

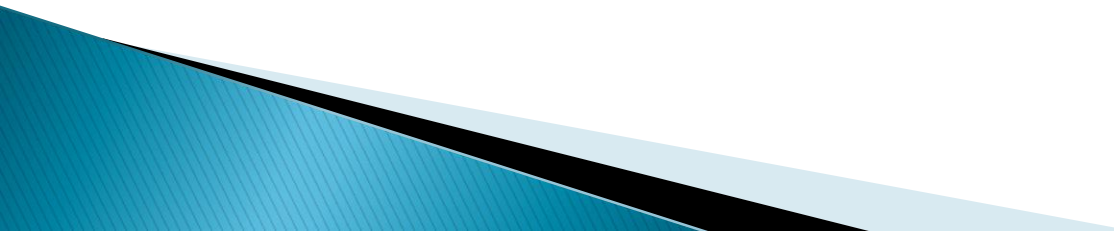
American Petroleum Institute Pipeline SCADA Security Standard API 1164 2nd ed.

API Pipeline Conference & Cybernetics
Symposium 2010
New Orleans

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Presentation Topics

- ▶ Introduction
 - ▶ API 1164 Background
 - ▶ Resilience & API 1164
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Introduction

- ▶ Tool Chest –
 - High level competence and performance is supported by well developed tools
- ▶ Tools include items such as;
 - Technology
 - Funding
 - Various documentation
- ▶ API 1164 is one of the tools



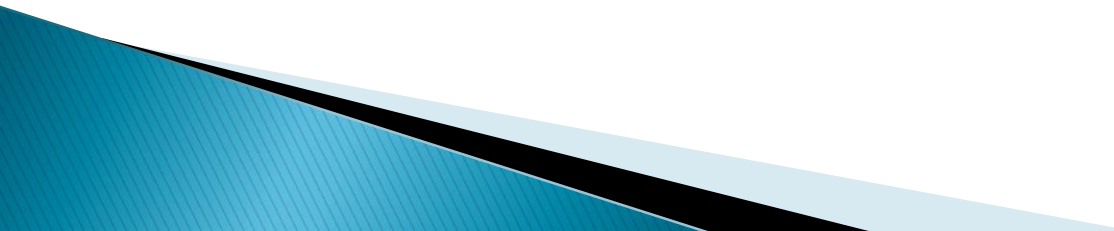
API 1164 Pipeline SCADA Security Background

- ▶ API 1164 – what is it?
 - A voluntary industry standard
 - Specific to Supervisory Control and Data Acquisition (SCADA) systems
 - Provides a high-level view of the holistic SCADA security practices
 - Target audience is the oil and gas liquid pipeline industry

API 1164 Pipeline SCADA Security Background

- ▶ API 1164 1st edition released Sept. 2004
- ▶ API 1164 2nd edition released June 24, 2009

Resilience & API 1164

- ▶ Resilience – “... the ability of organizational, hardware and software systems to mitigate the severity and likelihood of failures or losses, to adapt to changing conditions, and to respond appropriately after the fact....It is an infrastructure wide topic...” (International Council on System Engineering)
 - ▶ Cyber security issues fall within this definition
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Resilience & API 1164

- ▶ API 1164 is a multi-function tool which supports a resilience system

Management System:
Policy – Procedures– Role
& Responsibility, etc

Physical Security

Communication
System

Technology:
Network Design &
Management



Risk & Vulnerability
Assessments

Business Continuity Plan

Incident Response Plan

Tool Chest Capabilities

- ▶ Provides guidance and support to
 - Establishment and review of company policies and procedures
 - Initial system technical designs
 - System evaluations such as risk assessments
 - Extensive checklist is included
 - System modification
 - Technical reference
 - Appendix includes Additional Resource list

Relationship to Other Standards

- ▶ API 1164 v 1.0 originated prior to many other standards
- ▶ Current version reviewed and took into account other standards such as:
 - Cross review with existing AGA standards
 - DOE 21 Steps to Improve Cyber Security of SCADA Networks
 - National Institute of Standards and Technology (NIST) 800 Series
- ▶ API 1164 still referenced in Transportation Security Administration (TSA) “Pipeline Security Guidelines.” Draft Rev. 1. APL July 15, 2008

Summary

- ▶ API 1164 is an excellent tool
- ▶ Supports a resilient system objective during;
 - Establishment/review of the management system
 - Initial technology design/engineering/development
 - In process reviews (risk and vulnerability)
 - Modification
 - Operation
 - Maintenance