



*Wave Energy Scotland  
Novel WEC Stage 3 Investigation  
Advanced Archimedes Waveswing  
AWS Project 18-002*

***21-011 – Emergency Response and  
Co-operation Plan (ERCoP)***

<b>Document Title:</b>	Emergency Response and Co-operation Plan (ERCoP)
<b>Unique Document Reference:</b>	21-011
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<b>Issue:</b>	Revision C
<b>Date:</b>	25/01/2021
<b>Circulation:</b>	AWS, EMEC, MCA

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## Revision Details

Date	Revision	Comments	Issue by
25/01/2021	A	ES Draft	ES
13/12/21	B	Following MCA comment	JM

## Nomenclature & abbreviations

AIS	Automatic Identification System
CTV	Crew Transfer Vessel
DSC	Digital Selective Calling
EPIRB	Electronic Position Indicating Radio Beacon
ERCoP	Emergency Response Cooperation Plan
UKCG	United Kingdom Coastguard
IERCP	Integrated Emergency Response Cooperation Plan
IMO	International Maritime Organisation
MCA	Maritime and Coastguard Agency
MF	Medium Frequency
MGN	Marine Guidance Note
MMSI	Maritime Mobile Service Identity
MOB	Man Overboard
MRCC	Maritime Rescue Co-ordination Centre
MW	Medium Wave
OSC	On-Scene Co-ordinator
PLB	Personal Location Beacon
PSWD	Partial Scale Waveswing Device
SAR	Search and Rescue
SITREP	Situation report
SMC	SAR Mission Co-ordinator
SOLAS	Safety of Life at Sea
SOP	Standard Operational Procedure
SRU	Search and Rescue Unit
UHF	Ultra High Frequency
VHF	Very High Frequency
WEC	Wave Energy Converter
WGS84	World Geodetic System 1984

# 1 The Project

The project is a Novel Wave Energy Converter Stage 3 development project for which AWS has secured Wave Energy Scotland (“WES”) funding.

This Emergency response and Co-operation Plan has been developed to cover the works involved in the Deployment, Operation, Recovery & Decommissioning of the device at the EMEC site in Scapa Flow, Orkney.

## 1.1 Device Specific Information

The Archimedes Waveswing is a submerged point absorber that changes volume in response to pressure variations caused by ocean waves. Nominal rating for a full-scale device is 195kW although this is capable of being scaled up as the technology becomes further developed. In simple form the device is a submerged telescopic structure with a lower part tethered to the seabed and the upper part free to move vertically. The device comprises two large concentric cylinders. The moving upper cylinder or Floater has a closed upper end which provides the wave absorbing surface whilst the lower, fixed part or Silo contains the PTO and other equipment. The Silo is held on station by means of a tension tether connected to a suitable anchor, the design of which is dependent upon sea-bed conditions. The relative motion between the two parts drives a power take-off unit (PTO).

The device proposed for Stage 3 open-water testing is a half-scale machine which will contain all the major subsystems, including a fully functioning PTO and control system and representative versions of other sub-systems. This Partial Scale Waveswing Demonstrator (PSWD) is shown in the device drawing 18- 002-1047 below.

Overall, the PSWD will measure 4.5m diameter and have an approximate height of 7.5m. The PTO will have a continuous rating of 16kW. The device will be designed for full onshore commissioning and extended dry testing ahead of deployment from sea transport at the test site.

The Wave Energy Converter (WEC) will be submerged to 1.5m below surface during normal operation. This will be maintained by a tidal compensation winch on the base of the WEC. Two surface floating buoys will act as cardinal marks identifying the location of the submerged WEC.



Figure 1- Wave Energy Converter (WEC) as built

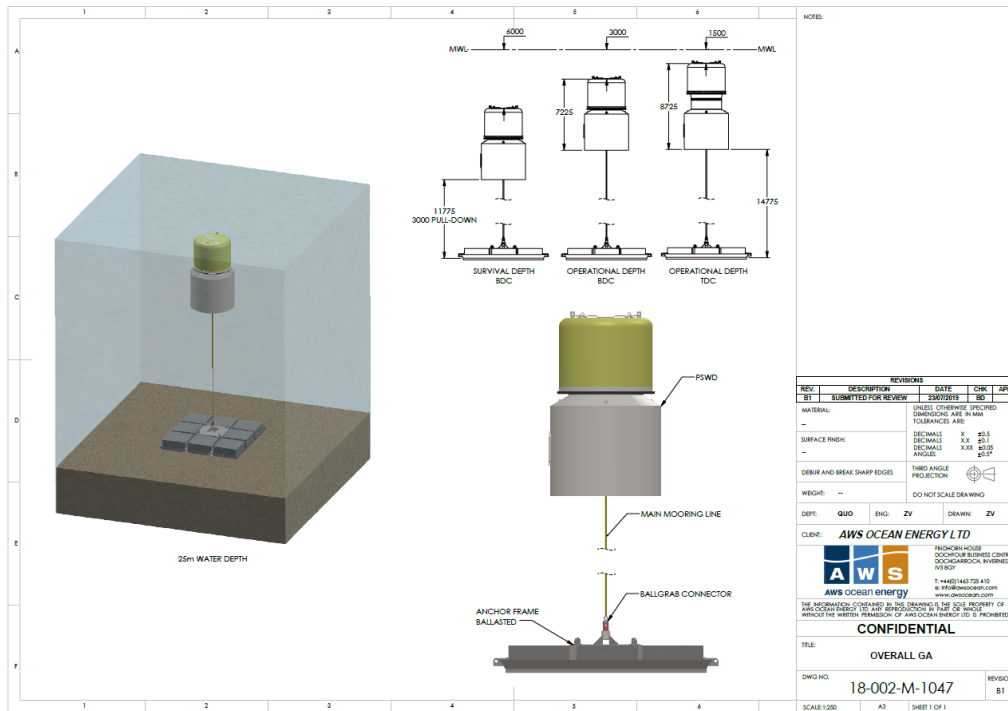


Figure 2- Shows position of side hatch (1200mm x 600mm) for man access. No man access planned whilst at sea.



