

PowerTherm Energy Solution

“The Boiler That Makes Electricity”



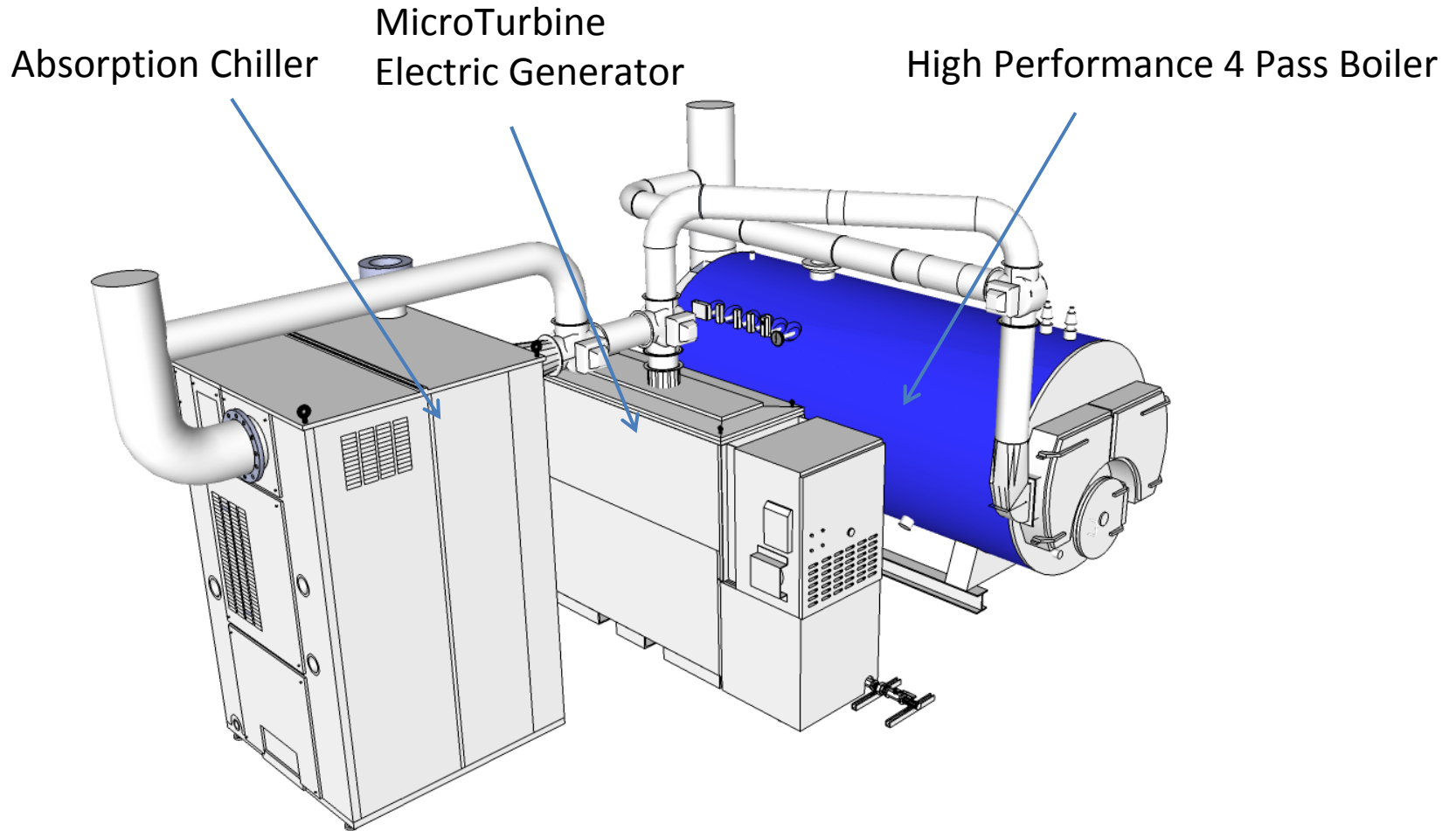
WESCO/PowerTherm Systems, Inc.
Sales Presentation Overview
January 1st, 2010



PowerTherm Systems Inc.

