

Smart Grid Security Governance, Risk Management, and Compliance (GRC) Solution



Enabling Efficient, Cost-Effective Regulatory Compliance

Today's utilities face exponentially growing demands from regulators to enforce security and reliability requirements in operations, asset management, and physical protection to achieve North American Electric Reliability Corporation (NERC) compliance. The electric grid is arguably the most critical of our national infrastructures, and the transformation to smart grid communications has accelerated the need to integrate network and physical security into all the links of the energy chain. Utilities need to:

- Ensure compliance with NERC regulatory standards, mitigate security risks, and avoid penalties
- Assure complete governance of grid security from generation to delivery
- Consistently track diverse, cross-functional regulatory requirements
- Improve response times to documentation and audit requests

The Challenges of Compliance Within the Utility

Achieving compliance with government regulations requires a complex multidepartment, multisite workflow and greatly increased paperwork. To avoid financial penalties, utilities must be able to proactively identify potential risks based on timely and accurate data. Compliance teams oversee and audit:

- Policies and assessments of control, risk, and vulnerability

- Extension of smart grid communications into transmission and distribution operations, as well as customer premises (commercial and residential)
- A combination of legacy and new devices with decades-long expected service lives
- Millions of remote assets and field devices, such as meters, transformers, and switch gear

The Smart Grid Security Governance, Risk, and Compliance Solution

The Cisco® and MetricStream Smart Grid Security Governance, Risk, and Compliance Management (GRC) solution provides a single platform for tracking, measuring, and mitigating risk and assuring compliance across a number of regulatory areas. Its capabilities allow utilities to conduct readiness assessments as well as trigger the remediation process, scope mitigations, and plan for policy updates and migrations. It also transparently automates the reporting process to create better status visibility and highlight areas for improvement, with the ability to drill down to specific issues. It enables:

- Establishment of a common control framework for governance and compliance management
- Automation of documentation, reporting, and audit
- Systematic migration planning from NERC version 3 to version 4
- Management of diverse regulatory requirements from multiple agencies and organizations, across functions, including the NERC Critical Infrastructure Protection (CIP) reliability standards for PRC, COM, TOP, BAL, FAC, and EOP

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NERC Library Enables Migration Requirements

Today's NERC CIP standards are changing rapidly to accommodate smart grid requirements. To enable management of CIP version readiness, the Smart Grid Security GRC solution includes a library of NERC requirements that supports MetricStream's extensive reporting by leveraging use cases developed by Cisco and industry-leading utilities, covering:

- v3 to v4 migration planning
- Advanced Metering Infrastructures (AMI) security governance
- Protecting and monitoring unattended assets
- Energy theft investigations

Automated Information Gathering and Logging

Enabled by Cisco networking, the MetricStream Compliance Management Platform is designed to automatically gather and log information based on real-time visibility into multiple layers of integrated security, including authentication systems, intrusion prevention and detection, firewalls, substation/smart grid communication networks, physical access gateways, and IP surveillance cameras. It also can be integrated with AMIs to proactively identify and minimize distributed security risks. Based on this flow of data, the solution provides a holistic set of readily available documentation to track compliance and reduce audit preparation and response.



Leveraging Cisco Services for the Grid

The Cisco and MetricStream solution allows utilities to deploy a robust, dependable solution with a lifecycle approach that addresses all aspects of deployment, operations, and optimization. It is supported by Cisco Services: a team of experts with the mission of helping utilities to plan, build, and run future-state grid security architectures, including physical security, network security, and other advanced capabilities. Offerings include defining security requirements, developing forward-looking architectures, coordinating the deployment and integration of security solutions, and delivering ongoing optimization and managed services.

Smart Grid Security GRC Solution Benefits

The Smart Grid Security GRC solution allows compliance managers to cost-effectively track new requirements, assess status, create action plans, and monitor compliance, while greatly improving productivity and consistency of documentation and audit preparation. Utilizing this solution, utilities leverage a framework and advanced services that help to measure risk exposure, thresholds, and mitigation, resulting in:

- Increased visibility into regulatory requirements and compliance status
- Provision for governance of security, improved risk visibility, and support for a compliance-related workflow
- More accurate, readily available audit information
- Reduced paperwork and avoidance of regulatory noncompliance penalties
- Improved resource utilization and greater productivity for high-priority security requirements

Why Cisco?

The worldwide leader in networking, Cisco provides Connected Grid solutions that deliver highly secure, reliable, and scalable communications to automate the entire energy chain – from generation and transmission to businesses and homes. Cisco is uniquely positioned as a trusted advisor on utility security challenges, providing industry-leading networking technologies, integrated software services, and professional services that cover the spectrum of smart grid functional requirements.