Figure 3- 2 x 600mm round hatches secured by bolts on floater crown (top of machine). Also shows locations of towing/ securing bollards, grab handles and rudd eyes/ lift points.





## 1.2 Mooring System

The device uses a single-point tension tether mooring attached to a tidal compensation winch mounted within the WEC. The tether is attached by means of a quick release ‘Rocksteady’ connector to a gravity-base anchor comprised of a fabricated steel frame and concrete ballast blocks. The WEC is submerged and the tidal compensation system ensures that the minimum submergence from the floater crown to the mean water level is 1.5m.

The footprint of the anchor is 8m by 8m, resulting in a total coverage of 64m<sup>2</sup>



### 1.3 Materials of construction

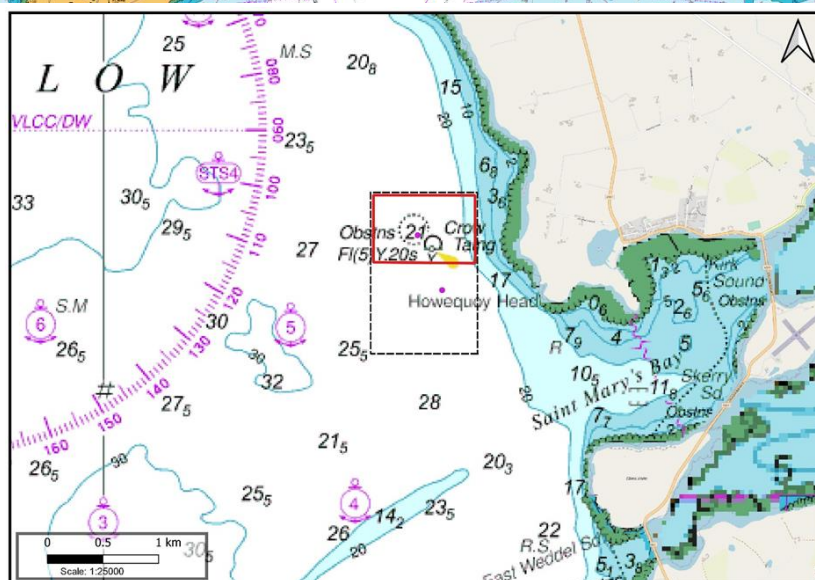
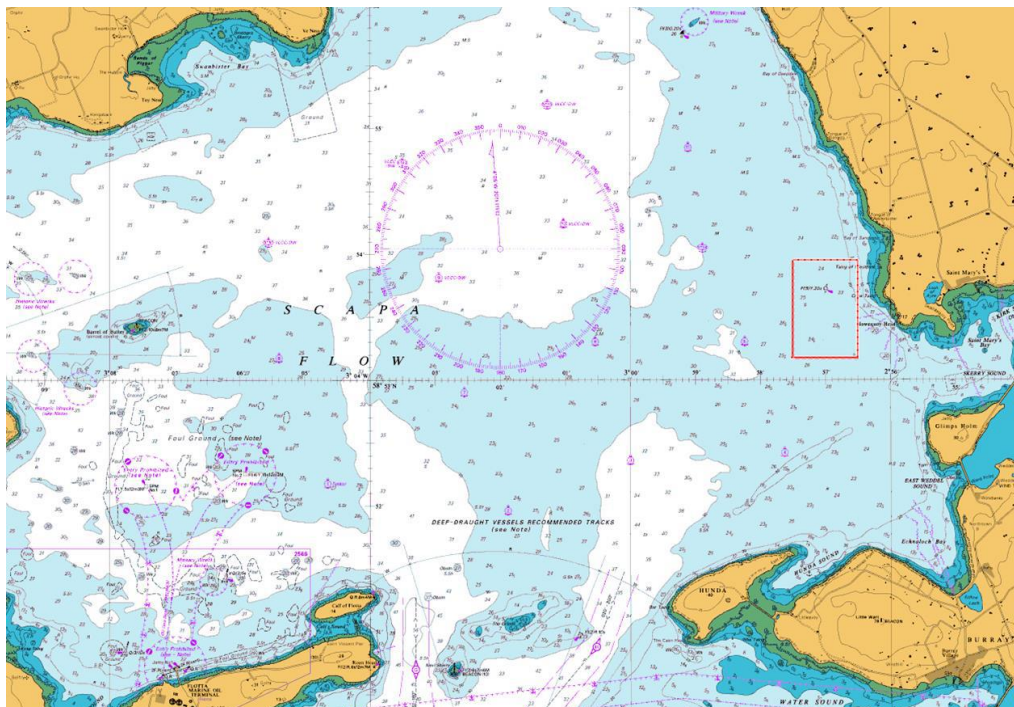
Components	Type of Deposit*	Nature of Deposit (P = Permanent, T = Temporary)	Deposit Quantity (tonnes, m <sup>3</sup> , etc.)	Contingency Allowance
WEC	Steel	T	60t	10t (included)
Anchor	Steel	T	30t	10t (included)
Anchor	Concrete	T	250t	50t (included)
Umbilical Cable	Umbilical Cable	T	170m	20m (included)

