



Organization and Programs



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Preface

This document explains the history of the North American Transmission Forum (NATF); its vision, mission, and guiding principles; and the NATF's organization and programs. Membership in the NATF is open to any organization that owns, operates, or controls at least 50 circuit miles of integrated (network) transmission facilities at 100 kV or above, operates a "24/7" transmission control center with NERC-certified transmission or reliability operators, or has an open access transmission tariff or equivalent on file with a regulatory authority.

The NATF is built on the principle that the open and candid exchange of information among its members is the key to improving the reliability of the transmission systems in the U.S. and Canada. Members recognize the operation of each member affects the operations of them all.

The NATF relies on the diverse expertise and wisdom of its members and is an independent nonprofit corporation. NATF members agree to maintain the confidentiality of the NATF's discussions and information, follow antitrust compliance requirements, and adhere to the standards of conduct as required in the members' filed transmission tariffs.



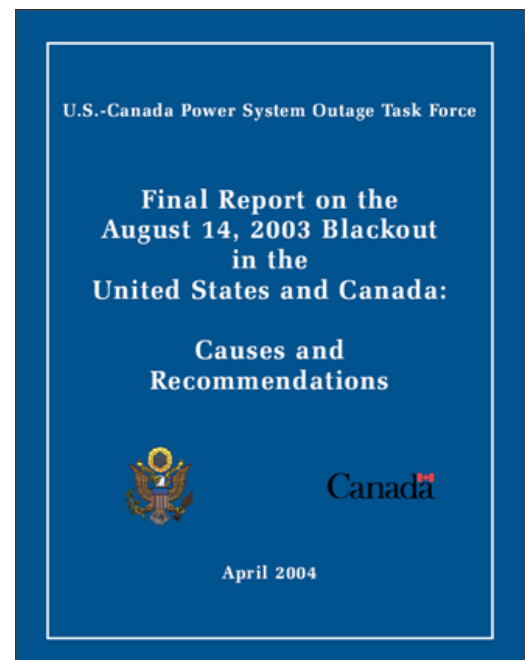
History of the NATF

The 2003 Blackout

Shortly after the August 2003 blackout unraveled the northeastern U.S. and southeastern Canadian portions of the Eastern Interconnection, several major transmission owners and operators, including the Tennessee Valley Authority, American Transmission Company, Hydro One, Oncor, American Electric Power, and Southern Company, met to discuss ways to improve reliability. They understood the effects the blackout had on the health and welfare of the citizens of both countries, as well as their economies—and it was obvious events of the scale and magnitude like the one in 2003 had to be prevented.

The 2005 Energy Policy Act and the ERO

The 2003 blackout appeared to be the tipping point for the U.S. government as well. Beginning in the mid-1990s, NERC had been proposing legislation to the U.S. Congress to establish an audited, self-regulating organization, later called the Electric Reliability Organization, that would be able to enforce NERC's reliability



standards. Despite wide industry consensus that this legislation was necessary, it languished for several years. Two years after the blackout, Congress approved the legislation as a part of the much-broader 2005 Energy Policy Act, which, among other things, created the ERO. NERC was selected as the ERO in the U.S. by FERC later that year and recognized by the Canadian provincial regulatory authorities through separate agreements.

The transmission owners and operators knew NERC was created to develop reliability standards and, as the ERO, would soon be able to enforce those standards. But more than compliance was needed to “raise the bar,” so to speak, to achieve operational excellence of the transmission system. The question was how to do that, and the answer was found in the nuclear power industry.

