



General Qualifications

Genesys Engineering, P.C.
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Mission Statement

“From project inception to the study, design, construction management, and commissioning of energy and utilities projects, Genesys Engineering seeks to be a “client-centric” company, with a strong commitment to quality and innovation. By staying on top of the latest industry trends and new technologies we seek to provide the most creative approaches to our clients’ most complex projects and their toughest problems.

We are committed to helping our employees realize their full potential and providing a stable work environment with equal opportunity for learning and personal growth; creativity and innovation are encouraged.”

FIRM BROCHURE

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FIRM BROCHURE

FIRM PROFILE

Genesys Engineering, P.C. (GENESYS) is a multi-discipline engineering firm that provides planning, design, construction, and commissioning services for new and existing utility infrastructure projects, assisting our clients in implementing their most challenging projects in a cost effective manner. In 2004, GENESYS was formed to acquire the “Energy Services Group” of Joseph R. Loring and Associates, Inc., focusing on the energy and utility infrastructure of major facilities and large physical plant complexes, such as large commercial and institutional buildings, commercial and industrial parks, manufacturing facilities, hospitals, university campuses, and military facilities. In 2005, GENESYS acquired Park East Facility Solutions which broadened our commissioning, start-up, and operator training capabilities.

GENESYS provides, with in-house resources, mechanical and electrical engineering services to clients ranging from public sector clients to developers and private corporations. Our firm, with a staff of more than twenty five (25) professionals, has offices in White Plains, New York, and Albany, New York.

GENESYS possesses a unique set of skills, in project development and project finance, that complement their technical expertise. This, combined with a keen understanding of the complex electric and gas energy markets enables us to optimize the approach to a project, properly addressing the energy needs of a facility and the impact of the project on the facilities’ cost of operation.

GENESYS provides a broad range of services, including:

- Energy and Utilities Master Planning;
- Project Feasibility Studies, Preliminary Engineering and Investment Grade Audits;
- Engineering and Design for Cogeneration Plants, Central Utilities, and Energy Projects;
- Construction Management Services for Energy Projects; and
- Commissioning and Re-Commissioning Facilities and Energy Projects.

The types of projects that GENESYS specialize in include:

- Facility Energy Upgrade Projects;
- Central Boiler Plants;
- Central Chiller Plants;
- Cogeneration / Electric Power Plants;
- Municipal Solid Waste-to-Energy Plants;
- Primary Electric Distribution;
- Chilled Water Distribution;
- Hot Water Distribution; and
- Steam Distribution.

At GENESYS, our engineers have a unique combination of “hands-on” experience, strong engineering expertise and a commitment to quality. Our practical experience includes

operations of boiler and power plants, condition assessment of equipment and systems, troubleshooting equipment and systems, and performance testing.

At GENESYS, we take pride in our “out-of-the-box” thinking and creative solutions. We are transaction focused!

FIRM PRINCIPALS

With a technical staff of more than twenty five (25), including eight (8) professional engineers, and subconsultant resources in the architectural, structural, and civil engineering disciplines, GENESYS has sufficient depth of resources to perform large, complex projects but is small enough to provide personal service from the firm's Principals.

Leadership of GENESYS is provided by **Ronald W. Mineo, P.E.** and **Robert J. Braun, P.E.**, the two Principals of the firm. Both Ron and Bob are active participants in projects, managing some of the larger, more complex projects and acting as the Principal-in-Charge for others, with overall responsibility for Quality Assurance/ Quality Control.

Both Ron Mineo and Bob Braun bring extensive experience in the study, design, construction, operation and maintenance of boiler plants, chiller plants, and power plants. Bob continues to maintain his Stationary Engineer's License for High Pressure Steam and Refrigeration in New York City.

Principal - Ronald W. Mineo, P.E.

Ron Mineo, formerly President of Joseph R. Loring and Associates, and currently a Principal in GENESYS, has more than 25 years of engineering and management experience in the research and development, study, design, construction, and commissioning of central utilities plants. With experience in the start-up, operations, and maintenance of Boiler and Power Plants, Ron Mineo brings a unique perspective to the design, start-up, testing, and commissioning of all types of central utility plants.

