

TVA/Browns Ferry

Reactor cooling drive failure forces manual shutdown

Cyber Security Incident
Case Profile
CP-101 Version 1

Incident summary

On August 19 2006, operators at Browns Ferry Nuclear plant had to “scram” the reactor due to a potentially dangerous “high power, low flow” condition. Redundant drives controlling the recirculating water system failed due to “excessive traffic” on the control network. Network traffic between two different vendors’ control products was the likely cause. The facility remained offline for 2 days.

Cause of incident

Improper, excessive traffic on the control network.

Cost impact

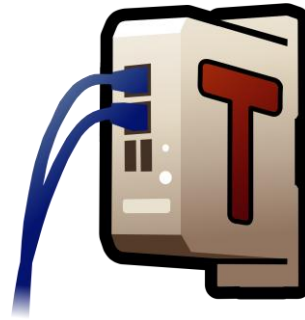
Estimated \$600K in lost revenue; additional incidental costs are unknown.

Why *Tofino* would have helped

This incident appears to be a result of poor or non-existent separation between subsystems, a very common situation in control networks. By dividing the control network into zones, and routing all communications between zones through a Tofino Security Appliance, strict rules can be enforced that define what traffic is allowed to pass between zones. Any traffic that does not match the rules is blocked and immediately reported to the Tofino Central Management Platform as a security alert.

Tofino™ Industrial Security Solution

Zone Level Security™ for your control network



Tofino Security Appliance

Zone Level Security for your control network

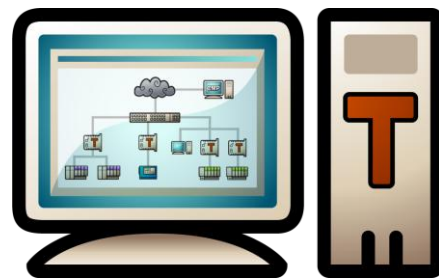
Cyber security issues can be a major cause of plant down time

You may never be attacked by a serious hacker, but typical control networks are extremely vulnerable to simple day to day security issues. Poor network segmentation, unprotected points of entry into the network, 'soft' targets such as un-patched PCs and vulnerable PLCs, and human error can result in significant production losses and even safety issues.

The Tofino Industrial Security Solution is a distributed security solution that quickly and cost-effectively implements cyber security protection within your control network.

Tofino's flexible architecture allows you to create security zones - Zone Level Security - throughout your control network to protect critical system components. *Tofino* helps you meet and exceed NERC CIP requirements and ANSI/ISA-99 standards. And best of all, it helps you avoid expensive down time and achieve optimal performance in your plant.

Learn more at www.tofinosecurity.com.



Tofino Central Management Platform (CMP)

Centralized security management



Tofino Loadable Security Modules (LSMs)

Customize the security functions in each zone

Your authorized *Tofino* supplier:

TOFINO™
tofinosecurity.com