- Original Equipment Manufacturer (OEM) of the PowerTherm Energy Solutions, with a complete product line including:
 - Capstone MicroTurbines
 - EASCO Boilers
 - Absorption Chillers
 - Interface packages (Elevator Safe Return System, etc)
 - Control System
 - Modulating Valves
 - Breaching Packages (ductwork)
- PowerTherm Systems are available for sale and service exclusively through WESCO Distribution.
 - WESCO is the PowerTherm “Master Distributor.”
 - PowerTherm Systems Inc., WESCO and Capstone may jointly agree to designate other PowerTherm Manufacturer’s Representatives to work with WESCO in other markets.

PowerTherm FireChill



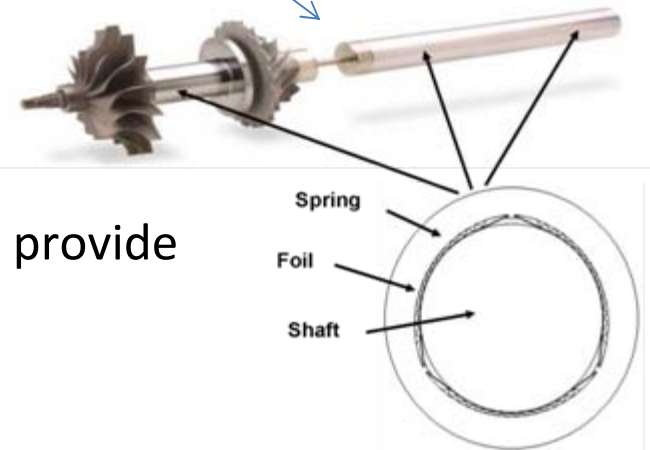
PowerTherm FireChill Model 1041 with Boiler and Absorption Chiller

MicroTurbines

- Manufactured by Capstone Turbine Corporation.
- 30kW, 65kW, 200kW, and 1000kW systems available.
- Exhaust heat source (588F) is used in PowerTherm.
- 8000 hour maintenance intervals.
- 9 year “Bumper to Bumper” service contract.
- Extremely reliable air bearings - no liquid lubrication.
- Inverter based electrical output – similar to solar collector output.
- Exhaust is significantly cleaner than emissions from an electricity generating utility.
- If desired, the MicroTurbine can be specified to provide clean, reliable, emergency backup electricity.



Capstone C65



Scotch Marine Four Pass Boilers

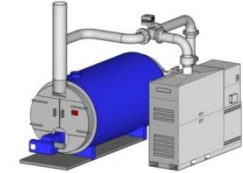
- Four pass design has high thermal efficiency - typically 84% (6%-10% more efficient than a standard design)
- PowerTherm Boilers are manufactured By New York City based EASCO Boiler Corp.
- Scotch Marine design was first used in locomotives in the 1830's and then later installed in maritime vessels because of its durability – time tested and reliable.
- Since the 1900's, Scotch Marine boilers have been extensively used in various commercial, industrial, and institutional applications worldwide. Over 100,000 boilers have been installed in NYC, with over 10% of these boilers (10,000 + boilers) installed by EASCO Boiler Corp.
- Steel construction provides decades of service with minimal maintenance.



Standard Product Applications

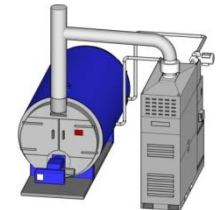
- **PowerTherm DirectFire**

- Exhaust flows directly into a Scotch Marine Boiler heating both the building hydronic (hot water) loop water and domestic hot water via a separate coil within the boiler.
- As many as 8 microturbines can fire a single boiler



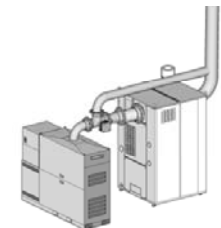
- **PowerTherm HydroFire**

- MicroTurbine directly exhausts into a retrofitted boiler to heat water.
- MicroTurbine Heat Recovery Module circulates water continuously within the boiler – in cases where direct firing is not possible.
- MicroTurbine Heat Recovery Module provides continuously heated Domestic Hot Water.
- MicroTurbine Heat Recovery Module provides continuous pre-heated Condensate for Steam Boiler applications.