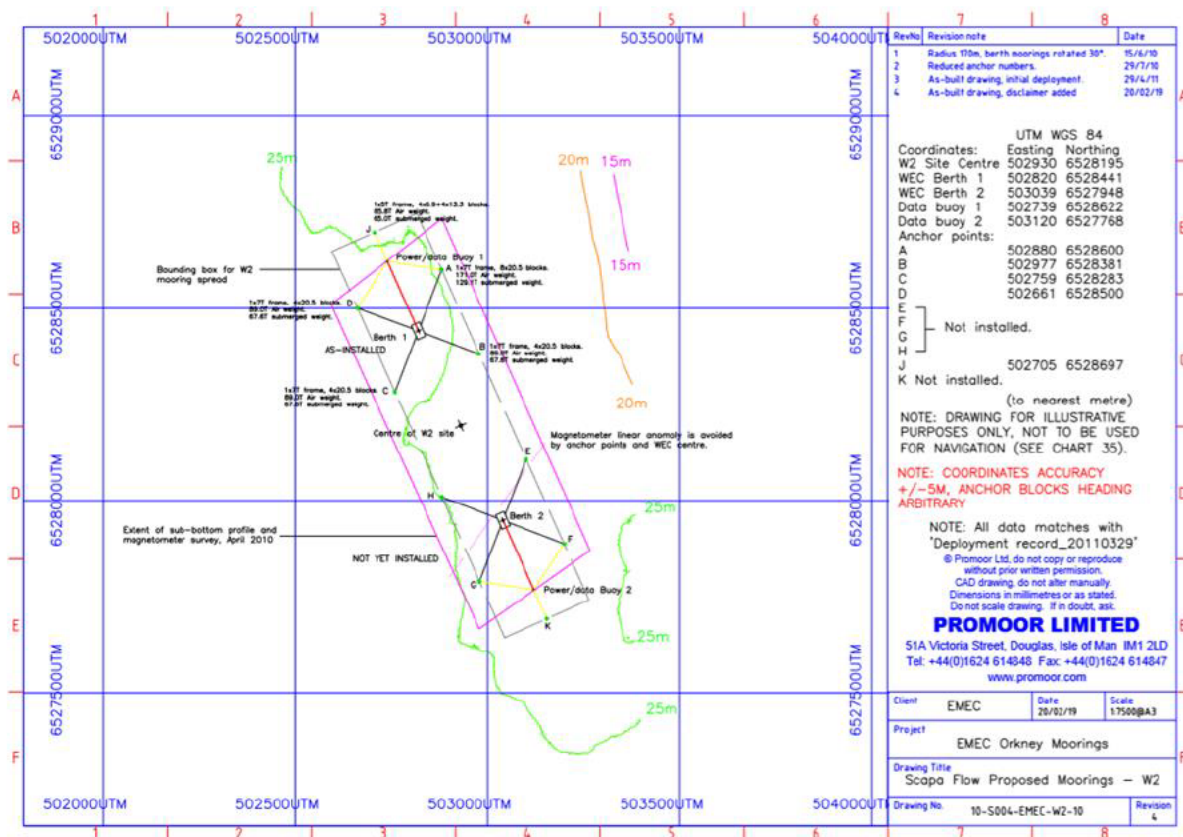
List of materials to be used

## 2 Location

The site chosen to deploy the PSWD device (the offshore construction site) is the European Marine Energy Centre's Scapa Flow Scale Site. This wave test site is located offshore from Howequoy Head near St Mary's in Scapa Flow; the site is shown below in context with the wider area. The site is within Harbour Authority Limits, with Orkney Islands Council (OIC) Marine Services being the Competent Harbour Authority.

Also deployed at the berth will be a surface floating Test Support Buoy (owned and operated by EMEC) which will be lit and marked as a cardinal mark, and a secondary cardinal mark to the West of the submerged WEC.





### Berth Arrangement

The location of the device is expected to be within the Berth 1 envelope. The exact location of the anchor mechanism is yet to be defined and may be based on further ROV survey.

Location Description	Latitude and longitude (WGS 84)				UTM (Easting and Northings)			
Berth 1	58°53.07'N, 002°57.02'W				502820E, 6528441N			
Test site boundary points	Corner A	Corner B	Corner C	Corner D	Corner A	Corner B	Corner C	Corner D
	58°	58°	58°	58°	6528826	6527378	6527377	6528826
	53.950'	53.170'	53.170'	53.950'	E	E	E	E
	N	N	N	N	503361	503362	502402	503361
	002°	002°	002°	002°	N	N	N	N
Marine Licence Boundary	Corner A	Corner B	Corner C	Corner D	Corner A	Corner B	Corner C	Corner D
	58°	58°	58°	58°	6528806	6528194	6528195	6528807
	53.94'N	53.61'N	53.61'N	53.94'N	E	E	E	E
	002°	002°	002°	002°	502430	502497	503343	503342
	57.47'W	57.4'W	56.52'W	56.52'W	N	N	N	N



## 3 Roles and Responsibilities

### 3.1 AWS

In the event of an emergency involving the AWS device or at sea involving its personnel and/or vessels, AWS is responsible for providing immediate rescue and first aid medical response to a level appropriate to the circumstances of the device and its location. AWS is also responsible for immediately alerting HM Coastguard of an emergency and for liaising and cooperating with the relevant MRCC to resolve the emergency.

AWS is also obliged, under international maritime agreements and practices e.g. SOLAS convention, to provide assistance, where it is possible to do so, to other vessels or persons in danger at sea nearby the device or offshore site area and/or when requested to assist by the relevant MRCC.

