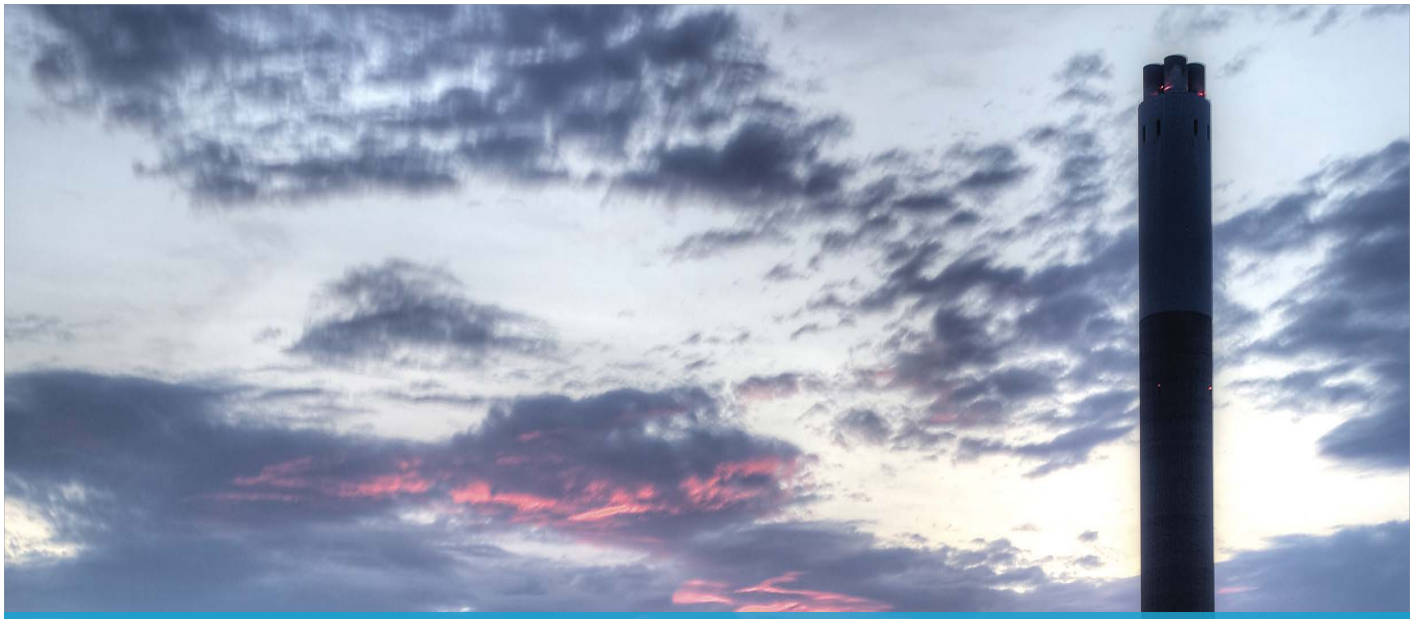

EXECUTIVE BRIEF:
POWER UTILITIES
Physical Security Regulatory Compliance
How Medeco Intelligent Keys Represent the Best Solution for Power Utilities

medeco®
ASSA ABLOY

ASSA ABLOY, the global leader
in door opening solutions

How Vulnerable are U.S. Utilities?

On April 16, 2013 the PG&E Metcalf Transmission Substation near San Jose, California came under sniper attack. Armed gunman destroyed 17 electrical transformers before disappearing into the night. The damage to the substation was significant — over $15 million dollars. One former federal regulator called the event a planned terrorist attack that, if replicated across the country, could have blacked-out much of the country.

Securing the Electric Grid

Utility executives and federal energy officials have long worried that the electric grid is vulnerable to sabotage. That is in part because the grid, which is really three systems serving different areas of the U.S., has failed when small problems such as trees hitting transmission lines created cascading blackouts.

Transmission substations are the critical links in our grid. They make it possible for electricity to move long distances and serve as hubs for intersecting power lines. Why then do many of the system's most important components sit out in the open, often in remote locations, protected by little more than cameras and chain-link fences?

The Federal Government Steps in to Ensure Physical Security

A July 2014 report from the Congressional Research Service entitled, *Physical Security of the U.S. Power Grid: High-Voltage Transformer Substations*, repeatedly cited the Metcalf attack and noted that, "...in the wake of the Metcalf incident, the Federal Energy Regulatory Commission (FERC) has ordered the imposition of mandatory physical security standards (for substations) in 2014."

