



Transmission
and
Distribution

T&D Staff Experience

Mike Hughes, PE

Electrical Engineer

BSEE, University of Arkansas 1982

37 years experience with design of substations, transmission lines, distribution, SCADA systems, relaying, nuclear, hydro, and standby generation

Derek Johnson

Electrical Engineer

BSSE, University of Arkansas at Little Rock 2012

18 years of experience as an electrician

6 years of experience with SPP in Generation Interconnect and Reliability Planning

Joe Price

Electrical Engineer

BSEE, John Brown University 2018

Interned with Empire District in Transmission Line Engineering

Interned at Arkansas Nuclear One in Systems Engineering

Experience with SPP in Generation Interconnect

Bryan Teel

Electrical Engineer

BSEE, Arkansas State University 1995

22 years experience in project management and design of electric substation, relaying, SCADA and automation, with Jonesboro City Water & Light and KAMO Power

Transmission and Distribution

The electrical grid is rapidly modernizing. With the transition from fossil fuel energy production to variable energy resources, the implementation of micro-grids, and additional load growth, new challenges have arisen in system reliability and power quality. Power System Solutions (PSS) has the technical expertise and resources to get the job done. From incorporating renewable energy resources to performing dynamic and load flow analysis to designing HV transmission lines, PSS will develop solutions that exceed your expectations.

Transmission

Substations

Power System Studies

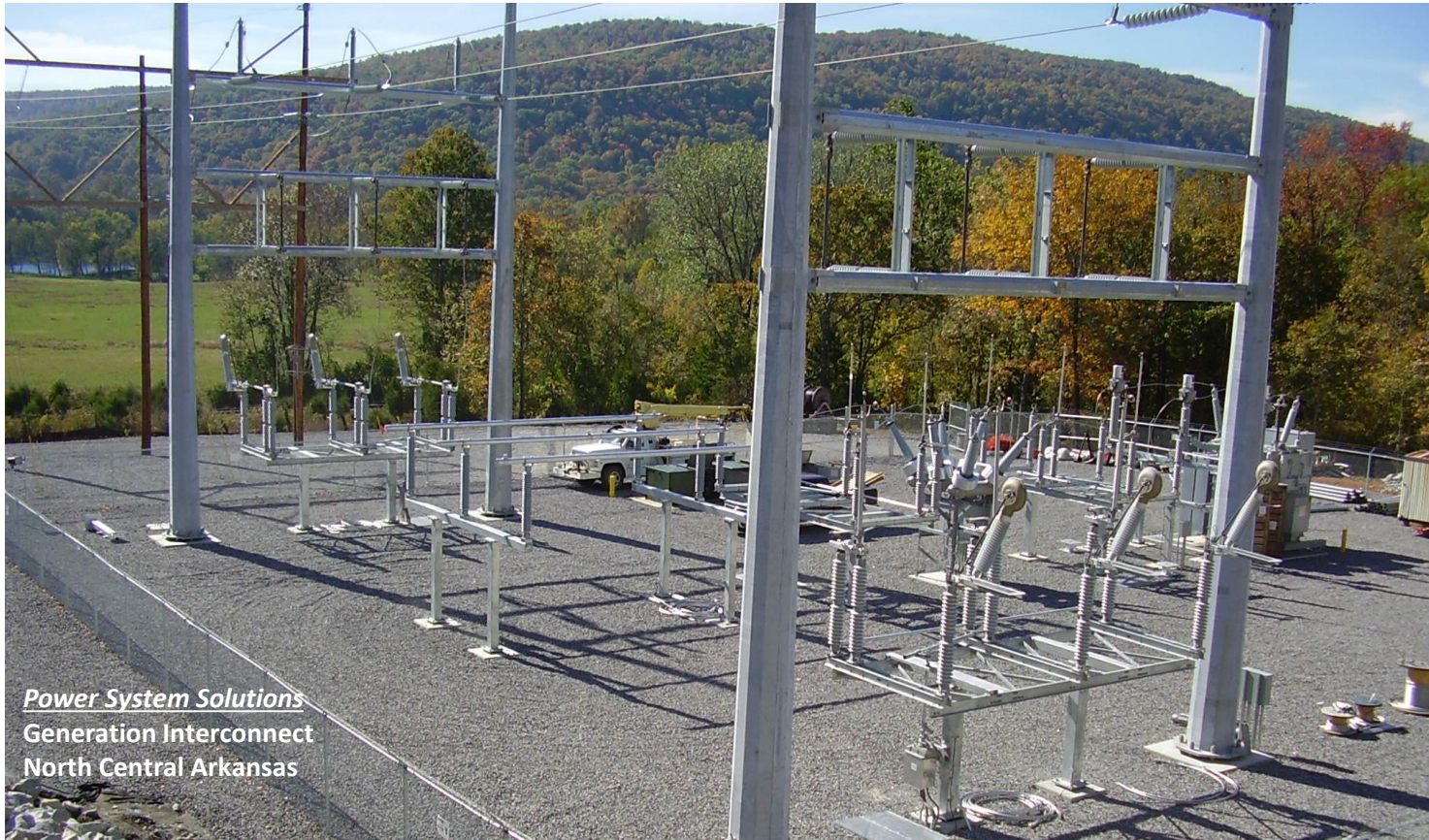
Transmission

The day-to-day operation of business within the United States is heavily reliant on a robust, well-maintained electric system. The bulk transmission system helps promote reliability and the implementation of additional resources and loads. PSS specializes in the design and application of any transmission system additions or modifications. PSS also supports the design and interconnect of new renewable generation.

