

META, Warrior Way – Fishtek Marine Developer Information Document Emergency Action Card

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1.1. Emergency Contact Information

Name	Organisation	Phone number	Email	Address
Saul Young ERCoP Contact	META Operations Manager	07944 839 332	Saul.young@marineenergywales.co.uk	Pembrokeshire Coastal Forum, 2 nd Floor Pier House, Pembroke Dock, Pembrokeshire SA72 6TR Wales UK
Gareth Reynolds	Dale Sailing (Vessel Operator)	Mob: 07969 552006 Landline: 01646 603100	garethreynolds@dale-sailing.co.uk	Brunel Quay Neyland Milford Haven Pembrokeshire SA73 1PY
Harry Thatcher	Fishtek Marine (Site lead)	07507 690687	harry.thatcher@fishtekmarine.com	Unit 1, Webbers Way Dartington, Totnes Devon, TQ9 6JY UK
Peter Kibel	Fishtek Marine (Shore Contact)	Mob: 07816 374673 Landline: 0800-1700	Peter.kibel@fishtekmarine.com	Unit 1, Webbers Way Dartington, Totnes Devon, TQ9 6JY UK

1.2. OREI Information

1.2.1. Device Description

META would like to deploy 3 micro tidal turbines designed to provide 24/7 power to environmental monitoring equipment at the **META Warrior Way site for 6 months from 19th January 2027 to the 19th July 2027.**

Each turbine will be deployed on a bedframe on the seabed. Each turbine will have a diameter of 1m and a maximum tip speed of 4 m/s. Each bedframe will be 1.33m (W) x 1.65m (L) x 2.5m (H) and with the turbine weigh 655kg. The bedframes they will be recovered using an acoustic release system. A data buoy will be deployed nearby within the Warrior Way site boundary to remotely collect data from the turbines and mark the site.

The aim of the test is to prove these micro tidal turbines can provide enough power to keep environmental monitoring equipment or other subsea systems operational 24/7 for long periods of time without intervention. **There will be no electricity export cable associated with this deployment and electricity generated will be consumed onboard the devices.** Please see drawings / pictures below.

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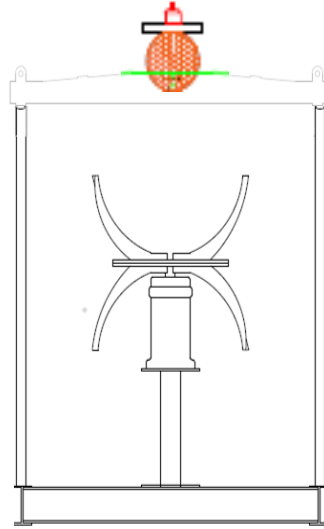


Figure 1 Micro tidal turbine designed to provide 24/7 power to environmental monitoring equipment. Turbine diameter is 1m. The frame is 1.33m (W) x 1.65 (L) x 2.5m (H). The frame and turbine combined weight is 655kg. On top of the frame is an acoustic release system for recovery.