AWS may also need to provide its own vessel(s) and other assets to respond or react to other maritime emergencies e.g. pollution or a drifting device or vessel which presents an actual or possible threat to the safety of life or property.

Further information is contained in “Offshore Renewable Energy Installations: Guidance on Requirements and Operational Considerations for Search and Rescue and Emergency Response” available on the MCA website.

### 3.2 Emergency Contacts

#### **Duty Operations AWS Contact: 24-hours**

- To be advised
  - AWS (Duty Operations Manager)
  - Redacted
  - [jude.monson@awsocean.com](mailto:jude.monson@awsocean.com)

#### **Primary AWS contact: 24-hours**

- Simon Grey
  - AWS (Director)
  - Redacted
  - [simon.grey@awsocean.com](mailto:simon.grey@awsocean.com)

#### **Secondary AWS Contact: 24-hours**

- Jude Monson
  - AWS (Commercial Manager)
  - Redacted
  - [jude.monson@awsocean.com](mailto:jude.monson@awsocean.com)

#### **Marine Contractor**

- Jason Schofield
  - Green Marine (Managing Director)
  - Redacted

- [jason@greenmarineuk.com](mailto:jason@greenmarineuk.com)

Once installed and commissioned the PSWD can be controlled remotely from control centres in Orkney and Inverness. No vessels shall be required to operate on the site in support of the operating device. Any defect of the device leads to a controlled stop. The device is brought to a safe condition where it can be left until an intervention vessel is sent to the site to undertake repair or retrieval. In this “Operational Phase” AWS shall appoint a Duty Operations Manager and that person shall act as the primary contact for all emergencies.

### 3.3 Document Issue

AWS has / will issued this document to the following parties for reference:

#### **MCA**

- Offshore Energy Liaison Officer
- [oelo@mcga.gov.uk](mailto:oelo@mcga.gov.uk)

#### **MRCC**

- [Renewables@hmcg.gov.uk](mailto:Renewables@hmcg.gov.uk)

#### **Marine Contractor**

- Green Marine Ltd.

#### **Vessel master**

- To be advised



## 4 Liaison arrangements between AWS and HM Coastguard

The action to be taken in response to an incident on the EMEC / AWS site will vary according to the severity and nature of the incident.

Where possible AWS, the Marine Contractor and the Vessel Master will seek to co-ordinate the treatment or evacuation of a casualty ashore using the assets at their disposal and would only notify the Shetland MRCC of the situation and actions being taken at the time to allow co-ordination of the incident if appropriate.

Where the nature of the incident warranted, and if in the opinion of the Vessel Master, the marine Contractors Offshore Manager, AWS Client Representative, or any other person associated with the works, urgent and immediate assistance was required. Shetland MRCC would be notified of the situation and a request for support made.

Should an event occur to persons or vessels not connected with the project area or its operations and where safe and feasible to do so, AWS work vessels and safety craft shall respond and provide assistance in accordance with International Maritime Organisation (IMO) SOLAS regulations, chapter V.

## 5 Work Activities

### 5.1 Operations

Operations are expected to commence Q1 2022 to install the device anchor system. This will be undertaken by a Multicategory vessel (Green Isle). The vessel may deposit sections of the anchor system (ballast weights- concrete) at Coplands Dock, Stromness prior to the anchor deployment and these ballast sections shall be added to the anchor frame once installed. A dedicated multicategory vessel will be used for all further installation and recovery operations after the initial installation and commissioning has been completed. When the project enters the period set aside for testing the device (the Operational Phase) a Duty Operations Manager shall be appointed as the primary emergency contact person.

The work timeline for the installation and eventual recovery of the device is shown in the table below.

Activity	Month 1	Month 2	Month 3
Installation of anchor (multicat & rib/workboat)			
Installation of WEC (multicat & rib/workboat)			
Recovery of WEC for inspection (multicat & rib/workboat)			
Re-deploy WEC (multicat and rib/workboat)			
Recovery of WEC (multicat & rib/workboat)			
Recovery of anchor (multicat & rib/workboat)			

## 5.2 Installation of the PSWD to EMEC Scapa Flow Site

The fabricated and pre-commissioned device shall be transported by road to Stromness. A wet tow to the deployment site follows using the multicat to tow the WEC to the berth. The anchor will have been pre-installed, again using the multicat, or potentially the multicat plus the GM700 crane barge. The WEC mooring tether is connected to the anchor using a messenger line to guide a rocksteady connector into its receptacle. The power and control umbilical is connected to the Test Support Buoy using a deck-mate connector allowing control of the on-board mooring line winch. The final installation stage is to winch the device down to the intended operational depth using the on-board pull-down system.

## 5.3 Removing the PSWD

Prior to decommissioning, a method statement will be provided to EMEC and a revision made to this ERCoP.

Removal of the device from the Scapa Flow scale test site will involve the use of similar vessels to the installation process. The device will be winched up and disconnected from moorings, and power and

controls umbilical. The device will then be wet towed to the appropriate harbour by the multicat vessel before being lifted onto a flat barge or other suitable transport vessel using a land-based crane or the Green Marine GM700 (or another similar vessel). The device will then be transported to a suitable holding location.

## 5.4 Communication with the PSWD

The device will be monitored via a SCADA system. Communications to the device will be via an umbilical cable between the device and EMEC's test support buoy.

The WEC will have a GPS position monitoring beacon which will activate if the WEC breaches the surface (eg should the device break moorings). This will automatically alert the AWS duty manager of the incident and will forward the location of the WEC by text and email to AWS staff.

## 5.5 Emergency Shutdown Procedure

In the event of having to stop the operating PSWD in an emergency, the device will be instructed to go into 'safe' mode. On this command the Floater will be located to its bottom position and locking pins activated to hold it in place. The PSWD will then be winched down on its mooring tether and will always remain at least 3m below the Mean Water Springs in this state.

