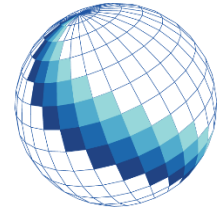
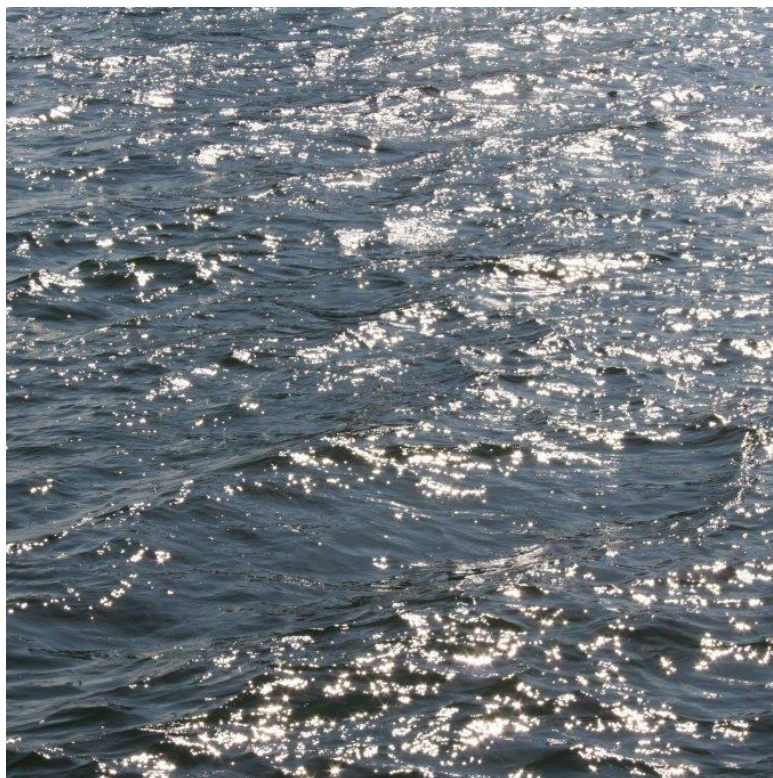


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Mona Offshore Wind Farm Suction Bucket Foundation Trials 2023: Water Framework Directive Compliance Assessment



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1. Introduction

bp and EnBW (Energie Baden-Württemberg) are seeking marine licences to carry out suction bucket foundation trials within the Mona offshore wind farm Round 4 array area, located in the Irish Sea. As part of the marine licence application for Natural Resources Wales (NRW), NRW require a Water Framework Directive (WFD) compliance assessment is completed for the proposed works.

Under the WFD, all proposed schemes with the potential to impact upon WFD-designated water bodies must be assessed to ensure:

- No deterioration of the current status or potential of any WFD quality elements; and
- Future attainment of 'good' status or other objectives of any WFD quality elements is not prevented.

2. Method Statement

To inform the development of the Morgan and Mona offshore wind farms bp and EnBW intend to carry out suction bucket foundation trials, commencing in Summer 2023. The suction bucket trials will include trialling the foundations at 30 locations across the Mona potential array area.

2.1. Suction Bucket Trials

To conduct the suction bucket foundation trials a test bucket will be loaded onto the vessel at port, and transited to the trial location. Once onsite, a reference frame consisting of a temporary package of scientific instruments is lowered to the seabed. The suction bucket is lowered to the seabed and water is pumped out, installing it into the seafloor. Once installation is complete, suction may be applied continuously to verify seafloor contact. After the installation and associated tests are complete, water is pumped back into the bucket to extract it from the seafloor.

If required, the installation will be repeated up to 3 times to validate findings. Once all activities at a site are complete, the bucket is recovered to the vessel and the vessel transits to the next location. It is expected that the tests will last no longer than 36 hours at each location.

