

CONSULTING
TRAINING
MODELING
STAFFING

Pterra was founded to provide premier consulting services exclusively for the electric power industry. Most of Pterra engagements are per diem, best effort contracts with an agreed upon scope of work, schedule, set of deliverables and budget limit.

Mission

To be the leading provider of advanced technology solutions to the electric power industry by understanding changes in, and the overall direction of, the electrical power industry as it evolves in the competitive marketplace.

Vision

To provide creative and novel answers to our clients' power system needs, both present and future. To undertake every engagement with efficiency and creativity, always seeking improvements in current practices, and continuously exploring new ideas, thereby providing our clients with the most innovative and cost-effective solutions possible.



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SERVICES TO
OPERATIVES
AND
MUNICIPALS

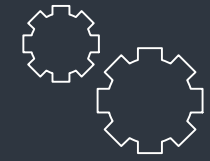
SERVICES FOR COOPERATIVES

ENGINEERING EXPERTISE AND EXPERIENCE AT YOUR SERVICE

From short-focused analyses to extended studies, we offer a unique blend of capability, skill, experience, and commitment. Pterra offers consulting services in the following areas:

- Support for the Interconnection Process for new generation, generation upgrades, new transmission and other new facilities, including feasibility, system impact and facilities studies
- Equipment studies such as breaker over-duty assessment, capacitor sizing, relay coordination, arrester and insulation ratings.

- Planning level specifications for static var devices, harmonic filters, transformers, grounding banks, cables, overhead lines
- System planning studies using analytical tools such as power flow, optimal power flow, contingency analysis, short circuit, dynamic simulation and electromagnetic transients
- North American Electric Reliability Corporation (NERC) compliance studies, including those for the TPL- (transmission planning) series



EXPERIENCE

To specific analytical or expert matters, Pterra's Principals apply over 100 years of cumulative industry experience to find creative and innovative solutions. Our Principals come from diverse backgrounds in power system operations, transmission planning, electrical design, industrial analysis, software development and equipment manufacturing. In all our engagements, Pterra's Principals are committed to excellence, quality and timeliness.

INDEPENDENCE

Pterra is an independent provider of electric power transmission and distribution system analyses. Our work is fully independent of manufacturing, software, utility, project developer and other entities participating in today's energy markets. We ensure that our work products address your specific needs with the assurance that the best possible options and equipment are considered.

COMMITMENT TO QUALITY

Pterra's experts will conduct your system studies requirements with efficiency and professionalism that can only come from decades of cumulative experience. Our commitment is to quality, timeliness and continuing support to ensure that you meet your study objectives and timeframe.



CONTACT US

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ENGINEERING STUDIES

POWER FLOW

SHORT CIRCUIT

DYNAMIC STABILITY

ELECTROMAGNETIC TRANSIENTS

INSULATION COORDINATION

PROTECTION COORDINATION

GROUNDING PROTECTION

HARMONICS

VOLTAGE FLICKER

Look to PTERRA for all your Power System study needs

NEW GENERATION INTEGRATION

Pterra offers a broad spectrum of engineering studies that support the integration of new generation, whether at transmission or distribution level. Pterra has conducted hundreds of impact studies in all regions of North America and for many different utilities, cooperatives and municipal organizations. Our experience in this area is comparable to those of large manufacturers and suppliers but without the equipment and device associations. Our work is independent and professional.

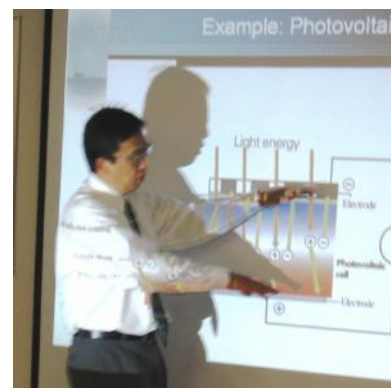
MODEL DEVELOPMENT

Pterra develops customized user models, command files and simulation algorithms that can be used as stand-alone tools or integrated with commercial software such as PSLF, Aspen and PSCAD. For companies that need models converted from one format to another or new models developed from design or specification documents, Pterra applies engineering knowledge to ensure that the converted or new models are accurate and integrate seamlessly with the target software.

MEMBER OF THE NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION (NRECA)

APPLICATION TRAINING

Pterra offers professional training and educational programs on a variety of subjects, all focused on needs of the electric power industry. Our courses are developed and taught by our consulting staff based on real-world



experience in solving power systems problems.

Examples of Pterra's course offerings include:

- Applications in Voltage Stability
- Power Flow Analysis and Applications
- Applications in Wind Power Interconnection
- High Voltage Direct Current Transmission Analysis and Applications
- Distributed Generation Integration Analysis
- Dynamic Simulation Analysis and Applications
- Solar Photovoltaic Inverter Modeling and Analysis

