



Notice to Mariners

Blyth Met Mast LiDAR Buoy Validation

190291-NtM-01-06 | 17 May 2024

For issue

EnBW-bp



Document Control

Document Information

Project Title	bp Elizabeth LiDAR Buoy & Metocean – Blyth Met Mast LiDAR Buoy Validation
Document Title	Notice to Mariners
Fugro Project No.	190291
Fugro Document No.	190291-NtM-01
Issue Number	06
Issue Status	Final

Client Information

Client	bp Alternative Energy Investments Limited
Client Address	Chertsey Road, Sunbury-on-Thames, Middlesex TW16 7BP
Client Contact	Matt Linham
Client Document No.	TBC

Revision History

Revision	Date	Status	Comments on Content	Prepared By	Checked By	Approved By
00	14 September 2021	For Review	Mobilisation	MAC	RJL	RJL
01	04 October 2021	For issue	Updated to reflect change to dates and scope	MAC	RJL	RJL
02	15 November 2021	For issue	Updated to reflect present timing	MAC	RJL	RJL
03	01 December 2021	For issue	Updated to reflect amended buoy positions and present timing	MAC	RJL	RJL
04	17 December 2021	For issue	Updated to shows deployed buoy positions	MAC	RJL	RJL
05	25 January 2022	For issue	Updated for recovery of buoys	MAC	RJL	RJL
06	17 May 2024	For issue	Updated for re-deployment of buoys in Spring 2024	MAC	RJL	RJL

Project Team

Initials	Name	Role
MC	Mark Crawshaw	Project Manager
AB	Arve Berg	Project Manager
LF	Lars Fogelin	Project Manager
RJL	Richard Liptrot	Project Delivery Manager

Contents

1.	Introduction	1
2.	Area of Operations	2
3.	Offshore Measurements	3
3.1	Equipment	3
3.2	Safety	0
4.	Immediate Contacts	0
5.	Vessel – Voe Viking	0
6.	Distribution List	1

Tables in the Main Text

Table 1: Coordinates of Planned LiDAR Buoy Deployment	2
Table 2: LiDAR Buoy Flash Sequence	3
Table 3: Contact Persons	0
Table 4: Vessel – Voe Viking	1
Table 5: Distribution List	1

Figures in the Main Text

Figure 1: Positions of LiDAR Buoys at Blyth NOAH Site	2
Figure 2: LiDAR Buoy Dimensions and Appearance	3

1. Introduction

bp International Alternative Energy Investments Limited has contracted Fugro GB Marine Limited (Fugro) to carry out deployment of three floating LiDAR buoys (WS155, WS187, and WS188) at the NOAH mast offshore Blyth.

Operations will be conducted with the Voe Viking and involve transferring the buoys and moorings from the Port of Blyth to the NOAH site.

2. Area of Operations

The equipment will be located at the Blyth NOAH offshore Met Mast validation site and the planned deployment coordinates of the buoys is shown Table 1.

It is planned that all three buoys will be deployed on or shortly after 26 May 2024.

The planned deployment duration is nominally 30 days but may extend if the validation is not complete by the planned recovery date of 30 June 2024.

Table 1: Coordinates of Planned LiDAR Buoy Deployment

Location / Buoy	WGS 84 Lat DD.DD Planned	WGS 84 Long DDD.DD Planned	Water Depth (Below LAT)
WS 155	55.147734 N	-001.420697 E	Nominal 40m
WS 187	55.147147 N	-001.422882 E	Nominal 40m
WS 188	55.145956 N	-001.423072 E	Nominal 40m

The general location of the buoys is shown in Figure 1.

