



Michael V. Gryn, P.E.
Project Manager

Education

B.S., Electrical
Engineering
Purdue University

M.B.A., Strategy,
Execution, & Valuation
DePaul University

Licenses & Professional Societies

P.E. – Illinois
LEED AP
CEM
CEE Green Conference
Committee Member

As project manager and electrical engineer, Mr. Gryn is responsible for all aspects of a project, from budgeting through construction. As an Electrical Engineer, Mr. Gryn is responsible for electrical and instrumentation designs for a multitude of project types. These design types include, but are not limited to: water and wastewater designs for plant expansions or new plant facilities including full pump station designs; commercial space build-outs with new or rehabilitated service entrances; residential space designs including tenant layouts for power and communication.

Bissell Disinfection – Metropolitan Sewerage District (MSD) St. Louis, Missouri

Mr. Gryn is the Electrical Engineer for the instrumentation and control design for the disinfection system at the Bissell Wastewater Treatment Plant. There are two disinfection systems at Bissell WWTP, both of which utilize a chlorination/dechlorination chemical system. There is a dry weather system for flows up to 300 MGD and a wet-weather flow system for flows between 300 MGD and 450 MGD. The dry weather disinfection system consists of dosing sodium hypochlorite into induction units located in junction chambers. Chlorine residual is measured and is used as fine tuning for accurate chemical dosing. When the flow exceeds 300 MGD, the wet weather strategy begins by opening the motor operated gates, which allows excess flow into the chlorine contact basin for treatment. The wet weather system has automated control features that prepare the system for high flow disinfection as well as clean the channels by use of tipping buckets and flush the chemical lines after the event. Integration of the new instrumentation into the existing SCADA system was required at Bissell WWTP. Mr. Gryn will also provide construction services for this project. These include answering requests for information, shop drawing review and final punch-list review.

Lemay Disinfection – Metropolitan Sewerage District (MSD) St. Louis, Missouri

Mr. Gryn is the Electrical Engineer for the instrumentation and control design for the disinfection system at the Lemay Wastewater Treatment Plant. The disinfection systems consist of ultraviolet disinfection, as well as a chemical disinfection system. There are two disinfection systems at Lemay WWTP, a dry weather system which utilizes ultraviolet (UV) technology and a wet-weather flow system which utilizes a chlorination/dechlorination chemical system. The chemical system uses sodium hypochlorite injection and sodium bisulfate injection. IDCS selected the instrumentation required for the controls and designed the controls to be integrated into the existing control system at Lemay. Mr. Gryn will provide construction services for this project. These include answering requests for information, shop drawing review and final punch-list review.

Meramec Disinfection – Metropolitan Sewerage District (MSD) St. Louis, Missouri

Mr. Gryn is the Electrical Engineer for the instrumentation and control design for the Lower Meramec Disinfection project. Mr. Gryn is responsible for the design and specification of a chlorine residual analyzer, a sodium hypochlorite injection system, a sodium bisulfite injection system and a dechlorination analyzer; as well as implementing these items into the existing system. Mr.



Gryn will also provide construction services for this project. These include answering requests for information, shop drawing review and final punch-list review.

**Pump Station Vulnerability and Risk Assessment Study – Metropolitan Water Reclamation District (MWRDGC)
Chicago, Illinois**

Mr. Gryn was the Electrical Engineer for the evaluation of six separate Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) pumping stations in the Chicagoland area which pump raw sewage from the Deep Tunnel System to three wastewater reclamation plants. The project consisted of reviewing existing District data, visiting the stations to collect data, organizing findings and drawing conclusions, as well as drafting a report to define the power vulnerabilities and risks found at each station.

