



Donald E. Nolte II, PE

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Professional Resume'

Expertise

Power Distribution System Design
Medium Voltage Power System Design
Emergency Power System Design
Generation Systems Design
Electrical System Studies
Lighting Design
Photovoltaic System Design
Fire Alarm System Design
Control Systems Design
Electrical Cost Estimating
Site Construction Observation

Education

Michigan Technological University - Houghton, MI
Bachelor of Science in Electrical Engineering – Power Focus, 1978

Continuing Education

Presentation to MSBO Facility Directors on Arc Flash, Crystal Mountain Conference Center, MI – October 2008
Power Cable Characteristics and Applications – Univ of WI, October 2007
Arc Flash Hazard Analysis Seminar – ESA - Indianapolis, IN – September 2007
LonMark Sessions – Detroit, MI – June 2007
IES Healthcare Lighting Seminar – Kirlin Lighting, Detroit, MI – May 2007
Seminars on Sustainability-SOS for the Environment, ASHRAE, Lawrence Technology University, Southfield, MI – Feb 2007
Protective Device Coordination, T2G Training Package – 2006
Energy Saving Solution for Hospitals-Audio Conference, Texas Hospital Association, Austin, TX – 2005
Basler Distribution Generation School, Basler Corp. St Louis, MO – 2005
Presentation to MSBO Facility Directors on Energy, Motors & Arc Flash, Crystal Mountain Conference Center, MI – 2005
Power System Reliability, Generac Corp, Grand Rapids, MI – 2004
Published article on Aquinas College PV System in Consulting Specifying Engineer November 2003 issue and follow up to question in December 2003 issue.
Coordination of Industrial and Commerical Power Systems, Univ of Wisconsin, 2003
Grounding of Electrical Distribution Systems, Univ of Wisconsin – 2002
National Fire Alarm Code, NFPA, Schamburg, IL - 2001

Registration/Certification

Registered Professional Engineer - Home State of MI with additional registrations in: AZ, CA, CO, FL, IL, IN, KY, LA, MA, MD, MN, NY, OH, TN, TX, WI, Member of NCEES.

Selected Experience

Mr. Nolte's past project consulting and design work includes installation of power distribution systems, medium-voltage systems & switchgear, cabling, unit substations, transformers, motor control centers, capacitors, lighting, communication, and fire alarm systems. He has worked in a wide variety of market types including educational, healthcare, institutional, industrial, governmental agencies and commercial buildings. Also included in Don's past experience is design and consulting for wastewater and water system power system design.

Mr. Nolte held the past position as chief electrical engineer and member of the Board of Directors of Progressive AE, Grand Rapids, MI and worked for Progressive AE for 21 years. Prior to Progressive AE, Mr. Nolte worked for Consumers Energy Co. for approximately 7 years where responsibilities included supervisor of the Engineering Design Department, Muskegon



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District, and as Market Services Engineer, Grand Rapids District. As supervisor, Don's responsibilities included designing industrial substations, overhead and underground primary voltage power distribution systems from 2.4/8.32 kV to 14.4/24.9 kV. As market services engineer, Don worked closely with industrial customers in analysis of proper rate application, energy conservation, and service needs for new construction and/or added electrical load. Don also worked in the Corporate engineering offices where he analyzed computer modeled segments of the distribution system for long-range planning of system growth. The scope of the work included 46 kV interties, distribution substations, and main distribution feeders.

Key Past Projects (Progressive AE)

Commercial/Industrial Sector

DeVos Place, Grand Rapids, MI - chief electrical engineer on the new convention center. The total facility included approximately 10 MVA of capacity with a primary selective system feeding three double ended unit substations and one radial unit substation. Complete system modeling was performed so as to analyze system performance (voltage drop), loading, fault current and coordination of over-current devices. Emergency generation system included parallel operation of two 750 kW diesel units and one existing retrofitted 260 kW diesel unit for the combined capacity of 1760 kW to supply life safety, smoke evacuation systems and standby loads. System planning and coordination with utility and City of Grand Rapids engineers for primary and alternate cable feeds thru existing and new ductbank was a key component of the overall power system.

