



INTELLIGENT DESIGN
& CONSTRUCTION
SOLUTIONS, LLC

Geraldine Ryan, PE President

Education

B.S., Electrical
Engineering; Illinois
Institute of Technology

Years of Experience

1990 – Current

Licenses

Professional Engineer:

- Illinois
062.058913
- Missouri
2005022152
- New York
8862906

Professional Societies

- IEEE
- IAS / IES
- CEE
- IWEA
- APWA

Publications

- Water Environment & Technology "Remote Control, Illinois facility upgrades monitoring ability with spread spectrum radio for SCADA systems" Gerry Ryan and George R. Schillinger.
- Code Re-Write Committee for the City of Chicago Electrical Code 2000

As President, Ms. Ryan is responsible for all aspects of the company. She is responsible for client relationships; ensuring that the client is satisfied during a project design, through project construction and completion. She is responsible for project proposals, budgets and deadlines. As an Electrical Engineer, Ms. Ryan is responsible for electrical and instrumentation designs for a multitude of project types. These design types may include 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. As a Project Manager and Construction Manager, Ms. Ryan is responsible for handling the direction of the project as well as the budget and timeliness of each project.

Electrical and Instrumentation Engineering: Design and Construction Services Wastewater Treatment Facilities

Over the years, Ms. Ryan has gained a wealth of experience in the specialized area of Electrical Engineering for Wastewater Treatment Facilities. Gerry has completed a wide array of projects for a variety of water treatment clients, and has forged lasting relationships with many of these clients. Gerry has followed her projects from the design memorandum stage all the way through construction. Construction services consist of shop drawing review, responding to contractor questions, site inspections and start up.

Disinfection Facilities at the Calumet Water Reclamation Plant – Metropolitan Water Reclamation District (MWRDGC) Chicago, Illinois

Ms. Ryan was the QA/QC Engineer for the IDCS team's effort on the Calumet Water Reclamation Plant Disinfection Facilities project, which was a fast track design for the installation of the first chemical disinfection system to the plant. This project was designed in under one year. The Calumet WRP has the capacity to treat approximately 350 MGD, this project will disinfect the effluent water using sodium hypochlorite and sodium bisulfate prior to discharge. IDCS was responsible for the electrical design of a new Chemical Storage and Pumping Building, as well as site work for power distribution, including providing temporary power to the police trailer during the construction phase. Extensive site investigation was required for locating adequate power supply and the routing of utilities to supply power. IDCS also provided electrical design for lighting, medium and low voltage power, and the SCADA and telephone systems. Additionally, IDCS developed a Statement of Probable Cost for the electrical work. This project was bid under the engineers estimate and is currently under construction with a completion date set for December 2015. IDCS is currently providing construction RFIs, and final punch-list review.

Service A Replacement - Fox Metro Water Reclamation District (FMWRD) Oswego, Illinois

Ms. Ryan was Senior Electrical Engineer on the project to design a replacement of new medium voltage service entrance switch gear fault current limiting line reactors are installed in the lineup as the fault current in the area is increasing to

levels that are above the capacity of the plant distribution equipment. Design included provisions to reduce down-time at the plant. Power monitoring and switch position were implemented into the SCADA system.

Stop Logs & Diversion Pumps at Wilmette Pump Station and Evanston Pump Station Rehabilitation – MRWDGC; Wilmette & Evanston, Illinois

Ms. Ryan was the QA/QC Engineer for the project at Wilmette and Evanston Pump Stations which consisted of the complete demolition and design of a new incoming utility service to replace the existing service which had passed its useful life expectancy, replacement of 1966 era substation transformers and their associated primary circuit breakers, replacement of the lighting system within the building as well as on the exterior, new controls of the gate structures (including lighting above the new gate control bridge), design of an annunciator for communication with the public during gate operations, a new control system, with communication and control from both the Main Waterways Control Center and Northside WRP. Evanston Pump Station electrical and instrumentation upgrades consisted of HVAC hardware and control upgrades as well as communication upgrades to both the Main Control Center and the Northside WRP. IDCS also performed construction services on this project.

Electrical and Instrumentation Engineering: Design and Construction Services Aviation

O'Hare East Cooling Tower Replacement - Chicago Department of Aviation (CDA) Chicago, Illinois

Ms. Ryan was the QA/QC Engineer on the East Cooling Tower Replacement project at the Chicago O'Hare International Airport. The East Cooling Tower is responsible for providing cooling to the terminal building at the airport. The project began with site visits to gather required information for the demolition of the existing cooling tower and design for the new cooling tower. Demolition consisted of removal of three 600HP, 4160V, condensate water pumps and their full voltage non-reversing starters from an existing medium voltage motor control center, and the removal of thirteen 75HP, 480V, cooling tower fan motors. IDCS designed the replacement of condensate water pumps with three 750HP motors with medium voltage variable frequency drives (VFDs); as well as the replacement of the cooling tower fans with 6 new fans having 150HP motors, all fed from the low voltage VFD. Additionally, IDCS was responsible for performing load calculations on the existing MCC's utilized to feed the new equipment, and locating all new VFDs within the existing electrical room footprint. IDCS provided power and control cables between the HRT building and the new east cooling tower, along with lighting and receptacle power at the new cooling tower. Voltage drop calculations were performed on the feeds from the HRT to the cooling tower. IDCS also provided input on the code matrix sheet and created specifications in Division 16.

Tyndall Air Force Base Medical Center Electrical Distribution Upgrades - United States Air Force, Panama City, Florida

Tyndall AFB Medical Center is a 50,000 square foot building contained over 70 distribution panels in various stages of life, as well as 30 transformers. Ms. Ryan was the Senior Electrical Engineer on the project to update and eliminate panels and transformers where possible and create a new efficient electrical distribution system. The facility distributed power at voltages of, 480/277V and 208/120V. The first order of business for IDCS was to develop an existing single-line diagram, this was accomplished through extensive field investigation. Once the single-line was produced we went to work tracing out where the actual feeders were routed throughout the facility. We marked panels for elimination from the system based on location/use/age. After the proposed single-line was created, an SKM Study was completed to ensure the system was specified with the required KAIC Settings and to determine if ArcFlash equipment was required. The study had over 100 bus points and resulted in a complete report and single-line being turned over to the owner and the contractor. The entire project had to be design and constructed while the medical facility remained 100% functional.