2.2. Timings and Sequence of Works

The suction bucket foundation trials are planned to be undertaken between June and November 2023. It is anticipated that within this window the suction bucket foundation trials will take approximately 45 days to complete, depending on weather. Please note that this time frame includes aspects of the trials in both Welsh and English waters. However, a licence is requested from 01 June 2023 extending until 31 May 2024 to allow contingency in the programme should the works be delayed, for example, due to weather downtime.

3. Screening and Scoping

The scoping assessment is completed using the scoping template provided by UK Government (UK Gov, 2017), in conjunction with NRW guidance. A completed assessment can be found overleaf. This determines that an impact assessment of the works is required in relation to water quality and WFD protected areas.

Water Framework Directive assessment: scoping template for activities in estuarine and coastal waters

Use this template to record the findings of the scoping stage of your Water Framework Directive (WFD) assessment for an activity in an estuary or coastal water.

If your activity will:

- take place in or affect more than one water body, complete a template for each water body; and
- include several different activities or stages as part of a larger project, complete a template for each activity as part of your overall WFD assessment.

The [WFD assessment guidance for estuarine and coastal waters](#) will help you complete the table.

Your activity	Description, notes or more information
Applicant name	EnBW and bp
Application reference number (where applicable)	Unknown
Name of activity	Mona Offshore Wind Farm Suction Bucket Foundation Trials 2023
Brief description of activity	Geotechnical Site Investigations – deep boreholes Number of trial locations – up to 30 Diameter (m) – 6 to 12 m Maximum depth (m) – 5 to 20 m

	Wall thickness – ~0.045 m
Location of activity (central point XY coordinates or national grid reference)	Indicative Mona array area boundary coordinates within attached spreadsheet
Footprint of activity (ha)	639.12ha (6.39 km ²)
Timings of activity (including start and finish dates)	The proposed works are planned to be undertaken between June 2023 and May 2024. It is anticipated that within this window the trials will take approximately 45 days to complete, depending on weather, inclusive of the works within English and Welsh waters. A licence is requested from 01 June 2023 extending until end of 31 May 2024 to allow contingency in the programme should the works be delayed, for example, due to weather downtime.
Extent of activity (for example size, scale frequency, expected volumes of output or discharge)	Up to 30 locations will be trialled for instal viability across the whole Mona potential array area.
Use or release of chemicals (state which ones)	None.

Water body ¹	Description, notes or more information
WFD water body name	North Wales – located approximately 30 km from the nearest point of the Mona offshore wind Round 4 array area where works will be undertaken.

Water body ID	GB641011650000
River basin district name	Western Wales
Water body type (estuarine or coastal)	Coastal
Water body total area (ha)	146.25
Overall water body status (2015)	Moderate
Ecological status	Ecological
Chemical status	Fail
Target water body status and deadline	Good; 2021
Hydromorphology status of water body	Not assessed
Heavily modified water body and for what use	Yes: <i>“Wider environment - nature protection and other ecological uses”</i>
Higher sensitivity habitats present	Saltmarsh; blue mussel beds
Lower sensitivity habitats present	Subtidal geogenic reef; intertidal soft sediments like sand and mud
Phytoplankton status	Moderate
History of harmful algae	Not reported

WFD protected areas within 2km	Liverpool Bay Special Protection Area (SPA); Menai Strait and Conwy Bay Special Area of Conservation (SAC); The Dee Estuary SPA; Dee Estuary SAC. Conwy, Llandudno Shellfish Waters; Dee (west) Shellfish Waters; Rhos-on-Sea Shellfish Water. 1x nitrate vulnerable area (#14)
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Water body ¹	Description, notes or more information
WFD water body name	Anglesey North – located approximately 26 km from the nearest point of Mona offshore wind Round 4 array area where works will be undertaken.
Water body ID	GB641010620000
River basin district name	Western Wales
Water body type (estuarine or coastal)	Coastal
Water body total area (ha)	126.03
Overall water body status (2015)	Moderate
Ecological status	Good
Chemical status	Fail
Target water body status and deadline	Good; 2021

Hydromorphology status of water body	Not reported
Heavily modified water body and for what use	No
Higher sensitivity habitats present	Polychaete reef; saltmarsh.
Lower sensitivity habitats present	Subtidal soft sediments like sand and mud; subtidal geogenic reef.
Phytoplankton status	Not reported
History of harmful algae	Not reported
WFD protected areas within 2km	Designated bathing waters: Cemaes; Traeth Lligwy; Benllech; St Davids – Benllech; Llanddona. Red Wharf Bay, Moelfe; North Anglesey Marine SAC; Anglesey Terns SPA; Liverpool Bay SPA; Menai Strait and Conwy Bay SAC.