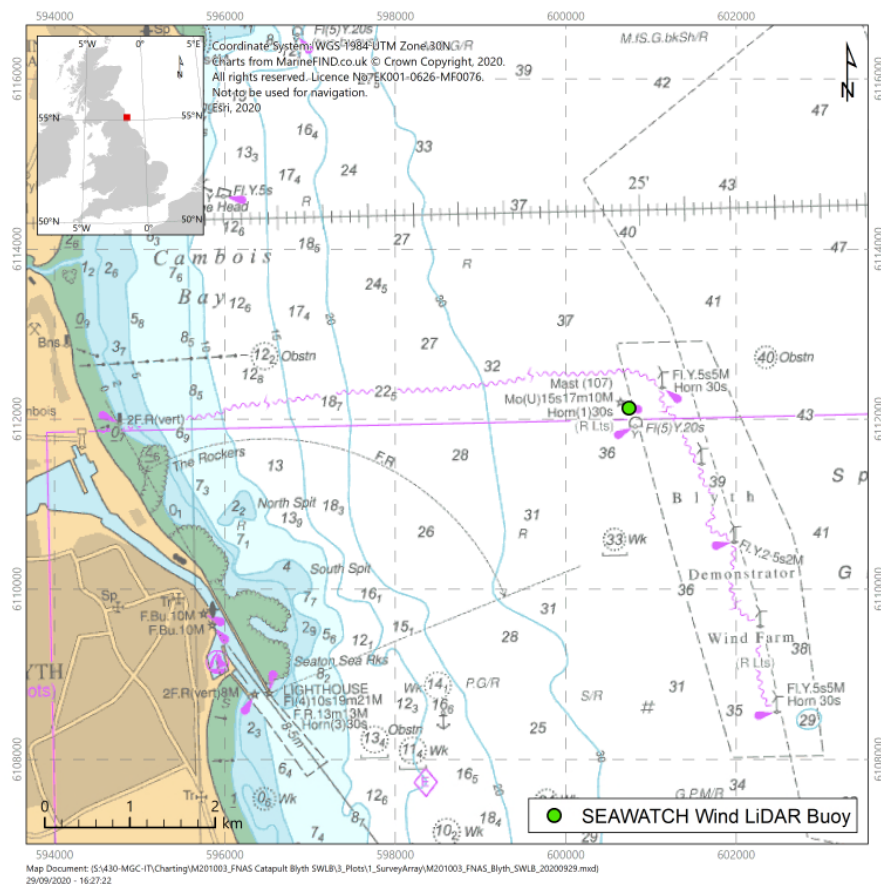


Figure 1: Positions of LiDAR Buoys at Blyth NOAH Site

3. Offshore Measurements

3.1 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.

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: LiDAR Buoy Flash Sequence

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

The equipment dimensions and example image are shown in Figure 2.

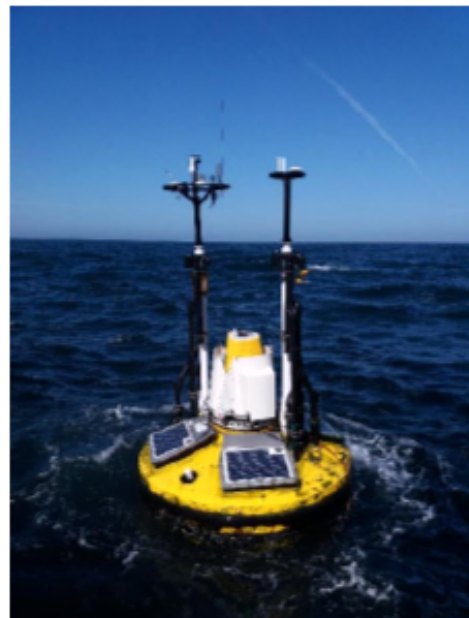
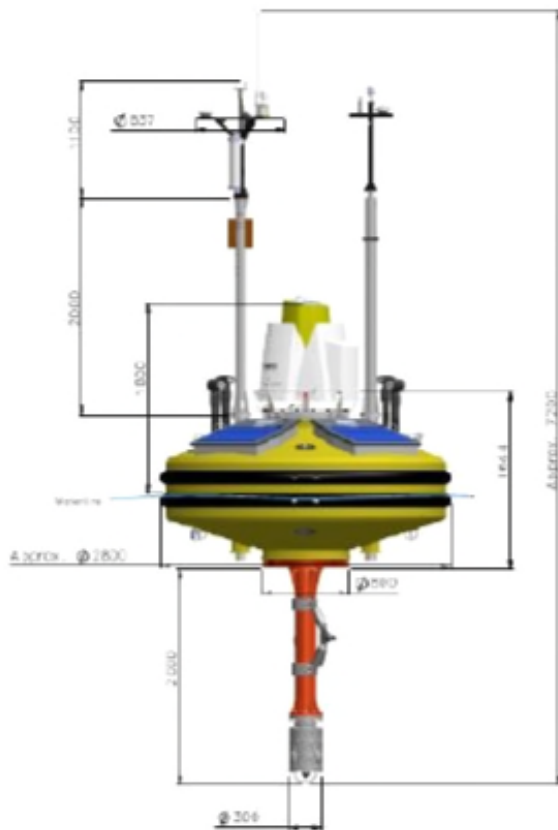


Figure 2: LiDAR Buoy Dimensions and Appearance

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 2250 kg weight 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 persons listed in the Immediate Contacts Table of their position and nature.

4. Immediate Contacts

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
Fugro Project Manager	Mark Crawshaw	+44 7734 537 750 m.crawshaw@fugro.com
Fugro Project Manager	Lars Fogelin	+47 924 10 056 l.fogelin@fugro.com
Offshore Renewable Energy Catapult Contact	Ken Chan	+44 7884 695138 ken.chan@ore.catapult.org.uk
Offshore Renewable Energy Catapult Contact	Jonathan Hughes	+44 7872 502 246 jonathan.hughes@ore.catapult.org.uk

5. Vessel – Voe Viking

Operations will be undertaken by the Voe Viking.

Voe Viking vessel details are shown in Table 4.

Table 4: Vessel – Voe Viking

	General Information	
	Name	Voe Viking
	Flag	UK
	Call Sign	MHWM4
	Class	BV MCA Workboat Cat 1
	Length	26.0m
	Beam	11.5m
	Draught (min)	2.25
	Gross Tonnage	161.7
	Vessel Phone	TBC
	Email:	TBC

6. Distribution List

This Notice to Mariners has been distributed to the authorities, companies, and individuals shown in Table 5.

Table 5: Distribution List

	E-mail
	kingfisher@seafish.co.uk
	nifca@nifca.gov.uk
	nmoccontroller@hmcg.gov.uk
	sdr@ukho.gov.uk
	navwarnings@ukho.gov.uk
	marine@portofblyth.co.uk
	marine.consent@marinemanagement.org.uk
	northshields@marinemanagement.org.uk
	jonathan.hughes@ore.catapult.org.uk
	Laurence.Pearce@thecrownestate.co.uk