

## Hinkley Point C Marine Works - Intake Heads

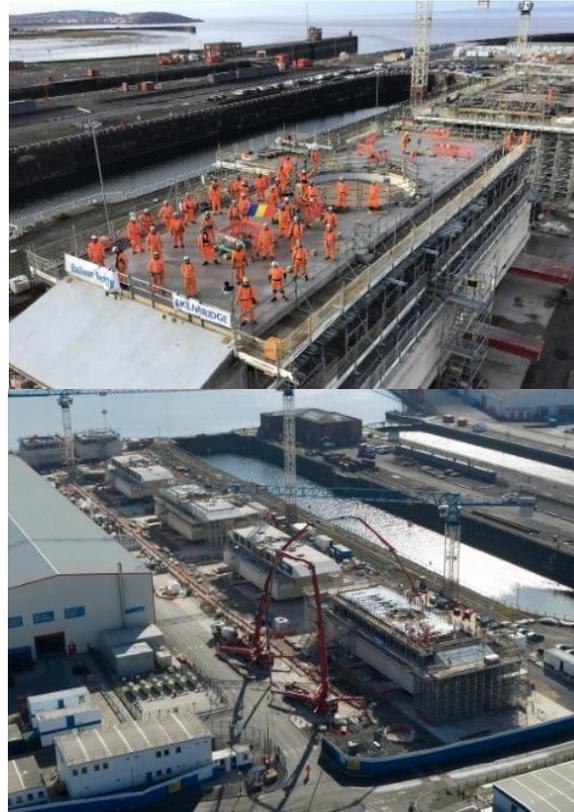


The main cooling water supply for the Hinkley Point C nuclear power station will be fed from four intake heads which will be located on the seabed. Despite the challenges of the global pandemic, the project team were able to complete the construction of the heads at Avonmouth and ensure that the next phase, the transportation of the heads out into the Bristol Channel, remained on schedule.

- **Date of completion: Dec 2020**
- **Cost: £20m**
- **Location: Avonmouth**

### Challenges and solutions

To build the complex Intake Heads, which contain 125,000 individual reinforcing bars, the team subdivided the structures into distinct parts to achieve an optimum construction sequence. The design needed to accommodate fixings and fittings made from super duplex material for the offshore installation works, as the design required input from multiple areas, it was collaboratively reviewed prior to the formal design acceptance submission process. Due to the placement tolerances, each reinforcement bar was measured and quality checked in a dedicated area before being allowed to be transferred into the main site area. Essential to delivery was the 3D RC model, which was used daily on site, as a tool to establish the sequence of works. The construction team was able to identify interfacing issues, such as pump placement clashes and lifting operations, as well as understanding spatial constraints often difficult to foresee prior to plant being on site. With the outbreak of coronavirus, they were also able to use this information to model how works could be undertaken whilst adhering to the social distancing measures.



## Benefits and achievements

The construction completion in 2020 was critical for ensuring that the operations window to undertake the offshore placement of the Intake Heads in 2021 was not lost.

Throughout the design and construction process, progress, cost control and weekly risk reduction meetings were held with the client. The team controlled the lead up to each concrete pour by using document trackers and collaborative meetings to ensure all elements required were in place.

The team worked with the Somerset Chamber of Commerce to source workforce and suppliers locally, engaged with local schools and colleges to promote STEM and provided support to local communities.

The scheme has reduced energy usage and minimised the use of fossil fuel energy throughout by having a sustainable travel plan and 12 electric charges for cars, timers on electric convector heaters and movement sensitive LED lighting. Bikes are available to allow employees to cycle to and from the site rather than driving.



## Fascinating facts

- ❑ The electricity generated by the two reactors at Hinkley Point C will offset nine million tonnes of carbon dioxide emissions a year.
- ❑ The Intake Heads are 44m long (roughly the length of 4 double-decker buses), around 17m high and weigh just over 4500 tonnes.
- ❑ Each of the heads is named after children born to staff members during the project.

## People who made it happen:

- Client: Nuclear New Build - EDF
- Contractor: Balfour Beatty
- Designer: Jacobs
- Supply Chain - (Formwork, Reinforcement & Concrete): Kilnbridge

**More about this project:** [www.edfenergy.com/energy/nuclear-new-build-projects/hinkley-point-c](http://www.edfenergy.com/energy/nuclear-new-build-projects/hinkley-point-c)