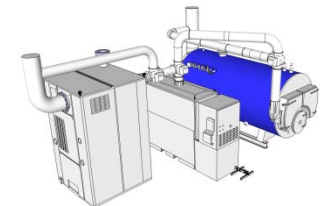
- **PowerTherm DirectChill**

- MicroTurbine exhaust is directed into an absorption chiller that produces chilled water for cooling applications. Concurrent use of cold and hot water is possible with the use of the internal MicroTurbine heat exchanger (HydroFire).



- **PowerTherm FireChill**

- MicroTurbine exhaust is directed into an absorption chiller that produces chilled water for cooling applications, or the Microturbine exhaust flows directly into the boiler, heating both the building hydronic loop (hot water) and the domestic hot water systems. Concurrent use of chilled and heated water, through modulating 3 Way Valves and control systems, is possible based on site loads and storage systems.



PowerTherm DirectFire

Normal Operation

Bypass Operation

Exhaust Flow

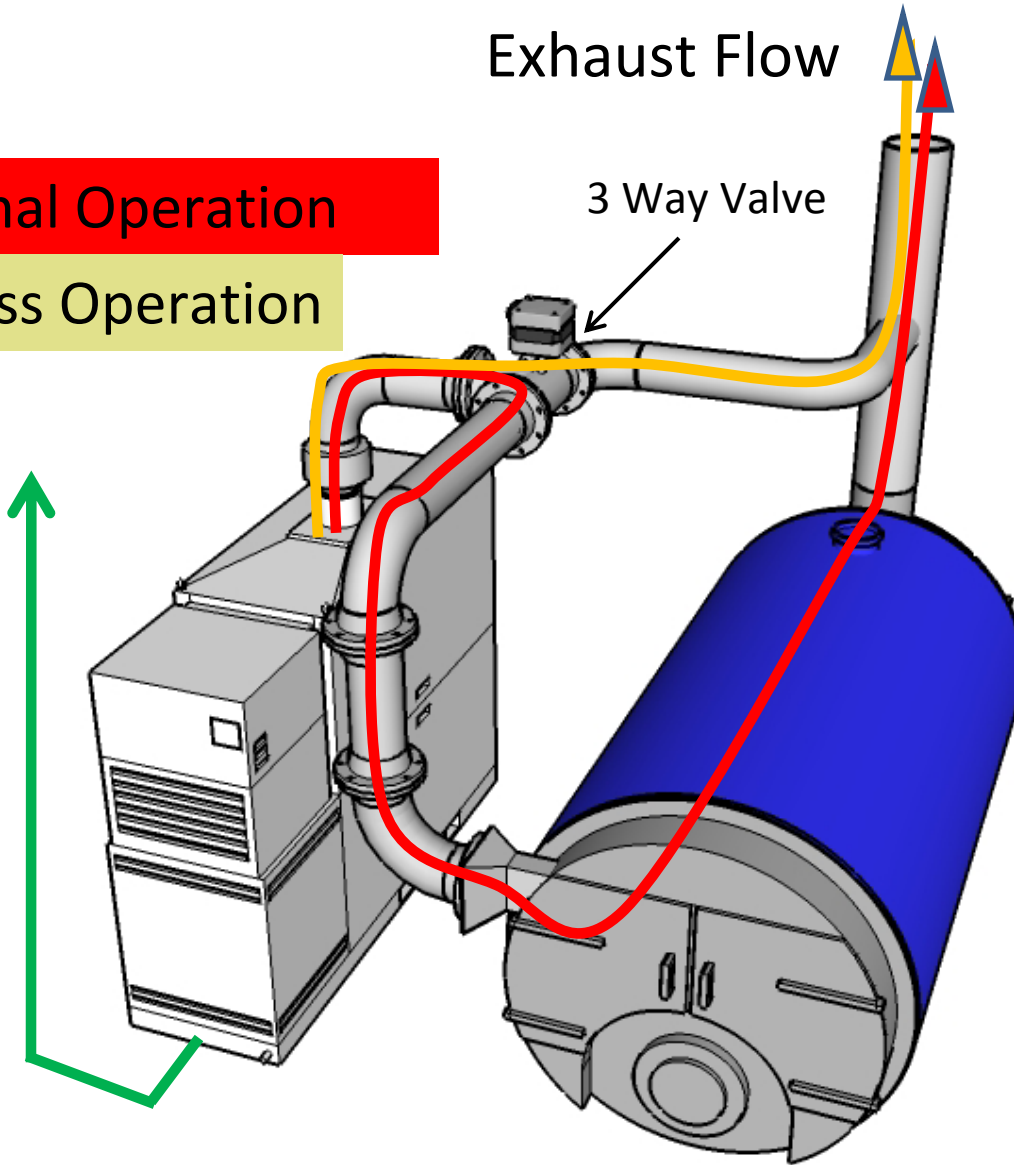
3 Way Valve

The 3 Way Valve modulates to maintain a constant boiler water temperature

DirectFire Applications:

