



## BLACK CAT ENGINEERING & CONSTRUCTION, QATAR

### Key Facts

**Company:** Black Cat Engineering & Construction

**Website:** [www.blackcat.qa](http://www.blackcat.qa)

**Industry:** Oil & Gas

**Country:** Qatar

**Products Used:**

- CADWorx® Plant Professional
- CAESAR II®
- PV Elite®

### BLACK CAT SUCCEEDS ON QATAR PROJECT THROUGH ACCURACY AND AUTOMATION

With headquarters in Doha, Qatar, Black Cat Engineering & Construction (Black Cat) has been providing engineering, procurement, installation and commissioning for three decades on complex projects in multiple industries and disciplines. Its experience and capabilities extend from oil and gas to industrial facilities and infrastructures, with its multidisciplinary teams providing clients with expertise during the feasibility phases through to the professional execution of the projects.

Qatar Fertilizer Company (QAFCO) chose Black Cat to design and install a flash tank and knock-out drum for ammonia recovery and flare systems for two plants, the Ammonia 1 and 2 units, providing a three-month schedule to complete the project. Located in Mesaieed, Qatar, the project required the design of 24-inch flare headers, 18-inch and 12-inch blow down headers, a new pipe rack and a safety relief valve (SRV) outlet connection from all the equipment in the two units. Piping length totaled approximately one kilometer with diameters ranging from one inch to 24 inches in schedules 20, 30, 40 and 80. Black Cat's assignment encompassed design, erection, installation, testing, pre-commissioning, commissioning and performance testing, plus overall project management and training.

### PRODUCING ACCURATE DELIVERABLES WITH CADWORX

Because 50% of the piping work was to be done with the plant shut down, full accuracy was a critical priority to ensure precise fit at installation so that the length of the shut down could be kept to a minimum. The project required accurate engineering deliverables including as-built models and drawings of equipment, pipe racks and piping for the facility's two ammonia units to ensure both sound design and accurate deliverables for the small bore piping. Black Cat was able to leverage the visualization that CADWorx provides to ensure the accuracy of the model and design.

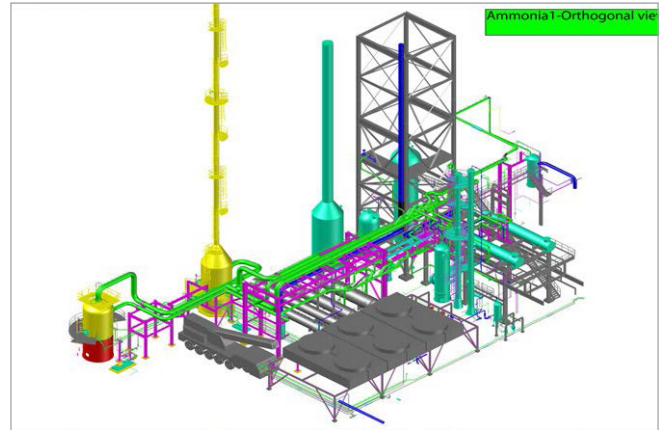


## ENSURING TIMELINESS THROUGH COLLABORATION AND AUTOMATION

The project's demands for accuracy were compounded by the three-month schedule. Using CADWorx visualization for the modeling, Black Cat incorporated CAESAR II and PV Elite to analyze stresses on piping and vessels. This collaborative design and engineering approach with the automation of the deliverables, including bills of material, allowed it to meet these combined challenges.

## COMPLETING PROJECT WITHOUT A COSTLY SHUTDOWN

With the capabilities of CADWorx, CAESAR II and PV Elite, Black Cat engineers saved significant time and finished the piping within a costly shutdown. "By using CADWORX, we guaranteed that the amount of site modification on the piping spools was minimal and that the piping fabrication and erection were executed smoothly," said Ahmad Akila, senior piping engineer at Black Cat.



## ABOUT HEXAGON

Hexagon is a global leader in sensor, software and autonomous solutions. We are putting data to work to boost efficiency, productivity, and quality across industrial, manufacturing, infrastructure, safety, and mobility applications.

Our technologies are shaping urban and production ecosystems to become increasingly connected and autonomous — ensuring a scalable, sustainable future.

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.

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