HEXAGON

Case Study

METKA, Greece

Key Facts

Company: METKA

Website: www.metka.com

Industry: Power (Non-nuclear)

Country: Greece

Products Used:

- CAESAR II®
- CADWorx® Plant
- CADWorx P&ID

METKA Leverages Collaboration Between CADWorx and CAESAR II, Saving Time & Ensuring Accuracy

Founded in 1962 in Greece, METKA S.A. (METKA) is a major engineering, procurement and construction (EPC) company providing turnkey projects for the energy, infrastructure, and defense sectors. METKA provides these services for both thermoelectric and hydroelectric power plants and for the upgrade of existing power plants.

Building Greece's Largest Natural Gas Power Plant

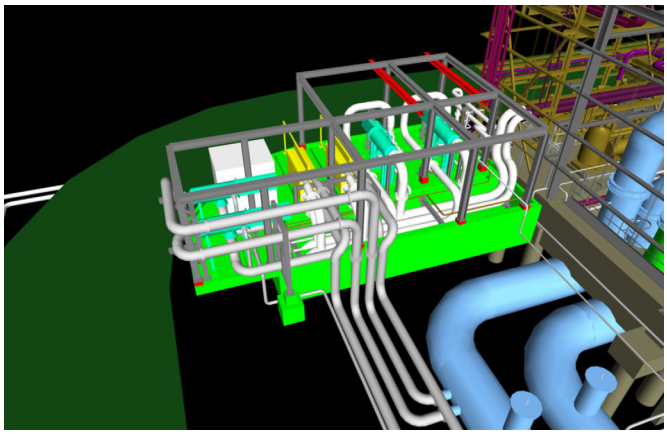
Public Power Corporation (PPC) of Greece selected METKA to build its new natural gas-powered power plant on Evia Island. Part of the company's plans to modernize its operations for greater operating efficiencies and environmental friendliness, the completed $310 million, 416.95 megawatt Aliveria V combined-cycle power plant is the largest natural gas-powered plant in Greece.

Addressing Complex Design Challenges

The Aliveria V includes a single shaft powered by a gas turbine and steam turbine with the generator connected at the same shaft. Space limitations were a challenge. For example, the dimensions of the self-cleaning filters of the system were greater than those in the basic design, requiring a prompt remedy. The natural gas piping on the power island outside the plant required connected the gas receiving stations with the gas compressors using two 10-inch carbon steel (CS) lines with internal pipe pressure/atmospheric design conditions of 40 bar gauge (40 BarG) and temperatures ranging from -15°C to 50°C in the gas receiving stations. They connected gas compressors to the GRS block using two 10-inch lines at 60 BarG and -15°C to 150°C. They also connected the gas block in the power island at a distance of 250m with a 10-inch line operating at 60 BarG and -15°C to 150°C.

Ensuring Accuracy Through the Collaboration Between CADWorx and CAESAR II

METKA selected CADWorx Plant Professional for design and 3D modeling integrated with CAESAR II for analyzing the stresses on piping systems at each phase of the design process. METKA designed the pipe routing in CADWorx and then entered the model into CAESAR II for stress analysis, saving significant time while also identifying errors so that they could be corrected early and at minimal expense.



Reducing Work-Hours by 30% or More While Reducing Expenses

By integrating CADWorx for design with CAESAR II for analysis, METKA was able to provide the client with fast, accurate and complete isometric drawings and automatically produce bills of material for fabrication. This integration and its efficiencies allowed METKA to identify and eliminate potentially costly clashes while reducing man-hours, benefiting all stakeholders.

About Hexagon

Hexagon is a global leader in digital reality solutions, combining sensor, software and autonomous technologies. We are putting data to work to boost efficiency, productivity, quality and safety across industrial, manufacturing, infrastructure, public sector, 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 21,000 employees in 50 countries and net sales of approximately 3.8bn EUR. Learn more at hexagon.com and follow us @HexagonAB.