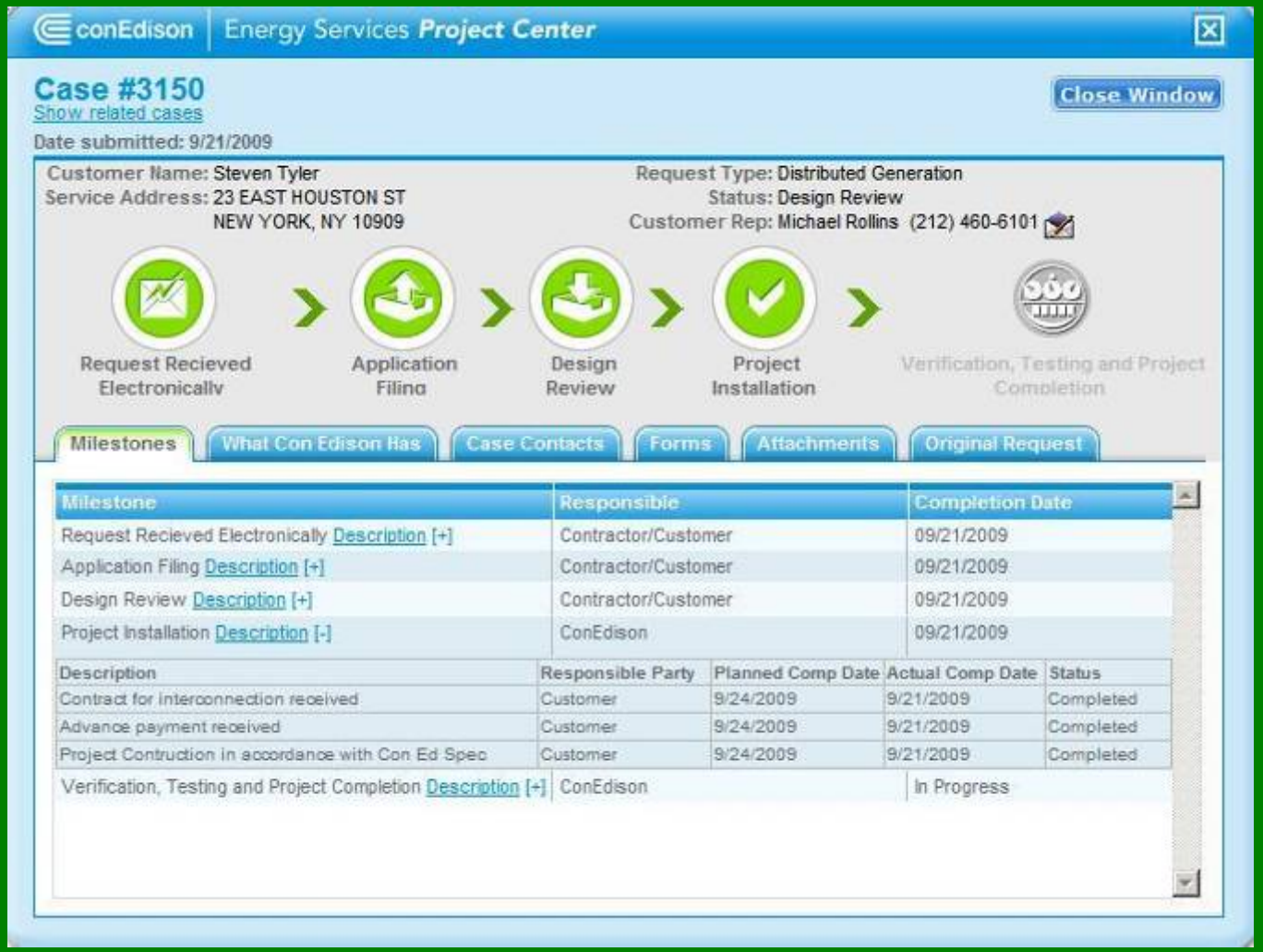
Typical Gas Booster Installation - Specification G-2040



Web Based Application – what to expect

- **Already exists for new and upgraded Electric and Gas service**
- **Registration – for Customer and Contractor**
- **Application documents**
- **Application tracking and contact information**
  - **Milestones**
  - **Status and Responsibility -** who is responsible for the next milestone, customer / contractor or Con Edison.
- Expected in place for CoGen January 2010

Web Based Application – what to expect



Con Edison Incentives for Cogeneration

- **Favorable Gas and Electric Rates for High Load Factor Cogen**
- **Ability to participate in Targeted, Economic, and Emergency Demand Side Management and Energy Efficiency Programs**
- **Specifications under development for participation in NYISO Ancillary Markets – telemetry through Transmission Owner.**
- **Net metering extended to CHP and Fuel Cells under 10kW.**
- **Energy Cost Savings Program – City incentive through Utility**

THANK YOU!!

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