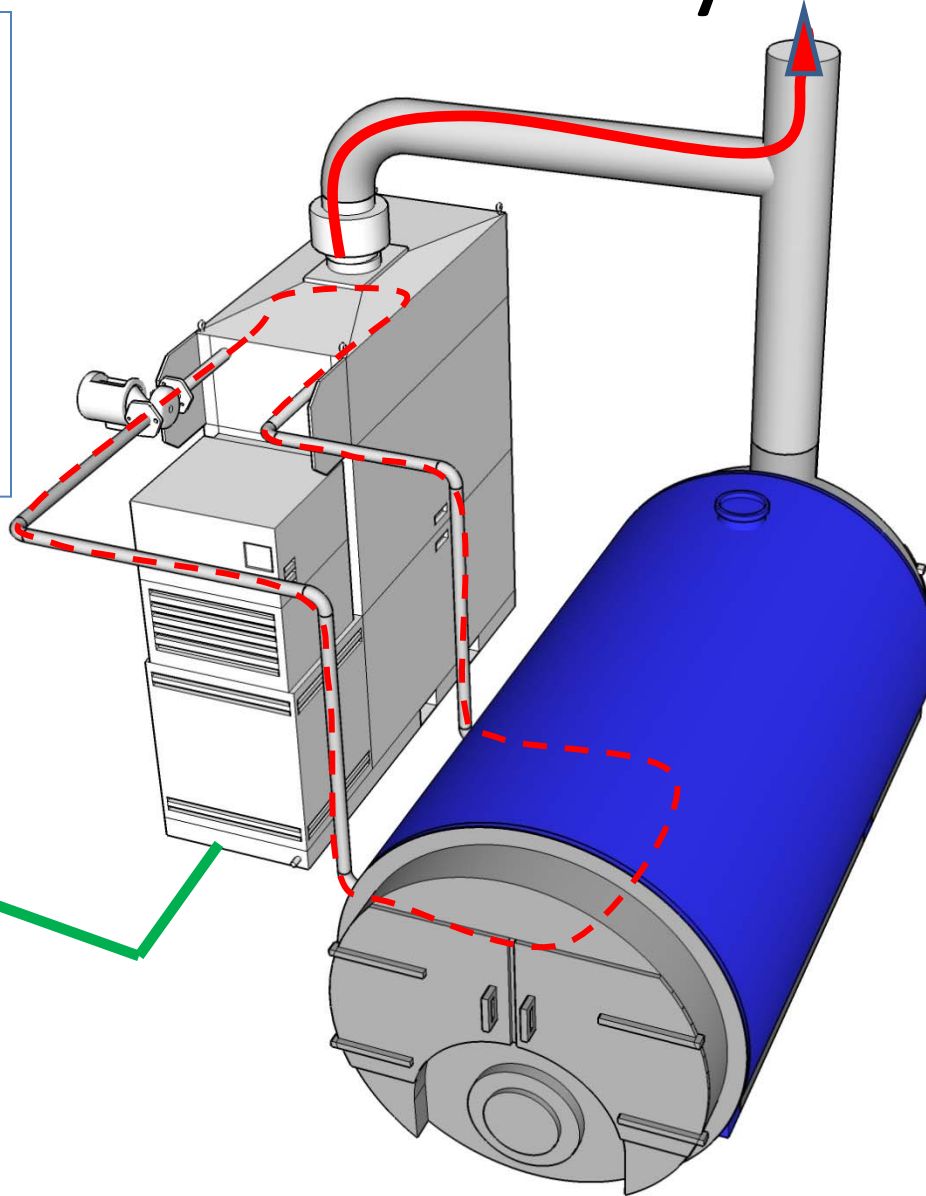
1. Complete Boiler System Replacement.
2. Retrofit of Existing EASCO Branded Boilers.

