



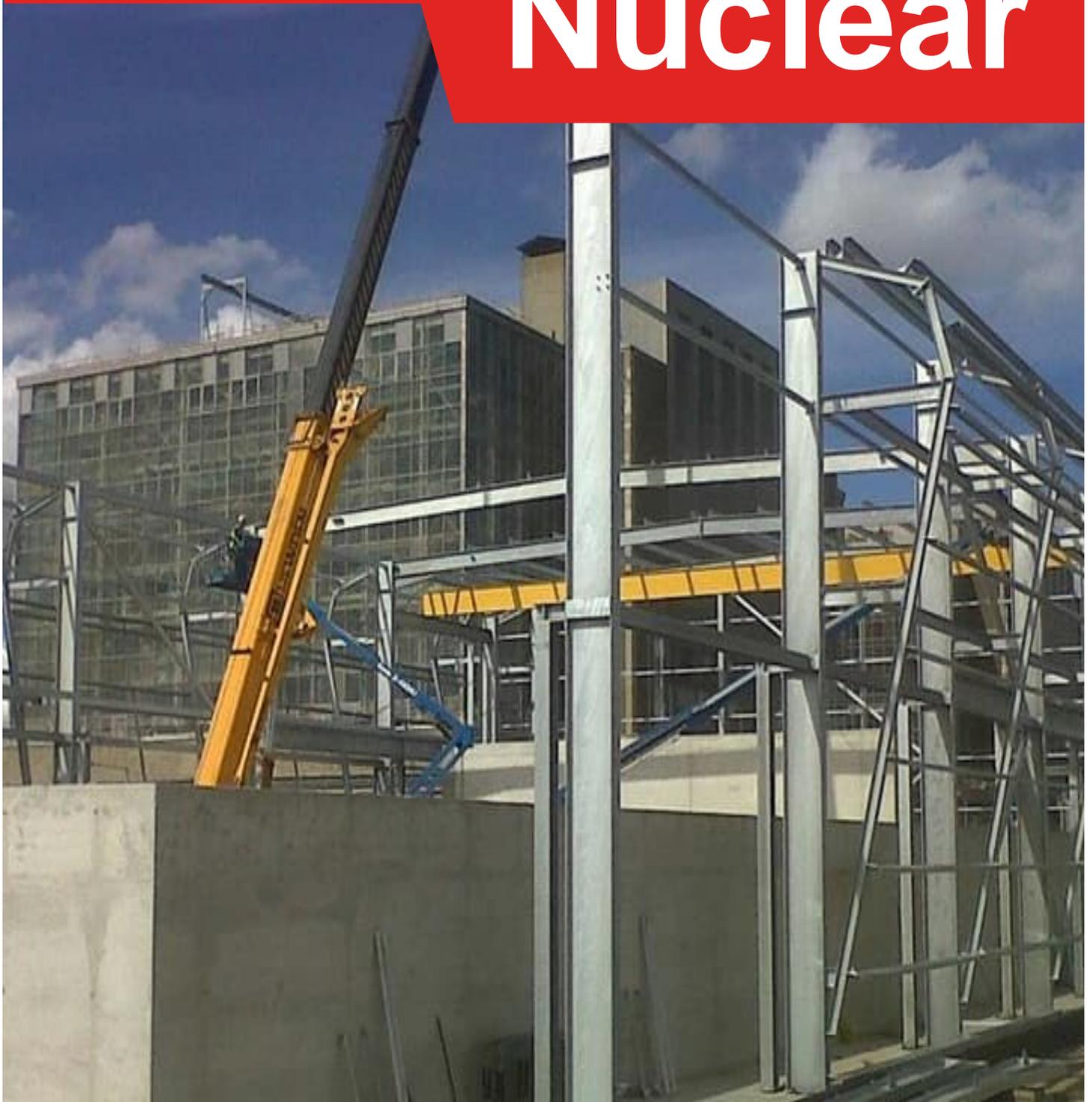
# caunton

ENGINEERING



Steelwork for

# Nuclear



Magnox, Interim Storage Facilities  
for Nuclear Waste

Caunton Engineering Limited  
Caunton House, 2 Coombe Road  
Moorgreen Industrial Park  
Newthorpe, Nottingham  
NG16 3SU

[www.caunton.co.uk](http://www.caunton.co.uk) | 01773 531111 | [sales@caunton.co.uk](mailto:sales@caunton.co.uk)

Caunton Engineering is one of the UK's leading steelwork contractors, fabricating in excess of 40,000 tonnes per annum with a turnover in the region of £100m. Supported with over 50 years' experience we specialise in the design, fabrication and erection of structural and secondary steelwork, operating across all sectors of the construction industry.

Caunton Engineering's reputation is for engineering excellence in the Nuclear sector and working with Consulting Engineers on major developments.

We pride ourselves on our ability to remain agile and, as a result, offer a personalised service to our clients. The company is a Gold Status holder within the Steel Construction Sustainability Charter and is committed to delivering Net Zero by 2050.