FERC directed the North American Electric Reliability Corporation (NERC) to submit proposed reliability standards. Those standards would require utilities with critical assets to take steps, or to demonstrate that they had taken steps, to address physical security risks and vulnerabilities.

Today, NERC's Critical Infrastructure Protection (CIP) Standards require all electric utilities to have a physical security plan and program in place to monitor and manage physical access to protect critical infrastructure, cyber assets, and Bulk Electric System cyber systems.

Achieving and Maintaining Physical Security Regulatory Compliance

Standard CIP-006-3c *was established to ensure the implementation of a physical security program for the protection of critical cyber assets.*

Standard CIP-006-5 *was established to manage physical access to BES cyber systems by specifying a physical security plan to protect these systems against compromise that could lead to mis-operation or instability in the BES.*

Of the original eight standards set by NERC for CIP, two are specific to physical security. Medeco intelligent key systems are ideally suited to help utilities comply with these standards.

To comply with these standards, utilities must define operational or procedural controls to restrict physical access. For authorized individuals requiring physical access to critical infrastructure or physical security perimeters, utilities should:

- Implement a minimum of one physical access control system, although two or more control measures are recommended.
- Monitor unauthorized access through all physical access points.
- Maintain records (automated or manual) of entry — with time and date — for each individual with authorized access, unescorted access, or unauthorized access to physical access points.
- Issue an alarm or alert within 15 minutes if unauthorized access is gained through physical access points.
- Keep physical access logs capturing date and time of individual's access for a minimum of 90 days.

In response to the compliance requirements of CIP Standards 006-3c and 006-5, utilities have deployed various tactics including physical access control systems, electronic access control systems, cameras, security locks, fences and other means.

However, there is a solution that is far more efficient and effective—a utility can become compliant on many openings by simply replacing its outdated and uncontrolled mechanical master key system with the award-winning Medeco XT Intelligent Key System with Data Analytics.

The major benefits of the Medeco XT system are its ability to retrofit existing door hardware—saving time and money—and its ability to provide access control, electronic scheduling and audit accountability at a fraction of the cost of other systems. There is also no rekeying expense.

The Medeco XT Intelligent Key System is a Smart Business Decision

The Medeco XT Intelligent Key System—manufactured in the U.S.—provides outstanding physical security, which is the hallmark of Medeco security locks. Medeco XT electronic locks are built to the highest standards, provide strong protection against forced entry and include tamper-proof features in an attack-resistant design.

Some utilities have gone the route of an elaborate electronic access control (EAC) system to provide physical security. The major drawback of an EAC is the cost to install. Hardwiring is needed throughout the system which means cabling and construction expense, delays and lost time. The Medeco XT system provides the power from the key—there is no hardwiring required and it continues working during a power failure. Each XT cylinder is powered by an XT electronic key, and the key's rechargeable battery holds enough power for 1,800 openings per charge. Because there is no outside power source, the XT system can be deployed in all interior and exterior climates—from office spaces to outside perimeters— even remote access areas. Padlocks can be retrofitted with an XT cylinder. Compared with an EAC or other system, installation of the Medeco XT system is a snap because the XT cylinders retrofit the existing mechanical cylinders. The installer simply removes the old cylinder and drops in the new XT cylinder. That means deployment is fast and efficient, good news for a utility that needs to be in compliance with CIP Standards. (In addition to Medeco XT, there are other technologies available from Medeco with similar functionality.)

The CIP Compliance Solution that is Easy and Cost-Effective

We live in a world where disruptive events occur without notice. Utility security is a huge concern for all of us. The federal government has taken action and in turn, all U.S. power utilities must now comply with a rigid set of regulations that enforce physical security measures.

In summary, one of the most cost-effective and efficient ways for a utility to meet and sustain compliance with several key NERC CIP Standards is to simply replace its outdated mechanical key system with a Medeco XT Intelligent Key System. There is no need for expensive hardwiring. It is like getting all the benefits of an electronic access control system without the high cost.

The relative low cost of the Medeco XT Intelligent Key System, combined with its state-of-the-art Data Analytics software feature and ease of installation, makes it a compliance and physical security solution worth consideration.

The Medeco XT Intelligent Key System with Data Analytics is a significant component in a power utility's quest to dramatically lower the cost and complexity of CIP physical security compliance.

For more information about Medeco XT and other similar intelligent key technologies, contact:

Andy Hummel
US Business Development Manager
Medeco Security Locks, Inc.,
andy.hummel@assaabloy.com
(919) 740-3433.