Trust our people.

Ready is a professional engineering firm with highly-qualified electrical and controls personnel focused on providing solutions to meet your specific needs. Ready’s niche in the electrical engineering industry is our ability to deliver complete, constructible design packages that minimize the cost of construction and contractor “extras”.

Trust our expertise.

Ready offers a complete array of electrical engineering services, from standard greenfield and brownfield power distribution to state of the art protection and control systems.

Ready designs new power distribution systems from the ground up and retrofits new equipment into existing facilities. We design online equipment retrofits to maintain production, ensuring smooth integration and minimal interruptions to our customer’s operations. Our extensive, multi-faceted electrical construction, operation, and maintenance experience leads to innovative designs and drawings adapted to suit the varying needs of all stakeholders.
Trust our solutions.

**Electrical Engineering**
- NERC compliance review and engineering (PRC series: 005, 007, 008, 011, 017, 019, 022, 023, 024, 025, 027)
- Relay specification and engineering (SEL 300G, 311L, 387/E, 551, 587Z, 710, 751A, 787 and equivalent other manufacturers)
- Relay upgrade specifications and construction work packages
- Substation and transmission models and applications to 500kV
- Hazardous area classification analysis
- Electrical equipment specification and procurement
- Protection and control systems design and specification
- Conceptual design and cost estimates
- Electrical commissioning and testing facilitation
- VFD and motor starter specification and configuration
- Generator protection and control
- Custom panel layouts for fabrication
- Equipment failure investigation and return to service
- Mechanical analysis of driven equipment systems
- Power distribution management: UPS, emergency power, and automatic transfer schemes
- Fire and gas detection; Electric Heat tracing; mechanical equipment power and control; Interior and exterior lighting
- Power, telecom and instrumentation cabling and raceways
- Constructability reviews

**Power System Studies**
- Load flow
- Short-circuit / fault levels
- Protective device evaluation and coordination
- Arc flash
- Motor acceleration, with full mechanical analysis
- Voltage drop
- Harmonic load flow: mitigation and compliance
- Voltage droop
- Power management and load shedding
- Transient disturbances
- Single stage power factor correction
- Multistage power factor correction
Coal Valley
1200 TPH Expansion

Specification, design, installation, and commissioning of the control system and electrical power distribution for upgrade and expansion of the Coal Valley Preparation Plant, including the Wash Plant, Run Of Mine/Breaker Area, Thermal Dryer, and Train Loadout facilities. Electrical engineering scope included replacement of the power distribution system, comprised of the substation, switchgear, and MCCs. Introduction of 4160V to the site for motors 250HP and above, with other loads powered from new 600V substation and distribution.

Bruce B Standby Generator Controls Upgrade

Engineering review, corrective action recommendations, technical specifications (including instruments, protective relays, VFDs, AVR, auto-synchronizer, rectifier, inverter and OpLAN interface), testing and support documentation, relay settings migration, and review of complete control system upgrade for the four standby generators to meet requirements for Class III electrical distribution at the Bruce B station.

Turbine Controls and Protection Upgrade

Owner’s Engineer for the replacement of a MK V turbine control system with an ABB DCS to provide turbine protection and control. GE and ABB logic comparison and review, design review, and factory acceptance testing (FAT). Coordination of wiring checkout, loop testing, and handover to operations for start up and function testing. Markup of existing site drawings and as-building associated systems.

Concentrated Photovoltaic Solar Array Integration

Integration of a 500KW Concentrated Photovoltaic (CPV) solar array with the electric grid. Upgrade of facility’s service connection from the utility to meet local authority design requirements. System modeling analyzing efficiencies to determine a balance between system losses and design and installation costs.
Complete Electrical Engineering services from Front End Engineering Design (FEED), through detailed design and on-site commissioning and start-up support. Projects included various facility development and site upgrade projects across Alberta and BC, including new multi-well tie-in systems, Separator skids, Wet Metering buildings, E&I buildings, generator packages, compressor installations, pump upgrades, and flare knock-out drums and stacks.

Engineering design and project management for various capital and maintenance projects including WECC generator compliancy testing, installation of core vibration and shaft voltage monitoring systems for the 19kV turbine generators, specification and installation of new 4160V, 600HP air compressors, excitation transformer reliability study, and 400MVA, 19/245kV GSU transformer failure analysis and return to service.

Design and specification of the 4160V and 480V electrical distribution systems consisting of switchgear, VFDs, motors, capacitors, and transformers. Design included power factor correction, harmonic filtering, motor protection, and grounding.

Project management for the instrumentation, controls, and electrical design and construction of a new Flocculant & Coagulant building at the Jackpine site.

Project management and design reviews for various capital and maintenance projects including overall facility power system studies (load flow, short-circuit, coordination, arc flash, and motor starting), new O₂ plant addition, WECC generator testing, woodroom upgrade, and various MCC replacements (2400V and 600V).

Engineering design, ETAP power system modeling and studies, and Construction Work Package (CWP) development for power distribution and facility electrical systems to support the North Steepbank Extension projects. Projects included HV substation tie-in, substation and facility grounding, power and instrumentation cabling and raceway, high mast exterior and interior lighting, gas detection, fire alarm, mechanical equipment power, and interlocks for the new infrastructure and trailer facilities.
Ask us how we can help.

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