CASE STUDY

Leading Russian engineering company ensures clash-free electrical engineering for an LNG facility with Octave solutions

Key facts:

Company: SSTenergomontazh

Website: www.sst-em.ru

Industry: Oil & Gas

Country: Russia

Octave products used: OnSite Spool Design *(Intergraph Spoolgen),* Forte Isometrics *(Intergraph Smart Isometrics)*

Identifying goals

SSTenergomontazh, a Russian engineering company focusing on electrical heating, insulation and engineering, was hired to do electrical engineering for an LNG production and shipment terminal in the port of Vysotsk.

The key goals of the project were to prepare clash-free and correct documentation for the electric heating system, pipelines and the equipment for the client. This had to be error-free and delivered on schedule. Additionally, SSTenergomontazh wanted to reduce labor costs, have more flexibility with documentation and exclude any additional costs related to verifying documentation with the source data from the client.

Overcoming the challenge

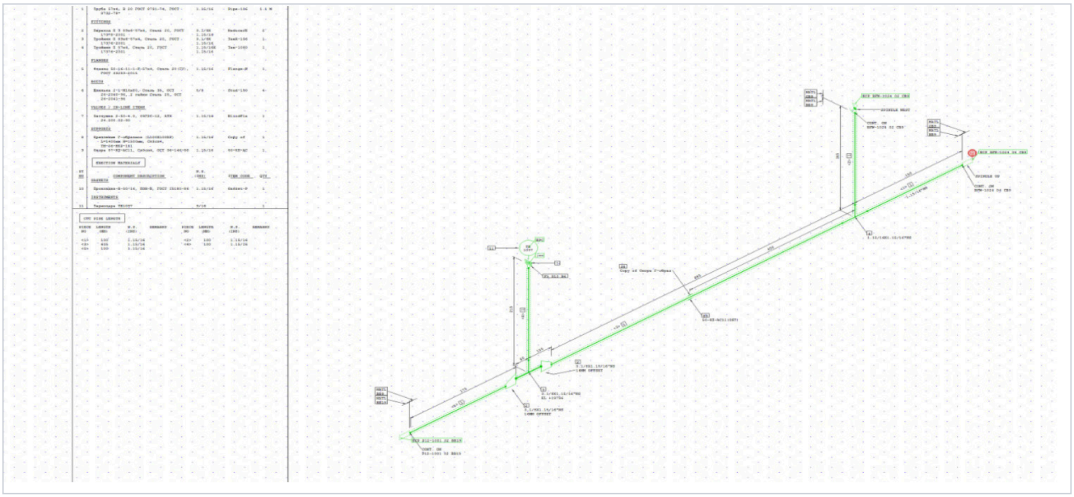
One of the key challenges of the project was that SSTenergomontazh had to work with multiple separate drawing files that were issued from different 3D design systems. At the start of the project, they were lacking a suitable software suite that would enable them to use files from different systems to be incorporated into a centralized approach for the design and engineering data management.

Using OnSite Spool Design enabled SSTenergomontazh to combine .idf, and .pcf files into groups within the technical systems as .pod files. This enabled the company to better understand the details of piping layout and enhance design efficiency as they had the capability to compare both, with spools and respective heat tracing layout allowing them to quickly visualize and understand the whole pipeline context.

The company chose Octave's solutions for the project to help manage different file formats in a more efficient manner. SSTenergomontazh had already used Octave software in the past and was aware of its abilities; for this project the company chose OnSite Spool Design and Forte Isometrics because of the excellent 3D capabilities, the ease of use supported by good training documentation, and the good technical support team Octave had available to support implementation. SSTenergomontazh was also able to report more efficiently as Octave tools enable a variety of reports based on the status of the project.

Key benefits:

- Significantly reducing labor costs when designing an electrical heating system
- Improved efficiency due to easier change management during the design phase
- More flexibility in reviewing and providing content to the client
- Ability to easier verify compliance of the documentation in comparison to source data



An example of an initial pipeline ISO

Realizing results

The files SSTenergomontazh received from their client were in .idf and .pcf formats, and first had to be converted into .dwg. The first step was to combine the files and compare them to understand the details of piping tracing. The Octave tools were also used to identify differences between various drawing files and groups of several drawings to ensure a clash-free design. After this, SSTenergomontazh could place the heat tracing systems and generate the reports with all the necessary specifications.

The ability to convert the files received from the client and work on them directly provided SSTenergomontazh with significant time savings. As the software also allows automated grouping and combining of source data files based on their characteristics or features, manual work can be avoided, and efficiency improved.