To request emergency shutdown, the AWS duty manager should be called and they can instruct the WEC to revert to safe mode using the onshore communications system. This should be fast to implement with approx 15minutes required to winch down to the depth required.

## 5.6 Non-routine work

Notification of 'non-routine' works will be communicated to HMCG via a Notices to Mariners, this will also be distributed to other stakeholders. Notices to Mariners will be emailed to [renewables@hmcg.gov.uk](mailto:renewables@hmcg.gov.uk) and [oeo@mcga.gov.uk](mailto:oeo@mcga.gov.uk)

## 5.7 Diving Operations

No diving operations are anticipated during normal operations, as inspection class or small work class, ROVs will be used.

# 6 Locating Aids

It is intended that AWS personnel will have (AIS MOB) PLB's fitted on lifejackets. The beacons will be registered with the appropriate agencies prior to use and also maintained on a register ashore by AWS. Personal Locator Beacons or other types of satellite or radio locating devices are used by personnel working on the site and/or on vessels at work on the site, it is recommended that GMDSS

compatible devices are used as this will ensure that the rescue services can rapidly receive beacon alerts and that SAR units can home on to the devices.

The types, locating frequencies and procedures for locating/homing to the devices, are as follows:

- EPIRB (Emergency Position-Indicating Radio Beacon) (on vessels)
- PLB's/ AIS MOB devices (Personal Locator Beacons) fitted to lifejackets of personnel transferring at sea and working on an open vessel deck

## **7 Radio Communication**

Radio communications used on site are as follows;

Assets fitted with radio aerials.

- Any Crew Transfer Vessel
- Installation and recovery vessel, anchor installation vessel (Multicat)

Radio communications system(s) being used.

- Maritime VHF (Voice) fitted on the Maine Operations Vessel and Installation and recovery vessel
- Digital Selective Calling (DSC)
- Handheld VHF radio's
- Handheld UHF radio's

### **7.1 Communicating with HM Coastguard:**

HM Coastguard uses a network of remote aerials to ensure VHF coverage from the coast to nominally up to 30 nautical miles offshore. HM Coastguard maintains a radio distress watch on VHF and MF DSC. The primary means of distress alerting on VHF is by DSC channel 70 but a listening watch is also kept on VHF channel 16.

All MRCCs can operate on channels 6, 10, 16, 23, 67, 70 DSC, 62, 63, 64, and on two private SAR coordination channels, 0 and 99. Channels 62, 63 and 64 are duplex and are mainly used for medical link calls and Maritime Safety Information (MSI) broadcasts but can also be used for SAR. HM Coastguard is not formally licensed to use other VHF Marine Band channels but may use them in extremis.

Medium Frequency (MF) frequencies used by HM Coastguard include 2187.5kHz (DSC), 2182kHz (MF distress, urgency and safety working frequency) and 2596kHz (HM Coastguard's primary MF working frequency although a range of other frequencies are used by individual MRCC's for SAR and general communications. If HMCG requires any development or service craft to use MF radio (where that is required or fitted), the relevant frequency will be informed to the craft at the time.

### **7.2 MRCC Contact Information**

For HMCG purposes, the UK coastline and sea areas are divided into 36 Operational Zones. Every zone is connected to a MRCC or the NMOC and all radio, distress alerting systems and telephone connections e.g. 999/112 calls, in that zone, are directed to the MRCC or NMOC team responsible for it.

The Operational Zones allows HMCG to assign a zone, or group of zones, to the MRCCs around the UK, and the NMOC, according to the predicted or actual workload and to share demand equitably

around the Coastguard network. It also enables the handover or take over of other zones according to the operational demand, technical failures or other network-management requirements. In normal configuration, the MRCC geographically closest to the operational zone will be responsible for that area. The concept also allows less busy MRCC to connect with and provide additional support to a MRCC that might, for example, be handling a complex incident, a major marine incident or a large number of small incidents.

### 7.3 MRCC Shetland

Point of contact	MRCC Shetland
Address	HM Coastguard The Knab Knab Road Lerwick Shetland ZE1 0AX
Direct Phone number	+44 (0) 344 382 0722 Secondary emergency contact: 999/112 Secondary routine contact: 01595 694810
E-mail communication	<a href="mailto:zone2@hmcg.gov.uk">zone2@hmcg.gov.uk</a>
MMSI information	002320001

## 8 Duties and Functions of SAR participants

The information contained in this section describes the duties and functions of various participants in SAR and explains any areas or information requirements of particular importance to SAR and other emergency response within Offshore Renewable Energy Installations.

### 8.1 The SAR Mission Co-ordinator (SMC)

Each SAR operation is carried out under the direction of a SAR Mission Co-ordinator (SMC) at the MRCC. This function exists only for the duration of a specific SAR incident.

The responsibility of the SMC will vary depending on the nature and severity of the incident. The SMC is essentially in overall charge of coordinating and directing the response to an incident until it is successfully concluded, or a decision has been agreed to terminate operations.

### 8.2 The On-Scene Co-ordinator (OSC)

The SMC may, according to the severity of an incident, wish to appoint a work vessel as OSC. The information below is for the guidance of the persons in charge of such boats.

- According to IAMSAR<sup>1</sup>, when two or more SAR facilities are working together on the same mission, it is sometimes advantageous if one person or vessel is assigned to co-ordinate the activities of all the participating units.
- The SMC (at the MRCC) designates the OSC, who may be in charge of a Search and Rescue Unit (SRU), ship or aircraft participating in a search, or someone at another nearby facility able to handle OSC duties.

