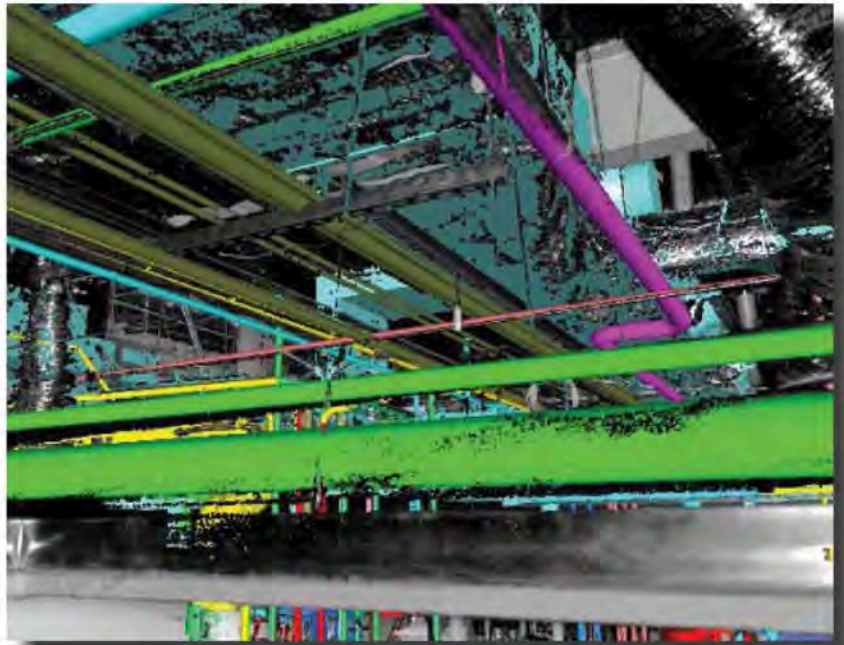


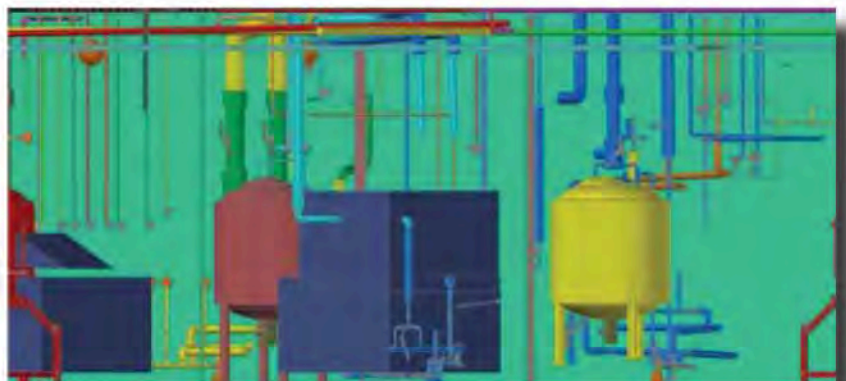
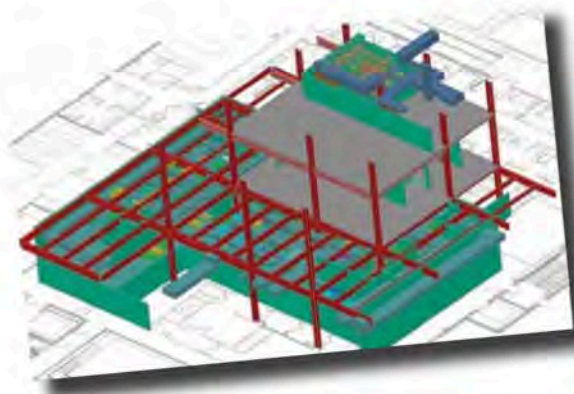
## ● Three-Dimensional Process Area Analysis

EI Associates recently assisted one of our major pharmaceutical manufacturing clients by providing a comprehensive analysis of existing process suites to determine the feasibility and options for expanding process operations and adding vessels to dramatically increase production capacity. Typical of many pharmaceutical facilities, the subject suites are located within an area dense with utility piping and infrastructure. Manual field measurements and other traditional field information gathering techniques proved to be impractical and also would not provide the level of accuracy required to execute the project without significantly disrupting on-going operations.

