

EN61 v3.20

Design and Implementation of Cybersecurity

Recommendations in zones and conduits

An EN program initiative with ARPEL

**ENERGY****OIL****GAS**

Design. Implement. Mitigate.

Turn risk recommendations into protection

Develop cybersecurity specifications and implement countermeasures in new and existing industrial systems in the energy, oil and gas sector.

DESIGN

Define architectures and cybersecurity specifications.

IMPLEMENT

Coordinate procedural, technological and physical measures.

MITIGATE

Prioritize actions to reach tolerable risk.

ISA/IEC 62443 | NERC | C2M2 | TSA

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EN61

EN62

EN70

EN99

From assessment to implementation

Security design for new and existing industrial systems

The purpose of the EN61 course is to manage the development and incorporation of the necessary and sufficient actions to mitigate all intolerable risks identified during the risk assessment, complying with the requirements of the ISA/IEC-62443 series of standards in a manner consistent with the other disciplines of industrial risk. In addition, if necessary, comply with the requirements of popular regulations.

The proper implementation of compensatory protections, with minimal interference in plant activities, is essential for those systems that are in operation with the main objective of creating industrial infrastructures resilient to all types of threats, even the most persistent.

Elaboration of industrial cybersecurity specifications (CSRS) and influencing the design of industrial systems and the plant to ensure that industrial plants will be operated with all cyber risks mitigated from the start-up of the new system.

This course is developed with a focus on the energy, oil and gas industries. It means complying with all the requirements of the ISA/IEC-62443 series of standards, harmonizing with the typical regulations of these sectors, which are NERC, C2M2, TSA, and other popular regulations.

Course essentials

Version 3.20

1.6 CRE credits

5 lessons / 1 quiz

EN60 prerequisite



Who is it aimed at?

Recommended for professionals involved in industrial system design and implementation, industrial networks, cybersecurity, monitoring, detection, access control and segmentation.

Relevant roles include IT security managers, system integrators, control system providers, plant engineers, production and operations management, industrial security, safety instrumented systems specialists and maintenance personnel.

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Learning objectives

At the end of the EN61 course, you will be able to:

- 01** Understand and use the results of the Cyber Risk Assessment (ASSESSMENT).
- 02** In existing systems, incorporate by design the recommendations obtained in the previous stage (ASSESSMENT).
- 03** Define the optimal architecture, design the incorporation of necessary changes as a result of detailed risk analysis.
- 04** Visualize, monitor, and manage cybersecurity progress for each area and pipeline as recommendations are incorporated.
- 05** Visualize how the current security level (SLA) is approaching the target security level (SLT).
- 06** Elaboration of Industrial Cybersecurity Specifications (CSRS) for Zones and Conduits.
- 07** Prioritize the implementation of security recommendations based on the greatest contribution to risk reduction, cost, effort, Security Level Capability, etc..
- 08** Even if the system operates below risk tolerance, you will be able to create policies to monitor and supervise incidents of the remaining risks.
- 09** Define and configure the appropriate cybersecurity policies for each zone and pipeline necessary for the next stage of monitoring and maintenance (MAINTENANCE).

Make risk mitigation part of industrial design

Detailed syllabus

Design foundations and specifications / 01-03

01 Zones and conduits

Design of Zones and Ducts to comply with the safety recommendations of the previous phase, ensuring risk mitigation with efficiency and effectiveness.

02 Standards and regulations

Incorporate the requirements of standards and regulations, such as:

- International regulations ISA/IEC-62443
- National Standards, Laws and Regulations (NIST, NERC, C2M2, etc.)
- Development of its own rules and regulations.

03 Cybersecurity specifications

Design and preparation of Industrial Cybersecurity Specifications (CSRS) in Zones and Ducts for systems in the engineering phase, complying with the FR, SR, and RE of the ISA/IEC-62443-3-3 standard.



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Detailed syllabus

Implementation and transition to operations / 04-06

04 Coordinated countermeasures

Implementation of security in Zones and Conduits, prioritizing countermeasures according to effectiveness and efficiency to mitigate residual cyber risk, maintaining consistency between:

- Procedural Countermeasures,
- Technological Countermeasures, and
- Physical Countermeasures.

05 Implementation management

Manage the implementation of countermeasures for the effective, reliable, and credible mitigation of Industrial Cyber Risk until reaching the Risk Tolerable by the organization.

06 Detection, monitoring and alerting

Design specifications for detection, monitoring and alerting systems (ARMS) for the rationalization of alerts and event response plans, minimizing false positives. This specification is the entry to the MAINTAIN (Operation and Maintenance) phase.

- For industrial systems with unmitigated risk,
- For industrial systems with mitigated risk.

Plan your participation

Requirements, learning resources and recognition

Requirements

Have taken and passed the EN60 course.

Recommended background

Recommended knowledge includes ISA/IEC-62443, ISO-27000, industrial risk management such as ISA/IEC-61511 and functional safety, national regulations and standards such as NIST and NERC, corporate project and cultural change management, and other industrial risk disciplines such as worker and environmental safety.

Deliverables

Participants receive digital materials through the educational platform:

- Access to EN61 course lessons online.
- Various documents, videos, and complementary material for deeper study.
- Access to the educational campus to download additional information and software.

Certificates

A first certificate of knowledge is issued upon completion of course EN61.

Practitioner in Design and Implementation of Cybersecurity in Industrial Systems

CRE credits: 1.6

The certification exam is taken in class at the end of the course. Available in Spanish, Portuguese, and English.

A second experience certificate is issued after practical implementation in real projects.

Expert in Design and Implementation of Cybersecurity in Industrial Systems

CRE Credits: cumulative, depending on the duration of the activities carried out by the practitioner.

Recognitions

All participants who meet the course requirements and successfully pass the final exam with a good grade will be awarded a Digital Badge. The Digital Badge certifies that the participant has attended the EN61 training course and has completed the final assessment with a good grade, verifying that the participant has assimilated the new knowledge.



Learn. Build. Advance.

Course details and availability:

wisecourses.com/courses/en61-en-3v20/

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An initiative with ARPEL

Supporting the Energy, Oil & Gas market



The EN training program was created as an initiative with ARPEL to support the Energy, Oil & Gas market. It develops industrial cybersecurity capabilities through a shared methodology for governance, risk assessment, engineering, implementation and operations.

About ARPEL

Founded in 1965, ARPEL is a nonprofit association bringing together oil, gas and renewable energy companies and institutions in Latin America and the Caribbean. It promotes cooperation, knowledge exchange, operational excellence and sustainable energy development across the region.

Its members include national and international operators, technology and service providers, and sector institutions. ARPEL supports industry collaboration and professional development through technical exchanges, mutual assistance and training tailored to industry needs.

ARPEL's strategic priorities

Operational excellence • Energy transitions
Sustainable management • Stakeholder engagement

Learn more about ARPEL

www.arpel.org/en/about-us

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