The OSC should be the most capable person or vessel available, and the following considerations should be taken into account when selecting:

- the amount of SAR training and experience the person may have had
- communications capabilities
- the length of time that the facility on which the OSC is aboard can stay in the search area.

Duties which the SMC may assign to the OSC, depending on needs and qualification include any of the following:

- assume operational co-ordination of all SAR facilities on scene
- receive and implement the search action plan from the SMC
- modify the search action plan based on prevailing environmental conditions, SRUs / SAR Facilities availability and capability, new target information and new developments on scene, keeping the SMC advised of any changes to the plan
- establish and maintain communications with all SRUs using the designated on scene channels
- provide relevant information to the other SAR facilities
- monitor the performance of other units participating in the search. Co-ordinate and divert surface units or helicopters to evaluate sightings
- develop and implement the rescue plan (when needed)
- co-ordinate safety of flight issues for SAR a/c (where no Aircraft Co-ordinator is appointed)
- make consolidated situation reports (SITREPS) back to the SMC.

Information that the SMC needs from the OSC includes:

- On-scene weather, wind, and sea conditions when significant changes occur, and at least every four hours if the SMC has not stipulated a shorter time interval
- SRU on scene arrival and departure information, including actual and estimated time
- pertinent new developments or sightings
- major modifications made to the SMC's SAR action plans, either already taken or recommended
- requests for additional assistance

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<sup>1</sup> IAMSAR – International Aeronautical and Maritime Search and Rescue. The acronym given to the manual jointly produced by the International Maritime Organisation (IMO) and International Civil Aviation Organisation (ICAO). IMO and ICAO are specialised agencies of the United Nations.

- summary of search areas
- completed with an assessment of the search effectiveness
- obtain results of search as each facility departs the scene.

### 8.3 Search Planning

In the event that persons or craft are in danger and drifting on or in sea, and they are unable to provide locating signals or a precise position, search and rescue units will have to be deployed to physically search for them. This requires that search area calculations are made based on the movements of the tide, local currents and wind (leeway) as they might act on the object drifting e.g. life raft, life boat, drifting vessel, person in the water, etc. Any information that the marine contractor or AWS has or records on tide and wind speed and direction could be helpful in the accurate calculation of search areas. Such useful information could be:

- information about tides and water currents,
- availability of any wind or wave data

### 8.4 Suspension or Termination of SAR action

The SMC is responsible for deciding when to terminate attempts to rescue and/or search operations for incidents but will do so in conjunction with:

- SAR resources
- On Scene Coordinator
- Device operators, personnel or contractors
- Third parties
- Other emergency services
- Any other relevant party engaged in the incident.

### 8.5 Liaison

It is recognised as good practice that developers / device owners or operators and the emergency services conduct periodic visits or meet, to maintain close liaison and understanding between all parties.

## 9 SAR Facilities and their Response Capability

National Search and Rescue resources (lifeboats and rescue helicopters) are available if:

- the incident exceeds the capability of the operator resources or,

- if in the opinion of the vessel master, the Offshore Construction Manager or AWS or any other person, urgent and immediate assistance is required or,
- it is an event which has occurred to persons or vessels not connected with the OREI or its operations. In this event, and where safe and feasible to do so, development work and safety craft should respond and provide assistance in accordance with IMO SOLAS regulations, Chapter V.

Royal National Lifeboat Institution and other volunteer lifeboat and rescue boat services provide craft to rescue persons in danger at sea. Their role in the

context is limited to rescuing or assisting persons from the water or accessible areas of an OREI or providing support to vessels in the area.

All national SAR resources are tasked and coordinated by HM Coastguard and therefore any request for assistance should be made via HM Coastguard and not directly to the resource.

## 9.1 Surface Craft Rescue Resources Available

AWS do not operate any surface rescue craft.

The nearest Tamar class RNLI lifeboat is located at Longhope, Orkney (01856 701333) with two further Severn Class lifeboats available from Stromness and Kirkwall