Interurban Transit Partnership (ITP), Grand Rapids, MI – Master planning and design of bus transfer center platform and surface transportation center building power distribution system including emergency generation, new service and power system for the new Central Station.

Kewadin Casino, Sault Ste. Marie, MI - Planning and design for power system for the Kewadin hotel and entertainment complex including the main power service and distribution system. System load study, over-current protection and coordination was developed and monitored. Assisted in the fire alarm system and power and lighting layouts for the individual rooms to minimize electrical construction costs.

Allied Paper, Inc., Kalamazoo, MI - The paper mill was operating with outdated power system switchgear and limited system capacity. Frequent faults causing operational downtime lead the mill to hire Progressive to design of the installation of two outdoor unit substations (2000 kVA, 13.8 kV, to 480 volts). The design included tying into the existing medium voltage mill distribution system to supply the two new unit substations and refeeding the 480 volt loads step by step to keep the mill in complete operation during this work.

Bristol Meyers-Squibb, Zeeland, MI – Electrical Utility Study, Upgrade. Bristol Meyers commissioned Mr. Nolte to study feasibility of shifting service from one utility to local municipal utility and possible ramifications to operations. Study included a written report of reliability review and recommendations of Bristol Meyers on municipal system changes prior to switching service.

Consumers Power Company, Grand Rapids, MI - Progressive preformed emergency power requirement load review, sized and provided the design for the installation of a new gen-set to replace the existing unit. Automatic transfers switches were included in the design to re-feed the emergency load.

Donnelly Corporation, Holland, MI - Planning and design for new main medium-voltage service entrance switchgear for alternate feed into the manufacturing plant. Included was an interlocked tie between the two medium voltage service points, padmount switches, transformers, cable installation and new 480 volt switchboard.

Knappe & Vogt, Grand Rapids, MI - Installation of a 2000 kVA double-ended unit substation for



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new metal finishing line. Design included the unit sub with drawout frame power circuit breakers, medium voltage feeder and coordination for mezzanine support structure to located the equipment as near to the plating line load as possible.

Liberty Dairy, Ewart, MI - Design of new medium-voltage distribution system, two 1500 kVA padmount transformers, and two 2000-amp, 480 volt switchboards with tie bus. This new system replaced an old pole mounted style substation dedicated for supply of the Dairy. The challenge was to keep the plant in operation while the new system was installed with brief outages to tie old and new together.

The Upjohn Company, Kalamazoo, MI - The existing medium voltage switchgear located in a small separate brick building near the Utility dedicated substation was outdated and presented limited system control and safety in this confined space. Progressive designed a new utility substation overhead to underground exit, feeding thru ductbank to a new outdoor medium-voltage vacuum breakers lineup to serve Building 41 processing plant.

Consumers Power Company, Grand Rapids, MI - Emergency generator capacity study and following installation of new 250 kW generator for Grand Rapids Service Center.

Dominican Center at Marywood, Grand Rapids, MI - Facility Study, Renovation/addition for kitchen area and meeting room spaces.

Fifth Thirds Bank (Old Kent Bank), Grand Rapids, MI - CSC1 and CSC2 corporate office and processing center additions/renovations, Various branch bank locations, Added two 500 UPS modules, control cabinet and re-configured bypass feeds to provide more robust system expanding the data center capability.

Meijer, Grand Rapids, MI - Electrical project leader on store construction.

Sharpe Buick BMW Inc., Grand Rapids, MI – Renovations, additions including new Landrover Dealership.