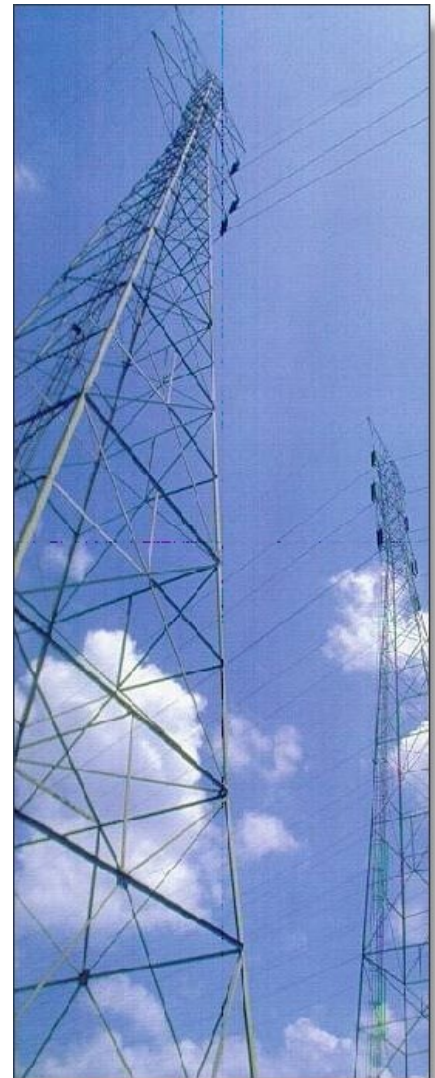
The Model: INPO

The Nuclear Regulatory Commission was created in 1974 and established mandatory rules for reactor operation. But in 1979, the Three Mile Island nuclear plant suffered an accident that destroyed the reactor’s core, and it quickly became apparent to the nuclear plant owners that rules alone do not promote operational excellence. They needed to foster a sense of commitment, unity, and candor among themselves, recognizing that every nuclear plant owner held in its hands the collective fate of its peers.

Later that year, the nuclear plant owners created a new organization, the Institute of Nuclear Power Operations, to promote excellence in the operation of nuclear generating plants. Through INPO’s formative years, it tried different models, missions, core values, and procedures until it found the winning combination that resulted in a stellar safety and reliability record for the nuclear power industry. Indeed, the U.S. nuclear plant safety record has been exemplary ever since INPO’s creation.

The transmission owners and operators visited the INPO staff in Atlanta shortly after the 2003 blackout to better understand how INPO achieves operational excellence. INPO’s success depends on five principles, or “core values:” (1) a sense of “community” among the nuclear generation owners—that “we’re in this together,” (2) absolute commitment from the top executives—including the CEO—of each nuclear-owning organization, (3) comprehensive performance evaluations by INPO staff and the nuclear companies’ peers, (4) peer reviews by the nuclear top executives during which their companies are ranked-ordered side by side, and (5) confidentiality.

That fifth principle—*confidentiality*—literally wraps around the other principles. When INPO was first formed, it publicly published its performance reviews, believing, quite logically, that public disclosure and scrutiny would exert sufficient pressure for excellence. But INPO found that didn’t work because interviews with nuclear plant staff were never completely candid as long as everyone knew the questions, answers, conclusions, and recommendations would be publicly posted. So INPO decided to conduct its interviews privately, provide its



conclusions and recommendations directly and confidentially to the organization’s CEO, and share the interview scores with the CEOs of all the nuclear generation plants. The peer relationships helped get things get done; problems got fixed and plant performance improved.

It appeared from these meetings with the INPO staff that the INPO model might work for the North American Transmission Forum.

Initial Years

Others joined the original group of transmission owners and operators, and in 2006 sixteen organizations petitioned the NERC board of trustees to create the Transmission Owners and Operators Forum within NERC. The group’s purpose was to “...improve the reliability and security of the bulk power system by facilitating the pursuit of operational excellence through a forum where transmission owners and operators can identify and exchange information on best practices for reliable operations, evaluate their own performances against those best practices, disseminate lessons learned from disturbances and near misses, and facilitate the utilization of such information in a timely manner, among other things.”

Recognizing that the transmission system in the U.S. and Canada is owned and operated by vastly different kinds and sizes of organizations, some unbundled, some vertically integrated, some operating in markets, and some not, the first members knew the group needed to start slowly and build confidence and a “sense of community” to be successful.

Membership and activities grew rapidly, as subject-matter experts began writing practices and sharing a vast array of information ranging from system operating events to effective ways to comply with reliability standards to the members’ own procedures and programs.

In 2009, members decided to become independent from NERC and on January 1, 2010, began operating as the North American Transmission Forum, Inc., a nonprofit 501(c)(6) organization.

NATF Members

NATF transmission owners and operators represent about 80% of the transmission circuit miles at 200 kV and above in the U.S. and Canada. Over 8000 individuals participate in NATF activities.

Organizations that meet any of the following requirements may join the NATF:

1. Own or operate at least 45 circuit miles of integrated network transmission facilities at 100 kV or above
2. Operate a “24/7” transmission control center with NERC-certified transmission or reliability operators
3. Have an open access transmission tariff or equivalent on file with a regulatory authority



NATF members include investor-owned, Canadian provincial, U.S. federal, state, municipal, and cooperative utilities as well as regional transmission organizations and independent system operators.

Vision, Mission, and Guiding Principles

The NATF's vision and mission describe how it sees the world and why the NATF exists. Together, the statements articulate "what we as a group are trying to achieve."

The NATF's guiding principles are the keys to meeting its mission and realizing its vision.