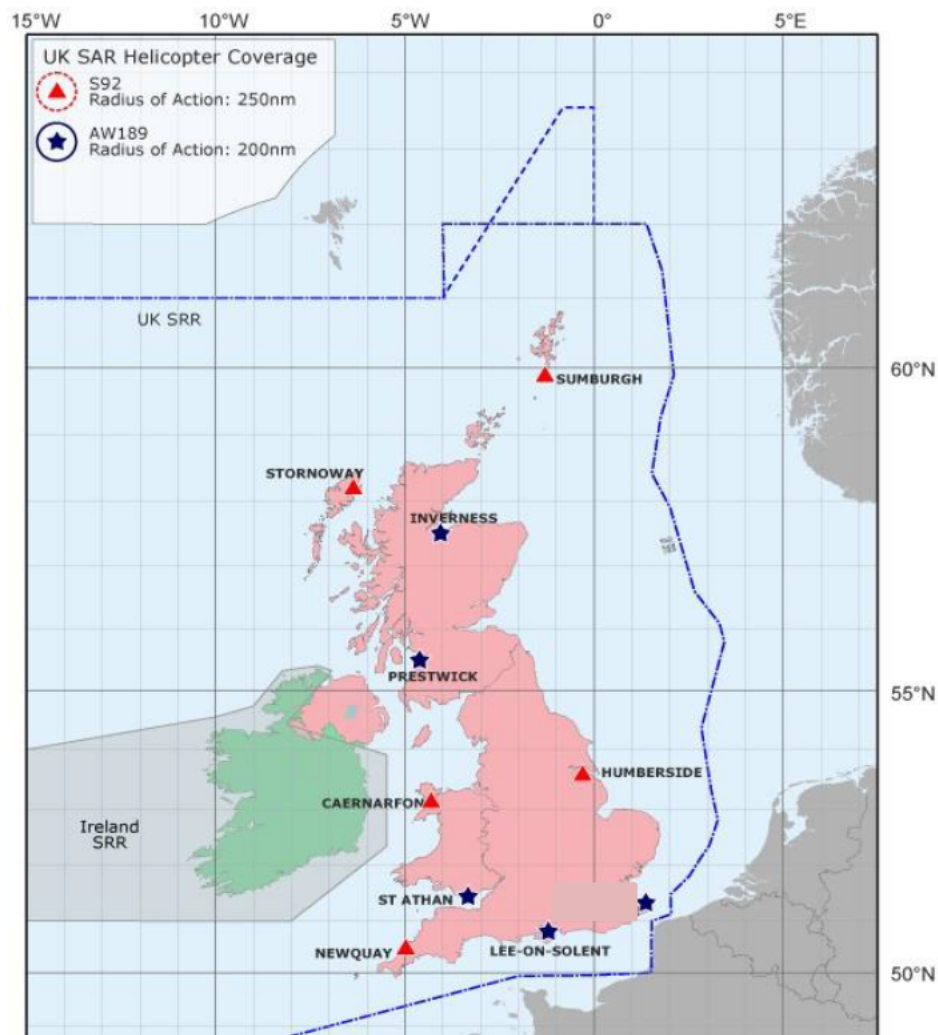


**Longhome Tamar class lifeboat**

## 9.2 Search and Rescue (SAR) Helicopters

The nearest SAR helicopters are the AW189 from Inverness and the S92 from Sumburgh depending on availability.





UK SAR Helicopter Coverage

### 9.3 Airborne Rescue Resources

These aircraft must not be factored into the operator's own provisions for Emergency Response and are to be looked at as a resource of last resort.

The following information generalises the capabilities of each aircraft type:

### Sikorsky S-92

- Air Speed: 145 knots
- Operational range: in excess of 250 nautical miles radius of action
- Normal flight crew: 4
- Capacity: 21 persons as required – 3 stretchers, 10 seated persons, additional standing persons
- Endurance: over 4 hours
- De-icing equipment
- Twin hoist
- Comprehensive medical suite



### AgustaWestland AW189

- Air Speed: 145 knots
- Operational range: in excess of 200 nautical miles radius of action
- Normal flight crew: 4
- Capacity: 16 persons or as required – 2 stretchers, 6 seated persons, additional standing persons
- Endurance: over 4 hours
- De-icing equipment
- Twin hoist
- Medical suite



These aircraft operate out of ten UK SAR helicopter bases.

All SAR aeronautical resources are tasked by the Aeronautical Rescue Coordination Centre (ARCC) based on a number of factors including greatest need, weather, availability, etc. Therefore, the nearest aircraft base as detailed above, may not be the one mobilised during an emergency.

## 9.4 Medical advice and assistance

All project personnel shall hold a valid medical certificate for working offshore. The Marine Contractor shall hold a register of all personnel, including guests etc working offshore.

This Register will include health information i.e. special illness, allergies use of prescription medication etc for Contractor staff and visitors accessing the Contractor managed crew vessels only. In case of an emergency this information will be volunteered to the emergency services. Of note personal health information is given to the Contractor on a voluntarily basis and the sole purpose is to allow for correct emergency medical intervention.

All vessels engaged on the project will be provided with First Aid trained personnel in accordance with STCW-95.

AWS do not have access to a telemedicine service.

Note that medical advice by radio to telephone link call is available via HM Coastguard. Evacuation of injured or ill persons can be arranged with HM Coastguard if the operators own resources (work and/or safety boat) are considered inappropriate or speed is of the essence. If in doubt, HM Coastguard should be contacted.

## 10 Spillage of materials to the environment

### 10.1 Counter Pollution

In case of an environmental incident or accident all relevant authorities shall be informed; the MCA, the port authorities, Marine Scotland, and NatureScot shall be informed.

Vessels operating at site shall carry oil spill kits placed in suitable locations. Any additional equipment provided by the Marine Contractor for the purpose of undertaking works on the marine site shall provide additional oil spill kits positioned everywhere an oil spill might occur.

The Marine Contractor undertaking the works shall

- hold a register of all vessels involved in the offshore operations this register contains general information of types and quantities of major marine pollutants carried on board (i.e. bunkers, lubrication oils and hydraulic oils)
- undertake a marine pollution risk assessment and implement the mitigating actions identified.

### 10.2 Fuel /Oil Spill

In the event of a spillage following actions **MUST** be taken:

- All spillage sightings reported to the Vessel Master immediately
- Vessel Master must notify the Maritime Rescue & Co-ordination Centre (MRCC) identifying location and initial indication of the size of the spill (based on the 3 Tier system) source of the spillage if identifiable, and other information as applicable to complete a Pollution Incident Report Form

MRCC will direct onsite support vessel to the location.

Onsite support vessel will confirm spillage assessment based on 3 Tier system and notify MRCC.

Onsite support vessel will commence clean up/containment operations as applicable.

MRCC responsible for completing the initial Pollution Incident Report Form which will be used to notify MCA, UKHO and other relevant authorities. Subsequent reports will be submitted on a daily basis until the spillage incident is cleared.

The responsibility for elevating and incident classification from Tier 1 to Tier 2 lies with the MRCC.