Education Sector

Alma College, Alma, MI – Provided a site review of the existing primary power distribution system relating to recent building additions and planned campus growth. Reliability had been a concern of the College as somewhat recent outages caused a major portion of the campus to be without power during the repair. The distribution system was field verified showing switches, transformers, cable routing, junctions, etc. on a CAD site plan. A corresponding one-line diagram showed the fuse sizing, switches, transformer sizes, cable sizes and types, etc. An important part of the study was developing options for supplying campus growth in a phased construction plan including closed loop system operation to supply the major part of the campus in lieu of cable failure.

Central Michigan University, Mt. Pleasant, MI – Powerhouse switchboard replacement to upgrade old equipment. CMU requested to keep a large part of the powerhouse operational during the change out.

Davenport University, Grand Rapids, MI – Electrical power studies for campus growth and load addition including development of a overall one-line diagram of the campus distribution system.

Kent Intermediate School District, Grand Rapids, MI - New 33,000 sq ft Kent Education Center High School, Kent Transition Center renovations, Kent Career Technical Center additions and renovations.



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Kent Intermediate School District, Wyoming, MI – New 45,000 sq ft school for special needs students. Special attention to lighting, safety and flexibility. Project included a 100kW natural gas generator for above normal emergency egress lighting and standby power needs.

Alma College, Alma, MI - Physical Education Addition, Library addition, Campus wide power distribution system study

Aquinas College, Grand Rapids, MI - Jarecki School for Advanced Learning. Project included the design and installation of 10 kW photovoltaic system interconnected with the building power system.

Calvin Christian Middle School, Grandville, MI - Renovations/additions including music facilities, new gym and locker rooms, new science classrooms, and art and graphics labs. Mechanical, electrical, and fire system upgrades and technology wiring.

Dutton Christian School, Dutton, MI - New Elementary School.

Grand Valley State University, Grand Rapids, MI – 1. New Engineering Laboratories Building; 2. Manitou Hall - Generator Install; 3. Life Sciences Building site primary electrical system; 4. Eberhard Center Building site primary and emergency power systems.

Grand Haven Christian Schools, Grand Haven, MI – Additions/renovations.

Godwin Heights Public Schools, Wyoming, MI - Media center expansion, 1998 bond renovations, administration A/C, Science Center, Distance Learning, P.E./pool renovations, WAN/LAN installation, elementary boiler repairs; Primary switchgear replacement project.

Hudsonville Christian/Unity Christian, Hudsonville, MI - Master Planning.

Kalamazoo East Christian School, Kalamazoo, MI - Middle school.

Kentwood Public Schools, Kentwood, MI - High School fire alarm replacement.

Lake Superior State University, Sault Ste. Marie, MI - Library addition/renovation.

Marcellus Community Schools, Marcellus, MI - Remodeling/Addition.

Ovid Elsie Area Schools, Elsie, MI - New Junior High & Media Center.

Reeths-Puffer Public Schools, North Muskegon, MI - New Bus Maintenance Garage.

South Christian High School, Grand Rapids, MI - High School Addition.

Trinity Christian College, Palos Heights, IL - New library.

Trinity Christian College, Palos Heights, IL - New dormitory.

Zeeland Christian School, Zeeland, MI - Middle School Additions/Renovations.

Worship Sector

Resurrection Life Church, Grandville, MI – New 5000 Seat Church, Academic Complex, Youth Complex power distribution system and fire alarm system.

Review of numerous worship projects designed within the electrical groups' area of professional responsibility.



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Healthcare Sector

Spectrum Health – Butterworth Campus, Grand Rapids, MI - Interior renovation of second floor for new day hospital services, new out patient drop-off entrance.

Spectrum Health – Blodgett Campus, Grand Rapids, MI
Approximately 4 area patient care area renovation projects.
Major electrical system analysis of complete electrical distribution system including development of new one-line diagram, fault current study, coordination review and arc flash energy study. Developed general budgets and direction for system upgrades of the hospitals power distribution system for continued reliable operation.

Metropolitan Hospital, Grand Rapids, MI – One-line diagram development and update of overall hospital distribution system. Work included review of major overcurrent devices and the emergency power distribution system.