Other benefits experienced by SSTenergomontazh include:

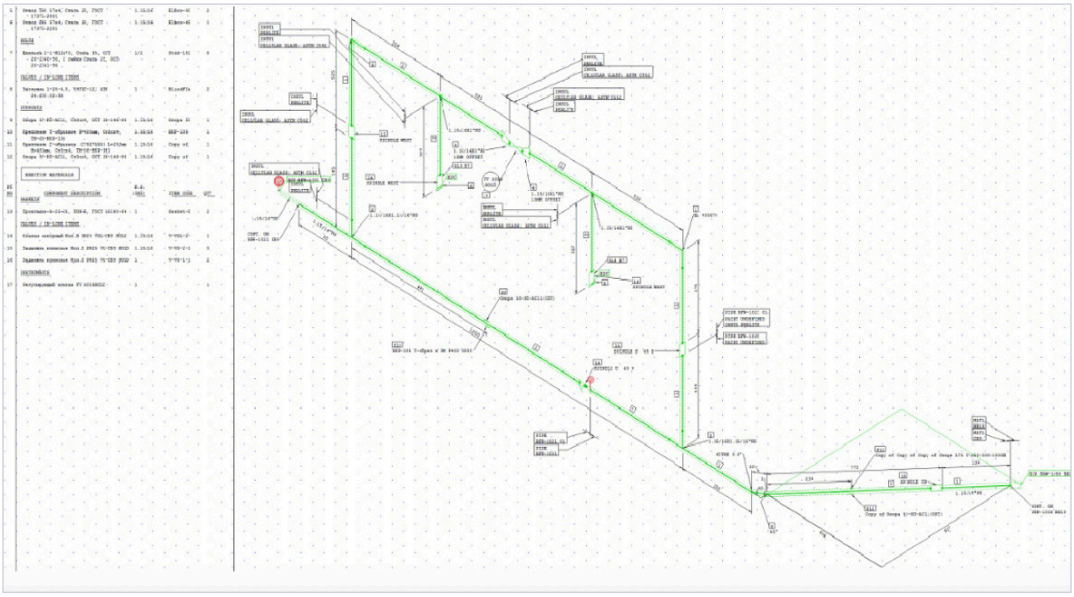
- Significantly reducing labor costs for electrical heating system design by automating the process
- Lowering labor costs as changes are automatically tracked and detected
- Automated reporting allows SSTenergomontazh to report back to their client in any preferred frequency without a need for additional manhours
- Removal of additional costs for the client during source data providing as all the necessary information can be obtained from LineList and idf files
- Cost and time savings when verifying data as all information is automatically taken from the source data (from the “idf” and LineList files)

Moving forward

After executing its first projects with OnSite Spool Design and Forte Isometrics, SSTenergomontazh will continue to use Octave solutions in its upcoming projects to ensure efficiency and quality with clash-free designs.

"At the moment, a lot of big companies who work in the field of design are our customers and they might use a different 3D design software. This way, they often deliver the source data in the original file format to us, and with Octave solutions we can gather all the necessary information from the files, without having to ask the clients to work on them. This saves time and reduces labor costs."

Valentin Sytnikov
Head of Project Design Department,
SSTenergomontazh



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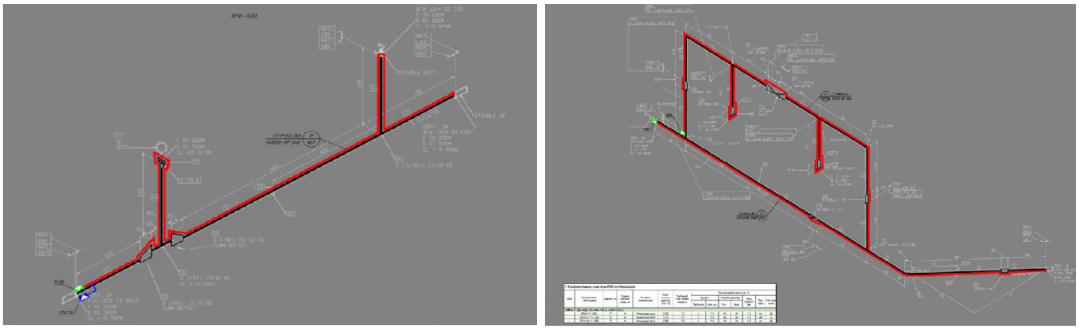

An example of a pipeline with a heat cabling system

About Octave

Octave is a leader in enterprise software, turning data into decisive action and intelligence into your edge. Our software solves for and simplifies complexity, from the design and build to operations and protection of people, property and assets – for any scope, at any scale. For decades, we've partnered with customers to sharpen performance, elevate efficiency and amplify results. From factory floors to entire cities, our solutions are tuned to scale up what's possible from day one onward.

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