Clean Electricity
(65 kW per
MicroTurbine)



PowerTherm HydroFire

Hot water circulates through the Heat Exchanger on top of the MicroTurbine and/or a separate heat exchanger within the boiler to maintain a desired temperature.



Clean Electricity
(65 kW per
MicroTurbine)

HydroFire Applications:

1. Heating of Building Hot Water.
2. Steam Condensate (Return) Pre-Heating.
3. Heating of Domestic Hot Water.
4. Installations where physical constraints preclude directly exhausting MicroTurbine into the boiler.
5. Retrofit of an Existing Boiler.

MicroTurbine exhaust generally bypasses the boiler.

PowerTherm DirectChill

Normal Operation

Bypass Operation

The 3 Way Valve is used to bypass the chiller for maintenance.

3 Way Valve

DirectChill

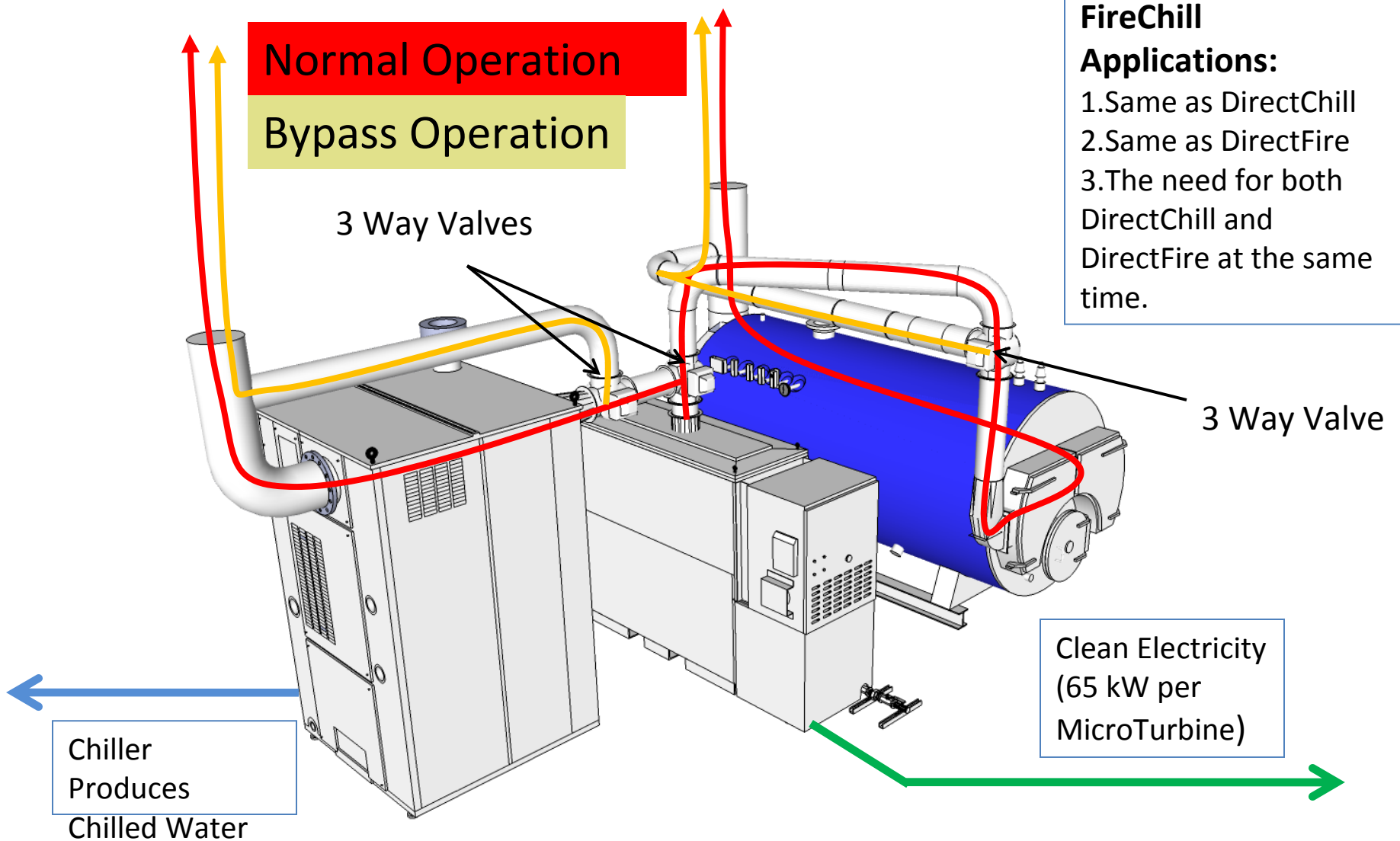
Applications:

