



# Underwater Engineering Specialists

Irish Sea Contractors are an international provider of underwater engineering solutions to the marine contracting industry. Irish Sea Contractors in conjunction with Corrosion Control International became pioneers in the Offshore Renewables Industry recently when they installed the first Retrowrap on the Arklow Bank Offshore Windfarm.

## Case Study on the introduction of Retrowrap to Offshore Renewables Industry

Irish Sea Contractors were requested by SSE Renewables to carry out a detailed underwater survey of their Met Mast pile located at the Northern end of the Arklow Bank Offshore Windfarm. The Met Mast was erected in 2003 on a driven 1422mm diameter pile which is located 10kms offshore, South of Wicklow Head. UT readings taken of the pile detailed a 10% steel loss due to corrosion. There was also damage recorded to the pile from boat impact during personnel transfer operations.

The Met Mast is located on a sand bank in an area where the tides are excessively strong. It is only possible to work at the site when favourable weather happens to coincide with Neap tides and even then inwater diving time is restricted to 2 x 35 minute slacks over a 12 hour day.



Arklow Bank Offshore Windfarm – The Corroded Met Mast Pile



David Kinsella, General Manager of Irish Sea Contractors, remembered having installed an American pile wrap product called Retrowrap to piles at Aughinish Alumina Jetty on the River Shannon around 1990 and suggested to SSE Renewables that this could be the best product to protect the Met Mast long term as it was maintenance free once installed. The maintenance free issue was very important to SSE Renewables as at any such exposed site all maintenance is extremely expensive.



#### **Aughinish Alumina Jetty – The Retrowrap installed 18 years ago**

To be absolutely certain of Retrowraps' capability, David Kinsella decided to re-visit the Aughinish Alumina jetty on the Shannon Estuary to see how the retrowrap had survived over the past 18 years. Apart from some marine growth on the outside of the retrowrap it was virtually in the very same condition as when it was installed 18 years previously.

Based on the findings in Aughinish Alumina, Irish Sea Contractors recommended the following solution to SSE Renewables' problems with the Met Mast:

- Fabricate a temporary work platform around the pile above High Water in order for crew to be able to work through the tides when not diving – platform needed to be designed so that the wrap could be wrapped around the pile & loosely bolted together in readiness for diver to fix below water during slack tide
- Remove existing anodes from the pile
- Burn off both 2 x 50mm pile guide plates & damaged boarding ladder
- Power wash the pile from seabed upward





- Install following overlapping Retrowrap HD around 1422mm diameter pile from seabed to 3m above water
  - 2 x 2m lengths - from seabed upward
  - 3 x 2.1m lengths - up to low water mark
  - 1 x 3m length - above water section
- Fabricate a safe galvanised boat landing platform for personnel which would also protect the retrowrap from boat impact – boat landings at HW only

Bad weather and strong tides hindered the works at the exposed site and Irish Sea Contractors crew could only work the site on favourable weather days during the period Jan-April 2010 to complete the works – for the record during the first 90 days of 2010, good weather co-incided with Neap tides for 4 days only!



**Arklow Bank Offshore Windfarm – During installation of the Retrowrap**



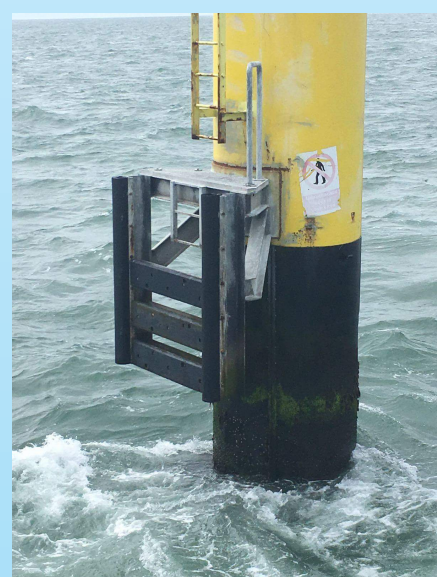
Retrowrap HD is now fully installed along with boat fender mooring facility and is working really well to everyone's satisfaction. From SSEs point of view the Met Mast is now fully protected from Corrosion and most importantly the Met Mast is maintenance free.

The Retrowrap HD is used extensively in the Oil & Gas Industry but this was the first time in the World that the product was used in the Offshore Renewables Industry.



**2010 - Arklow Bank Offshore Windfarm – The installed Retrowrap HD with new berthing fender**

### **June 2017- Arklow Bank Offshore Windfarm Revisited**



**7 years later..... NO RUST, good advert for Retrowrap**