



Notice to Mariners

East Anglia TWO

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Final

Scottish Power Renewables



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Revision History

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06	25 November 2020	Updated	Redeployment of buoy	MML	KVP	MML
07	2 December 2020	Updated	Redeployment of buoy	MML	KVP	LF

Project Team

Initials	Name	Role
LF	Lars Fogelin	Project Manager
MML	Matthew Linham	Senior Oceanographer
CRD	Chris Duffield	Oceanographic Engineer
REB	Ralph Bostock	Operations Manager
SCC	Sarah Cockroft	Manager - Coastal Oceanography
KVP	Katy Pozerskis	Senior Oceanographer

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1. Introduction

Mariners are advised that a SeaWatch LiDAR Buoy (SWLB) has now been redeployed at the East Anglia TWO wind farm site. The SWLB is a sea state measurement instrument (referred to as 'the equipment'). The deployment location is within the UK Sector of the North Sea off the coast of East Suffolk and Essex.

The equipment was deployed by the vessel Afon Wen on 28 November 2020. Grappling operations were also conducted on site and the majority of an old mooring remaining on the site were recovered from the location; the only remaining items on the seabed are an anchor weight, a short length of chain and approximately 10 m of dyneema rope. No further scheduled maintenance is planned on this project, although unforeseen maintenance may be required.

The mooring design is specific to each SWLB deployment and location. The equipment is moored through a combination of steel chains, rope and rubber cord to approximately 2250 kg anchor weight at the seabed.

The equipment is deployed within the East Anglia TWO wind farm array limits and will be deployed for approximately twelve months from July 2020.

2. Area of Operations

Items remaining on the seabed are located within the East Anglia TWO offshore development site. Coordinates are provided in Table 1 and Figure 1.

Table 1: SWLB deployed coordinates

Name	Latitude	Longitude	Depth [m]
SWLB deployed location	52° 06.990' N	002° 11.890' E	39
Abandoned anchor weight	52° 07.088' N	002° 12.270' E	42

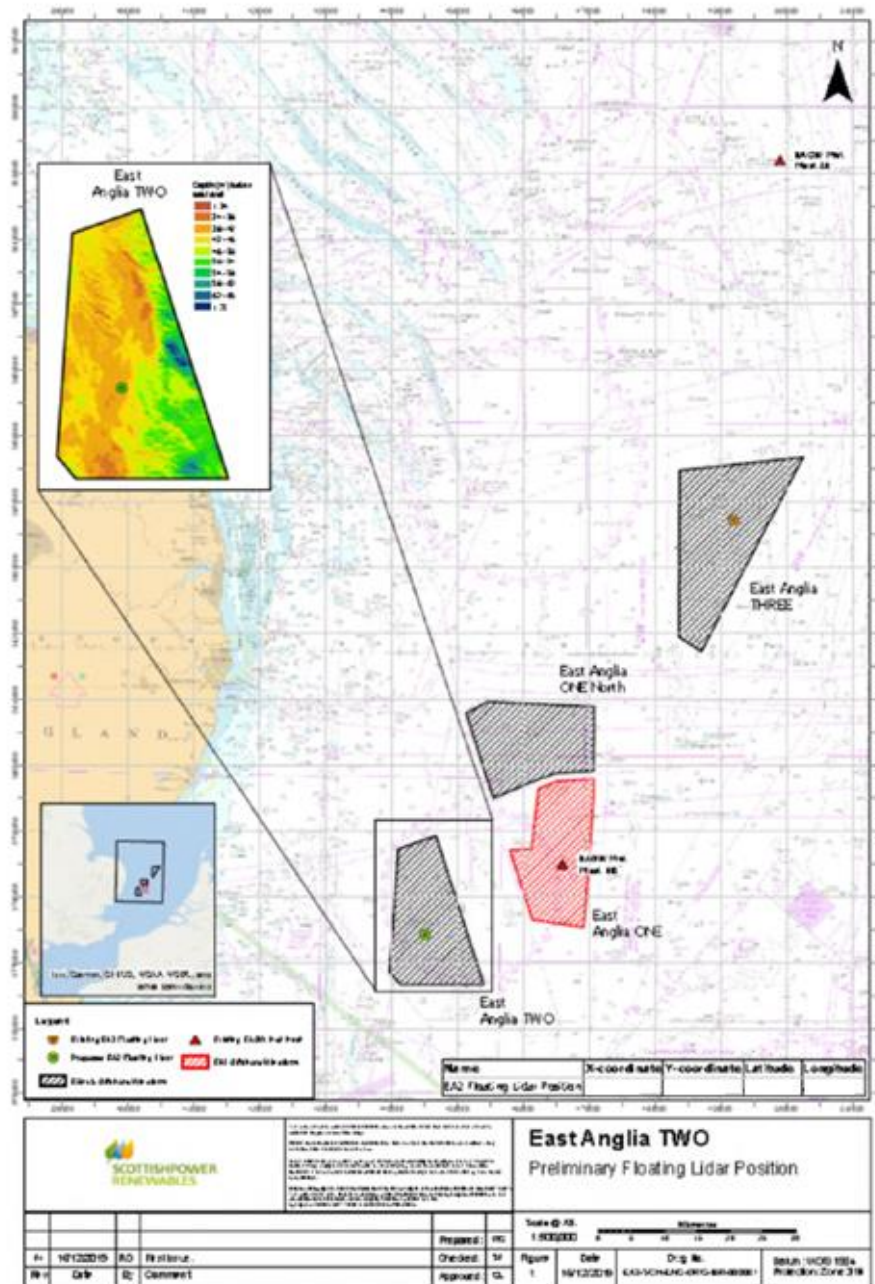


Figure 1: SWLB deployment location

3. Offshore Metrocean Measurements

3.1 The Equipment

The equipment is an integrated Seawatch Wavescan buoy and ZX 300M LiDAR; the purpose of the equipment is to collect oceanographic and meteorological data using a single platform. The equipment is supplied and charged by an onboard power system which uses methanol fuel cells and solar panels to recharge onboard lead acid batteries.

