

Protecting the energy grid from national-level disasters and threats is a responsibility shared by both the government and the electric power industry.

The CEO-led Electricity Subsector Coordinating Council (ESCC) serves as the principal liaison between the federal government and the electric power industry, with the mission of coordinating efforts to prepare for, and respond to, national-level disasters or threats to critical infrastructure. The ESCC focuses on actions and strategies that help protect the energy grid, prevent various threats from disrupting electricity service, and develop capabilities that help the sector quickly respond and recover when major incidents impact the grid.

The ESCC includes CEOs and executives from electric companies, public power utilities, and rural electric cooperatives, as well as their trade association leaders, who represent all segments of the electric power industry. Through the ESCC, the industry works closely with its government counterparts, including senior administration officials from the White House, cabinet agencies, federal law enforcement, and national security organizations. Canadian electric company executives also are represented on the ESCC due to the international make-up of the North American energy grid.

ESCC Strategic Committees

Three strategic principles guide the work of the ESCC: collective defense, collective response, and preparedness & resilience. In order to create or expand upon tools and tactics that fulfill these principles, the ESCC divides its work among four key strategic committees. CEOs, executives, and staff from the entire sector are encouraged to join these committees and to assist with:

- **THREAT AND INFORMATION SHARING**

Improve and institutionalize the flow of, and access to, actionable information among public- and private-sector stakeholders.

- **INDUSTRY-GOVERNMENT COORDINATION**

Establish unity of effort and message between industry and government partners to support ESCC missions in steady state and in crises.

- **RESEARCH AND DEVELOPMENT**

Support industry and government research and development (R&D) initiatives to advance improvements in grid resilience.

- **CROSS-SECTOR LIAISONS**

Develop strong partnerships with the communications, oil & natural gas, financial services, transportation systems, and water/wastewater systems sectors.

Significant ESCC Programs & Projects

■ **CYBER INCIDENT RESPONSE**

The ESCC used the concept of traditional mutual assistance networks—voluntary resource sharing partnerships from across the country and Canada—to develop a Cyber Mutual Assistance program that can help electric and natural gas companies, public power utilities, and/or rural electric cooperatives restore critical computer systems following significant cyber incidents. The program is the first of its kind among the critical infrastructure sectors, and it now includes more than 155 entities across all segments of the industry, serving more than 75 percent of all U.S. electricity and natural gas customers. In addition, the ESCC is now working with senior government officials on a unified cyber incident response strategy, which will include tools and resources that both industry and government can use in the event of a major cyber incident.

■ **CYBERSECURITY INFORMATION SHARING**

The industry, with ESCC support, is working closely with the Department of Energy (DOE) and other stakeholders to update the DOE Cybersecurity Capability Maturity Model (C2M2) – a public-private partnership-related tool designed to help organizations assess and strengthen their cybersecurity capabilities. In addition, the ESCC is continuing its efforts to further enhance the Cybersecurity Risk Information Sharing Program (CRISP)—a public-private partnership initiative co-funded by DOE and industry and managed by the North American Electric Reliability Corporation’s (NERC) Electricity Information Sharing and Analysis Center (E-ISAC). CRISP facilitates timely bi-directional sharing of actionable unclassified and classified threat information using advanced collection, analysis, and dissemination tools that identify threat patterns and trends across the electric power industry.

■ **R&D ALIGNMENT**

ESCC leaders frequently visit and work with DOE’s national laboratories to discuss the latest grid security and resilience research. The ESCC promotes ongoing collaboration with the federal government, the national labs, and the investment community to align R&D needs and priorities with those of industry.

■ **EMP RESEARCH**

The ESCC is continuing its work with the Electric Power Research Institute (EPRI) and key government agencies to assess the threat posed by electromagnetic pulses (EMPs). In 2016, as part of a major collaborative research effort, EPRI released the first in a series of reports on EMP impacts on energy infrastructure, including the potential threat to large power transformers. Additional research and mitigation strategies were released in 2019, including an assessment of the tools and methods the sector can use to assess their vulnerability to an EMP event.

■ **RESILIENT COMMUNICATIONS SUPPLEMENTAL OPERATING STRATEGIES**

The ESCC’s R&D Committee is exploring how the sector can develop and maintain the robust communications capabilities that will be needed to operate the energy grid manually during a prolonged outage.

■ **CROSS-SECTOR COORDINATION**

In 2016, the ESCC appointed CEOs to serve as cross-sector liaisons to the communications, downstream natural gas, financial services, transportation, and water/wastewater sectors, and they are helping create important partnerships with these critical infrastructure sectors. The ESCC is now building on those efforts by bringing together executive-level representatives from the electric, communications, and financial services

sectors to identify mutual priorities and to develop cross-sector incident response plans and protocols. A tri-sector playbook was developed to inform how the three sectors (electric, communications, and financial services) can work together during major incidents. This playbook was used during the 2018 hurricane season, and it will be updated based on lessons learned from various incidents and exercises. In addition, the ESCC has continued to support engagement with the transportation sector on the emergency movement of transformers and other heavy equipment.

■ **STATE COORDINATION**

In 2018, representatives from the ESCC, the federal government, the National Governors Association, the National Association of State Energy Officials, and the National Association of Regulatory Utility Commissioners met to discuss how the electric power sector, state officials, federal partners, and regulators can align resources and priorities, unify their message, and enhance overall awareness of incident management and resilience planning. These organizations and the ESCC continue to develop a Joint State Coordination Action Plan and expand outreach and education efforts.

■ **THE ESCC PLAYBOOK**

The ESCC developed a playbook that provides senior industry and government executives with a framework to coordinate response and recovery efforts and communication with the public during major incidents. The playbook is updated annually and is tested in a series of exercises and real-world events.

■ **INCIDENT RESPONSE MESSAGING**

The ESCC launched a public affairs initiative to enhance how industry and government communicators prepare for emergencies affecting the energy grid. As part of that initiative, senior public affairs officials from the government and senior

industry communications executives meet each year to discuss how they share information and coordinate messaging during a major incident. The group developed a communications annex to the ESCC playbook, which includes lessons learned from recent hurricane response operations to help guide industry-government message coordination. In addition, a standard process for coordinating industry and government messaging immediately following a grid-related cyber incident or other no-notice disaster was developed. This process was tested during a cyber exercise in late 2018 and is being refined in cooperation with government communicators.

■ **PREPAREDNESS EXERCISES**

Each year, the ESCC participates in a variety of preparedness exercises to test and update its coordination and messaging protocols. These include regional events hosted by individual trade associations and by investor-owned electric companies, public power utilities, and rural electric cooperatives, as well as government-sponsored exercises, such as DOE's Clear Path exercise series and FEMA's National Level Exercises, and industry-wide national exercises that test the response to catastrophic incidents. The most significant national exercise is the GridEx series sponsored every two years by NERC. It includes hundreds of organizations and thousands of participants from industry and government, as well as international partners, who examine the response to widespread outages caused by coordinated physical and cyber attacks. The ESCC and its government partners play a major role in both the exercise and the follow-up process to identify action items that will help improve industry and government response capabilities and protocols. Previous GridEx events have launched ideas that are now useful tools, such as the ESCC playbook and the Cyber Mutual Assistance program.

ESCC Official Roster

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