To meet our client's requirements EI utilized laser scanning technology to obtain accurate field information of all existing conditions including above-ceiling conditions. Existing light fixtures were removed at several locations, thereby allowing a small laser scanning device to be inserted above the ceiling. Utilizing reference coordinates, a complete 3-dimensional "smart photo" of all in-room and above-ceiling infrastructure was recorded with X, Y and Z coordinate information, accurate to less than 1/8". The 3-D "photo" information was then imported into EI's 3-D building modeling and piping software so that a 3-D process area design model could be created and superimposed upon the existing conditions. This permitted an analysis of the impact to the existing building and infrastructure to be assessed, and budgetary cost estimates accurately prepared.



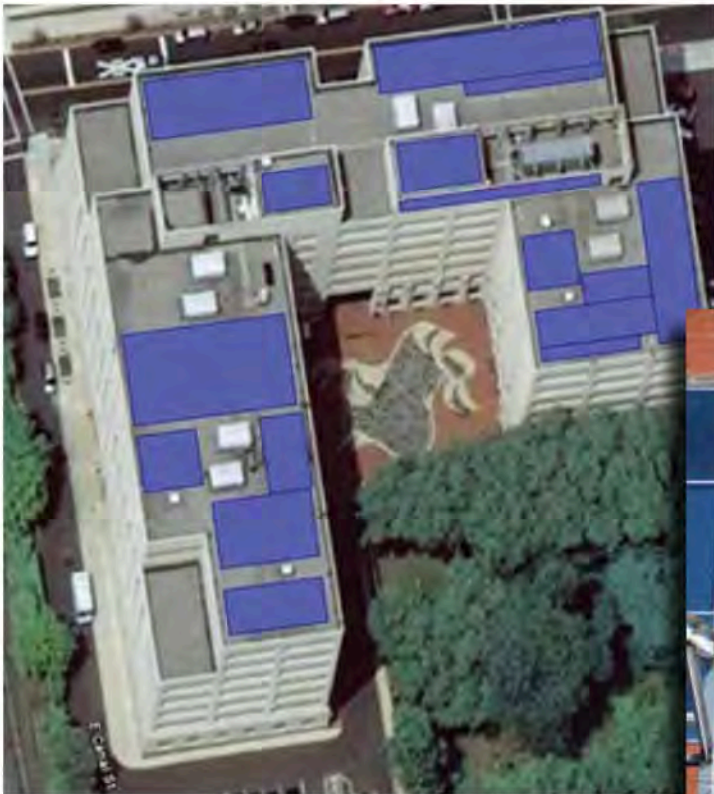
*Laser scan of existing above-ceiling conditions with colored overlay of proposed piping systems.*



## ● Comprehensive Approach to Energy Reduction For NJDEP

There are no "silver bullet" solutions when it comes to energy reduction retrofits of existing facilities. Oftentimes multi-system upgrades are necessary to realize the full potential of an energy reduction program. EI Associates recently completed a far-ranging program to reduce energy costs for the NJDEP's headquarters building in Trenton, NJ involving architectural, mechanical, plumbing and photovoltaic systems. Constructed in the 1980's, the seven-story building was originally served by 880 poorly controlled heat pump units which heat and cool the building exterior skin. The building was served by inefficient cooling towers, and had an aged roofing system with poor insulation, all in need of replacement.

EI designed comprehensive energy reduction improvements consisting of the replacement of all heat pump units and new mechanical controls throughout, three high-efficient cooling towers piped for maximum flexibility and efficiency, new pumps, variable speed motor drives and controls, a reflective roof system, and a rooftop photovoltaic (PV) system. The combination of the reflective roof membrane with the rooftop PV system will provide the NJDEP with the greatest possible energy payback; although the 207,113 kWh crystalline panel photovoltaic system will provide an estimated yearly energy cost savings of \$31,000, the reflective nature of the crystalline arrays typically create additional heat load on the roof which will be alleviated through the use of a light colored, reflective roof membrane. The combined replacement of all building heat pumps, controls and cooling towers will provide integrated system efficiencies, resulting in a combined yearly energy savings estimated to be \$218,000.



