

Process Control Cybersecurity

DAY 1

Introduction and Cybersecurity Fundamentals

- Introduction to Process Control Cybersecurity
- Understanding the Current Industrial Security Environment
- How IT and OT (Operational Technology) in the Plant Floor are Different and How They are the Same
- Overview of Process Control
- Overview of Industrial Communication Systems and Networks
- How Cyber-attacks Happen: Threats, Vulnerabilities, Attacks
- Asset Identification and Impact Assessment

DAY 2

Introduction to the IACS Cybersecurity Lifecycle and ISA99 / IEC 62443

- Identification & Assessment Phase
- Design & Implementation Phase
- Operations & Maintenance Phase
- Limits of a Conventional IT Approach
- The IEC 62443 Security Approach and Standards
- Risk Analysis Risk Identification, Classification, and Assessment
- CAL (Cybersecurity Assurance Levels)
- Functional Requirements of IEC 62443

DAY 3

Addressing Security Risks: Process Control Security Counter-measures

- Antivirus, Anti-spyware
- Firewalls, Traffic Analyzers
- Encryption, Virtual Private Networks (VPNs)
- Passwords - *Authentication Systems*
- Access Control - *Intrusion Detection / Prevention*
- Network Segmentation

DAY 4

Application Diagnostics and Troubleshooting

- Interpreting Device Alarms and Event Logs
- Early Indicators
- Network Intrusion Detection Systems
- Network Management Tools
- Interpreting OS and Application Alarms and Event Logs
- Application Management and Whitelisting Tools
- Antivirus and Endpoint Protection Tools
- Security Incident and Event Monitoring (SIEM) Tools

DAY 5

IACS Cybersecurity Operating Procedures & Tools and Incident Response

- Developing and Following an IACS Management of Change Procedures
- IACS Configuration Management Tools
- Developing and Following an IACS Patch & Antivirus Management and Cybersecurity Audit Procedures
- Patch Management Tools
- Antivirus and Whitelisting Tools
- Auditing Tools
- Developing and Following an IACS Incident Response Plan
- Incident Investigation and System Recovery