



ZARUBEZHENERGOPROEKT, RUSSIA

Key Facts

Company: JSC Zarubezhenergoeroekt

Website: www.zep.ru

Description: JSC

Zarubezhenergoeroekt is the leading design company that carries out comprehensive design of thermal, nuclear, and small power plants in Russia and abroad

Industry: Power

Country: Russia

Products Used:

- Intergraph Smart® Electrical (SEL)
- Intergraph Smart Electrical Detailed (SEL-D)

Key Benefits:

- Increase in design efficiency
- Reduction of human errors
- Real-time data use
- Interoperability – smooth data exchange between users

ZARUBEZHENERGOPROEKT SUCCESSFULLY EXECUTES PILOT PROJECT WITH INTERGRAPH SMART® ELECTRICAL

Design institute admits the benefits of smart engineering in comparison with traditional design methods

IDENTIFYING GOALS

When initiating a new project, Zarubezhenergoeroekt specialists work with their own in-house solutions and new innovative technologies; CAD implementation within the company started in the 1990s. Along with Autodesk and other external software, beginning in 1997 the company has successfully implemented PDS® (Plant Design System), which was later replaced by new software.

In 2008 the company started the implementation of SmartPlant® Enterprise (SPE) technology – complex technology consisting of several applications that would enable the management of plant data across the lifecycle. Within SPE the following software is used for electrical design: Intergraph Smart® Electrical (SEL) and Intergraph Smart Electrical Detailed (SEL-D).

The electrical design of a thermal power plant is a compound process, requiring a packaged approach to electrical equipment choice, core electrical schemes formation and analysis performance decision making. SEL provides an opportunity to create an electrical, tree-like structure model, consisting of consumers, buses, assemblies, power distribution boards, cables, etc. SEL-D helps to add more details to the model in SEL about connections, terminals, etc. necessary for schematic diagrams, panel layout reports and automatic generation of connection diagrams and various reports.

In 2012 the company went through the first-use Hexagon PPM training and launched a pilot project called “Nonstandard compartment of low voltage complete device design.”



The first stage of the project was dedicated to database creation according to the Russian standards of key wiring diagrams, common control arrangements and title block symbols. A significant benefit was found in that title block symbols are filled in automatically in SEL-D.

The second stage of the project was the setting up of output reports patterns created according to Russian standards and engineering practice. The third stage was dedicated to toolset formation in the SEL-D catalogue; the fourth stage for key wiring diagram formation; and the fifth stage was to verify correct SEL data migration to SEL-D (nonstandard compartment download with its settings).

There are two storage capabilities in SEL-D created specifically for data – local and global. Global storage is used for all projects, where as local storage is used for specific project data. All symbols in SEL-D adhere to industry standards.

The final step was to create the technology itself and construct a procedure manual.

REALIZING RESULTS

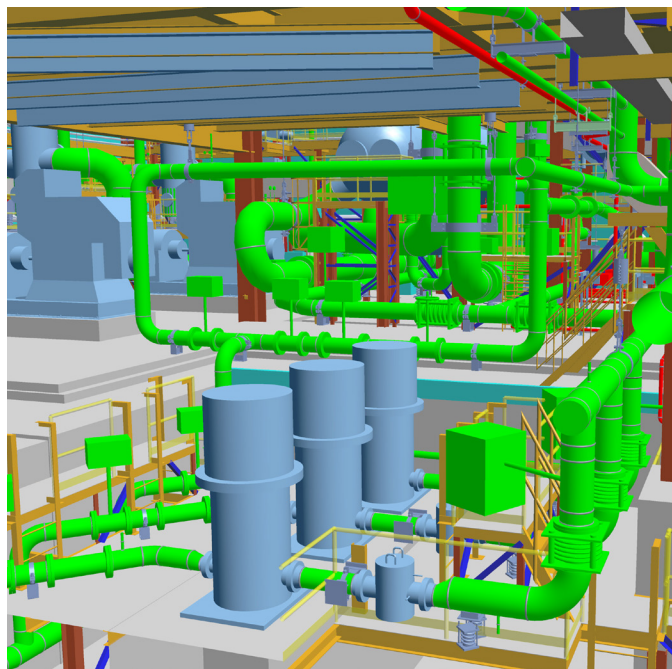
After the pilot project execution, Zarubezhenergo's specialists were confident in stating high potential of SEL-D solution. The following tasks were completed:

- A project documentation package was formed
- All project documents were adjusted in accordance with rules and standards
- Time for changes in technical documentation was reduced at the design stage
- Data migration from SEL to SEL-D was completed successfully.

MOVING FORWARD

Zarubezhenergo's experience of using Hexagon PPM solutions for design demonstrates the benefits of Hexagon PPM software compared to traditional methods of design. Key wiring diagrams with clearly identified data terminals and cable connections help to cut down the number of documents issued. In addition, this diagram accepts the wiring and terminal strip scheme creation using traditional methods.

After this successful pilot project execution, the company made the decision to shift all existing projects to new technology. To capitalize on the increased efficiency seen in the pilot project, it was decided that Zarubezhenergo would start using Hexagon PPM software directly from the pre-design stage.



Example of a horizontal delivery water heater condensate pump's tieback.

ABOUT HEXAGON

Hexagon is a global leader in digital solutions that create Autonomous Connected Ecosystems (ACE). Our industry-specific solutions create smart digital realities that improve productivity and quality across manufacturing, infrastructure, safety and mobility applications.

Hexagon's PPM division empowers its clients to transform unstructured information into a smart digital asset to visualize, build and manage structures and facilities of all complexities, ensuring safe and efficient operation throughout the entire lifecycle.

Hexagon (Nasdaq Stockholm: HEXA B) has approximately 20,000 employees in 50 countries and net sales of approximately 3.8bn EUR. Learn more at [hexagon.com](https://www.hexagon.com) and follow us @HexagonAB.