



## COMMISSIONING QUALIFICATIONS

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## **Mission Statement**

**We are committed to our CLIENTS....**"From project inception, through design, construction, and commissioning, 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 our EMPLOYEES....**"We seek to help our employees realize their full potential by providing a stable work environment, with equal opportunity for learning and personal growth; creativity and innovation are encouraged."

## 1. OUR 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 in order to broaden and expand our commissioning, start-up, and operator training capabilities.

### SERVICE FOCUS

GENESYS’ main focus is on the **study, design, construction management, and commissioning** of energy and utility infrastructure projects for major facilities. These projects include:

- ü HVAC infrastructure for buildings;
- ü central boiler plants;
- ü central chiller plants;
- ü emergency power plants;
- ü cogeneration plants;
- ü primary electric distribution; and
- ü thermal distribution.

In addition to our extensive engineering and design experience, GENESYS’ Principals and employees have experience in project development and operations, giving us a perspective that is unique to our industry and critical to the success of a project.

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## **Study and Design Services**

At GENESYS, we bring to bear our unique combination of practical “hands on” experience, strong engineering expertise and a commitment to quality in order to successfully develop our clients’ projects.

GENESYS’ study and design services include:

- ü Condition Assessment Surveys;
- ü Feasibility Studies;
- ü Energy Conservation Studies;
- ü Investment Grade Audits;
- ü Energy and Utility Master Plans;
- ü Preparation of Preliminary Engineering Documents; and
- ü Preparation of Bid Documents.

At GENESYS, we possess strong project management skills, allowing us to serve as the Prime Consultant; this, in combination with our construction management and commissioning expertise, gives our client “one stop shopping” for those projects within our areas of expertise.

## **Construction Management**

At the urging and request of numerous Owners, all seeking a single source for the implementation of energy projects, GENESYS started a construction management group. This group is staffed with individuals having construction experience in the energy and power field, and who possess the strong leadership skills necessary for the success of any construction project.

At GENESYS, we believe in “TEAM APPROACH CONTRACTING,” which creates an atmosphere of shared risk instead of allocated risk, enabling the project team to focus on true goals and objectives instead of self-preservation. With a firm understanding of the construction delivery process, we communicate openly and honestly with all project team members, revealing the true objectives, schedule and budget.

The three most important skills that our construction managers possess are:

- ü A clear vision of how to lead and manage the construction process;
- ü A sound understanding of each team member's responsibilities; and
- ü An ability and willingness to enforce accountability.

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## Commissioning

At GENESYS, we believe buildings should function properly and problems should be identified and corrected prior to building occupancy -- before they become chronic issues for operators and occupants.

As Commissioning Providers, our dedicated team serves as our client's advocate throughout the design and construction process and are committed to protecting their investment. These services result in significant savings by reducing change orders, energy consumption and equipment life-cycle costs.

GENESYS' commissioning services include:

- ü Design reviews;
- ü Development of the Commissioning Plan;
- ü Review and input to construction schedule;
- ü Review of Shop Drawings, O&M Manuals, and Operator Training Programs;
- ü Development of Pre-functional Inspection Forms;
- ü Perform Pre-functional Inspections;
- ü Development of Functional Test Protocols;
- ü Managing and witnessing the functional testing process;
- ü Commissioning meetings;
- ü Maintenance of Deficiency Database;
- ü Commissioning documentation; and
- ü Post occupancy evaluations.

Our personnel also have experience with green buildings and several members of our team are Leadership in Energy and Environmental Design (LEED) accredited professionals.

## 2. **OUR PRINCIPALS...**

With a technical staff of more than twenty five, including nine professional engineers, and sub-consultant 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.

**Ron Mineo**, formerly President of Joseph R. Loring and Associates, is a licensed professional with 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 construction, start-up, operations, and maintenance of Boiler and Power Plants, Ron brings a unique perspective to any project.