1. Air Conditioning.
2. Dehumidification.
3. Industrial Process cooling.
4. Data Center Cooling.
5. Hot water production (30 minutes switch from cooling mode).

Clean Electricity
(65 kW per
MicroTurbine)

Chiller
Produces
Chilled Water

PowerTherm FireChill



PowerTherm FireChill Model 1041 with Boiler and Absorption Chiller

PowerTherm Safe Return System (SRS) Provides Backup Power To Building Safety Systems

- Safe Return System (SRS) can be an accessory to all PowerTherm Systems, that permits emergency operation of designated elevators and/or other critical systems in a building, with emergency backup power from the PowerTherm System.
- SRS can interface with other fire control and Life Safety building systems.
- First SRS package was approved, installed and commissioned in NYC on Park Avenue in August of 2009
- SRS complies with NYC Technical Policy and Procedure Notice 1/07, NYCDOB – “Voluntary emergency generators must provide backup power to at least one elevator.”



Example Of Economic Performance - **Traditional** Boiler Replacement - **Without** PowerTherm System

Traditional Replacement Scenario -

A 100 horsepower boiler averaging 70% efficiency is replaced after 25 years of service with a new model of the same output heating capacity, that will average 75% efficiency (5% increase in efficiency).

Cost:

\$90,000 for equipment, \$50,000 for installation - \$140,000 total

Savings:

\$8,600 per year*

Return on Investment (ROI) – 16 years

*Boiler Operational Assumptions:

1. \$1.50 per therm fuel cost
2. 5% incremental efficiency gain
3. Average yearly firing rate of 30% - (2628 hours)

Example Of Economic Performance **With** **PowerTherm DirectFire** Boiler Replacement

PowerTherm Replacement Scenario -

A 100 horsepower boiler averaging 70% efficiency is replaced after 25 years of service with a PowerTherm DirectFire (Model 1001) capable of providing 65 kW of electricity, 12 horsepower of “free” heat, and 100 horsepower of maximum heating capacity.

Cost:

\$280,000 for equipment, \$200,000 for installation - \$480,000 total

Savings:

\$100,000-\$120,000 per year*

Return on Investment

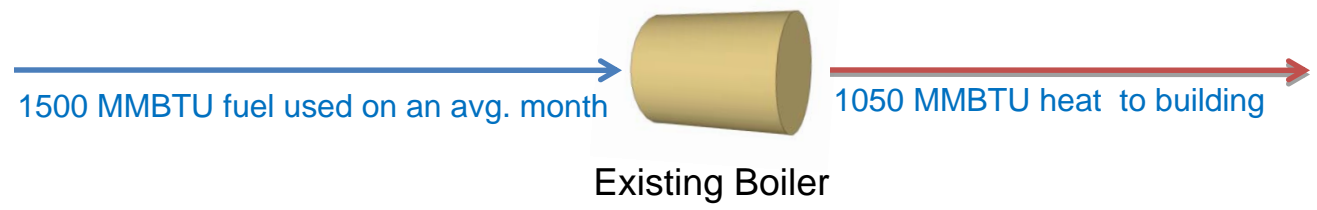
4.0 – 4.8 years (no incentives)
under 3.0 years (with typical incentives)

*PowerTherm Operational Assumptions:

