

Myth vs. Reality

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Exploring Utility Communications | SCADA Networking & NERC CIP Compliance

The Myth: *"SCADA networks don't really need to meet NERC CIP standards — those rules only apply to the bulk power system."*

This misconception is widespread among smaller utilities and co-ops operating at the distribution level. Many assume that NERC CIP (*Critical Infrastructure Protection*) standards are only relevant for transmission systems, leaving distribution SCADA networks outside the scope of compliance.



The Reality: *While not every co-op or municipal utility is directly registered with NERC, the influence of CIP requirements is cascading down to the distribution level.*

Here's Why:

- **Audit Risk:** Even if a utility is not formally registered with NERC, it may still be required to demonstrate security practices when interconnected with CIP-covered systems.
- **Cybersecurity Liability:** SCADA networks are prime targets for cyberattacks. CIP-aligned best practices help protect against outages, ransomware, and grid disruptions.
- **Regulatory Expansion:** The scope of CIP is broadening to include distributed energy resource (DER) interconnects, renewables, and distribution-level operational technology (OT) networks.
- **Customer/Partner Expectation:** Larger investor-owned utilities (IOUs) and regional transmission organizations (RTOs) increasingly expect their distribution partners to follow CIP-aligned practices, even if not mandated.

Why "CIP Lite" Matters

What is CIP Lite?

"CIP Lite" is not an official NERC standard. Instead, it's an industry term used to describe a scaled-down approach to implementing the most critical CIP cybersecurity controls.

Why does it exist?

While distribution co-ops and municipals may not be required to meet full CIP compliance, they still need practical protections to align with industry partners and prepare for potential regulatory expansion.



Core Focus Areas of CIP Lite:

- **Secure Remote Access:** Implementing multi-factor authentication (MFA), VPNs, and logging to protect remote connections.
- **Network Segmentation:** Separating OT and IT networks using technologies like MPLS and VRFs.
- **Critical Device Inventory & Patching:** Maintaining an up-to-date inventory of critical devices and ensuring timely patching.
- **Event Monitoring & Incident Response:** Establishing systems to monitor network activity and respond to security incidents.

How MPLS (and LTE) Enable CIP Lite:

MPLS and LTE/Private LTE technologies are key enablers of CIP Lite, offering the tools needed to secure SCADA networks and meet evolving compliance expectations.

- **Segmentation with VRFs:** MPLS allows SCADA, AMI, voice, and IT traffic to coexist securely on a single converged network. LTE and Private LTE extend this segmentation to remote substations, intelligent electronic devices (IEDs), and pump stations.
- **Deterministic QoS:** MPLS ensures low latency and reliability by prioritizing teleprotection and SCADA traffic. LTE/Private LTE extends secure, high-priority connectivity to rural and remote sites.
- **Visibility & Control:** MPLS provides per-service monitoring and logging, while LTE/Private LTE extends visibility to the edge, supporting CIP Lite's event-tracking requirements.
- **Resiliency:** MPLS Fast Reroute (FRR) ensures network reliability with failover times under 50 milliseconds. LTE/Private LTE adds redundant access paths for enhanced reliability.

By combining MPLS with LTE/Private LTE, co-ops can implement CIP Lite end-to-end, from the network core to the field, without overbuilding or overspending.



MCA's Role in CIP Lite Implementation:

MCA specializes in helping co-ops and municipal utilities design and deploy CIP Lite architectures that strengthen SCADA security and operational resilience.

Our solutions include:

- **MPLS/VRF Segmentation:** Securely separate SCADA traffic from corporate IT networks.
- **Nokia 7705 SARs:** Deploy routers with built-in CIP security features for robust protection.
- **Licensed Microwave and Fiber Backhaul:** Ensure secure, high-capacity transport for OT isolation.
- **Private LTE/LTE Integration:** Extend secure connectivity to remote SCADA and DER assets.
- **Lifecycle Support & Documentation:** Provide ongoing support and documentation to meet CIP Lite audit expectations.

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The Takeaway:

SCADA networks may not always fall under mandatory NERC CIP compliance, but aligning with CIP Lite best practices is quickly becoming the industry standard. By adopting CIP Lite, co-ops and municipal utilities can:

- Protect their operations from cyber threats.
- Meet the expectations of larger partners and regulators.
- Prepare for future compliance requirements.

MPLS provides the backbone for secure segmentation, LTE/Private LTE extends secure connectivity to the field, and MCA delivers the expertise and solutions to make it all work seamlessly.



Next Step

Contact MCA today to schedule a 15-minute CIP Lite workshop. Learn how we can help right-size SCADA protections for your utility and prepare your network for tomorrow's compliance landscape.

About MCA

MCA is one of the largest and most trusted technology integrators in the United States, offering world-class voice, data, and security solutions that enhance the quality, safety, and productivity of customers, operations, and lives.

More than 65,000 customers trust MCA to provide carefully researched solutions for a safe, secure, and more efficient workplace. As your trusted advisor, we reduce the time and effort needed to research, install, and maintain the right solutions to make your workplace better.

Our team of certified professionals across the United States delivers a full suite of reliable technologies with a service-first approach. The MCA advantage is our extensive service portfolio to support the solution lifecycle from start to finish.

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