## Hinkley Point C, Segment Production Factor - Avonmouth Docks, Bristol



**Client:** EDF Energy

**Main Contractor:** Costain Construction Ltd

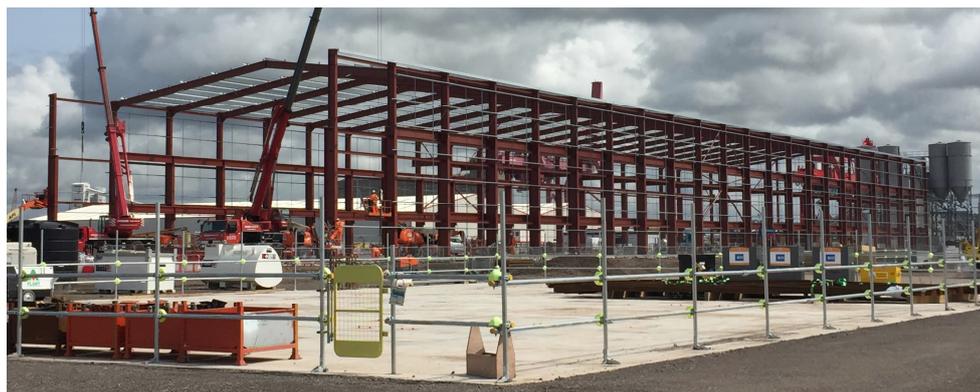
**Engineer:** Ramboll Uk

**Tonnage:** 500 tonnes

Caunton had the pleasure of contributing to the construction of EDF Energy's Hinkley Point C nuclear power station in Bristol. Caunton was awarded the contract to provide a structural frame for a factory building at Avonmouth Docks, Bristol, which is now used to manufacture precast concrete tunnel segments.

The segments have formed the tunnels to carry cooling water for the power station. Three tunnel structures were required, two intake and one outfall. These have been constructed approximately 20 metres beneath the sea bed. Caunton was involved in the construction of the factory that will make the tunnel segments. The steel frame for the building was designed, manufactured and erected by Caunton. It is 14.5 metres in height and 36 metres wide by 150 metres long. Caunton are responsible for not only the 500 tonnes of steel frame but the cladding and doors. The design is to EC3 to accommodate the crane loadings.

The project is contributing to the UK Government's commitment to be carbon neutral by 2050 by means of zero carbon energy production.



# Magnox - Interim Storage Facilities For Nuclear Waste



**Client:** Magnox  
**Main Contractor:** Interserve Construction  
**Engineer:** Arup & Partners  
**Architect:** Arup & Partners  
**Tonnage:** 1,100 tonnes

As part of Magnox's decommissioning programme, Interserve, the international support services and construction group, was appointed as the sole Tier 2 contractor to design and build highly engineered industrial grade interim store facilities (ISF) to offer protection for Intermediate Level Waste (ILW) containers

until the geological disposal facility is available. This involved the development of a scalable design for facilities to store intermediate level waste held in ductile iron containers and then the construction of such facilities on separate sites, with variable ground conditions. ISFs of varying sizes but similar in design were built at Bradwell and Berkeley.

Caunton worked alongside Interserve and their technical team to develop the schemes through Basis of Design to Design Substantiation including the design of steelwork for the structural frames for the ISF's that were built within this programme.

## Dry Fuel Store - Sizewell B Nuclear Power Station



**Client:** EDF Energy  
**Main Contractor:** Vinci Construction  
**Engineer:** Sir Robert McAlpine  
**Tonnage:** 1,100 tonnes

Caunton supplied and erected the structural steelwork for a new Dry Fuel store at Sizewell B Nuclear Power Station. The steelwork itself was fabricated at the company's Moorgreen works. The project was managed by main contractor Vinci Construction UK, which commenced in January 2014.

The Dry Fuel Store is required for spent nuclear fuel. The existing Spent Fuel Pool which stores spent fuel under water was programmed to reach full capacity in 2015. The Dry Fuel Store provides sufficient additional capacity for the lifetime of Sizewell B.

The building itself is framed to support a trussed roof and comprises of over 1,100 tonnes of structural steelwork. All steel was hot rolled and then given a galvanised finish and is finally over painted to provide a duplex surface protection system. The dimensions of the building are approximately 60 metres by 115 metres.

# Steel Bricks - Innovative SC Modular Construction for New Nuclear Reactors



Caunton Engineering are working on the new SC (steel / concrete development project aimed at benefitting nuclear power station construction. The company is pioneering a new steel walling system that could radically alter the way numerous projects are built, particularly smaller nuclear power stations. SteelBricks™ is being developed by Modular Walling Systems (MWS), with involvement from Caunton Engineering.

The system has been included in a multi-million-dollar programme to be delivered in the U.S. Department of Energy's Advanced Construction Technology (ACT) initiative, aimed at making advanced nuclear construction faster and more affordable.

The basic building block of the system is a steel plate folded into a U-shape with a concrete infill. Individual building blocks - called "Steel Bricks". These can be joined together to create larger units that make up the modules of a smaller modular reactor. Use of these factory made "Steel Bricks" could pave the way for large sections of nuclear power stations to be built off-site. This would speed up the construction, improve build quality and reduce project risk.

The concept was demonstrated at full scale through the construction of a section of a mock generator building at Caunton Engineering's manufacturing facilities in Moorgreen, Nottinghamshire.

This project has reached a major milestone, with the SteelBricks™ prototype being shipped from Caunton Engineering to Purdue University in Illinois, where they will be tested for their suitability in the construction in nuclear facilities. The modules and fabrication lessons were reviewed by a team from GE Hitachi Nuclear Energy, Aecon Group, Black and Veatch, Modular Walling Systems and Caunton Engineering.

[www.caunton.co.uk](http://www.caunton.co.uk) | 01773 531111 | [sales@caunton.co.uk](mailto:sales@caunton.co.uk)



**Caunton Engineering Limited**  
Caunton House, 2 Coombe Road  
Moorgreen Industrial Park  
Newthorpe, Nottingham  
NG16 3SU