IEEE Standard Cybersecurity Requirements for Substation Automation, Protection, and Control Systems

IEEE Power and Energy Society

Sponsored by the
Power System Relaying Committee
and the Substations Committee

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IEEE Std C37.240™-2014

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Power System Relaying Committee and Substations Committee
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Approved 10 December 2014

IEEE-SA Standards Board

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Abstract: Cybersecurity measures require that a balance be achieved between technical feasibility and economic feasibility and that this balance addresses the risks expected to be present at a substation. Further, cybersecurity measures must be designed and implemented in such a manner that access and operation to legitimate activities is not impeded, particularly during times of emergency or restoration activity. This standard presents a balance of the above factors.

Keywords: critical infrastructure protection, cybersecurity, electronic access, encryption, IEEE C37.240™, remote access, password management, substations

The Institute of Electrical and Electronics Engineers, Inc.
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PDF: ISBN 978-0-7381-9437-0 STD20046
Print: ISBN 978-0-7381-9438-7 STDPD20046

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Introduction

This introduction is not part of IEEE Std C37.240™-2014, IEEE Standard Cybersecurity Requirements for Substation Automation, Protection, and Control Systems.

This document provides technical requirements for substation cybersecurity. It presents sound engineering practices that can be applied to achieve high levels of cybersecurity of automation, protection, and control systems independent of voltage level or criticality of cyber assets. Cybersecurity includes trust and assurance of data in motion, data at rest, and incident response.

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