The NATF uses its vision, mission, and guiding principles to describe itself to others and to decide which activities to undertake or revise or discontinue.

Vision

The NATF envisions **continuously improving** electric transmission system reliability, security, and resiliency, while ensuring the safety of utility personnel.

Mission

The NATF's mission is **to promote excellence** in the safe, reliable, secure, and resilient operation of the electric transmission system.

Guiding Principles

These guiding principles give the NATF the ability (environment, expertise, will, and critical mass) to not only identify but proactively address key reliability, resiliency, security, and safety issues.

Community. Members recognize the interconnected electrical grid requires active member collaboration. Working together, members represent an especially agile and impactful community that propels higher levels of reliability, resiliency, security, and safety.

Confidentiality. Various confidential programs and venues promote open, candid intra-membership dialogue. NATF and member-specific confidential and other sensitive information is rigorously protected, with external sharing of carefully selected information through established protocols to advance NATF credibility and impact.

Candor. Direct, objective performance feedback is delivered as a membership norm. Candid, constructive peer challenge promotes continuous improvement by highlighting and addressing vulnerabilities, risks, and performance shortfalls.

Commitment. Members' senior leaders demonstrate ongoing commitment to the NATF's mission of promoting excellence. Leaders reinforce the member engagement and behaviors needed to foster positive change.

Member Engagement

To maintain the vision and mission of the NATF, while upholding its guiding principles, members engage in NATF activities by:

- **Participating** in regular web meetings and surveys, and **offering ideas and suggestions** to other NATF members

- **Sharing** information about transmission system events, internal processes and programs, and metrics
- **Volunteering** for peer reviews, **responding** to recommendations, and **servicing** on peer review and assistance teams
- **Writing** new practices, **reviewing** current practices to keep them current, and **incorporating** these practices into their transmission operations

NATF Policies

NATF members formally agree to abide by the NATF's policies on confidentiality, antitrust compliance, standards of conduct, and to not sue other NATF members on actions arising from NATF activities.

Leveraging the Internet

The NATF holds few physical meetings. Instead, our practices groups comprising subject-matter experts hold monthly web meetings. These are typically one to two hours and include specific topics and "open mike" sessions where members can bring up whatever topic they want to discuss. The NATF's private website provides members instant access to information and allows them to upload documents and reports for easy sharing. The NATF also conducts online surveys for its members and practices groups.

Governance

The North American Transmission Forum is governed by its members whose primary representatives meet four times each year as a "deliberative assembly," the most basic of all organizations. The NATF's board of directors, who are chosen from among the primary representatives, carry out the NATF's fiduciary responsibilities, but the members decide on what the NATF does.

NATF Programs

The NATF's activities are centered on a set of integrated programs:

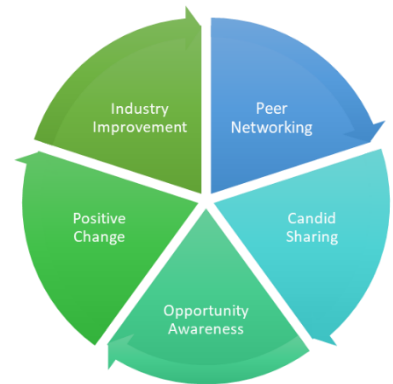
- Peer Reviews
- Assistance
- Training
- Knowledge Management
- Practices
- Initiatives
- RESTORE

Peer Reviews

NATF review teams, comprising the members' own subject-matter experts, conduct periodic, confidential evaluations of the NATF member organizations (which we refer to as the "host"). Each review consists of two to

four days of interviews and observations, followed by a report to the host member’s executives and staff. Best practices are brought back to NATF practice groups, and specific recommendations are provided to the host.

The peer review team members usually bring more information back to their own organizations after the review because of the discussions among themselves during the interviews. The team members often exchange their own practices and programs with one another during the week they spend together and build new personal relationships in the process.



NATF peer reviews are not compliance audits, and the NATF does not provide NERC or any other organization with the results of these reviews. However, members have reported being better prepared for compliance audits following an NATF peer review.

Assistance

The Assistance Program is designed to help NATF members with specific transmission system reliability, resiliency, security, and safety topics or issues, with a goal of promoting operational excellence and continuous improvement. Flexibility is built into the program, as each assistance project is tailored to meet member needs and timelines, with all NATF services and products considered when determining the best approach.

Assistance teams visit member organizations, conduct web meetings, or both to work with host peers on a particular issue or topic and draft a report of their learnings and recommendations. Through its extensive network of subject-matter experts, the NATF can provide support for whatever areas are needed.

