



## **Railroad Industry Opportunity: Railway Signal & Systems Engineer**

### **Description:**

The Northern Indiana Commuter Transportation District (NICTD) owns, operates and maintains the South Shore Line passenger rail service. NICTD is seeking highly qualified and experienced candidates for a key senior-level engineering role within the agency. Reporting to the Chief Engineering Officer, the Railway Signal & Systems Engineer will have technical and managerial responsibilities for staff, designers, engineers, and construction contractors in the construction and maintenance of NICTD's signal, communication, and traction power infrastructure. These responsibilities include providing technical expertise and leadership in areas including, but not limited to, design, construction, planning, scheduling, auditing, oversight, and daily preventative and corrective maintenance. This position will also work on positive train control and other engineering assignments associated with capital improvements to the South Shore Line.

### **Duties and Responsibilities:**

- Builds and applies expertise in railroad signaling design and application within parameters set by the Federal Railroad Administration, AREMA, and industry practices.
- Performs quick response research and analysis on strategic issues. Provides guidance on signal and power issues for plans and studies.
- Prepare and review engineering contract plans, specifications, reports and related documents for train control, communication systems, and traction power systems.
- Coordinate and build relationships with utilities, regulatory authorities, municipalities, and other parties on matters relating to signaling, traction power, or communications.
- Oversee inspection, testing, and maintenance processes to ensure that signal, traction power, and communications systems are functioning safely and reliably.
- Provide on-site leadership and technical knowledge to promptly resolve any unanticipated disruptions in signal, traction power, or communication systems.
- Lead investigations to identify root causes for equipment and system failures. Proactively analyze system performance level data so as to make hardware/software changes and upgrades that will improve system reliability.

- Review construction submittals for compliance with contract documents and industry standards.
- Assist staff in preparation of Request for Proposals for engineering, design-bid-build, and design/build projects.
- Interact with all design disciplines associated with development of projects.
- Manage activities of consultants for compliance to NICTD standards, goals, and objectives.
- Prepare and review cost estimates and schedules.
- Review consultants' engineering activities related to signals, communication, and traction power networks.
- Review consultant's contracts for deliverables and adherence to project schedules.
- Review change orders from consultants.
- Review engineering submittals for errors, omissions, and application of AREMA Recommended Practices
- Confer with NICTD management, engineering staff, consultants, and contractors about the design and implementation of projects and how they impact existing train operations.
- Participate in developing phasing plans for placing parts of the improvements into service
- Assist team staff with preparation of professional services agreements for design development, construction management, and inspection.
- Provide project management and operations oversight on simultaneous projects. Ensure close adherence to budgets and schedules.
- Assist staff with review of construction bids and proposals.
- Assist Chief Engineering Officer with other duties as required/directed.

This position will serve a critical role during the construction of capital projects. Duties include:

- Planning, directing, supervising, and controlling all technical and contractual activities for the projects.
- Assist project managers with management of project staff and job-site construction activities.
- Manage consultants and staff performing job site inspections and testing.
- Complete reports concerning work progress, costs, and scheduling.
- Review consultants' submittals during design-build process for compliance and adherence to design parameters.
- Review contracts and facilitate revisions, changes and additions to contractual agreements with architects, consultants, and contractors.
- Provide support to the staff to help ensure the project deliverables are on time, within budget and at the required level of quality.
- Review testing plans for placing project components into service.
- Review pay submittals from consultants and contractors.
- Assist project managers with punch list items and project document close out.