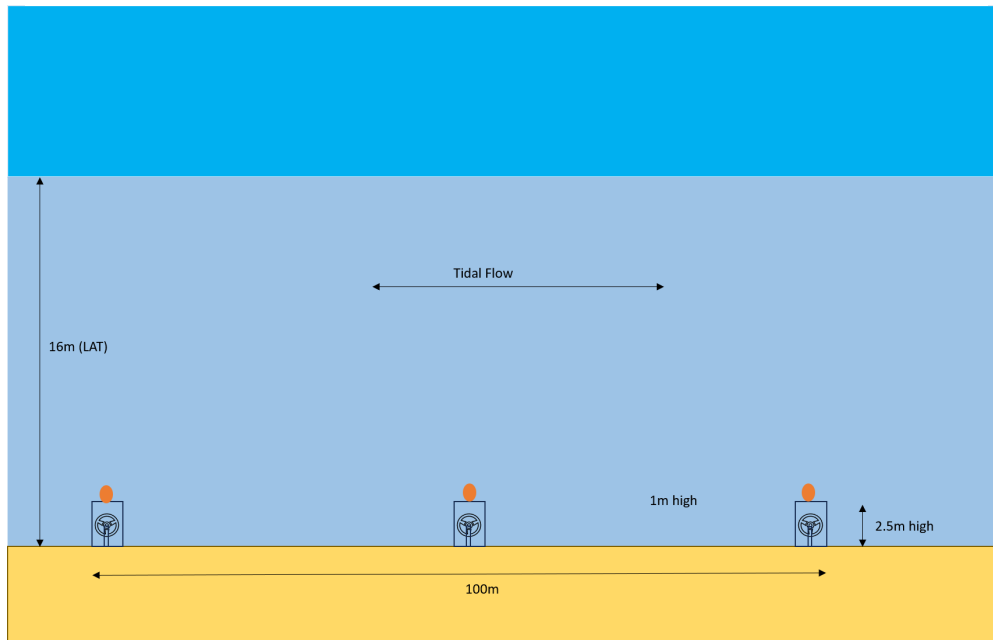


Figure 2 Three micro tidal turbine bedframes will be deployed on the seabed at the META Warrior Way test site in a line parallel to the tidal flow / channel in approximately 16 – 20m water depth LAT. Drawing not to scale.



Figure 3 A data buoy like this one pictured will be moored nearby within the Warrior Way site on a single point mooring to remotely collect data from the turbines and mark the site. It will be yellow, with a St Andrews Cross and yellow flash characteristic (Fl Y 4s).

1.2.2. Key Locations

The micro turbines and moorings are to be located at the following co-ordinates in degrees minutes seconds (DMS):

	Latitude:	Longitude:	Approx Depth (LAT):
Micro Turbine 1	51° 42.2255'N	4° 55.6638'W	17
Micro Turbine 2	51° 42.2072'N	4° 55.6298'W	17
Micro Turbine 3	51° 42.1889'N	4° 55.5983'W	19
Data Buoy	51° 42.1111'N	4° 55.4275'W	17

Table 1 - Device and mooring deployment co-ordinates

The vessel contractor Dale Sailing is based at Brunel Quay, Neyland, which is <1km from the META Warrior Way test site.