### 10.3 Three tier system

- Small scale spill (<1,000 litres) local, in house resources deployed in the clean-up

- Medium sized spill (1,000-150,000 litres) external assistance and resources may be utilised
- Major spills (>150,000 litres) national level assistance and resources required in line with the National Contingency Plan

## 10.4 Chemical spill

The PSWD does not contain hazardous chemicals in the course of its normal operations, this section is included for completeness. The following actions shall be taken upon a chemical spill:

- Work must be stopped immediately
- Chemical identified and COSHH sheet and inventory referred to for potential impacts
- Flow of chemical(s) will be stemmed
- Spill contained, where possible, and depending on the level of release the appropriate organisations will be called immediately
- All contaminated material removed off site as soon as possible and disposed of to licensed waste management facility

Report will be sent to MCA and Marine Scotland in all instances

## 11 Support Arrangements

### 11.1 Shore reception

If a casualty must be evacuated to the shore via a rescue craft, the following berthing and reception facilities may be used to land casualties,

- Scapa pier, Scapa Orkney, KW15 1SD Telephone: +44 (0)1856 873636 Email: [harbours@orkney.gov.uk](mailto:harbours@orkney.gov.uk) Website: [www.orkneyharbours.com](http://www.orkneyharbours.com)
- Latitude and longitude of harbour entrance 58° 57.40'N 02° 58.40'W

In some events, a rescue may be carried out by an in-shore lifeboat. In this case landing the casualty directly on the beach may be the fastest way. The landing place will be decided by the coastguard, who will direct the ambulance to the spot.

### 11.2 Next of Kin

Next of Kin information of AWS staff and relevant Contractor's personnel is held at the AWS and Marine Contractor's office. In the event of an emergency, the Police are responsible for informing the Next of Kin of their respective personnel. Once disembarked the care and custody of these personnel will be managed as per AWS procedures for emergency incident management. Contact details are:

- Jude Monson AWS (Commercial Manager)
- Redacted
- [jude.monson@awsocan.com](mailto:jude.monson@awsocan.com)

Regarding AWS personnel involved in an emergency, the Commercial Manager must handle calls from NOK and inform them of any relevant information. The Duty Operations Manager and Commercial Manager are responsible for ensuring NOK relations are aware of developments.

In principal, the Duty Operations Manager (Operational Phase) is the focal point for the family/ near relatives. In case of severe injury or a fatality the Police shall assess how and when to contact family and near relatives.

They shall ensure the proper management of communication to/from NOK (Next of Kin) of non AWS personnel (i.e. directing enquiries to the relevant contractor management). The emergency teams will assist in these activities.

The CEO and Commercial Manager are to gather all relevant information and facts and prepare statement, no other public statement to be issued where possible to reduce chance of family hearing via external sources.

## 12 Vessels

### 12.1 Multicategory vessel

Name: **GREEN ISLE**

Length: 27.7m, Breadth: 12.45m, Maximum draught: 2.85

Max persons aboard 12

IMO: **9707962**

Vessel Type - Generic: **Tug**

Vessel Type - Detailed: **Utility Vessel**

MMSI: **235108183**

Call Sign: **2IAV3**

Flag: **United Kingdom [GB]**

Gross Tonnage: **179**

Year Built: **2015**



### 12.2 Gantry Crane

Name: **GM700**

Length Overall x Breadth Extreme: 53 x 26 m

Vessel Type – Crane Barge

MMSI: **235098487**

Call Sign: **2GLT6**

Flag: **United Kingdom [GB]**

Gross Tonnage: **506**



### 12.3 Support RIB

Apollo Storm Safe/Fast Crew Transfer RIB

VHF radio (Installed)

Handheld VHF radio (spare)

## APPENDIX A – Project Team Contact Details

Name	Organisation	Position	Contact Details
Simon Grey	AWS Ocean Energy Ltd	CEO/ Chief Technical Officer	Mobile: Redacted Email: <a href="mailto:simon.grey@awsocean.com">simon.grey@awsocean.com</a>
Jude Monson	AWS Ocean Energy Ltd	Project Manager	Mobile: Redacted Email: <a href="mailto:jude.monson@awsocean.com">jude.monson@awsocean.com</a>
Eddie Scott	Hydrosafe Limited.	Health and Safety Adviser	Mobile: Redacted Email: <a href="mailto:eddie.scott@hydrosafe.co.uk">eddie.scott@hydrosafe.co.uk</a>
Andy Hall	4c Engineering Ltd	Project Technical Lead	Mobile: Redacted Email: <a href="mailto:andy.hall@4cengineering.com">andy.hall@4cengineering.com</a>
Beth Dickens	Quoceant Ltd	Designers Project Manager	Mobile: Email: <a href="mailto:Beth.dickens@quoceant.com">Beth.dickens@quoceant.com</a>
Charles Taylor	Quoceant Ltd	Structural Engineer	Mobile: Email: <a href="mailto:charles.taylor@quoceant.com">charles.taylor@quoceant.com</a>
Jason Schofield	Green Marine Ltd	Marine Contractor	Mobile: Redacted Email: <a href="mailto:jason@greenmarineuk.com">jason@greenmarineuk.com</a>

## APPENDIX B - Drawings

The following drawings are available:

Drawing Name	Drawing Number	Date
PSWD GA	18-002-M-1028	
Anchor Chassis GA	18-002-M-1048	
PSWD Lifting & Handling	18-002-M-1043	
Silo Penetrations	18-002-M-10426	
Pressure Compensation & Bilge Equipment Mounting Arrangement	18-002-M-1002	
Overall GA	18-002-M-1047	
Marine Operations Equipment	18-002-M-1044	
Floater Crown GA	18-002-M-1011	
Painting & Masking Shedule	18-002-M-1033	
Rocksteady connector	18-002-M-10XX	