Client:

EDF ENERGY

Location:
Heysham

Featured Product Range:

Soundex® Noise Control

Ventex® Ventilation

Noise Controlled and Good Air Quality Maintained During a Hydro Demolition Project at Heysham Power Station

Project Overview

Heysham Nuclear Power Station is operated by EDF Energy. Heysham is the only site in the UK to have two operating nuclear power stations. In 2020, Heysham generated low carbon electricity for over 1.6 million homes. Inside the power station, EDF Energy needed to carry out hydro demolition on a high level concrete plinth, located at heart of the power station.

Challenge

The power station goes nine storeys beneath ground level, and this is where the project was based, a long way from the atmosphere. Air quality was a concern, as well as the steam and mist that would be created from the hydro demolition, as this would cause a visibility hazard, making it unsafe for site operatives to work.

The hydro demolition would also create a high level of noise, which could make warnings hard to hear, interfere with communications or cause damage to health. The power station was remaining live, so workers at the power station also needed to be protected from the hazards.

- Hydro demolition entails the use of high pressure or ultra high pressure water jet equipment, in place of conventional tools, to remove concrete and other materials.
- Hydro demolition is an incredibly effective way to cut down concrete without affecting steel substructures and other important parts of the structure.
- The Ventex® range of fans are specifically designed to maintain a high pressure over long duct runs. This is ideal for projects based a long way from atmosphere, such as deep in power stations, shafts or basements.
- Calculating ventilation requirements can be tricky. A fully trained RVT consultant can calculate and recommend an effective solution, based on specific project requirements.
- Soundex® is the only product on the market that is able to provide a seamless noise barrier through the use of a patented Velcro connection. This enables faster installation and a virtually unbroken noise barrier.
- As well as superior noise reduction, the robust Soundex® products can also create a secure barrier to contain dust particles and flying debris.

Solution

The client created a birdcage scaffold deck, at high level, around the hydro demolition operation. Before work started, RVT created an enclosure around the birdcage using **Soundex® Acoustic Curtains and Quilts**, which can provide up to 98% noise absorption. Soundex® acoustic barriers are certified to conform with BS7955, which means it can be hung from scaffolding and other structures. Creating a seamless barrier around the project ensured that noise would be effectively captured, contained and controlled using The 3C's® Methodology - find out more about this methodology below.

By creating an enclosure around the project, it also meant that dust and flying debris from the hydro demolition was contained and could not migrate out of the work area. As a result, the power station could continue to function as normal, because workers were protected from noise and airborne hazards.

To manage the mist and visibility issue for site operatives inside the birdcage, **Ventex® centrifugal fans** were used to force large volumes of clean air through the work area, providing a very high quantity of air changes. This purged out steam and mist, and extracted it to atmosphere. Therefore, inside the work area remained visibly clear so that work could be carried out safely.

Photos featured in the case study are not from this project

The 3C's® is a proven methodology, devised by the RVT Group, to ensure effective control of noise on site

Capture the hazard - Position the acoustic barrier close to the noise source, fully enclosing it if possible.

Contain the hazard - Block the line of sight by ensuring the noise barrier is seamless.

Control the hazard - Use high quality noise barriers, with high sound attenuation, to absorb excessive noise.