

EDG Complete System Simulator

Engineering / Simulator strategy and platform

The simulator enables an early validation of the complete design

Challenge

During the commissioning of a diesel system within a newly built nuclear power plant or within modernization projects on a running unit: the time is always limited and every correction which is needed onsite has a negative effect on the time and cost of the project.

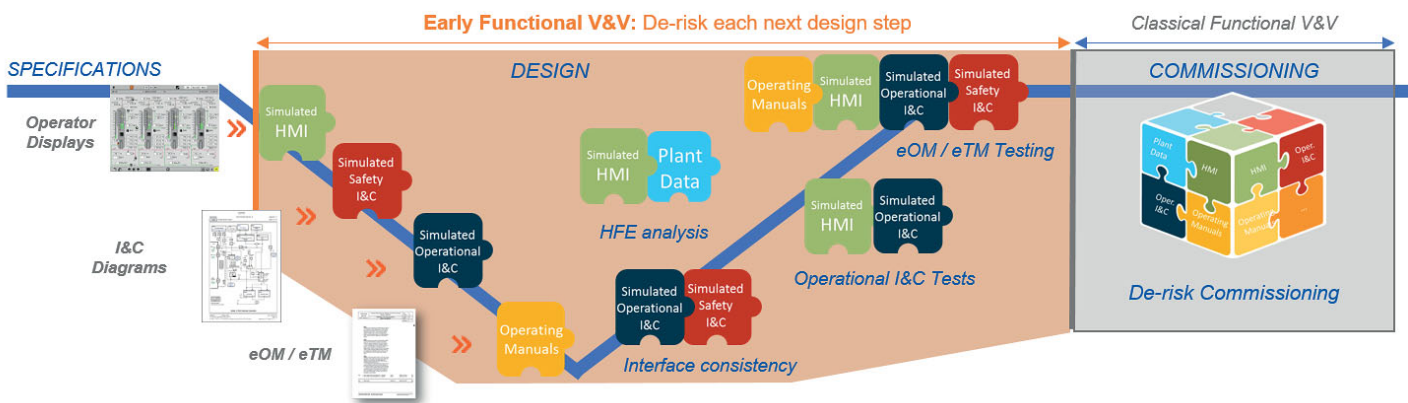
Especially for safety classified systems, every correction needs an approval by all parties and also as well as a careful re-test onsite.

Solution

Framatome's simulator for a complete EDG system is able to validate the overall design based on the basic design. This enables the customer to detect and to perform corrective actions before the installation and commissioning. This will lead to a highly efficient project realization.

Customer benefits

- Allows early and dynamic validations of I&C systems
- Validation of the design before installation/commissioning, in order to minimize further corrective actions at a later project stage
- Detects mistakes in the specification or design during the early stages of the project (mainly onsite)
- Ensures a high quality, cost, and time optimized project realization
- Advantages in cost & time



Your performance
is **our** everyday **commitment**

Technical information

Simulator facilitates:

- Human Machine Interface (HMI) can be customized for the project
- Factory- and Site Acceptance Tests can be simulated as well as Nuclear Testing/Operating Manuals
- Functional and dynamic verification and validation

Practical Experience

Framatome is a specialist for EDG systems and has a reference basis of more than 300 installed systems. Furthermore, Framatome develops its own specialized pre-qualified EDG own products for electrical system(s) and instrumentation and control (I&C) such as TELEPERM® XS digital safety I&C, analog safety I&C (ADCON-S), digital operational I&C (ADCON-O), or fully analogous excitation (MAEX) and control technology.

A specialized EDG product line with integrated product development, proposal management and project execution based on experienced teams ensures a thorough, high-quality delivery of our solutions.

Summary

The simulator is developed based on extensive technical know-how to achieve the most realistic verification and validation. This is achieved through Framatome's expertise concerning diesel systems. Further to this, Framatome's subsidiary CORYS, have experience of more than 200 successfully installed simulators.

Key figures

More than

- **200** simulators successfully installed worldwide
- **300** Diesel projects world-wide in all kinds of reactors

Solutions available for several power ranges and suitable also for new applications, e.g. Multi Group Diesel

References EDG Systems

Country	Year	Scope
German Fleet – Germany	1960 – 1988	Complete EDG Systems for all KWU Plants New Built
Borssele – Netherlands	1969	Complete EDG System New Built
Goesgen – Switzerland	1980	Complete EDG System New Built
Angra 2 – Brazil	1982	Complete EDG System New Built
Philippsburg 1 – Germany	2000	Complete EDG System Modernization
Doel – Belgium	2007	Complete EDG System Modernization non OEM Plant
Atucha 1 – Argentina	2010	Complete EDG System Modernization
Oskarshamn – Sweden	2013	Complete EDG System Modernization non OEM Plant
Taishan 1+2 – China	2013	Complete EDG System New Built
Tianwan – China	2016	Complete EDG System New Built non OEM Plant
OL3 – Finland	2021	Complete EDG System New Built

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