Representative project experience include:

- **54 MW Simple Cycle Peaking Plant**
Bayswater Peaking Plant
Far Rockaway Queens, NY
- **10 MW Cogeneration Plant**
Trigen Syracuse
East Syracuse, NY
- **12 MW Combined Cycle Cogeneration Plant**
Pastore Center
Cranston, RI
- **15 MW Backpressure Steam Turbine Generator Plant**
AMSTAR
Brooklyn, NY
- **2,000 HP Boiler Plant, 3,200 Ton Chiller Plant**
Teachers College
New York, NY
- **10,000 Ton Central Chiller Plant**
Con Ed Solutions
Brooklyn College, NY
- **25 MW Combined Cycle Cogeneration plant**
Lowell Cogeneration Plant
Lowell, Massachusetts
- **20 MW Pressurized Fluidized Bed Power Plant (Air Cycle)**
Snamprogetti
Milan, Italy
- **28,000 Ton Central Chiller Plant / 250 million BTU/hr Central MTHW Heating Plant**
JFK Airport
Jamaica, NY
- **400,000 PPH Central High Pressure Steam Plant**
MCDEC
Quantico, VA

Principal - Robert J. Braun, P.E.

Bob Braun, a Principal of GENESYS, is a licensed professional engineer with more than 25 years of experience in the operation, design, and construction of utilities' infrastructure projects.

Bob Braun also has extensive experience in the operation and maintenance of Central Boiler and Chiller Plants, holding New York City Licenses to operate High Pressure Steam and Refrigeration Plants.

Bob Braun's experience encompasses principal and senior level management responsibilities. Prior to GENESYS, Bob was the Owner of Braun Engineering and a Senior Vice President of Keyspan.

In addition, while at Keyspan, Bob gained significant experience in the development and financing of energy projects, bringing an added dimension to our ability to assist Owners and Developers in all aspects of an Energy Project.

Representative project experience includes:

- **57 MW Combined Cycle Plant**
Trigen Nassau Energy Corp.
Garden City, NY
- **100 MW Gas Turbine Cogeneration Plant**
Yale University
New Haven, CT
- **80 MW CCGT Plant**
SUNY Stony Brook
Stony Brook, NY
- **Boiler Steam Export Metering and Waste Oil Burner Installation**
Central Steam Psychiatric Center
Central Islip, NY
- **18 MW Cogeneration Plant**
Montefiore Medical Center
Bronx, NY
- **4 Million pound-per-day Central Heating Plant & Steam Export System**
Brooklyn Navy Yard
Brooklyn, NY
- **2000 Ton Central Chiller Plant**
Wassaic Development Center
Wassaic, NY
- **10,000 Ton Central Chiller Plant**
World Trade Center
New York, NY
- **8,000 Trench Feet of Thermal Distribution**
Kingsboro Community College
New York, NY

PROJECT EXPERIENCE

Genesys Engineering P.C. (GENESYS), formerly the Energy Services Group of Joseph R. Loring and Associates, Inc. has extensive experience in the study, design, construction, and commissioning of energy and utilities projects.

The experience detailed in this brochure is a combination of the experience record of GENESYS and the experience of the Principals and key employees of GENESYS.

COGENERATION PLANT PROJECTS

Trigen-Syracuse Cogeneration Plant

East Syracuse, NY

Engineering and design of a cogeneration plant at the East Syracuse Trigen facility to serve SOLVAY Paper. The project included the installation of a 10MW backpressure steam turbine, operating at 850 psig/870 °F steam pressure. Exhaust steam is provided to SOLVAY Paper for one of three paper machines at the facility.

Pastore Center Cogeneration Plant

Cranston, RI

Engineering and design of a cogeneration plant at the John O. Pastore Complex for NORESKO. The project included the installation of two 3MW combustion turbine generators, two 50,000 pph heat recovery steam generators, a 100,000 pph auxiliary boiler and plant auxiliaries. The project also included the rehabilitation of the existing power plant on the site.

Bayswater 54 MW Peaking Plant

Far Rockaway, Queens, NY

Complete mechanical, electrical, plumbing and control engineering for a 54 MW Peaking Plant. The plant is a simple cycle gas turbine facility. This included 69-13.8 kV substation and all Balance of Plant (BOP) electrical distribution. The engineering was done on a fast track basis.