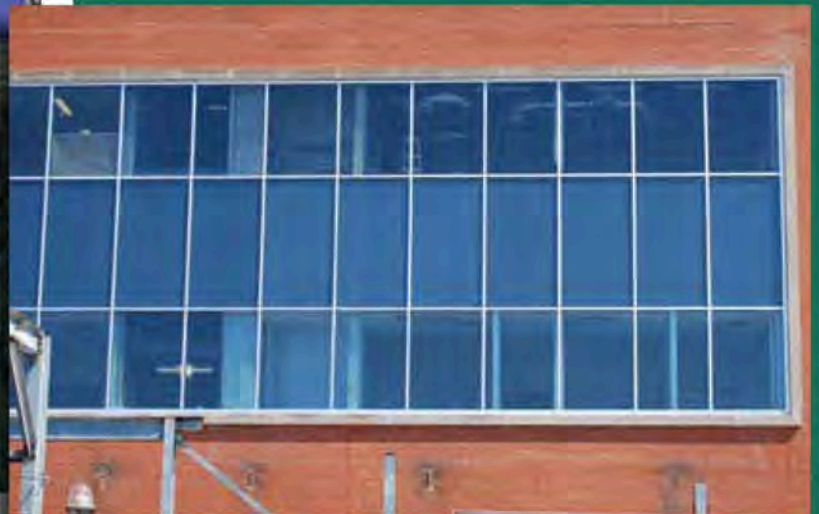
## ● LEED Renovations for PSEG



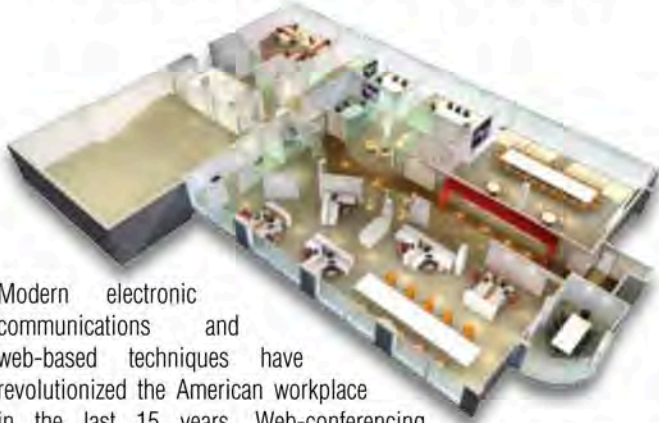
The Linden Generating Station Administration Building accommodated office functions at PSEG's Linden site since its inception in the 1950's. Never renovated or upgraded, all the original building utilities and finishes have outlived their normal lifespan. Accordingly, PSEG retained EI Associates to perform a detailed facility assessment to establish renovation requirements, establish a project budget, and then to design all the improvements to the existing 3-story building. This project is also seeking LEED certification for Commercial Interiors. The project, registered with the USGBC identifies a total of 26 LEED Checklist points.

Currently under construction, this renovation project addresses ADA requirements, corrects all code deficiencies and improves the indoor air quality and life safety of all the employees. The project scope includes roof and window wall replacement, masonry restoration, complete replacement of HVAC systems, the design of new office interiors, and all new plumbing and electrical systems.

The design, procurement and construction has been carefully orchestrated to permit building occupancy throughout the construction process. Detailed phasing plans were prepared by our firm to logically set forth a cost-effective, practical sequence of construction activities to minimize disruption to PSEG's operations.



## ● Workspaces for the 21st Century Embraced BY GSK



Modern electronic communications and web-based techniques have revolutionized the American workplace in the last 15 years. Web-conferencing, Blackberries, portable laptops and WiFi have created less densely occupied office environments, in many cases averaging 80% occupancy during peak work hours. Conventional models for office design prescribing a one-for-one allocation of dedicated workstations and offices have become inefficient and no longer support current day work activities. Flexibility is now critical to providing cost-effective corporate office design.

Working with GlaxoSmithKline (GSK) EI Associates designed several highly efficient and flexible office environments to better suit their present workflows and office paradigm. GSK's Consumer Products Group office was designed based upon 80% employee utilization and provides an egalitarian arrangement of open desks, quiet booths and conference areas. In lieu of dedicated workstations and private offices, employees are provided lockers and have the daily flexibility to use a workstation, group work table, private booth or conference area depending upon each person's daily work requirements.