**Supervisory Control and Data Acquisition (SCADA) Implementation Project – Fox Metro Water Reclamation District (FMWRD)
Oswego, Illinois**

Mr. Gryn was the Electrical Engineer for the design of a new supervisory control and data acquisition (SCADA) system for the Fox Metro Water Reclamation District (FMWRD). The design included a server-based network with redundant fiber optic communication in a distributed control programmable logic controller (PLC) platform which integrates 17 areas of the plant. Remote telemetry units (RTU's) were installed in areas of high data concentration and for the integration of legacy systems into the SCADA system. Remote I/O panels were used to pick up data points from ancillary areas. Viewnodes and operator interfaces were installed in areas to aid operators in various areas of the plant. An Ethernet network was used to connect all the PLCs, I/O Points, operator interfaces, and operator workstations to the servers. A web server was implemented for FMWRD management to generate reports regarding plant operation. Access monitoring was installed at all areas for plant security. Plans and specifications were drafted for the improvements of each area, as well as the P&ID drawings for each system, new network layout and control panel elevations.

**Temperature Phased Anaerobic Digester Design Services – Fox Metro Water Reclamation District (FMWRD)
Oswego, Illinois**

Mr. Gryn was the Electrical Engineer for the design of the power distribution and control system for a new thermophilic digester complex at Fox Metro Wastewater Treatment Facility. The system includes two batch operated thermophilic digesters, two mesophilic digesters and digested sludge storage. Gas and sludge handling was housed in a 15,000 square feet processing building, including Class 1 Division 1, Class 1 Division 2 and non-classified areas. The control system was integrated into a plant-wide supervisory control and data acquisition (SCADA) system for control and monitoring.

**Temperature Phased Anaerobic Digester (TPAD), Construction Services – Fox Metro Water Reclamation District (FMWRD)
Oswego, Illinois**

Mr. Gryn was the Electrical Engineer for construction services on the Temperature Phased Anaerobic Digester (TPAD) project at Fox Metro. Construction Services include shop drawing review, response to requests for information and bi-monthly construction meetings.



**Contract 1 – Fox Metro Water Reclamation District (FMWRD)
Oswego, Illinois**

Mr. Gryn was the Electrical Engineer for the complete electrical and control design for the addition of an emergency pump station and improvements to the plant effluent for the Fox Metro Water Reclamation District (FMWRD) Wastewater Treatment Plant. The pump station design included variable frequency drives (VFD's) for pumps, connection into the existing plant supervisory control and data acquisition (SCADA) system, new medium voltage feeders, switchgear and substation, motor control center (MCC) design, low voltage switchgear design, provisions for classified areas and provisions for future connection of an overflow storage facility.

Contract 1 also included improvements to the plant effluent and chlorination systems, which included site lighting, integration into plant SCADA and MCC replacement. Provisions for construction which did not disturb the plant operation were made using jumper feeds and portable generators.

**Master Plan – Fox Metro Water Reclamation District (FMWRD)
Oswego, Illinois**

Mr. Gryn was the Electrical Engineer for the Fox Metro Water Reclamation District's Master Plan. The FMWRD has an aging electrical system, expanding processes, is in the process of standardization and there is a new plant being built to the south of the existing one.

Intelligent Design and Construction Solutions, LLC was tasked with evaluating the existing systems, as well as discussing the current modifications and future plans. Mr. Gryn assisted in the development of a plan that took into account budgetary constraints, safety concerns, scheduled process expansions, green items. He suggested monitoring of arc loads and recommended gas generators. The design standardized equipment for ease of maintenance and reduced down-time with available spares. In addition, IDCS suggested system-wide improvements for increased redundancy and reliability; as well as providing electrical utility base and structure and suggesting improvements for reducing costs.

**Power Study – Fox Metro Water Reclamation District (FMWRD)
Oswego, Illinois**

Mr. Gryn was the Electrical Engineer during the power study at the Fox Metro Water Reclamation District Wastewater Treatment Plant. The FMWRD was last upgraded in the 1980's. After a catastrophic medium voltage cable failure, the age of the equipment came to the forefront of management. Intelligent Design and Construction Solutions, LLC was contracted to evaluate all equipment and provide a 3-year plan for the upgrading of equipment.