CYBER SECURITY
& NETWORKING

FIREWALL
A dedicated firewall appliance controls all routable communications to and from the site, and is configured by default to only allow necessary operational traffic.

VPN REMOTE ACCESS
All remote access to the site is controlled and authenticated at the external firewall interface through VPNs, implementing the strongest encryption algorithms available.

ROLE-BASED ACCESS CONTROL
Authorized accounts are created based on the principle of 'Least Privilege' and are administered using a role-based access control (RBAC) methodology.

SYSTEM HARDENING
Prior to deployment, Nor-Cal disables unnecessary ports and services, removes unnecessary software, disables default accounts and ensures all systems are patched for the latest updates.
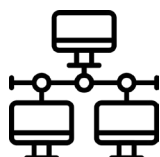
VIRTUAL LANS
A dedicated firewall appliance controls all routable communications to and from the site, and is configured by default to only allow necessary operational traffic.

PHYSICAL SECURITY
Nor-Cal equipment, other than field equipment, is contained in a lockable server rack, enabling our clients to demonstrate physical access control even if the substation building itself cannot.

CONFIGURATION SUPPORT
During commissioning, Nor-Cal provides clients with configuration documentation to support cyber asset inventories, configuration baselines and recovery plans.

ANTI-VIRUS
Depending on device type, Nor-Cal systems have Symantec anti-virus installed and enabled by default. Other solutions can be deployed upon request.

CIP SUPPORT:

REQUIREMENT	IMPACT LEVEL	NOR-CAL SOLUTION
CIP-003.1.2 Physical Controls	LOW	✅
CIP-003.1.2 Electronic Controls	LOW	✅
CIP-002	MEDIUM	✔️
CIP-005	MEDIUM	✔️
CIP-007	MEDIUM	✔️
CIP-009	MEDIUM	✔️
CIP-010	MEDIUM	✔️

✅ NOR-CAL'S SOLUTION FULFILLS ALL EXPLICIT REQUIREMENTS

✔️ NOR-CAL'S SOLUTION DIRECTLY SUPPORTS REQUIREMENTS

OPTIONAL SECURITY FEATURES:

> Cost-effective virtualized environments for the flexibility to deploy jump hosts, syslog servers, etc.
> Two-factor or single-sign-on authentication integration
> Domain controller deployment

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