EI's recent renovation of GSK's Executive Suite was also modeled on the flexible office model. Senior executive offices were designed to be shared in response to travel frequency. This new office prototype has resulted in reduced employee square footage requirements, a move to more flexible furniture systems, reduced operating costs, as well as vastly improved employee satisfaction and productivity.



## ● New Office Quarters for PAR Pharmaceuticals

PAR Pharmaceuticals retained EI Associates to design renovations to their existing Executive Offices and former QC Laboratory areas of their Spring Valley, NY facility. The Spring Valley renovation work will re-organize existing office space and convert underutilized laboratory space into office space in order to accommodate the relocation of PAR's Generics Division employees from their Woodcliff Lakes, NJ facility. The total project area is approximately 10,000 sq.ft.



The program requirements include the design of a new President's Office Suite, the renovation of the existing Board Room and Main Conference Room, provisions for new VP offices, several associated executive offices, open cubicle areas, new Conference Room, new Training Room, new Break Room as well as support functions including copy/mailroom area, secure file room, open file areas and new toilet rooms.

New interior finishes, furniture, lighting and HVAC equipment have been designed to support the renovated area. To accurately visualize the renovations and facilitate the client's decision making process, EI is designing the entire project utilizing AutoCAD REVIT, a form of 3-D BIM software.

## ● Oral Solid Dosage Form Manufacturing & Packaging Suites

El Associates was retained by a leading manufacturer of vitamins and nutritional supplements to convert a 9,800 square foot existing office and warehouse area within their Long Island facility to accommodate new manufacturing and packaging operations for Oral Solid Dosage (OSD) forms.

The front half of the project area accommodates a packaging area for two packaging lines. The rear half contains a manufacturing suite with five capsule rooms, one blender room, a utility room, and an air lock separating the existing warehouse areas, which remain unchanged, from the new manufacturing area. With the exception of the blender room, all manufacturing areas have been designed to facilitate cGMP sanitary operations. The blender room is equipped with floor drains connected to existing waste tanks for full wash-down capability.

El designed the completely new HVAC system to support the manufacturing suite requirements for a maximum of 60°F with a maximum relative humidity of 30%RH. To achieve these strict environmental conditions the entire project area envelope was coated with a spray-applied liquid polymer membrane system. 100% of the supply air is circulated through a new Kathabar system.



## News, Notes & Events

### New Projects

- Avon Products, Zanesville, OH – Air Conditioning Design for Distribution Center
- Church & Dwight, York, PA – Cat Litter Manufacturing Facility
- GlaxoSmithKline, Parsippany & Clifton, NJ – Multiple Facility and Production Improvement Projects
- NJ Bankers League, Cranford, NJ – Renovation of Headquarters Facility
- Hoffmann-La Roche, Nutley NJ – New Branch for Proponent Federal Credit Union
- Stepan Chemical, Maywood, NJ – Miscellaneous Process Improvements
- Township of Denville, NJ – Feasibility and Expansion Study for Police Headquarters

### Events:

- Interphex 2010, April 20-22nd – Javits Center, New York, NY – Booth # 1242

## ● Design/Build Execution of New Fire Proofing Plant



El Associates recently assisted Isolatek in feasibility analysis, site selection, detailed design, procurement, permitting, and construction of a new manufacturing operation within an existing 66,000 sq.ft. industrial building located in San Bernardino, CA. Under a Design/Build agreement El identified and assessed several candidate sites and provided facility selection recommendations and assistance in lease negotiations. We then provided detailed design, permitting, equipment procurement, and construction of all manufacturing and process systems, as well as the essential support facilities, site development, utility requirements and environmental control equipment.

Isolatek's process involves the use of dry mix raw materials which, through the use of a screw conveyor, are blended and conveyed to an automatic filling and packaging operation. The materials are delivered to individual feeders by a combination of pneumatic conveying, totes and bulk bags. At all transfer points the environment is protected by a series of individual vent filters with negative pressure created by a dust collector blower. All fugitive dust is collected through a general area dust collector. El designed a custom dust collector & HEPA filter exhaust system to reduce particulate emissions to less than ½ pound per day which is below California's stringent minimum emission requirement, thereby avoiding the requirement for annual exhaust air inspections and the purchase of over \$1,000,000 of particulate emission credits.