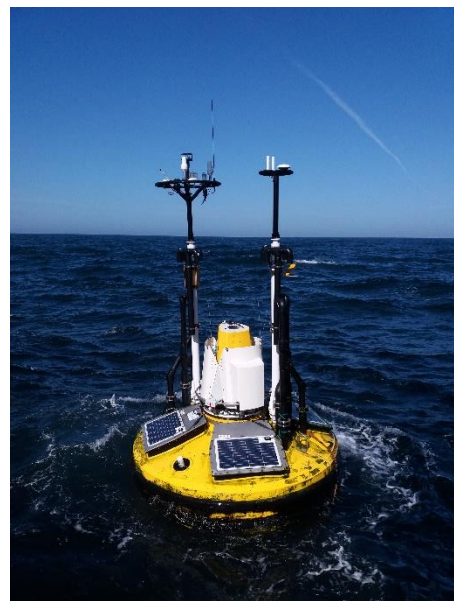
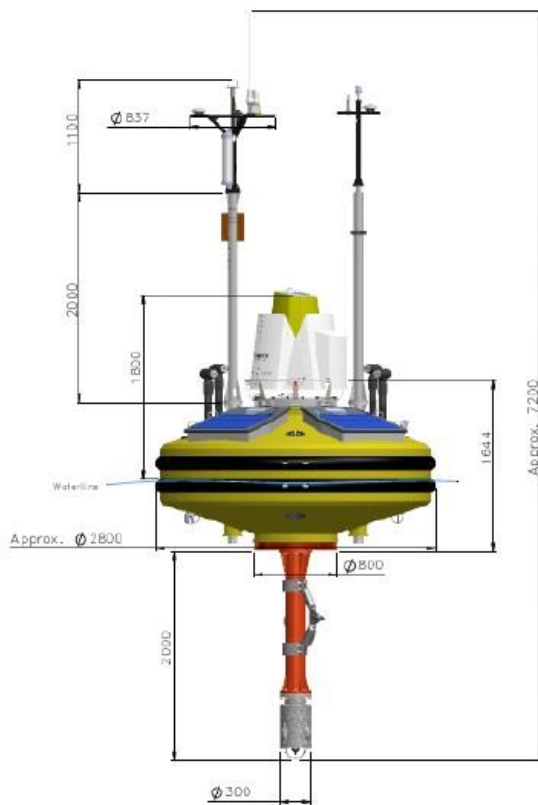


Figure 2: Equipment dimensions (left), example deployment (right)

In order to minimise the risk to other sea users, the measures listed below have been adopted for this deployment:

The equipment is equipped with a F1 (5) Y 20 s light with 4-5 nautical mile range; the light is mounted at the top of one of the masts, approximately 4 m above sea level. The flash sequence for this light is detailed in Table 2.

Table 2: SWLB light flash sequence

Flash Code	On [s]	Off [s]	On [s]	Off [s]	On [s]	Off [s]	On [s]	Off [s]	On [s]	Off [s]
FL (5) 20 S	0.8	1.2	0.8	1.2	0.8	1.2	0.8	1.2	0.8	11.2

Additional risk reduction measures include the use of passive radar reflectors to make the buoy more visible on vessel radars, Automatic Information Systems (AIS) to broadcast the buoy position to marine AIS platforms, Global Positioning Systems (GPS) position monitoring of the buoy at 30-minute intervals and an independent GPS tracker used for backup position monitoring of the equipment in the event of primary GPS failure.

The equipment is moored using a single point mooring. The mooring design allows for free movement of the buoy over a radius that is approximately equal to the water depth. The anchor weight used to moor the equipment is approximately 2000 kg weight in water and comprised of large diameter scrap chain.

It should be noted that some elements of the mooring float just below the sea surface. To avoid the risk of entanglement, vessels should allow a minimum 200 m clearance from the surface buoy.

3.2 Safety

It is requested that anybody having knowledge of any potential objects submerged or moored on the seabed close to the deployment zone, that could be damaged or form a hazard to the vessel and its equipment advises the Project's Fishing Industry Liaison Officer of their position and nature.

4. Immediate Contacts

The contents of this notice are based upon our current understanding of East Anglia TWO requirements.

Enquiries regarding the contents of this Notice to Mariners or any other matters should be directed to the persons outlined in Table 3.

Table 3: Contact persons

Role	Name	Contact Details
Scottish Power FliDar Package Manager	Beatriz Galán	+34 659 027 371 bgalan@iberdrola.es
Fugro Project Manager	Lars Fogelin	+47 9241 0056 l.fogelin@fugro.com
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5. Distribution List

This NtM has been distributed to the following parties.

Table 4: Distribution list for this NtM

Distribution List
marine@scottishpower.com
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