Training

The goal of this program is to offer membership-wide training via web-based resources on topics chosen and prioritized by members. The approach allows us to leverage new and existing resources for membership-wide benefit, which helps avoid the need for members to create the training individually.

Knowledge Management

The NATF’s Knowledge Management Program supports the exchange and management of operating experience and reliability data to help member participants learn from each other. Secure tools and regular working group meetings are used to gather, analyze, and communicate a variety of member and industry data and information to enable focused performance improvement.

Overarching goals of the Knowledge Management Program include:

- Promoting effective and efficient knowledge transfer across the membership



- Identifying, prioritizing, summarizing, and communicating timely and actionable reliability information to members regarding risks, vulnerabilities, events, adverse trends, lessons learned, and superior practices
- Developing and communicating metrics for member reliability performance

Metrics and Analytics

To help the NATF measure reliability improvements, our metrics and benchmarking products are developed for our members to see company performance, how it has changed over a period of time, and how it compares to their specific peer group.

Metrics topics and activities include (1) comparative performance data, such as transmission outages rates and availability, protection system misoperation rates, and equipment performance and availability; (2) personnel safety events; (3) member engagement/participation; and (4) transmission costs. The program includes identification, development, and maintenance of tools that provide a snapshot of current performance information and comparisons over time.

To supplement peer benchmarking, the NATF created a self-serve metrics database that enables members to create outage, TRIND, safety, and cost metrics for their benchmarking efforts.

Operating Experience

The NATF Operating Experience program area involves identifying, prioritizing, summarizing, and communicating operating experience (i.e., positive and negative actions, events, and lessons learned) and other reliability information to members regarding risks, vulnerabilities, events, adverse trends, lessons learned, and superior practices. For example, NATF members discuss their own “lessons learned” and root cause analyses of operating events at NATF meetings, and they post summaries and in-depth analysis on the NATF’s private website. We also post redacted versions of select reports on the NATF public website.

One of the key benefits to the sharing of operating experience is the opportunity for members to learn without experiencing those lessons first-hand.

Surveys

NATF members survey other members on a vast array of topics to collect timely and valuable feedback. The NATF staff helps members refine and distribute surveys, and all members have access to summary results.

Practices

NERC establishes reliability standards to maintain the integrity of the transmission system. But compliance with reliability standards does not necessarily produce the operational excellence the NATF members are seeking. The NATF members raise the bar for themselves and achieve operational excellence by capturing and sharing their own experiences, diverse wisdom, and “ways of doing things” in a set of constantly evolving practices. These practices do not compete with NERC reliability standards. Instead, they complement the standards by providing guidance on the best ways to comply with—and exceed—the standards to achieve excellent performance.

Groups of subject-matter experts hold monthly web meetings and annual workshops and write NATF practices and principles of operating excellence. Topics include:

- Asset management
- Lines equipment
- Substations equipment
- Human performance improvement
- Corrective action programs and operating experience
- Safety (focus on serious injuries and fatalities)
- System protection
- Cyber security
- Physical security
- Operational technology networks
- Operations tools
- System operations
- Operator training
- Risk, controls, and compliance
- Modeling and planning
- Vegetation management

The NATF is ideally suited for developing practices because it brings considerable and diverse expertise to the table. The NATF can raise the bar of excellence even further by agreeing to implement its own superior practices and evaluate the effectiveness of those practices in its peer reviews.

Initiatives

The Initiatives Program encompasses resiliency and emerging reliability risk areas, where the NATF coordinates internally and externally, as appropriate, to address key industry topics and issues. NATF members are uniquely positioned to identify transmission system risks and help focus industry resources on the most important topics.

This program leverages the NATF's subject-matter experts, usually in a project-like format, to pursue activities that address specific needs or otherwise improve the reliability and resilience of the electric transmission system. Each initiative project is topic-specific and promotes excellence and continuous improvement for the NATF membership and the industry. NATF Initiatives Program activities include:

- Resiliency
- Transmission Resiliency Maturity Model
- Changing resource mix

- Grid security emergency readiness
- Facility ratings data collection
- Supply chain cyber security risk management
- BPS security executive orders and NOPRs (support for members)

RESTORE

The NATF's Regional Equipment Sharing for Transmission Outage Restoration (RESTORE) Program is designed to enhance the resiliency and reliability of the energy grid by identifying sources and facilitating replacement of equipment following disastrous events. This optional, self-funding program is available to NATF members for a minimal additional cost.

For More Information

Contact the NATF by e-mail at info@natf.net.