



FACTS AT A GLANCE

Company: JFMPE, Inc.

Description: JFMPE provide detailed engineering design and consulting services the geothermal development and power industries on an international stage. The company provides skilled engineering teams to their customers supplying outstanding geothermal, mechanical, structural and electrical engineering. JFMPE is based in California, USA.

Employees: Less than 5

Industry: Power, Fabrication

Country: USA

PRODUCTS USED

- Intergraph® CADWorx® Plant
- Intergraph CADWorx P&ID

KEY BENEFITS

- Data accuracy
- Exact cost estimation
- Integrated workflow
- Shortened project schedules
- Time and money savings

JFMPE ELIMINATES TRADITIONAL MATERIAL TAKE-OFF CHALLENGES WITH INTERGRAPH®

Intergraph CADWorx® simplifies workflow in complex geothermal power plant project and helps to complete in record time, delivering accurate and reliable deliverables.

IDENTIFYING GOALS

JFMPE, Inc. (JFMPE) is an engineering services company serving geothermal energy and power generation industry projects around the globe. The company provides clients with skilled engineering teams specialized in geothermal, mechanical, structural, electrical, and other engineering disciplines to match each project's requirements.

A major geothermal power generating company in Nevada contracted JFMPE for a multi-million dollar project that required zero tolerance on the cost estimate. The company's task was to prepare a preliminary cost estimate for a geothermal power plant including bills of material. Hardcopy process and instrumentation diagrams (P&IDs) and process flow diagrams (PFDs) were the only references available from the client. To estimate accurate costs and materials for this large geothermal power plant were essential.

OVERCOMING CHALLENGES

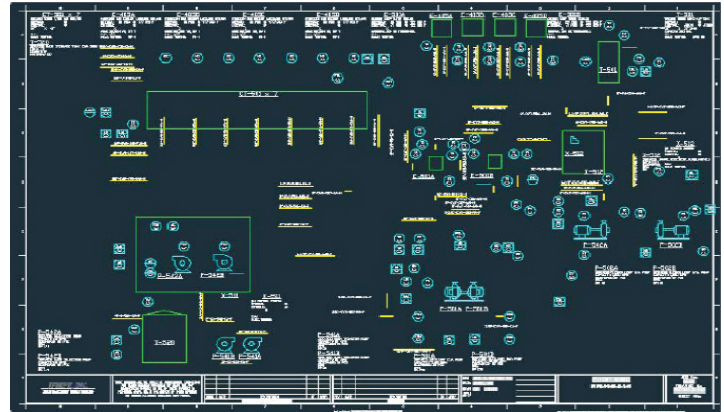
Project challenges included its size combined with both time and budget constraints. Involved were pipes ranging from 1/2" to 66" in diameter and 20,000 feet in length plus 55 vessels, 349 process lines, 5080 fittings, and 25 other pieces of large equipment – 6,242 items in all.

"On a project like this, the large size and short time schedule might discourage some from accepting the challenge within the proposed budget, but not if you can use Intergraph CADWorx and Analysis Solutions (Intergraph CAS) products to their maximum potential," said Kunal Patel, CAD designer at JFMPE. "The benefits of the Intergraph CAS integrated approach, which we had not seen before, surprised everybody. No one had imagined how project tasks could be simplified so optimally," added Patel.

REALIZING RESULTS

Using CADWorx solutions, JFMPE successfully developed database-backed P&ID reports; process line, instrument, vessel, mechanical equipment reports,

and various bills of materials. The cost estimate and data accuracy were verified by the client in a Microsoft Access® database from CADWorx P&ID and CADWorx Plant's AutoCAD®-based drawings. Intergraph CAS products ensured 100% reliability of material take offs, and any of the 500-plus items on one PFD/P&ID could be tracked for inclusion in bills of material. "Intergraph CADWorx and Analysis Solutions helped eliminate errors on fittings and other traditional material take-off challenges," said Patel. "Within the allotted time, we were able to develop an accurate cost estimate using the PFD & P&ID drawings laid over scans of client hardcopy drawings, plus a summary report."



MOVING FORWARD

JFMPE achieved high client satisfaction and confidence thanks to CADWorx and Analysis Solutions and the support and report documents delivered for the client. "We finished the entire cost estimate, material take-offs project in five and a half weeks, spending just 299.5 hours, an accomplishment made possible only with the help of Intergraph CADWorx Plant and P&ID," Patel concluded.

ABOUT INTERGRAPH

Intergraph is the leading global provider of engineering and geospatial software that enables customers to visualize complex data. Businesses and governments in more than 60 countries rely on Intergraph's industry-specific software to organize vast amounts of data to make processes and infrastructure better, safer and smarter. The company's software and services empower customers to build and operate more efficient plants and ships, create intelligent maps, and protect critical infrastructure and millions of people around the world.

Intergraph operates through two divisions: Process, Power & Marine (PP&M) and Security, Government & Infrastructure (SG&I). Intergraph PP&M provides enterprise engineering software for the design, construction, operation and data management of plants, ships and offshore

facilities. Intergraph SG&I provides geospatially powered solutions to the public safety and security, defense and intelligence, government, transportation, photogrammetry, and utilities and communications industries. Intergraph Government Solutions (IGS) is an independent subsidiary for SG&I's U.S. federal and classified business.

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