

Kyrie Mosley

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SUMMARY

Senior Power Systems Engineer with eight years of industry experience delivering transmission planning, grid reliability, renewable integration, and **dynamic performance studies** for bulk power systems. Leads load flow, **short circuit**, transient, steady state, stability, voltage, and electromagnetic transient analysis using PSS®E, PSLF, PSCAD/EMTDC, PowerFactory, ASPEN OneLiner, and related engineering tools. Develops and validates user defined dynamic models for **inverter based resources**, battery storage, FACTS, STATCOM, HVDC, and synchronous condenser applications. Applies Python and MATLAB automation, engineering judgment, and regional requirements to assess **grid code compliance** and stability risk. Guides multidisciplinary teams, manages technical projects, communicates with clients, prepares executive presentations, and turns complex simulation results into practical planning recommendations for utilities, developers, and large load customers.

EXPERIENCE

Senior Power Systems Engineer, Transmission Planning

April 2023 - Present

Northeast Grid Analytics

Albany, NY

Leads transmission planning and grid modernization studies for utilities, renewable developers, and large load customers. Owns technical delivery, model review, client communication, quality controls, and recommendations supporting reliable **bulk power** operations.

- Directed **PSS®E load flow** studies for renewable interconnections, resolving thermal constraints before client submission.
- Built Python automation for contingency screening, reducing repetitive analysis and improving review consistency.
- Validated inverter based resource models in **PSCAD/EMTDC**, clarifying control behavior during severe disturbances.
- Led **transient** and voltage **stability** assessments, translating simulation findings into practical mitigation recommendations.
- Presented study conclusions to executives and clients, connecting technical risks with investment and planning decisions.
- Coordinated multidisciplinary reviewers, tracked exceptions, and maintained accurate records through final delivery.

Power Systems Engineer, Dynamic Studies

January 2021 - March 2023

Atlantic Power Studies

Hartford, CT

Performed transmission and generation interconnection studies across steady state, short circuit, transient, dynamic, and electromagnetic transient domains. Supported proposals, technical reports, stakeholder meetings, and model development for evolving grid resources.

- Performed short circuit and **steady state** studies in PSLF, identifying protection and equipment duty concerns.
- Developed MATLAB data checks for **dynamic** study outputs, helping reviewers spot unstable operating conditions earlier.
- Analyzed **battery storage** and FACTS controls, documenting responses against applicable interconnection requirements.
- Prepared **technical reports** and **executive presentations** that made complex stability results easier for clients to act upon.
- Supported **proposal development** with clear scopes, schedules, assumptions, and resource estimates.
- Reviewed model changes with engineers and clients, preserving traceability across study cases and revisions.

Electrical Engineer, Power Systems

June 2018 - December 2020

Keystone Transmission Consulting

Philadelphia, PA

Delivered planning and reliability analysis for transmission owners and developers, with emphasis on network models, contingency performance, equipment impacts, and regional compliance. Contributed to project execution, client updates, and technical documentation.

- Ran **ASPEN OneLiner short circuit** studies, isolating fault duty issues for proposed transmission upgrades.
- Used **PowerFactory** for load flow and **voltage** assessments, supporting equipment selection and system reinforcement decisions.
- Reviewed **HVDC** and STATCOM operating assumptions, documenting impacts on voltage performance and dynamic response.
- Mapped study findings against **PJM**, MISO, and SPP requirements, reducing ambiguity during client reviews.
- Coordinated data requests with utilities and developers, resolving incomplete model inputs before analysis began.
- Contributed to technical reports with concise findings, assumptions, limitations, and recommended next actions.

Power Systems Engineer, Grid Research

June 2016 - May 2018

Lakeview Electric Research Center

Cleveland, OH

Supported applied **power systems** research and consulting studies involving transmission models, stability behavior, **renewable integration**, and emerging grid controls. Built analytical foundations through simulation, data analysis, documentation, and collaboration with senior engineers.

- Created **FORTTRAN** routines for model data processing, improving repeatability across research study cases.
- Applied **EMTP** to examine electromagnetic transients, helping engineers interpret fast switching behavior.
- Assessed synchronous condenser concepts for **voltage** support, connecting simulation results with planning objectives.
- Compared **dynamic** model responses across software platforms, identifying input differences that affected study conclusions.
- Documented methods and results for technical reviews, giving project teams a clear basis for follow up.
- Shared findings with senior engineers, incorporating feedback into revised models and final research materials.

PROJECTS

Renewable and Battery Interconnection Study 📅 2024

Partnered with utility planners and renewable developers on a coordinated study of inverter based resources and battery storage. Combined steady state, short circuit, transient, and dynamic analysis to clarify grid code risks, model assumptions, and practical mitigation options.

Large Load Voltage Assessment 📅 2022

Worked with planning engineers and customer representatives on a large load assessment for a data intensive facility. Evaluated voltage behavior, contingencies, and reactive support options, then shaped findings into a clear decision document.

LEADERSHIP & AWARDS

- Professional Engineer recognition, Electrical Engineering license awarded in New York, 2022.
- Technical leadership recognition for clear client presentations and dependable transmission study delivery, 2024.
- Study team leadership for renewable integration analysis and cross functional model review, 2023.

EDUCATION

Master of Science in Electrical Engineering

2016

Case Western Reserve University GPA: 4.0

Cleveland, OH

Coursework: Power system analysis, transient stability, renewable integration, electrical machines

Bachelor of Science in Electrical Engineering

2014

University of Akron GPA: 4.0

Akron, OH

Coursework: Circuit analysis, power systems, control systems, electromagnetic fields

CERTIFICATIONS

- Professional Engineer, Electrical, New York 📅 2022
- IEEE Power and Energy Society Professional Development 📅 2024

TECHNICAL SKILLS

- **Power System Software:** PSS®E, PSLF, PowerFactory
- **Transient Analysis:** PSCAD/EMTDC, EMTP, EMT studies
- **Short Circuit Tools:** ASPEN OneLiner, PSS®E, PowerFactory
- **Dynamic Stability Tools:** DSATools, PSLF, PSS®E
- **Engineering Programming:** Python, MATLAB, FORTRAN
- **Compiled Languages:** C, C++, FORTRAN
- **Grid Resources:** IBR, battery storage, synchronous condensers
- **Power Electronics:** FACTS, HVDC, STATCOM
- **Transmission Studies:** Load flow, contingency analysis, voltage analysis
- **Regional Standards:** PJM, CAISO, ERCOT, MISO, SPP
- **Modeling Methods:** User defined models, dynamic models, EMT models
- **Planning Deliverables:** Technical reports, executive presentations, proposals

SKILLS

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|-------------------------|-------------------------|-------------------------|------------------------|
| • Power systems | • Transient analysis | • Voltage analysis | • Project management |
| • Transmission planning | • Steady state analysis | • EMT studies | • Client communication |
| • Load flow | • Dynamic analysis | • Renewable integration | • Technical reporting |
| • Short circuit | • Stability analysis | • Grid code compliance | |

PROFESSIONAL AFFILIATIONS

- IEEE Power and Energy Society participant, following industry research and grid planning practice.
- CIGRE working group contributor, exchanging practical insight on transmission dynamics and grid modernization.

LANGUAGES

- English (Native)
- Spanish (Intermediate)

ADDITIONAL INFORMATION

Work Status : Authorized to work in United States. No sponsorship required.

REFERENCES

AVAILABLE ON REQUEST