**Bob Braun**, formerly an Owner of Braun Engineering and then a Senior Vice President of Keyspan, is a licensed professional engineer with more than 25 years of experience in the design, construction, operation and maintenance of utilities' infrastructure projects. Bob continues to maintain his Stationary Engineer's License for High Pressure Steam and Refrigeration in New York City.

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.

### 3. **OUR COMMISSIONING GROUP...**

Genesys Engineering and its commissioning personnel have extensive experience in the commissioning and re-commissioning of commercial and institutional projects. This experience dates back to the mid 1990s, when commissioning was in its infancy and the true benefits were not yet obvious to the industry.

We have gone to great lengths to hire and actively train individuals that bring a broad range of experience and background to the commissioning role, and have created a dedicated group of personnel specifically responsible for providing commissioning services. We feel that it is extremely important that our commissioning personnel are multi-dimensional and understand all the roles of the parties involved in the commissioning process and also understand, through first hand experience, the challenges that each of these parties face in performing their portion of the project.

We place a great deal of emphasis on the importance of commissioning and are continually seeking to improve our capabilities and our offering to our clients. Towards that end, GENESYS acquired Park East Facility Solutions (PEFS) in 2005, which served to increase our depth of resources and broaden our commissioning, start-up, and operator training capabilities.

PEFS has now been fully integrated into GENESYS' operation and Steve Joern, the former Owner and Principal of PEFS, is now the Director of Commissioning Services for GENESYS.

**Steve Joern** has more than 16 years of progressive engineering and management experience in projects involving the study, design, construction, operations, and commissioning of energy projects. He has extensive experience in providing commissioning services ranging from developing commissioning plans, writing commissioning specifications, managing and implementing commissioning projects and retro-commissioning existing buildings. Mr. Joern's experience spans a wide variety of equipment and systems including HVAC, building controls, central boilers and chilled water plants, hydronic systems, and electrical systems.

#### **4. OUR COMMISSIONING CAPABILITY...**

GENESYS' experience and tenure in the commissioning field has helped us develop a consistent, replicable and scalable approach to the commissioning process, which is customized to the needs of each project and client. We believe that there are four key areas, which differentiate GENESYS from other commissioning firms, and are the primary contributors to the success we have achieved with other projects. These include:

- ü Technical expertise and Quality Control
- ü The manner in which we integrate the commissioning process into the project;
- ü Our inspection and testing process; and
- ü The manner in which we manage data and disseminate information.

##### **Technical Expertise**

Our commissioning personnel not only have the requisite experience in the commissioning of facilities, but have experience in “hands on” testing of equipment and systems, construction, operations, design of mechanical and electrical systems, and the peer review of facility designs.

This expertise is not only critical in the development of our inspection and testing procedures, witnessing or performing functional testing, but provides the credibility to effectively manage the commissioning process and integrate with the project team. Our commissioning team members have extensive experience in the operations and maintenance of buildings, which provides our clients with that key advocate to assist them in the critical transition from construction to occupancy and ownership.

GENESYS has a quality assurance/quality control program that stresses that quality is achieved through the strict adherence to established procedures. Quality is not “checked” into a project. QA/QC is the process by which our project managers and principals assure that our personnel are adhering to the procedures, which provide direction and the tools for our engineers to succeed.

##### **Integration into the Project Team**

With a keen understanding of the design and construction process, we are able to create a positive and productive relationship with the project team by working closely to seamlessly integrate the commissioning services into the normal construction process and by being flexible, communicating effectively and quickly turning around reports without unnecessarily burdening the other team members.

GENESYS professionals have worked closely with dozens of construction teams during all of our commissioning engagements and truly believe the success of the commissioning process rests on the Commissioning Team's ability to work well and effectively with construction and design personnel. We firmly believe that established protocols for lines of communication and the direct involvement of the Commissioning Provider as a member of the project team improves the understanding of the commissioning process by all team members and accelerates the acceptance process, reduces the potential for delays, and improves the overall operation, efficiency and comfort of the building.