**Minimum Qualifications:** Applicants must meet the following requirements:

- (1) A bachelor's or higher degree in electrical engineering, electrical engineering technology, and at least four years practical experience in the management and application of railroad signal systems or at least eight or more years in a combination of educational and practical experience in the above categories.
- (2) Experience establishing comprehensive detailed plans with specific timelines, milestones, and deliverables necessary to timely meet project budgets and goals.
- (3) Experience in supervision of staff, teams, project/program managers, and related internal stakeholders, external partners, vendors, tenants, and contractors.
- (4) Experience in planning and scheduling; contract management; agency coordination; and construction methods, operations and procedures relating to railroad signal, communication, and/or traction power systems.
- (5) In-depth understanding and proficiency with the following aspects of railway signaling and communications:
  - Design practices.
  - Code, control line and signal aspect charts.
  - Calculation of approach times and distances, braking distances, electrical loads, etc.
  - Wayside Signaling in electrified territory including CTC, Interlockings, ABS, APB, switch machines, coded and AFO track circuits, impedance bonds, cross-bonding and cathodic protection schemes.
  - Highway grade crossing warning systems (fixed warning distance), traffic signal pre-emption and interconnection to foreign railway systems.
  - IETMS-based Positive Train Control.
  - Vital relay and microprocessor based systems.
  - FRA Rules, Standards and Instructions and AREMA Recommended Practices.
  - Computer-Aided Dispatching, SCADA and local control panels.
  - Railroad communications systems.
  - Construction planning and cost estimating.
  - Cutover planning and testing.
- (6) Familiarity with Communications Systems, Traction Power Systems and Overhead Contact Systems is preferred but not required.
- (7) Self-starter with the ability to address multiple priorities and meet deadlines.

- (8) Proficient in knowledge and application of Microsoft Excel (complex formulas, data manipulation, analytic reporting), Powerpoint (creating, updating, and presenting), Word (preparing and editing documents).
- (9) Proficient in AutoCAD or MicroStation.
- (10) Willingness to learn, able to work under occasionally highly stressful or uncertain conditions, excellent verbal and written communication skills, valid driver's license, no recent drug, alcohol, or felony convictions
- (11) Must be able to fulfill the essential functions of the position, with or without reasonable accommodations. This is an indoor/outdoor position where the employee frequently must be able to work in the type of environmental and climate conditions typical to northwest Indiana, including locations not accessible by motor vehicle.
- (12) Must read, write, and communicate clearly and fluently in English
- (13) Must be flexible about unexpected changes in work assignments or priorities
- (14) Must have reliable transportation to and from Michigan City, Indiana.
- (15) Must be available to respond to unscheduled operational emergencies or service disruptions without delay on a 24 hour, 7 day per week basis, including weekends and holidays.

**Additional Requirements:**

- (1) Must pass all required assessments.
- (2) Must pass a background screening.
- (3) May require a post-offer medical examination, including drug and physical capabilities test.
- (4) Must possess a valid driver's license and be eligible for insurance coverage under NICTD's fleet policies.

**Position Schedule:** The anticipated normal work hours are during the daytime, Monday through Friday. Evening and weekend work may be necessary based on project and operational needs. Travel is required within the United States to meet with vendors, professional associations, and others. Must be available to respond to unscheduled or unanticipated operational emergencies or service disruptions without delay on a 24 hour, 7 day per week basis, including weekends and holidays.

**Salary and Benefits:** Salary is projected within the range of \$75,000 to \$95,000 based on education, skills, and work history. The benefit package includes full health benefits for the employee and family, vacation, compensatory time, supplemental pension, and other fringe benefits received by NICTD management. Details are available during the interview process. The position is eligible for relocation benefits.

**Code of Conduct Statement:** NICTD is committed to maintaining the highest standard of conduct for providing a safe source of public transportation. NICTD job positions are challenging and rewarding. Competitive pay and benefits are provided in a high performance culture that recognizes and values your contributions and helps you reach your career goals.

**How to Apply:** Deliver, mail, fax, or e-mail a resume outlining training, experience and work history not later than 5 p.m., October 2, 2017, to NICTD's Director of Human Resources & Labor Relations at the address below. Resumes will not be accepted after this deadline. NICTD does not accept responsibility for misdirected, lost, or misaddressed resumes. Apply early for best consideration; NICTD reserves the option to close this opportunity at any point in time. Persons who desire confirmation that a resume has been received may contact Ms. Cindy McCann at (219) 874-4221, ext 252. Candidates will be advised after their resume is reviewed by the Hiring Committee whether they are selected for an interview. Contact information for delivering resumes:

**Mail or hand delivery:**

Director - Human Resources & Labor Relations  
Northern Indiana Commuter Transportation District  
Attn: Railway Signal & Systems Engineer Opportunity  
601 N. Roeske Avenue  
Michigan City, IN 46360-2669

**Fax:** (219) 872-5841

**E-Mail:** [bjarne.henderson@nictd.com](mailto:bjarne.henderson@nictd.com)

**NICTD IS AN EQUAL OPPORTUNITY EMPLOYER**