



Super ESPC: Biomass And Alternative Methane Fuels

Constellation Energy Projects & Services Group, a wholly owned subsidiary of Constellation Energy, provides federal agencies with comprehensive, creative energy solutions that increase the efficiency and performance of their facilities' energy systems. Based upon our specialized expertise, Constellation was awarded a Biomass and Alternative Methane Fuels (BAMF) technology-specific Super ESPC by the U.S. Department of Energy. This Indefinite Delivery Indefinite Quantity (IDIQ) contract allows Constellation to undertake renewable energy projects at federal facilities anywhere in the world.

Since 1983, Constellation has used a variety of opportunity fuels to generate power, revenue and savings for customers from California's booming Central Valley to the Chesapeake Bay and our nation's capitol.

BIOMASS PROJECTS



Rio Bravo Power Station

Rio Bravo Power Station, Rocklin, Cal.

- Designed, constructed and operated by Constellation
- 25 MW commercial power station
- Steam generators with circulating fluidized bed boiler design
- Fueled by wood waste (wood chips) and agricultural byproducts from nearby farms
- Built to operate as a FERC Qualifying Facility
- Generates revenue through Power Purchase Agreement with PG&E
- In service since 1989

Rio Bravo Power Station, Fresno, Cal.

- Designed, constructed and operated by Constellation, launched 1989
- Sister plant to Rocklin site, mirrors Rocklin in output, technology, FERC qualifications, and revenue generation
- Tandem siting provides 50MW of commercial power generation to Central Valley

Chinese Station Power Plant, Jamestown, Cal.

- Designed, constructed and operated by Constellation
- 22 MW commercial power station
- Fueled by wood waste (wood chips), agricultural byproducts from nearby farms, and construction and demolition waste
- Incorporates selective non-catalytic reduction (SNCR) process of ammonia injection into furnace for NOx control
- Achieves best available control technology levels for NOx and CO2 emissions
- Generates 208,000 pph of steam at 950° F and 1250 PSIG
- Generates revenue from capacity and energy fees through Power Purchase Agreement with PG&E
- In service since 1986

ALTERNATIVE METHANE FUELS PROJECTS

Back River Wastewater Treatment Plant, Baltimore, Md.

- Digester gas-to-energy plant for Back River Wastewater Treatment Plant
- Plant treats 180 million gallons of sewage for 1.3 million residents daily
- Collects digester gas, cleans gas to remove harmful elements, finalizes transfer and sale of gas into the natural gas pipeline
- Project implemented in 1983 and operated for over 10 years

Washington [D.C.] Suburban Sanitary Commission (WSSC), Laurel, Md.

- Allows sludge to be combusted in multiple hearth incinerator with little to no additional natural gas by using Btu's found in sludge instead of natural gas as the combustion fuel
- Implemented under a \$10 million ESPC contract of which \$5.56 million in capital was invested in the incinerator project
- Annually more than \$700,000 saved in avoided costs
- Additional savings realized through an innovative 15 year electric supply arrangement that includes a 10 year direct purchase of wind energy for 33% of WSSC's electric needs.
- Part of a long-term project that includes two \$10 million ESPC projects and an integrated electric procurement strategy that reduces energy and operational costs while increasing efficiencies to meet future demand

Hamilton-Wentworth Water & Sewage Treatment Facility, Hamilton, Ont., Canada

- Redistributes digester gas for use in facility's stand-by generator and for heating and dehumidification
- Replaces natural gas previously used to fire central steam plant
- Produces significant energy cost savings and reduction of greenhouse gas emissions
- Further savings realized by combining ESPC contract work with other energy conservation measures



Washington Suburban Sanitary Commission plant

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QUALIFICATIONS

- Certified ESCO with over 20 years of experience
- BAMF Super ESPC Contract No.: DE-AC36-02NT41458
- More than 70 MW of IPP generation utilizing waste-wood and agricultural byproducts
- Awarded two regional Super ESPCs by the U.S. Department of Energy through a highly competitive selection process
- Awarded BAMF and Geothermal technology-specific Super ESPCs for federal facilities worldwide by the U.S. Department of Energy through a highly competitive selection process
- Constellation projects have earned numerous awards from the Association of Energy Engineers as well as the U.S. Departments of Energy and Defense

Constellation Energy Projects & Services Group is a full-service energy consultant, providing customized energy solutions exclusively to government, institutional, and large commercial and industrial customers. Applying superior energy knowledge, engineering expertise, new technologies and proven procurement mechanisms to a variety of energy challenges, CEPS serves clients with single and multiple locations throughout North America. The company's extensive array of products and services – utility infrastructure outsourcing, performance contracting, energy consulting and projects – are all designed to increase energy efficiency, reliability, cost-effectiveness and savings.

Constellation Energy Projects & Services Group is a member of Constellation Energy (constellation.com), a Fortune 200 integrated energy company whose combined revenues in 2006 totaled \$19.3 billion.