### **Inspection and Testing Process**

We have developed definitive protocols and software to customize the inspection criteria, perform the inspections and produce deficiency lists. All of our protocols and systems have been designed with three primary objectives:

- ü Maintain the highest degree of quality control throughout the commissioning process;
- ü Verify that all team members understand the process and the methodology being used to inspect and test equipment and systems; and
- ü Distribute all information quickly, verify that the information is accurate and complete, and that the contractors can easily manage the process involved to report corrective actions.

We have a systematic and methodical approach to the development of the commissioning plan and execution of the commissioning process, allowing us to achieve a very critical commissioning objective -- to spend more time working with the construction team and performing the inspections and testing, rather than having to re-develop procedures and the required documentation.

During the development of the commissioning plan, we begin by gaining a thorough understanding of the equipment and systems to be installed through reviewing drawings and specifications and having candid discussions with the design and construction team. During this process, we use our inspection criteria form to generate the actual pre-functional inspection forms for each piece of equipment. This process and methodology raises our level and value of services and underscores our commitment to:

- ü Approaching each project with a new perspective and proper understanding of any unique circumstances;
- ü Customizing the inspection tools to enable inspectors to focus only on the items relevant to that particular equipment or system; and
- ü Providing the highest level of detail and documentation throughout the entire inspection process.

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This detailed and customized approach continues throughout our functional testing procedures development. We categorize each of our functional tests into the following categories:

- ü Safeties and interlocks;
- ü Operational; or
- ü Integrated equipment

Similarly to our inspection criteria form we utilize a functional testing criteria form to develop our customized functional testing forms.

### **Deficiency Data Management and Information Dissemination**

A critical component to successful building commissioning is the management and dissemination of the data used to communicate the deficiencies noted during the inspection and testing process. We are committed to presenting this information to the owner, design team, construction managers and contractors in a timely and accurate manner.

We have developed our data management system to allow for maximum flexibility in the presentation and distribution of data. We can format and customize the database to show only certain information desired such as separating deficiencies by trade, equipment type, and length of time the deficiency has been active.

GENESYS takes a unique approach to prioritizing the deficiencies in the database. Each deficiency is assigned a deficiency code or several codes, which indicate the type of deficiency. These codes include contractual deficiencies (CDC), operational deficiencies (O), and deficiencies which impact functional testing (XP). The deficiency lists can then be sorted by these codes in order to more effectively manage correction of deficiencies and highlight deficiencies, which are significantly impacting the progress of the commissioning process. Our experience has proven this approach is more productive than ranking priorities because prioritization is often very subjective and doesn't necessarily relate to the operability and efficiency of the systems.

A separate report is also prepared for the contractors, which has a space for them to easily write in the date the corrective action was taken and any other pertinent information. This allows for re-inspection of the deficiencies to proceed quickly and efficiently as well as placing the appropriate amount of responsibility and accountability on the contractor to correct the deficiencies identified.

## **5. OUR COMMISSIONING PROJECTS...**

### **Bronx Criminal Courthouse**

#### ***Dormitory Authority State of New York (DASNY)***

#### ***Bronx , NY***

GENESYS provided commissioning services for the new, 1.1 million SF Bronx Criminal Court House Complex, a \$1 Billion complex, which is one of DASNY's largest projects in the New York Metropolitan area. The new court complex is located on a three-block site on East 161st Street near Grand Concourse Boulevard and represents an unprecedented program for court construction. This project includes the installation of new heating and cooling systems, including three new chillers, 36 air handling units and over 600 variable air volume (VAV) boxes. A new Building Management Systems is also being installed.

### **Renovated Residence Hall**

#### **Fashion Institute of Technology**

#### **New York, New York**

GENESYS provided commissioning services for a new, 320,000 SF mid-rise residence hall at 401 West 31<sup>st</sup> Street, NY, NY. This project includes the installation of new heating and cooling systems, including: two new chillers, three new boilers, 11 air handling units and a new Building Management System. GENESYS has witnessed, performed and documented pre-functional inspections and functional testing of all major HVAC equipment, and managed and documented all deficiencies. In addition, a change order was issued for GENESYS to provide operation and training support to building operators during the first 30 days of the transition to occupancy.