Specific risk information

Consider the potential risks of your activity to each of these receptors: hydromorphology, biology (habitats and fish), water quality and protected areas. Also consider invasive non-native species (INNS).

Section 1: Hydromorphology

Consider if hydromorphology is at risk from your activity.

Use the water body summary table to find out the hydromorphology status of the water body, if it is classed as heavily modified and for what use.

Consider if your activity:	Yes	No	Hydromorphology risk issue(s)
Could impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status	Requires impact assessment	Impact assessment not required	Works expected to be associated with negligible changes in hydrological processes and seabed morphology due to distance from coastal waterbodies. As such, there is no risk of changes to hydromorphology.
Could significantly impact the hydromorphology of any water body	Requires impact assessment	Impact assessment not required	Suction bucket trials will not result in the removal of benthic sediment. As such, there is no risk of changes to hydromorphology.
Is in a water body that is heavily modified for the same use as your activity	Requires impact assessment	Impact assessment not required	Activities do not take place in a water body that is heavily modified for the same use as the proposed activities.

Section 2: Biology

Habitats

Higher sensitivity habitats ²	Lower sensitivity habitats ³
chalk reef	cobbles, gravel and shingle
clam, cockle and oyster beds	intertidal soft sediments like sand and mud
intertidal seagrass	rocky shore
maerl	subtidal boulder fields
mussel beds, including blue and horse mussel	subtidal rocky reef
polychaete reef	subtidal soft sediments like sand and mud
saltmarsh	
subtidal kelp beds	
subtidal seagrass	

² Higher sensitivity habitats have a low resistance to, and recovery rate, from human pressures.

³ Lower sensitivity habitats have a medium to high resistance to, and recovery rate from, human pressures.

Consider if the footprint ⁴ of your activity is:	Yes	No	Biology habitats risk issue(s)
0.5km ² or larger			Footprint <0.5 km ²
1% or more of the water body's area			Footprint <1% of water body extent

Within 500m of any higher sensitivity habitat	Yes to one or more – requires impact assessment	No to all – impact assessment not required	The works are located approximately 26km from the nearest coastal waterbody and sensitive habitat.
1% or more of any lower sensitivity habitat			Footprint <1% of lower sensitivity habitat

⁴ Note that a footprint may also be a temperature or sediment plume. For dredging activity, a footprint is 1.5 times the dredge area.

Fish

Consider if fish are at risk from your activity, but only if your activity is in an estuary or could affect fish in or entering an estuary.

Consider if your activity:	Yes	No	Biology fish risk issue(s)
Is in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary	Continue with questions	Go to next section	The works are not located near an estuary. Works are located beyond 12 nm from the coast, at approximately 30 km from the north Wales coast.
Could impact on normal fish behaviour like movement, migration or spawning (for example creating a physical barrier, noise, chemical change or a change in depth or flow)	Requires impact assessment	Impact assessment not required	n/a
Could cause entrainment or impingement of fish	Requires impact assessment	Impact assessment not required	n/a

Section 3: Water quality

Consider if water quality is at risk from your activity.

Consider if your activity:	Yes	No	Water quality risk issue(s)
Could affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)	Requires impact assessment	Impact assessment not required	The suction bucket trials may result in highly localised short-term increase in suspended sediment concentration/turbidity. However, this is expected to disperse rapidly and are environmentally inert.
Is in a water body with a phytoplankton status of moderate, poor or bad	Requires impact assessment	Impact assessment not required	No
Is in a water body with a history of harmful algae	Requires impact assessment	Impact assessment not required	No

Consider if water quality is at risk from your activity through the use, release or disturbance of chemicals.

