

SPEC 200 Solutions

Safe and efficient solutions for long-term commercial analog operation

Challenge

Nuclear plant operators have upgraded many non-safety-related analog I&C systems with digital technology. As the maintenance of safety-related analog I&C systems has become more challenging — primarily due to the obsolescence of equipment — and the reliability and efficiency of digital I&C systems has continued to improve, operators have initiated design changes to replace safety-related analog I&C systems.

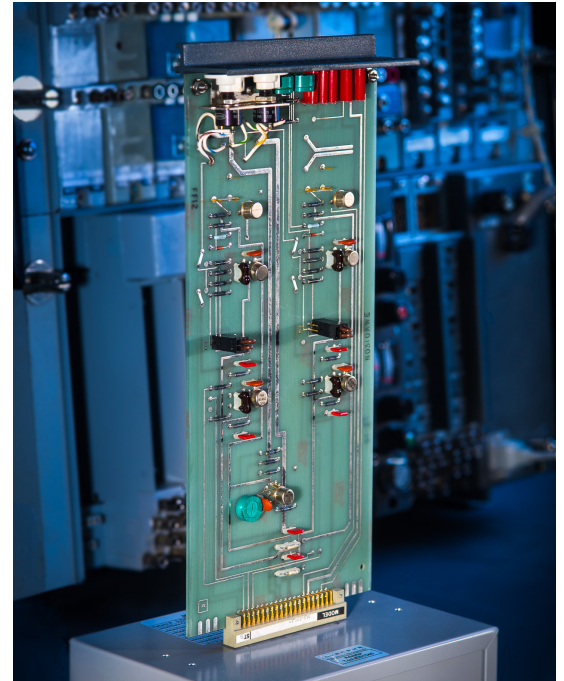
Solution

Constantly seeking ways to support the future viability of the nuclear industry, it is our intent to provide solutions for both our legacy analog brands along with seamless migration to the best new digital control platforms.

SPEC 200 is an analog control system that has been used in nuclear plants for more than 40 years. SPEC 200 is installed on many 1E systems in 70 percent of plants in the U.S. It receives a wide range of input signals from 'field instruments' and converts them to a 0-10 VDC signal for use within the nest's signal conditioning components. The nests/cards are wired and configured to perform certain functions and then provide outputs to control devices, indicators, annunciators, emergency shutdown functions etc. SPEC 200 display instruments are mounted flush in panel in 202S series shelves. The system consists of power supplies, analog control computing cards, input cards, output cards, nests, and cables.

Framatome knows and understands the importance of the SPEC 200 platform. Our engineering team has considered many possible options and has developed the best solution to support our customers for many additional years of commercial operation. While continuance of the SPEC 200 line presents many component procurement and sourcing challenges, Framatome as the OEM is best positioned to supply the nuclear industry with certified replacement or repaired modules.

Upgrading to modern and more efficient Distributed Control Systems (DCS) or Programmable Logic Control (PLC) control system presents many challenges and, in most cases, the upgrade has been avoided as long as OEM equipment is being supported. However, this practice has had an impact on the industry because of lost efficiencies and overburden on maintenance.



Customer benefits

- SPEC 200 manufacturing facility is located at Framatome's North American headquarters in Lynchburg, Va. and provides the following:
 - Secure manufacturing standards, hardware procurement, and QA/QC
 - Provide quicker response to customer requests
 - Better component access
- Several options for our installed base deliver future support and operational license extension
- Global bench strength in engineering and experience to support legacy analog solutions
- Provide hardware and support legacy systems or modern technology

Your performance
is **our everyday commitment**

Continued support

Framatome has secured manufacturing standards, hardware procurement, and QA/QC. Our Lynchburg, Virginia facility provides quicker response times to customer requests in the U.S.

Site-specific tailored plans offer the following support strategies for economic and safe long-term operation of plant assets:

- **Bridging strategy** for replacement to digital upgrades
- **Board for Board** — refresh strategies with newly-manufactured module replacement
- **Consortium of generating stations** buying into a “common” inventory for pre-manufacture modules which Framatome warehouses to be used as needed
- **Continuation of current “repair/ replace” strategy** — modules built as needed with current longer lead time issues depending on manufacturing queue and component sourcing

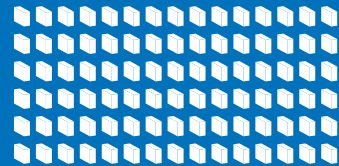
Framatome's North American headquarters and manufacturing facility in the United States



As a global leader in nuclear automation, Framatome has added engineering expertise and expanded its I&C offerings.

~100,000

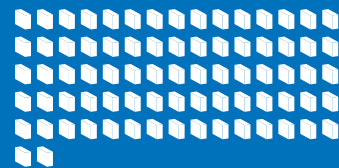
modules in service in the U.S.



additional

~70,000

modules in service globally



more than

47 years of continued operation



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