### **Battery Park City Authority**

#### **Site 3A – Battery Park City Parks Conservancy Maintenance Facility**

#### **New York, New York**

GENESYS is providing commissioning services for this 40,000 gsf facility which is seeking LEED Platinum Certification. The installation includes all major HVAC systems, geothermal systems, Building Management System, as well as other energy conservation systems.

### **Battery Park City Authority**

#### **Site 23/24 – Community Center and Ballfield Maintenance Facility**

#### **New York, New York**

GENESYS is providing commissioning services for this 60,000 gsf facility which is seeking LEED Platinum Certification. The installation includes new chillers, boilers, air handling units, Building Management System, and other energy conservation systems.

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### **Hudson HQ & Lab Consolidation**

***New York State DEP***

***Kingston, New York***

This project includes commissioning services for the renovation of the NYS DEP Hudson HQ and Laboratory. Systems to be commissioned include a new chiller plant, boiler plant, HVAC systems, and VAV lab exhaust systems. The scope of work for this project is consistent with the requirements of Executive Order 111.

### **Marshak Science Tower Rehabilitation**

***City College of New York***

***New York, New York***

GENESYS is providing commissioning services for this project which includes the retrofit of more than 180 fume hoods with low flow high performance retrofit kits, installation of 8 high velocity entrainment exhaust fans, and modifications to the fume hood exhaust systems. In addition to our commissioning responsibilities, GENESYS was responsible for the study, design, and construction of the project. The total project cost \$5.8 million, and the building is 650,000 square feet.

### **Wadsworth Laboratories, NYS DOH**

***Insectary, BSL-3***

***Albany, NY***

This project includes commissioning services for this new BSL-3 laboratory. The lab is built in a historic building, which presented several challenges. The scope included the testing and commissioning of VAV boxes, air handling units, zone humidifiers, air-cooled chillers, HEPA filters, and biological safety cabinets.

### **New Science Tower**

***SUNY Oneonta***

***Oneonta, NY***

GENESYS is providing commissioning services for this new laboratory, which is approximately 100,000 square feet. The scope of work for this project is consistent with the requirements of Executive Order 111.

### **Campus-wide Controls and HVAC Modernization**

***SUNY at Stony Brook***

***Stony Brook, NY***

GENESYS provided commissioning services for this project which included the commissioning of a campus-wide energy management system, including complete replacement of approximately 5,000 system points, the front end and communications network. The system covers 30 buildings comprising over 4.6 million square feet.

In addition to commissioning, GENESYS was also responsible for the design of the project. The work was done for Honeywell SES (formerly Sempra Energy Services) as an energy performance contract.

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### **Central Boiler and Chiller Plant**

***City College of New York***

***New York, New York***

GENESYS is providing commissioning services for this project which includes the installation of a 10,000 Ton hybrid chiller plant, the installation of cooling towers, condenser water pumps, chilled water pumps, the upgrade of the existing boiler plant and addition of two high pressure steam boilers with a total capacity of 70,000 pph.

### **Apartment Housing Complex**

***Stony Brook University***

***Stony Brook, New York***

GENESYS provided commissioning services for a new, four-building apartment housing complex totaling approximately 150,000 sq ft.

### **Heavy Engineering Building**

***Stony Brook University***

***Stony Brook, New York***

GENESYS provided commissioning services for a new/renovated academic building at Stony Brook University. Scope included high temperature hot water heat exchangers, chilled water and hot water distribution, variable speed pumping, variable volume air handling units, humidification, control system, and other mechanical systems.

### **New Residence Hall**

***SUNY at Farmingdale***

***Farmingdale, New York***

GENESYS provided commissioning services for a new, 400 bed residence hall totaling approximately 100,000 sq ft.

### **Refrigeration Plant**

***Madison Square Garden (MSG)***

***New York, New York***

This project included commissioning services for the new, refrigeration plant that is used to make ice for the New York Rangers' ice rink at Madison Square Garden. The project included two (2) new 180-ton brine chillers and all auxiliary systems necessary to supply 11° F brine to the existing ice rink; return temperature from the ice rink is 9° F. The project included variable frequency drive pumping for energy savings and upgrading of the mechanical room to ASHRAE STD 15.