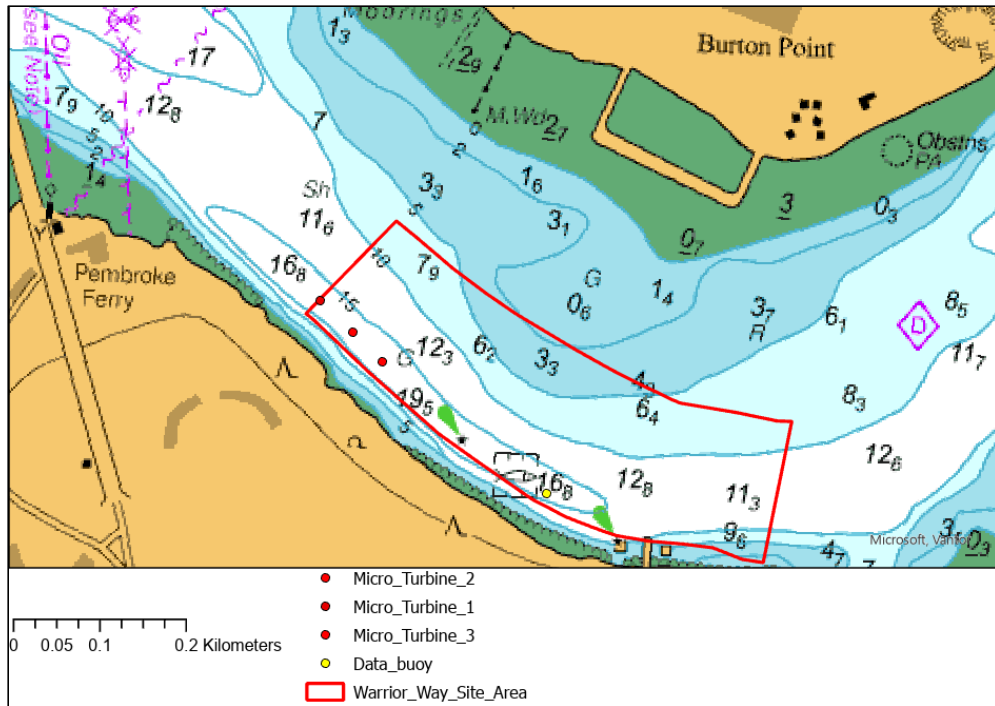


Figure 4 Chart showing the proposed location of the three micro tidal turbines and the data buoy within the META Warrior Way test site area.

1.2.3. Device Technical Information:

Parameter	Description/Value
No. of OREIs	3
Device Dimensions (Seabed mounted), LxWxH	1.65m x 1.33m x 2.5m
Device Height above sea level	n/a on the seabed
Turbine Rotor Diameter	1m
Turbine blade maximum depth below sea level	22m (HAT)
Temporary safety zone around device	N/a
Mooring type	Seabed frames

Parameter	Description/Value
Mooring weight	655kg
No. of moorings	3
Device markings and signage	Seabed frames will be recovered using acoustic release so will not have a top mark. The yellow data buoy used to remotely collect data from the turbines and mark the site will have: - Flashing Yellow Light (FI Y 4s) - St Andrews Cross - Marked: NO MOORING
Device monitoring/tracking	The data buoy will monitor the 3 turbines 24/7 and send updates to shore via satellite. Fishtek (the duty holder) will be alerted to any loss, damage or suspected movement.
Operational Safety measures	No remote control of the equipment. If the device monitoring system reports a malfunction or movement the device will be recovered for further investigation.
Real time weather info available	N/a – Mobile data signal available on site

1.3. Emergency Response

1.3.1. Equipment on vessel:

- Category 3 workboat emergency equipment on board the deployment / recovery vessel including life raft, man overboard recovery equipment and Cat C First Aid (plus all additional equipment required for Cat. 3 Coding)

1.3.2. PPE while working on vessel:

- Lifejacket
- Immersion suits/or offshore coveralls
- Safety Boots
- Hard Hat
- High Vis

1.3.3. Emergency Communications

- On vessel "KITCAT" there are 2 × fixed VHF, 1 × portable VHF; Class A AIS; EPIRB and SART carried
- Procedures agreed between the MRCC and operator, for calling for assistance.
 - Vessels engaged in activities at META sites, or in transit to these sites, will monitor VHF channels 12 (Milford Haven Port Control) and 16 (initial calling and emergency) at all times.
 - The primary form of emergency communication will be via Marine VHF on channel 16, either through verbal communication or by DSC alert.
 - In case of an emergency that requires MCA support, the MRCC (Marine Rescue Coordination Centre) will coordinate the response and will advise on the appropriate form and channel for continued communication after the initial contact.
 - Depending on the nature and severity of an incident, mobile phones will be used to facilitate further communications to shore, where this appears to be appropriate.
 - Ship to Ship communications on site will be normally on VHF channel 6 or 8, or as otherwise agreed. Deck to bridge communication onboard the vessels will be via the agreed working channels using handheld VHF radios as carried by the crew.
- If not aware already, Fishtek Marine (the Duty Holder) will be informed of events by Dale Sailing or META once safe and practical to do so.

1.4. Emergency Shutdown Procedures and Processes

Once on the seabed the turbines will operate continuously provided the tidal flow is above 0.6m/s. The data buoy will monitor the 3 turbines 24/7 and send updates to shore via satellite. Fishtek will be alerted to any loss, damage or suspected movement.

The micro turbines will be deployed on the seabed in 16 – 20m water (LAT) and there will be no line to the surface from the units, so they can only be brought to the surface using the acoustic release system operated by Fishtek Marine.

