Case Study: 072

ECS Fabrications

ECS Engineering Services has supported a major nuclear industry client by manufacturing and installing a large access platform and screening panels for a test rig. The structure will allow engineers to install thermocouples to measure reactor gas temperature at the site.

ECS installs modular test rig structure at nuclear power station

The nuclear power station consists of two second-generation advanced gas-cooled reactors (AGRs). The reactors use graphite as a moderator and carbon dioxide for cooling. Accurate, regular measurement of the cooling gas temperature is key to reactor operation. This task is carried out by thermocouples which analyse the gas as it leaves the reactor.

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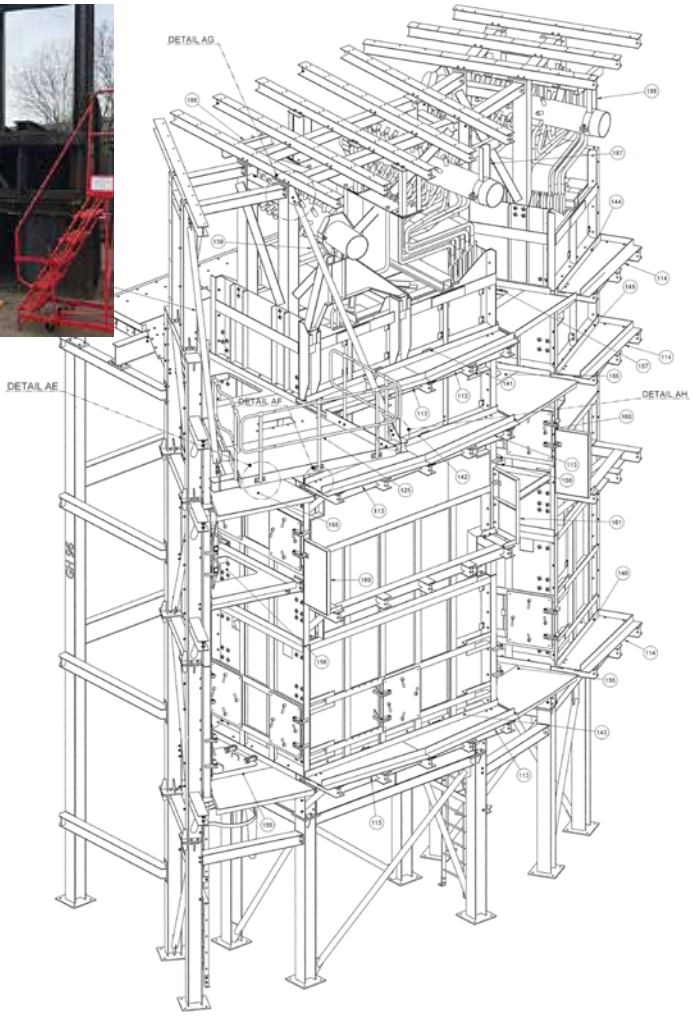
ECS installs modular test rig structure at nuclear power station

Recently, engineers at the site wanted to install new thermocouples on one of the reactors. They approached a contractor, who contacted ECS to provide a large structure that could be installed efficiently with minimal disturbance to site operations.

ECS Engineering Services is a leading electromechanical solutions provider to the water, construction and nuclear sectors. The business has its own fabrications department, which is accredited to CE Mark Execution Class 4 (EXC4) for steel fabrications under BS EN 1090 and is Fit4Nuclear qualified.

Offering a proven track-record in the nuclear industry, ECS recently delivered steel stillage pallets to Sellafield, provided 49 duct cradles to another site and is undertaking the fabrication of waste containers destined for Chapelcross.

"Our in-house fabrications department is experienced in meeting the exceptionally high-quality standards of the nuclear sector - which is why we were chosen for this project," explains Steve Crapper, Precontracts Director at ECS. "Our design offices and fabrications facility are in close proximity, which allows seamless collaboration. This is matched with our large capacity, expert engineers and state-of-the-art equipment, which enable us to deliver the quantities needed for large orders."



Once it had received the design drawings, ECS fabricated the 12-metre high, approximately 20 m2 test rig structure from steel. The frame was encased in fabricated steel cladding panels measuring between 3 mm and 10 mm thick. In addition, ECS coated the entire structure to protect against wear and tear.

A key aspect of the structure is its modular design. Consisting of 15 modules, this approach was taken to reduce on-site installation times. To ensure that each of the modules was ready, ECS carried out partial preassembly in-house with mobile cranage, all but guaranteeing a straightforward installation process.

With the structure and quality documentation ready, the modules were transported to the nuclear power station where ECS supported the installation by the main client with the provision of collaborative management, planning and site services. With its team of on-site engineers, ECS conducted set-out and drilling for hold-down bolts, as well as the supply and management of the craneage used to facilitate the install.

"Prefabricated structures greatly reduce time spent on-site for installation. This is a process we're familiar with due to our experience providing such structures to the water sector. In this case, we were able to provide a quality structure that could be installed efficiently, ideal for a site such as a nuclear plant," Steve says.

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ECS Engineering Services

Water Control Site Services
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