- Transmission Lines
- Fiber optic
- Foundations
- Cost estimates
- Siting and routing selection
- Expert witness testimony
- Environmental assessments
- Right of way services
- Distribution systems
- Renewable Energy
 - Project application/design
 - Prospective project/POI consultation
 - Collector system design
 - Generation interconnection tie-line design
 - Reactive power requirement design and commissioning



Power System Solutions
Transmission Line
Central Arkansas



Power System Solutions
Generation Interconnect
North Central Arkansas

Substations

PSS is an innovative leader in all aspects including design through commissioning of T&D Substations. The foundation of the modern electrical system is reliable transport of generated electrical power to the end-use customer. *PSS* experience includes substations for Hydroelectric generation plants, Municipal Distribution Stations, Industrial Distribution Stations, including Transmission Switching Stations. Let our engineers accomplish your next T&D project goals.

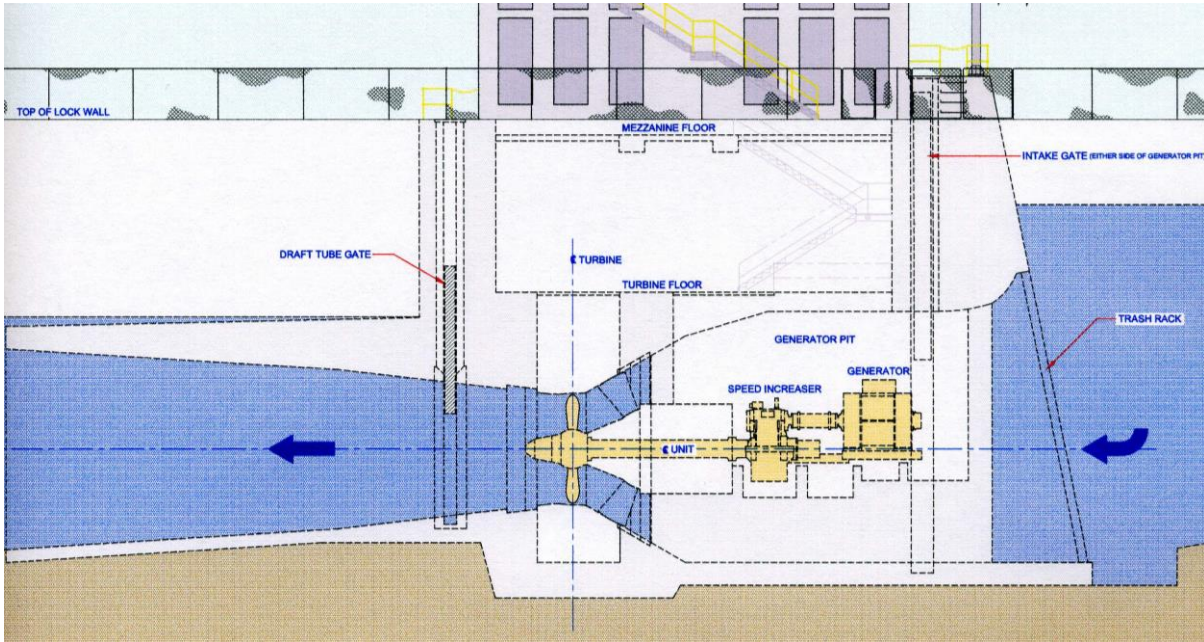
- Design
- Generator Interconnections
- Structural and Steel package design
- Protection Scheme; Line and Distribution Relaying
- Siting Studies
- Site work and access road
- Surveying
- Geotechnical Evaluation
- Oil Spill Prevention
- Construction Administration
- Design-build
- Testing and Commissioning
- Ground grids
- SCADA Design/Implementation

- Transmission
- Distribution
- Contingency Analysis
- Feasibility studies
- Long-range plans
- Electrical master plans
- Generation Interconnect Studies
 - Limited operation
 - Material modification
 - Interim availability
- Power flow
- Short circuit
- Dynamic stability
- Arc Flash

Power System Studies

With expertise in transmission, distribution, and substation design and commissioning, PSS acknowledges the importance of system planning. PSS staff have experience in transmission system planning, and have the flexibility to meet necessary requirements. PSS can perform load flow, transient, and short circuit analyses including N-1 (and higher order) contingency analysis for transmission system planning. With the increased demand for renewable energy resources, PSS has the ability to perform RTO-required studies including but not limited to Limited operation, Material modification, and Interim availability system impact studies.

Hydro Project – 4 MW Hydroelectric Generator in North Central Arkansas



Generation Interconnect "Before", "During", and "After" Site Grading; North Central Arkansas





Half Mile Span
Valley Crossing
NW Arkansas

Transmission Line Design



Renewable Energy



Power System Solutions

Incorporated in 1998, Power System Solutions (PSS) specializes in power quality assessment, power factor/harmonic filter bank equipment, and solutions. PSS is based in Conway, Arkansas.

Our corporate subsidiary for consulting services, Power System Solutions Engineering Services (PSSES), provides engineering for utility T&D projects and renewable energy including wind farm and solar development. See the PSS Power Quality product lines designed for renewable energy interconnect VAR support at www.pssamerica.com.

Our corporate strategy of providing PSS customers “Energy Profits through Utility Analysis” reduces our clients energy costs. Power factor improvement, distributed generation/interruptible rate schedules, and utility rate analysis are all areas of expertise our engineering team provide while using accumulated project savings as means to finance project investment.

PSS solves complex power quality issues through monitoring, analysis, and the application of harmonic filter banks or active harmonic filters. PSS specializes in turn key solutions, as we develop the project design specifications, provide custom designed PSS power factor equipment solutions, then install and commission power quality projects. PSS can also service and maintain the equipment after the installation.

PSSES can handle all of your T&D design needs including transmission, substation, or distribution.

PSSES has extensive experience with generation interconnection of wind farms and solar installations.

Mike Hughes

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