

High Voltage Substations

High Voltage Substation Design

Our team offers electrical substation design services for high voltage substations 69kV through to 230kV interconnections, and higher.

Project Management

- Construction management
- Utility liaison

Conceptual, Tender, and Detailed Design

- HV equipment layouts
- Cable routing and trenching
- Control building layout and design
- Switchyard lighting
- Electrical drawings: single lines, three lines, AC and DC schematics and much more

Protection and Control System Design

- Protection relay system studies
- Protection relay settings
- Lightning protection
- SCADA design including IEC 61850
- HMI system design
- Battery system design

Communication System Design

- Network, firewall and cyber security

Grounding Design

- Soil analysis and complex interconnected system modelling
- Soil resistivity and ground grid measurements



Engineer

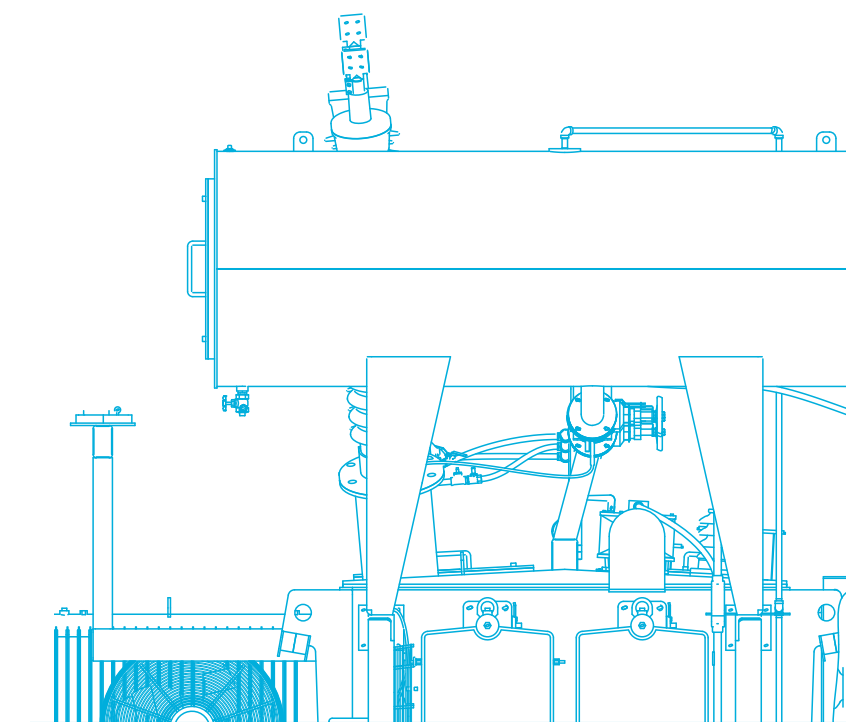
Implement



Equipment Supply

We offer equipment supply services associated with our high voltage substation packages including the procurement of medium and high voltage equipment, e-houses, and protection and control systems.

By leveraging our competitive pricing and product knowledge, we offer cost-effective equipment solutions.



Equipment Typically Includes:

- HV circuit breakers
- HV disconnect switches
- Standalone Instrument transformers
- Main Power Transformers
- Equipment Stands and incoming/outgoing structures
- Insulators
- Lightning arrestors

We have the infrastructure and experienced personnel to manage multiple simultaneous projects.



Stewart, British Columbia - Prime Engineering has provided substation design-build services for many remote substations.



Maintain



Construction

We offer substation construction services through our trusted partner network of electrical contracting companies. For this method of turnkey supply, we partner with an electrical contractor working under an Engineer-Procure-Construct (EPC) project delivery model to supply both design, supply, and construction services.

Commissioning

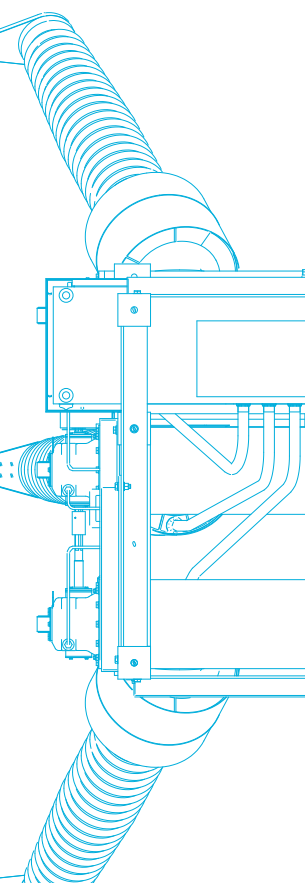
Our complete range of substation commissioning services includes high voltage equipment testing, as well as protection, control and communication system testing.

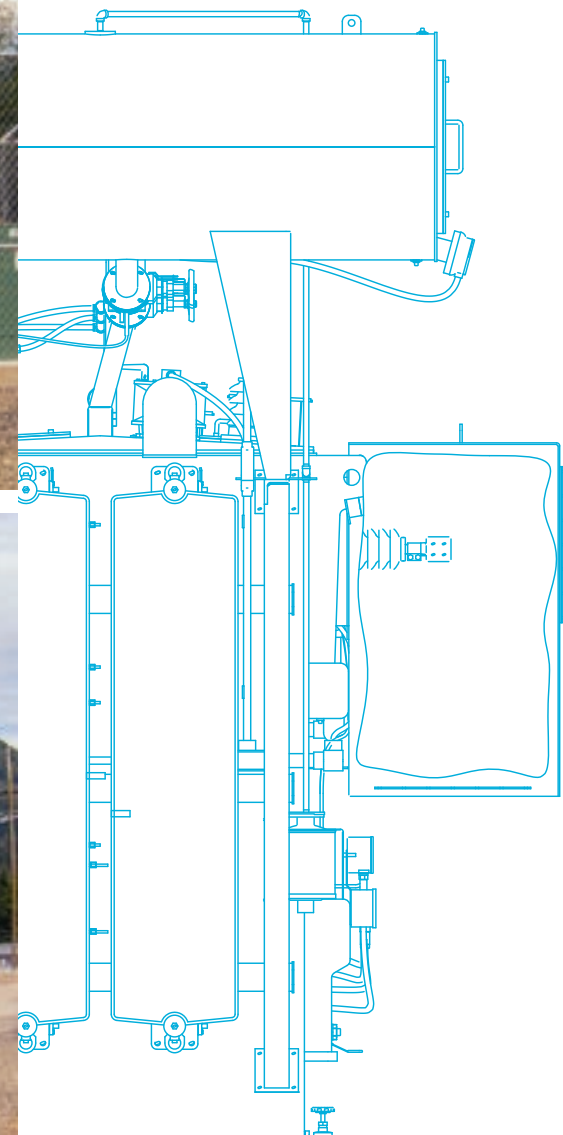
In addition, we provide ongoing post commissioning support in the form of 24 hr emergency service, as well as regularly scheduled maintenance services.

Included in Our Testing:

- Protective relaying systems
- MV and HV Switchgear (2.4kV – 500kV)
- Transformers
- Generators
- Ground grid and soil testing
- Cables
- SCADA
- Automation (PLC, HMI)

We provide a full suite of equipment testing and commissioning services in accordance with IEEE and NETA standards.





Additional Services

- Medium voltage switchgear and unit substation supply
- Control and automation system design
- Project Quality Assurance programs

Prime Engineering has provided high voltage substations for heavy industrial, institutional and renewable energy clients.

Engineer. Implement. Maintain.

Prime Engineering Ltd is an electrical design, supply and services firm that specializes in electrical power and control systems. We can provide component or complete turnkey electrical design packages.

www.primeeng.ca