### **Central Boiler/Chiller Plant**

***Fresh Meadows Retail Complex***

***Fresh Meadows, New York***

This project included the commissioning of a central boiler and chiller plant for the Fresh Meadows Retail Complex which included the installation of two, dual fuel 400 BHP fire tube boilers, two 750 Ton direct fired absorption chillers, condenser water pumps, primary chilled water pumps, variable speed drive secondary chilled water

pumps, cooling towers, low pressure steam and condensate distribution, chilled water distribution, and tie-in to eleven building mechanical rooms

### **Facilities Management System**

#### ***Verizon Zeckendorf Facility***

##### ***Garden City, New York***

This project included re-commissioning services for the facility management system (FMS) at 741 Zeckendorf Blvd., a 750,000 square foot complex. The re-commissioning services included a review of as-built and/or design documentation for the facility, a review of the updates and/or modifications made to the facility controls, a review of the original functions of the facility, a review of the new functions of the facility, a review of the current operational methodologies, a check of a representative sample of field instruments and equipment, a functional test of the control system, a development of operational and capital upgrades to the control system, and documentation of all activities. We were also responsible for a review of the facility requirements versus actual system capacities and heating/cooling loads, and the evaluation of the facility for EPA Energy Star Labeling (with the inclusion of various ECMs).

### **Campus-wide Energy Management System**

#### ***New Jersey City University***

##### ***Jersey City, NJ***

This project included re-commissioning services for the campus-wide energy management system for New Jersey City University. The objective of the project was to identify shortcomings in the existing Andover 256+ system, provide the University with a master plan document to identify the upgrade requirements, and convert the entire system to open protocol. The Scope of Services included reviewing the existing Andover EMS technology and operations sequences for each building, review of "front end" capabilities, system expansion capabilities, and recommendations for upgrading and modernization.

### **Central Chiller plant**

#### ***Brooklyn Hospital***

##### ***Brooklyn, New York***

This project included commissioning services for a new, 900 ton electric centrifugal chiller plant. The plant, which was also designed by Genesys, included new, cooling towers (each sized at 1,300 tons), condenser water pumps, chilled water pumps, a native BACNET control system, and ancillary equipment.

### **Administration Building**

#### ***SUNY at Albany***

##### ***Albany, New York***

This project includes commissioning services for a new building, which is approximately 100,000 square feet, to house the administration personnel for the SUNY Albany Campus. The scope of work for this project is consistent with the requirements of E.O. 111.

**HVAC and Electrical Systems**  
**Catskill Central School District**  
***Catskill, NY***

Genesys provided retro-commissioning services for mechanical and electrical systems for a one-year old, 140,000 sq ft elementary school. Systems commissioned included boiler systems, domestic hot water heating system, chiller and chilled water system, air handlers and unit ventilators, variable speed pumping, building automation system, and lighting.

## 6. **OUR CLIENTS...**

Our clients include the following prestigious organizations:

Brooklyn Hospital  
Hunter College  
New York University  
Stony Brook University  
SUNY New Paltz  
SUNY College at Old Westbury  
SUNY Farmingdale  
Teachers College at Columbia  
SUNY College at Oneonta

Bellevue Hospital  
Covenant Healthcare  
Glens Falls Hospital  
Isabella Geriatric Center  
Mount Sinai Hospital  
North Shore University Hospital  
The Jewish Home and Hospital  
West Penn Hospital

Honeywell SES  
Con Ed Solutions  
Select Energy  
Noresco  
Washington Gas Energy Services  
H2O Applied Technologies  
PPL Energy Services  
1100: Architect  
Jonathan Rose Companies

The Dormitory Authority State of New York  
The New York State Office of Mental Health  
City University of New York  
State University Construction Fund  
New York State Energy Research and Development Authority  
Battery Park City Authority  
Brooklyn Navy Yard Development Authority