



## CASE STUDY

# CEDO succeeds on a fast-track design project using Octave Forte 3DWorx and Aspect Pipe Stress

### Key facts:

**Company:** Collaborated Engineering Design Office Ltd. (CEDO)

**Website:**  
[www.cedotech.co.za](http://www.cedotech.co.za)

**Industry:** Metals & Mining

**Country:** South Africa

**Octave products used:** Forte 3DWorx (*CADWorx Plant Professional*), Aspect Pipe Stress (*CAESAR II*)

### Key benefits:

- Completed piping design for the project within an extremely tight deadline and without expensive site modifications
- Created and certified over 1,500 piping isometric drawings and over 80 piping drawings that included modifications
- Generated bills of material and models quickly for client review

First Uranium Corporation in Stilfontein, North West Province, South Africa has been investing in the reclamation of old gold slime dumps to extract and process gold and uranium, a process that requires performing a number of chemical operations to extract either gold or uranium. The facility must be high-capacity in order to make the plant viable for the investors.

### Identifying goals

First Uranium selected Collaborated Engineering Design Office Ltd. (CEDO) for the piping design of the entire uranium portion of the Chemwes gold and uranium project. CEDO was responsible for the modeling of the plant equipment, pipe routing and for clash detection. Because CEDO had extensive design and engineering experience, ranging from petrochemical facilities to mining process plants, this experience proved valuable for the task. MDM Engineering managed this 200 million project with its extremely tight timeline.

With a plant capacity of approximately 8,300 tonnes p.a. (around 950 t/h), the uranium piping totaled approximately 16 kilometers in length, with 350 pieces of equipment and around 500 pipelines ranging from DN25 to DN350 (1" to 14") diameter. Piping materials used included carbon steel, stainless steel, HDPE (High Density Polyethylene), Polypropylene and rubber lined materials. These piping materials were used for slurry, acid, potable water, fire water, steam, instrumentation air and other purposes.



### Overcoming challenges

Because of CEDO's past successes with Octave products, and its commitment to the fast-track design on the project, the company chose Forte 3DWorx for the plant piping design and Aspect Pipe Stress for pipe stress analysis.

"We produced over 1,500 piping isometric drawings and generated over 80 piping drawings that included nozzle positions, pump foundations and other data," said Boro Radovanovic, CEDO's production and marketing manager. "If we came across any clashes, we would inform the client immediately and assist them in correcting the mistakes, which allowed us to supply accurate drawings quickly and with minimal changes."

*"Forte 3DWorx allowed us to provide accurate bills of material, automatically generate piping isometric drawings and produce 2D arrangements from the 3D model."*

**Boro Radovanovic**  
Production and  
Marketing Manager



## Realizing results

"Forte 3DWorx allowed us to provide accurate bills of material, automatically generate piping isometric drawings and produce 2D arrangements from the 3D model," Radovanovic said. "The client was able to review everything in real time through our 3D walkthroughs, which meant they could easily diagnose and rectify complicated processes by combining all disciplines in the plant model."

Aspect Pipe Stress and Forte 3DWorx allowed CEDO to deliver the client's exact requirements while minimizing expensive site modifications. This saved the client significant time and money, as did eliminating unnecessary pipe runs. "We completed the entire job in less than nine months with just a few people assigned to the project," said Radovanovic. "And, we kept the client's project on track the entire time."

## 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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