If your activity uses or releases chemicals (for example through sediment disturbance or building works) consider if:	Yes	No	Water quality risk issue(s)
The chemicals are on the Environmental Quality Standards Directive (EQSD) list	Requires impact assessment	Impact assessment not required	No chemicals on the EQSD will be intentionally released into the marine environment. Bunding, storage facilities and spill kits will be employed to contain and prevent the accidental release of fuel, oils and chemicals associated with the plant, refuelling and construction equipment into the marine environment.
It disturbs sediment with contaminants above Cefas Action Level 1	Requires impact assessment	Impact assessment not required	Sediments may be disturbed during suction bucket trials. In view of the distance from the coast and extensive geographic area of the Mona offshore wind Round 4 array area in which works are proposed, it can be excluded that this will involve disturbance of sediments containing contaminants above Cefas Action Level 1.

If your activity has a mixing zone (like a discharge pipeline or outfall) consider if:	Yes	No	Water quality risk issue(s)
The chemicals released are on the Environmental Quality Standards Directive (EQSD) list	Requires impact assessment	Impact assessment not required	No mixing zone associated with these works.

Section 4: WFD protected areas

Consider if WFD protected areas are at risk from your activity. These include:

- special areas of conservation (SAC)
- special protection areas (SPA)
- shellfish waters
- bathing waters
- nutrient sensitive areas

Consider if your activity is:	Yes	No	Protected areas risk issue(s)
Within 2km of any WFD protected area ⁶	Requires impact assessment	Impact assessment not required	No WFD protected areas are located within 2 km of the proposed works.

⁶ Note that a regulator can extend the 2km boundary if your activity has an especially high environmental risk.

Section 5: Invasive non-native species (INNS)

Consider if there is a risk your activity could introduce or spread INNS.

Risks of introducing or spreading INNS include:

- materials or equipment that have come from, had use in or travelled through other water bodies
- activities that help spread existing INNS, either within the immediate water body or other water bodies

Consider if your activity could:	Yes	No	INNS risk issue(s)
Introduce or spread INNS	Requires impact assessment	Impact assessment not required	All equipment, materials, machinery and PPE used will be in a clean condition prior to their arrival on site, and upon removal from site, to minimise risk of introducing non-native species into the marine environment.

Summary

Receptor	Potential risk to receptor?	Note the risk issue(s) for impact assessment
Hydromorphology	No	
Biology: habitats	No	
Biology: fish	No	
Water quality	No	
Protected areas	No	No WFD protected areas or other Marine Protected Areas (MPA) are located within 2km of the proposed works.
Invasive non-native species	No	It is determined that the proposed works present negligible risk of spread or introduction of INNS.

4. Compliance Assessment

The outcome of the WFD Screening and Scoping (Section 3) concluded that there is no potentially significant impact from the proposed works that may prevent any WFD quality element within any water body achieving good status or which may cause deterioration. Therefore, no further compliance assessment has been undertaken.

5. Conclusion

This assessment has considered the potential risks to WFD receptors from the proposed works. All receptors were scoped out of assessment, primarily due to the offshore location of the proposed works (beyond 12 nm).

Pathways to potential impacts were limited to sediment mobilisation and associated changes in turbidity from suction bucket trials. However, given the temporary nature, predicted changes within the offshore area are not expected to pose any risk of deterioration in water body status, or of adverse effects on WFD protected areas.

It is concluded that the proposed works do not pose any risk to the status or objectives of local WFD water bodies. The impacts assessed have all been determined to have a negligible impact at the scale of the overall water body and as such the proposed activities are considered to be compliant with the WFD.

6. References

UK Gov (UK Government), 2017. Guidance: Water Framework Directive assessment: estuarine and coastal waters. Available at: <https://www.gov.uk/guidance/water-framework-directive-assessment-estuarine-and-coastal-waters#scoping-identify-risks-to-receptors> [Accessed December 2020].

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