Estee Lauder Cogeneration Project

Melville, NY

Prime consultant to TRIGEN-NASSAU, for the full scope of A/E design services to prepare a preliminary design for a nominal 2.2 MW topping cycle cogeneration plant which will provide steam and hot water to the existing facility. The new plant consisted of three 723 KW low-NOx gas-fired continuous-duty engine/generator sets, three 1,500 pph heat recovery steam generators, 13.8 kV and 4.16 kV switchgear, a 13.8 kV/416 kV transformer, and a complete automated controls systems designed for parallel operation with the existing electric utility grid.

Morris View Nursing Home Cogeneration Plant Modifications

Morris Plains, NJ

Analyzed an existing cogeneration system that was composed of three (3) 75 kw Tecogen gas-engine generator sets, an existing heat rejection system and system loads that was not operational. LORING studied the existing system and proposed adding pumps, radiators, controls and piping modifications to the existing system that resolved the problem.

Lucent Technologies Cogeneration Study

Murray Hill, NJ

Performed a study to analyze the technical and economic feasibility of installing a cogeneration system to accommodate the 800,000 sf planned expansion to the existing 2,000,000 sf facility. Recommendations included the installation of a 10 MW cogeneration plant adjacent to the existing boiler and chiller plant.

Trigen-Nassau Cogeneration Gas Turbine Inlet Cooling

Garden City, New York

Design for inlet cooling for a 57 MW combined cycle cogeneration plant at the TRIGEN-NASSAU Cogeneration Plant in Garden City, NY.

CHILLER PLANT PROJECTS

Brooklyn College Chiller Plant

Brooklyn, New York

Design of a 10,000-ton hybrid chiller plant and a chilled water distribution system on the campus of Brooklyn College. The chiller plant included three (3), 2,000-ton steam turbine driven chillers, two (2) 2,000-ton electric motor driven chillers, primary and secondary chilled water pumping, condenser water pumps and eleven (11) two speed cooling towers.

Teachers College

New York, New York

Design of a new 1,900 ton natural gas direct fired chiller plant with chilled water distribution for all of the existing buildings and the new Conference Center and Graduate Residence Hall. The college has over 1.3 million square feet of houses, instructional offices and maintenance space and is composed of seven academic buildings and five residence halls.

Fresh Meadows Retail Complex Central Boiler/Chiller Plant

Fresh Meadows, New York

Design of a new central heating and cooling plant, located in a new underground building, serving the 350,000 sf retail area at the Fresh Meadows complex. The design included an 1,800 ton natural gas direct fired chiller plant with a direct buried chilled water distribution system.

Cryder House

Beechurst, New York

Engineering, design, construction management and commissioning of a new 700-ton single stage absorption central chiller plant for this high-rise residential building.

Gerard Towers

New York, New York

Engineering, design, construction management and commissioning of a new 600 ton single stage absorption chiller, distribution pumps and overall HVAC systems upgrade.

680 Fifth Avenue

New York, New York

Engineering, design, construction management and commissioning for the rehabilitation of an existing 600-ton electric central chiller plant for this high-rise office building. The chiller was converted to a dual compressor chiller.

Resorts Hotel & Casino

Atlantic City, NJ

Replacement of 1400 tons of chiller capacity. As part of a Master Energy Services Agreement, LORING worked as a subcontractor to SEMPRA Energy Solutions and was responsible for providing design, procurement, and construction services for the replacement of chillers #4 and #5 (1400 Tons) in the Utility Building for the Resorts International Hotel. This project was performed on a fast track basis and was operational 30 days after LORING was given Notice-to-Proceed from client.

BOILER PLANT PROJECTS

Fresh Meadows Residential Development Boiler Plant

Queens, New York

Designed a replacement central plant using four 700 boiler horsepower (96,600 pph total) firetube boilers and two satellite plants, each with two (2) 500 boiler horsepower (35,500 pph per plant) firetube boilers. The design included selective reuse and replacement of existing plant auxiliary equipment including fuel oil tanks, condensate receivers, boiler feed pumps, as well as 1800 feet of underground steam distribution.

Creedmoor Psychiatric Center

Queens, New York

Rehabilitation of four field-erected, water-wall type, high-pressure steam boilers, each with a capacity of 44,000 pph, including new refractory, dual-fuel burners, combustion controls and feedwater pumps.

