

Hinkley Point C Seawall



The seawall construction is considered to be one of the most challenging parts of the Hinkley Point C (HPC) project, delivering the UK's first new nuclear power station in over 20 years. The timely completion of the wall was seen as critical to the overall success of HPC, requiring the team to operate within a sensitive tidal estuary environment. The finished project will not only provide flood defence for the site but also a safe and inclusive walkway for the local community to enjoy the foreshore.

- **Date of completion: 2019**
- **Cost: £50m**
- **Location: Hinkley, Somerset**

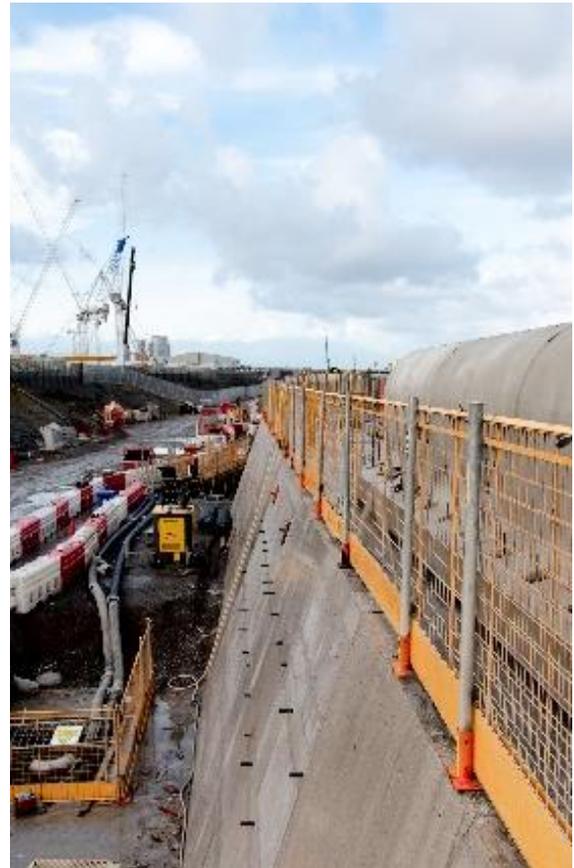
Challenges and solutions

The project team faced numerous continued challenges including construction within an estuary with one of the highest tidal ranges in the world, resulting in limited working windows. The area is also within a Site of Special Scientific Interest (SSSI), containing two rarely found marine species. In addition, 7000 cubic metres of unsustainable material had to be replaced with concrete and the complex geometry of the seawall structure required a bespoke traveling formwork system. Public right of way along the coastal path also had to be maintained during periods of work.

To maintain the tight programme, the team worked a pattern of 11 days on and three days off. This allowed full utilisation of all possible tidal windows while still providing personnel with extended rest periods, a key factor in maintaining the physical and mental health of the workforce.

Regular drone surveys were carried out of the foreshore to inspect the condition of the terrain and ensure that it was not damaged by the works. The unexpected geological conditions were dealt with by fully utilising resources elsewhere on the HPC site, including geologists, geotechnical engineers and construction techniques including soil nailing.

An all-terrain vehicle was stationed at either end of the site boundary during the working periods to marshal (or sometimes carry) the public though the site.



Benefits and achievements

The project team invested time and effort into a formworks system that would deliver the wall construction in a safe, efficient and predictable manner. Cost management was critical with the project successfully completed within the initial forecast. All change was able to be subsumed and dealt with collaboratively between the contractor and the client so as not to significantly increase the end cost.

Over 300,000 hours free of Lost Time Injuries (LTIs) were completed during the life of the scheme and all the works were carried out within the tidal range of the estuary with no environmental harm.

During the operational phase of the power station, the seawall will be the only part of the project where public access is actively encouraged. It will provide a safe and inclusive area, where the local community can enjoy the foreshore. Wheelchair ramps and DDA-compliant hand-railing has been installed to enhance accessibility.



Fascinating facts

- Around 150 personnel worked on a tidal shift pattern to deliver the project to a tight programme within the Bristol Channel, which has the second highest tidal range in the world.
- 50,000 cubic metres of concrete was used within a SSSI marine environment without environmental incident.
- The seawall provides flood defence for the first nuclear power station constructed in a generation in the UK, which will provide low carbon electricity for around 6 million homes.

People who made it happen:

- Client: EDF Energy/NNB Generation Company (HPC) Ltd.
- Tier 1 Contractor: Kier BAM Joint Venture

More about this project:

edfenergy.com/energy/nuclear-new-build-projects/hinkley-point-c/about