No remote shutdown procedure has been put in place due to the fact the micro turbines are designed to operate autonomously for long periods of time without intervention; the small scale of the turbines; and, that they cannot be accessed by other marine users.

If the remote device monitoring system reports a fault / or movement of the device, it will be recovered for further investigation. Once the turbines are out of the water or in tidal flow less than 0.6m/s they will stop spinning automatically.

1.5. Deployment/recovery Activities

NOTE: information during any deployment or recovery phase is dynamic and should be sent in periodic (e.g. daily, weekly) emails and/or verbal update reports to HM Coastguard. Notices issued should be copied to oeo@mcga.gov.uk and renewables@hmcg.gov.uk.

1.5.1. Table indicating the day-to-day operations taking place on the site during the entire deployment:

Installation		Target Date
Task	Description	
1.1	Mobilisation	11 th – 15 th Jan 2027
1.2	Installation (1 day operation)	19 th Jan 2027
Operations and Maintenance		
Task	Description	
2.1	Remote performance testing.	19 th Jan 2027 – 19 th July 2027
2.2	During the test programme some of the equipment may be recovered for inspection, modification or repair.	19 th Jan 2027 – 19 th July 2027
Decommissioning		
Task	Description	
3.1	Once testing is complete, the equipment will be recovered from site (1 day operation)	19 th July 2027
3.2	Once the site is clear and in safe condition all equipment will be returned to shore and unloaded onto the quayside for demobilisation.	19 th July 2027

1.6. Vessels/Installations on Site during Deployment or Work and Safety Boats during Operations.

Please see the table above for a summary of the main activities involved in the deployment/installation operation of the tidal energy device. A maximum of 2 vessels will be required at any one time including a coded workboat and coded RHIB. The workboat will have a tender/safety boat onboard for emergencies and the vessel contractor will be able to mobilise further vessels from nearby base to respond to an emergency.

For the deployment, O&M and decommissioning of the tidal energy devices, the vessel contractor (Dale Sailing) shall provide a coded workboat with lifting capability. The vessel will be kept at the vessel contractor's dock at Brunel Quay, Neyland.

Details of the vessel to be used for deployment, O&M and decommissioning is provided in the table below:

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Item	Description/Value
<i>Vessel Name</i>	KITCAT
<i>Vessel callsign and Maritime Mobile Service Identity (MMSI) number</i>	Call Sign: MGZE8 MMSI: 235074502
<i>Type of vessel</i>	Multicat Length – 20.2m Beam – 6.54m Draft (loaded) – 1.3m
<i>Speed and endurance</i>	6knt cruising speed 3,200L Fuel Capacity
<i>Personnel capacity</i>	5 + 3 crew
<i>Normal number of crew carried</i>	3
<i>Weather and/or other operational limitations including turbine transfer limits</i>	20nm Offshore
<i>Medical and/or other ER capabilities including relevant equipment and/or medication</i>	Cat C First Aid + all additional equipment required for Cat. 3 Coding
<i>Telephone contact numbers (mobile and/or satellite)</i>	Skipper: 07969552006
<i>Communications equipment fitted e.g. VHF, MF and HF Marine band radios, satellite systems, fitted, etc.</i>	2 x Fixed VHF, 2 x Handheld VHF Koden Class A AIS
<i>Communications channels/frequencies monitored during normal and abnormal operations e.g. when at sea proceeding to</i>	16 & 12

Item	Description/Value
and working in the wind farm	
Pictures and (if available) drawings of the craft.	

NOTE: The immediate rescue and emergency response capability for developer personnel or other contractors working on or in the OREI are the work and safety boats provided by the developer/site owner.

1.6.1. Guard Vessel

N/A – no guard vessel required for this site/deployment.

1.6.2. Rescue Boat Capabilities

If the workboat is **on site** initial SAR capabilities will be provided by this vessel.

