PERSONNEL QUALIFICATIONS

Gareth Rees | Principal

EDUCATION

- Polytechnic of Wales (now University of South Wales)
  - College Associateship, Electrical Engineering (BSc, Electrical Equivalent), 1968

PRACTICE AREAS

- Bridge Engineering
- Electrical Engineering
- Rail Systems Engineering
- Design
- Computer Modeling
- Electrical Testing
- Construction Observation and Troubleshooting
- Inspections
- Design-Build

REGISTRATIONS

- Chartered Engineer in UK
- Professional Engineer in AB, CA, CO, CT, FL, IA, LA, MD, MA, MI, MO, NJ, NB, NL, NS, NY, ON, OR, PA, PEI, TX, VA, VT, and WA

PROFESSIONAL AFFILIATIONS

- American Railway Engineering and Maintenance-of-Way Association
- Heavy Movable Structures
- Institution of Professional Engineers
- Society of Professional Engineers

CONTACT

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EXPERIENCE

Gareth Rees's experience includes movable bridges, heavy industrial, electrical and electric utility generation, transmission, and distribution. Mr. Rees has conducted switchgear development and application, power generation, distribution analysis and design, control system design (including programmable logic controllers and distributed analog and digital control systems), motor, motor control and motor drive technologies and their heavy machinery applications, communications engineering, contract management, construction supervision, commissioning, and start-up. Mr. Rees's movable bridge experience spans more than thirty years and includes hundreds of movable bridge inspections ranging from cursory to in-depth inspections, failure analysis, and troubleshooting. His movable bridge engineering and design expertise includes rehabilitation of existing bridges and design of new bridge electrical power and control systems. Mr. Rees is familiar with the application of the Canadian Highway Bridge Design Code, AASHTO LRFD Movable Highway Bridge Design Specifications, and *AASHTO Movable Bridge Inspection, Evaluation, and Maintenance Manual*. His experience enables him to bring the electrical systems of a movable bridge project from the conceptual stage through the completion of construction.

REPRESENTATIVE PROJECTS

- BNSF Fort Madison Railroad and Highway Bridge - IA: Rehabilitation of double-decker swing span, including new aerial and submarine power cable installation to be configured as redundant power sources for the bridge
- Sir Ambrose Shea Lift Bridge - Placentia, NL: Design for the replacement tower drive vertical lift bridge with two duty motors and brakes in each tower, and two sets of span locks
- Brighton Road Swing Bridge Replacement - ON, Canada: Replacement of center-bearing bobtail swing bridge with electrohydraulic operating machinery
- Chambly Canal - QC, Canada: Inspection of four bobtail swing span bridges (Bridge Nos. 1, 4, 7, 10) and one retractable bridge
- Court Street Swing-Span Rehabilitation - Hackensack, NJ: Replacement of all machinery on center-bearing, swing-span bridge; preparation of plans, specifications, and cost estimates for all machinery; construction services
- High-Rise Bridge Standby Generator Replacement - Chesapeake, VA: Study and design for replacement of existing standby generator of double-leaf bascule bridge
- Dorset Avenue Strauss Bascule Bridge - Ventnor, NJ: Design documents for rehabilitation; rehabilitation included new electric utility service, motors, brakes, new motor control center, motor drives, and new bridge and traffic control system
- Mass Highway Complex Bridge Inspections - MA: Inspection of electrical systems on more than twenty movable bridges as part of complex bridge inspection contract
- Johnson Street Bascule Bridge Replacement - BC, Canada: Design of electrical system for replacement bascule structure incorporating an innovatively designed, single-leaf highway bascule bridge to accommodate five lanes of vehicular traffic and two outboard pedestrian paths
- Murray Morgan Lift Bridge - Tacoma, WA: Design-build documents for vertical lift bridge; replacement of entire electrical installation with a proven modern electrical power and control system
- Metro-North Railroad (MNR), Harlem River Lift Bridge - NY: Rehabilitation of electrical power and control systems; conceptual plan for rehabilitation; staging plan for construction; design of power and control system
- MNR, New Haven Line – CT and NY: Review of existing protective relaying settings and protective relaying coordination study, including analysis services of traction power and catenary system
- Sonoma-Marin Area Rapid Transit, Haystack Railroad Bridge - Petaluma, CA: Replacement design of single-leaf bascule railroad bridge