

Common Q+

Integrated Safety System Solution

Executive Summary

Westinghouse delivers a fully integrated on proven platforms — Common Q, ALSv2, Safety HMI — unified under the CQ+ architecture. This approach enables utilities to modernize safely, predictably, and without operational disruption.

Platform Overview

- **Common Q:** NRC-approved, large global installed base, diagnostic-rich, proven reliability.
- **ALS v2:** FPGA-based deterministic platform providing inherent diversity and elimination of software common-cause failure.
- **Safety HMI:** Qualified, cyber-secured operator interface ensuring consistent, safe display and system interaction.
- **CQ+:** Strategy layer integrating and extending existing assets, enabling phased modernization with licensing continuity.

Key Features & Capabilities

- Deterministic performance with FPGA-based logic (ALS v2)
- High-density scalable I/O portfolios (AC160 + ALS v2)
- Secure interfaces: AF100, HSL, unidirectional plant computer links
- Advanced diagnostics supporting reduced MTTR and minimized surveillance testing

Common Q+

- **Proven,**
- **Licensing-Ready**
- **Delivering inter-operability, and**
- **Scalability to support long-term operation!**

Expanded Capabilities

- Licensing confidence through NRC-approved topical reports and decades of operational evidence
- Lifecycle cost reduction with modular upgrade paths and common spares/training
- Reduced modernization risk: no rip-and-replace, phased migration across generations
- Enhanced cyber security with hardened architecture and defense-in-depth strategy

Modernization Pathways

CQ+ enables modernization through:

- Drop-in processor modernization for Common Q
- Hybrid architecture combining Common Q and ALS v2
- Migration of I/O, logic or full subsystems based on plant licensing and lifecycle needs

Architecture Summary

CQ+ serves as the integration and evolution layer that unifies Common Q and ALS v2 technologies. It ensures compatibility, interoperability, and scalability to support long-term operation while preserving licensing foundations and reducing risks.)

Westinghouse Electric Company LLC

2026 All Rights Reserved

1000 Westinghouse Drive Cranberry Township, PA 16066

www.westinghousenuclear.com



Common Q+ Integrated Safety System Solution

Why Westinghouse

- Largest global deployment of safety platforms
- Comprehensive lifecycle management commitment
- Proven global delivery track record across AP1000, APR1400, OPR1000 and multiple upgrade programs
- Single accountable partner for architecture, licensing, deployment, and long-term modernization



**Common Q+ Delivers
Interconnectivity and
Operability**

Learn more about Westinghouse I&C products and services at:

 <https://westinghousenuclear.com/operating-plants/instrumentation-controls-systems/>