If required, the vessel contractor will mobilize a rescue boat via radio.

In the event an emergency the Developer or their contractor will firstly, immediately notify the coastguard and secondly, immediately notify Milford Haven Port Authority (MHPA) Port Control.

Coastguard Contact:
VHF Channel: 16
Tel: 0344 382 0748 / 999

MHPA Port Control:
- VHF Channel: 12
- Tel: 01646 696137

If the vessel operator has no vessels available or if the emergency occurs outside of the vessel operators usual working hours assistance from MHPA or the Coastguard may be required.

1.7. Locating Aids Used by Personnel or Vessels Working at the Site

N/A:- personnel or vessel locating devices will not be required as the test area is situated in the Milford Haven estuary where there is clear visibility from shore and work will take place during daylight hours.

1.8. Electronic Surveillance and Monitoring Systems

The device location will be tracked using the data buoy. An automated notification will be sent to Fishtek Marine staff when the GPS moves outside of the designated area. In this event they will retrieve the for further investigation/repair.

A member of the Fishtek Marine team will carry a phone/device linked to the GPS tracker at all times, and the alert will be sufficient volume to wake the duty person if outside waking hours and the alert will be set to repeat until it is read.

1. Emergency Action Card

EMERGENCY ACTION CARD

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Device specific information can be found in section [1.2](#). Secondary contact should also be made with the Site Owner using the main ERCoP (*HMCG to insert link to SharePoint folder*)

Emergency Contact	
One of the following or a combination of both, must be 24/7	
Duty Holder name	Fishtek Marine
Primary Emergency Number (24/7)	07944 839 332 (Saul Yong – META Ops)
Secondary number (24/7)	07507 690687 (Harry Thatcher Fishtek Marine)
Media relations	07748 740 347 (Jetske Germing – META MD)
Coastguard	0344 382 0748
Police	01267 222020 (Milford Haven)

Location Summary	
Phase	Construction/ Operation
Range & Bearing from land	51° 42.2072'N 4° 55.6298'W
Number of devices	3

Device Specific information (include an additional table if more than 1 device type)					
Heights (above LAT, in m & ft)		Lights <i>Incl. flash, IR, colour, etc.</i>		Helicopter Winch	
Total height to blade tip	n/a	Aviation lights	n/a	Suitable for winching?	n/a
Height of Nacelle	n/a	SAR lights	n/a		
Height of Transition Piece	n/a	Other lights	Data Buoy Flashing Yellow Light (FI Y 4s)		
Height above sea level	Sub sea				
Depth below surface	~15m				
Height above seabed	2.5m				

Communications		
VHF	Aviation	Additional comms
channel 16, VHF fixed and handheld radios <i>*During recovery and installation ops</i>	n/a	n/a

Electronic Monitoring <i>(include details if feeds are provided to HM Coastguard)</i>		
AIS	Radar	CCTV
Koden Class A AIS "KITCAT" <i>*During recovery and installation ops</i>	n/a	n/a

Site Rescue Teams

Site rescue will be performed by the vessel onsite at the time. If an additional vessel/rescue team is required, this will be mobilised from Dale Sailing, who are based <1km minutes from the deployment location.

Shutdown procedure

No remote shutdown procedure has been put in place due to the fact the micro turbines are designed to operate autonomously for long periods of time without intervention; the small scale of the turbines; and, that they cannot be accessed by other marine users.

If the remote device monitoring system reports a fault / or movement of the device it will be recovered for further investigation. Once the turbines are out of the water, or in tidal flow less than 0.6m/s they will stop spinning automatically.

Any contact information contained in the EAC and provided to the Maritime and Coastguard Agency (MCA) will be used solely for the purposes of emergency response as part of the Agency's functions and by the MCAs SAR helicopter provider. The information will be kept secure and will not be used for any other purpose without their permission. The information will be stored by the MCA and the SAR helicopter provider until the company provides updated information or the development ceases to exist, at which point the information will be deleted.