Metropolitan Hospital, Grand Rapids, MI – Maintenance facility expansion and new chiller. New transformation, busway and 1600 amp switchboard was added for the new chiller and associated pumps loads.

Fennville Community Health Center, Fennville, MI - New community health center for a physician and a dentist; community room for special medical clinics and education.

Kelsey Memorial Hospital, Lakeview, MI - Renovation of existing space for the inpatient physical medicine and rehabilitation services.

Kent Community Hospital Corporation, Grand Rapids, MI - Building audit, fire alarm system, generator sizing, Sub acute Care Unit.

Lakewood Family Medicine, Holland, MI - New eight-physician medical office building.

McKenzie Memorial Hospital, Sandusky, MI – Addition/renovation, CT Scanner.

Metropolitan Hospital, Grand Rapids, MI – New physicians' office building of roughly 55,000 sqft and 5 floors.

Oaklawn Hospital, Marshall, MI - Construction Administration, MRI, OB Unit, Physical Therapy, Cardiac Rehabilitation.

Public Service Sector

City of Grand Rapids, MI – Wastewater digester / co-generation system design to off-set treatment site power requirements. The system was designed using two 750 kW gas burning engines with planning of future additional units. The output of these generators was to be tied into the existing medium voltage treatment plant electrical distribution system and run in parallel with the utility. Coordination with the utility was included for special utility interconnection relaying and protection of system operations. This project was not constructed as the City had a dispute of the digestion process with the retained engineering firm responsible for the digesters.

Kentwood City of, MI - New Fire Station.

Battle Creek City of, MI - New FAA building at W. K. Kellogg Airport.

Ottawa County, Grand Haven, MI - Probate Court, Juvenile Services and Detention and Adult Barracks Facilities, including electrical design for the on site pump station.

City of Muskegon, MI - Emergency power study for the City offices with recommended engine-



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generator sizing, supplied loads and changes to the distribution system. Cost estimates were provided for future work.

State of Michigan, Lansing, MI - New 250 kW diesel emergency generator and main switchboard for telecommunication facilities of state complex. Included new automatic transfer switch with bypass and special attention to grounding of the new system and upgrade of grounding of the existing raised floor area. Strict security was necessary during design and construction due to sensitive information of State Government.

Southwest Barry County, MI - Design of sequence batch reactor wastewater treatment plant power distribution system. Design included medium voltage distribution, normal and emergency motor control centers, 275 kW emergency engine-generator with associated automatic transfer switch.

Wayland City of, MI – Booster water station power system and control design.

Pottersville City of, MI - Water Tank Study/Construction.

Grandville City of, MI - 30th Street Streetscape.

Montague City of, MI - Medbery Park.

Whitehall City of, MI - Covell Park.

Outdoor Lighting Projects

East Grand Rapids Public Schools, East Grand Rapids, MI – Outdoor Athletics master planning and lighting of soccer field.

West Michigan Whitecaps Old Kent Park, Grand Rapids, MI – Addition to wings of ballpark which included relocation of two main field lighting poles.

Village of Spring Lake- M104 Specialty Bridge Lighting.

Union Township DDA Roadway Lighting, Union Township, MI - Designed new roadway lighting for 1-1/2 mile of M-20 (Pickard Road) and 3-lane highway in a developing commercial area. Design included approximately 80 high-pressure sodium pole-mounted fixtures with cut-off light control and control of all lighting. Project also included the associated freeway interchange lighting with (2) 100-foot hi-masted towers with (6) 1,000 watt high pressure sodium light fixtures on each. These poles were constructed to meet MDOT standards.

Affiliations

ASHE – American Society of Healthcare Engineering
MiSHE – Michigan Society of Healthcare Engineering
IEEE – Institute of Electronic & Electrical Engineers
IES – Illumination Engineering Society
NSPE - National Society of Professional Engineers
MSPE – Michigan Society of Professional Engineers
NCEES - National Council for Examiners for Engineering and Surveying
NFPA – National Fire Protection Association, Member