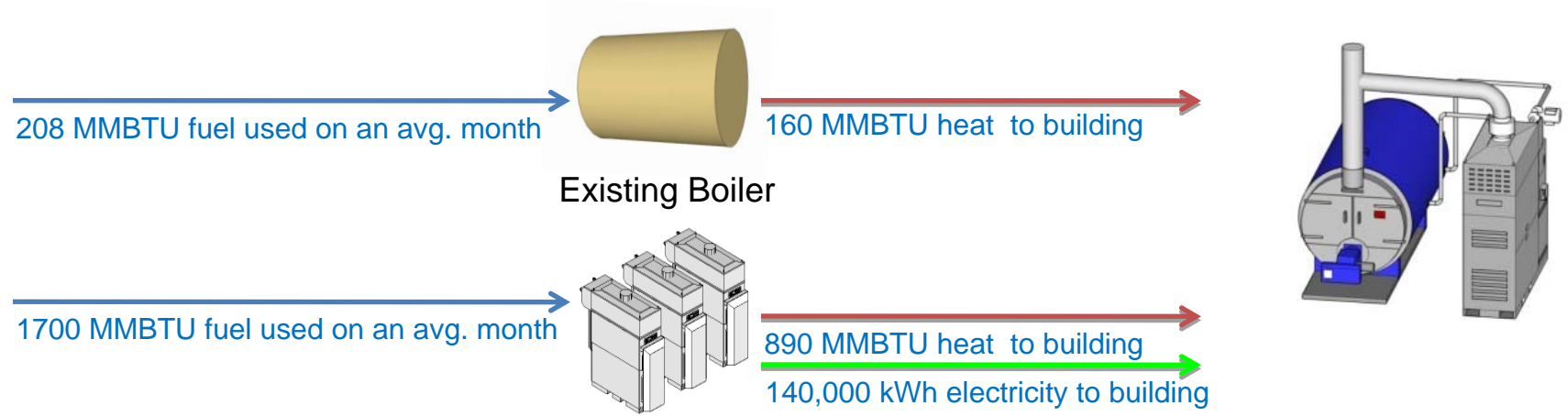
- 1.\$1.50 per therm fuel cost
- 2.MicroTurbine fuel discount: 5%-15%
- 3.Average yearly firing rate (low fire) of 100% - (8760 hours)
- 4.\$0.24 per kWh electricity rate (NYC avg.)

Actual NY Installation – \$25,700 Monthly Savings by Converting to PowerTherm Solution

Utilizing Standard Boiler Technology



Utilizing HydroFire Solution By PowerTherm and WESCO



Monthly Savings Utilizing the PowerTherm HydroFire Solution

Electricity Savings	= 140,000 kWh x \$0.24/kWh	= \$33,600
Total Fuel Increase	= (1700+208) -1500	= 408 MMBTU
Fuel Increase Cost	= 408 MMBTU x \$12/MMBTU	= \$4,900
Factory Protection Plan Cost	= \$3,000	
Monthly Savings	= \$33,600 - \$4,900 - \$3,000	= \$25,700

WESCO/PowerTherm Service Contract

5 or 9 Year “Bumper to Bumper” Service

- **Every system is covered by a service contract that spans many years**
 - This reduces the purchase risk and ensures levels of energy availability that rival the central utility.
 - Contracts can be renewed after the original term, for additional negotiated terms.
- **Covered Items**
 - MicroTurbine parts and labor, scheduled and unscheduled maintenance.
 - MicroTurbine engine re-build after 40,000 hours of run time.
 - Boiler parts and labor, scheduled and unscheduled maintenance.
 - Chiller parts and labor, scheduled and unscheduled maintenance.
 - Balance Of Plant
- **Remote Monitoring**
 - All installations are monitored by WESCO and PowerTherm Systems Inc. for the dispatch of service technicians.
 - Many problems can be solved remotely by our secure remote & access management capabilities. We securely access the system connected to the PowerTherm equipment. Remote service operations allow us to provide you services faster, and reduces field service calls.

Installation & Ownership Incentives

- C65 - 65KW MicroTurbine Federal Tax Rebates (Combined Heat and Power (CHP) tax credit) - \$26,000 per C65
 - Applicable to corporations or individuals that pay income tax.
- Utility Rebates
 - Vary by service territory – up to \$100,000 in some cases.
- New Jersey CHP Program - \$65,000 per C65
 - Administered through local utilities, long lead time and limited funding.
- Accelerated IRS Depreciation
 - 50% first year under Section 179 up to \$250,000 – net value is dependent on tax rate.

Key WESCO Contacts

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