Sheridan Avenue Steam Plant

Albany, New York

Design of a new digital controls system for a 600,000 pph high pressure steam plant. This included new burner management and combustion controls, as well as the monitoring and control of the boiler plant auxiliary systems, the chiller plant, the river water pump station, and electrical incoming services.

Teachers College

New York, New York

Design of a new low-pressure steam (2,000 boiler horsepower) boiler plant including a steam system analysis for all of the existing buildings and the new Conference Center and Graduate Residence Hall. The college has over 1.3 million square feet and houses instructional, office and maintenance space and is composed of seven academic buildings and five residence halls.

Fresh Meadows Retail Complex Central Boiler/Chiller Plant

Fresh Meadows, New York

Design of a new central heating plant, located in a new underground building, serving the 350,000 sf retail area at the Fresh Meadows complex. The design also included a direct buried a LPS steam and condensate distribution system.

Central Steam Plant - Greenhaven Correctional Facility

Stormville, New York

Study emissions problems for the central steam plant, which included investigation and testing of the facility and recommendations for modifications to the 600,000 pph high pressure steam plant.

ENERGY AND UTILITIES MASTERPLAN PROJECTS

Pointview Hotel and Conference Center

Wayne, New Jersey

Utilities master plan for the development of a hotel and conference center on a 190-acre site in Wayne, NJ. The development includes residential, office space, hotel, conference center and a golf course.

Port Imperial Energy Master Plan

Weehauken, New Jersey

Development of a 10-year energy master plan to supply all the energy needs, including electric power, heat and cooling for a facility encompassing 11 million square feet of residential, commercial, and retail space.

Bronx Psychiatric Center

Bronx, New York

Development of a master plan for a five building complex which included the addition of up to 564 beds at this complex. This included the provision of new and replacement of existing underground thermal distribution and the installation of a new central chiller and boiler plant.

New Jersey City University

Jersey City, New Jersey

Development of a master plan for the provision of chilled water to all buildings throughout the New Jersey City University Campus. The master plan considered distributed chiller plants versus a central chiller plant and evaluated alternative technologies in order to develop the system with the lowest life cycle cost. The master plan also developed the phasing plan and the capital budget in order to implement the plan.

Alternatives Energy Analysis, Institute for Advanced Studies

Princeton, NJ

Master plan study evaluating alternatives for the supply of chilled water, hot water and domestic hot water to a residential complex of more than 160 buildings.

In developing our recommendations we modeled typical buildings and then modeled the complete complex in order to establish annual energy use profiles. Various system alternatives and alternative fuels were preliminarily evaluated. A detailed engineering analysis was performed for the technically feasible alternatives; this included capital and fuel and non-fuel operating costs for the alternatives considered. A differential life cycle analysis was prepared to compare the feasible alternatives.

Teachers College

New York, NY

Study for a new central chiller plant and boiler plant including a steam system analysis for all of the existing buildings and the new Conference Center and Graduate Residence Hall. The college has well over 1.3 million square feet and houses instructional, office and maintenance space and is composed of seven academic buildings and five residence halls.

INVESTMENT GRADE AUDITS (Energy Projects)

Cumberland Packing Corporation

Brooklyn, NY

Preparation of an Investment Grade Audit followed by the design and implementation of recommended energy conservation measures (ECM's). These included the replacement of compressors for split systems and replacement of electric driven process air compressors with gas driven air compressors, DDC system, variable speed drives and compressed air humidification.

United States Postal Service, 53rd Street Station

New York, NY

Preparation of an Investment Grade Audit recommending energy conservation measures for this 400,000 square foot, which included the following: new control system, variable volume chilled water pumps, variable speed drives on air handling units, variable speed drives on Cooling Tower Fans, and replacement of approximately 24 four exhaust fans. Services included the preparation of an IGA, building modeling (Power DOE) services, design services, and commissioning services.

Osram Sylvania, Central Falls

Central Falls, RI

Preparation of an Investment Grade Audit for the installation of a Cogeneration Plant for the Osram Sylvania manufacturing plant in Central Falls, R.I. The plant was developed to operate in "Island Mode" without utility back-up.

Sempra Energy - Lockheed Martin Site

Moorestown, NJ

Preparation of an investment grade audit for a Lockheed Martin Facility in Moorestown, NJ. The audits included all mechanical and electrical systems, throughout the facility as well as a 10,000 ton central chiller plant.

Village View Co-op

New York, NY

Investment Grade Audit for the installation of a 2.1 MW Cogeneration Plant and new Central Boiler Plant.

Brooklyn College

Brooklyn, NY

Investment Grade Audit for a 10,000-ton chiller plant and a chilled water distribution system on the campus of Brooklyn College performed as an energy performance contract.

Firmenich Combined Heat & Power Plant

Port Newark, NJ

Engineering services regarding the development of an Investment Grade Audit, for Praxair Energy Solutions, for the installation of a 5.4 MW cogeneration plant at this manufacturing facility in Port Newark, NJ.

ENERGY CONSERVATION STUDIES

Energy Conservation Study, Westchester Community College (WCC)

Valhalla, New York

Energy conservation study for the Westchester Community College. The engineering assistance was provided through the New York State Energy Research and Development Authority FlexTech Program. The WCC campus has 15 buildings with more than 650,000 square feet of instructional, office, and maintenance space.

Energy Conservation Study, Harlem Hospital

New York, New York

Energy conservation study for Harlem Hospital. The study was prepared in order to develop an Energy Performance Contract for the facility. The study included one 17-story building (Martin Luther King Jr. Pavilion), with over 660,000 sf, housing both the campus central boiler plant and central chiller plant.

Energy Conservation Study, Bellevue Hospital

New York, New York

Energy conservation study for Bellevue Hospital. The study was prepared in order to develop the basis for an Energy Performance Contract for this 1.5 million sf facility.

Energy Conservation Study, Isabella Geriatric Center

New York, New York

Energy conservation study for Isabella Geriatric Center. The study assessed a partially completed Energy Performance Contract and advised the facility on additional energy projects that could be included. The facility includes a 550 bed geriatric center housed in two buildings (17 story and 13 story).

NYSERDA Contract: (Flex -Tech Term Contract)

New York State

Technical Assistance Task Order Program designed to provide engineering assistance to New York State clients for energy related needs. The FlexTech program is conducted under a multi-year term contractual agreement with several consultants in a consultant pool. NYSERDA Project Managers select consulting firms with experience in line with the requirements of a specific project or client requirement.

Seward Park Co-op

New York, NY

Energy conservation study to conserve steam usage. Improvements in temperature control and use of high temperature condensate to preheat domestic water were two changes that were economically feasible.

ENERGY MANAGEMENT SERVICES

Power Purchasing - Rudin Management Inc.

New York, NY

Consultant to Rudin Management for the purchase of electric power. Activities included load analysis development of a competitive RFP, management of the RFP process, review of competitive bids, and negotiation of the energy supply contract.

Steam Purchasing – Seward Park CO-OP

New York, NY

Evaluation of a 2 million square foot high rise residential complex with retail and office spaces, for the negotiation of a steam sales contract with Con Edison Steam. Services included the development of steam load profiles, analysis of possible alternatives for providing steam to the site, negotiation of a graduated steam rate under the SC5 competitive alternative rate schedule, and assistance in the negotiation of a 10 year steam supply agreement.

Madison Square Garden (MSG) Energy Management Services

New York, NY

Scope of services included preparation of monthly chilled water invoice for purchased chilled water from adjacent building, review of energy contracts with local utility, building management system (BMS) survey and recommendations for upgrades and ongoing consultation regarding management of facility energy consumption.

Jewish Home and Hospital

Manhattan, Bronx and Mamaroneck, NY

The Jewish Home operates multiple buildings in three complexes with an estimated 2 million square feet. The Jewish Home facilities house offices, patient rooms, outpatient treatment rooms, elderly apartments and cafeterias. The scope of services included:

- Collection/tabulation of available data for the facility electrical, cooling needs and heating loads.
- Analysis/ evaluation of alternate technologies available to produce heating steam/hot water, and chilled water for the Jewish Home facilities.
- Evaluation of the major components of the electrical and mechanical systems as to their general condition, location, and their appropriateness in satisfying current building use patterns.
- Evaluation of the steam distribution system / analysis of the steam generating equipment.
- Evaluation of the condition of major components of the air distribution systems.
- Identification of additional areas in the facilities that could be supplied with chilled water from the central chilled water plant and specialized cooling needs that should be isolated from the central chilled water system to reduce operating expenses.
- Identification of operating cost reductions and facility retrofits to the mechanical and electrical systems.