Awel y Môr Offshore Wind Farm

Marine Licence Principles

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Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

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1 Marine Licence Principles

1 The following document provides a tabulation of the proposed principles which are anticipated to inform the Marine Licences for the Awel y Môr (AyM) project, subject to those Marine Licences being granted by Natural Resources Wales (NRW), as the relevant authority for Marine Licencing.

2 This document marks a point of progress that has been discussed with NRW Marine Licencing Team (NRW-MLT) but should be considered prejudicial to the Marine Licencing process. Table 1 presents a summary of the information anticipated to be contained within the AyM Marine Licences, with accompanying notes describing the information to be provided, and the specific Marine Licences to which the information relates. At this stage, it is anticipated that three Marine Licences will be required to construct and operate the Generation assets, Transmission assets, and the assets associated with connecting to the existing Gwynt y Môr project. These can be determined under one application.

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Table 1 Marine Licence principles

HEADING	SUMMARY	ML1 (GENERATION)	ML2 (TRANSMISSION)	ML3 (GYM CONNECTION)	NOTES / QUERIES
Marine licence	Introductory text granting the licence with reference to Pt 4 of the MCAA 2009.	✓	✓	✓	
Licence holder	Details of licence holder – Awel y Môr Offshore Wind Farm Limited	✓	✓	✓	AyM is seeking three separate licences: • ML1: Generation assets • ML2: Transmission assets • ML3: GyM connection works
Licence validity	Details of start date, end date and issue date	✓	✓	✓	Licence would include construction, operation and maintenance, and decommissioning.
Project	Description of the project	✓	✓	✓	ML1 to include: • up to 50 wind turbine generators fixed to the seabed by a foundation; • up to two offshore substation platforms each fixed to the seabed by a foundation • one meteorological mast fixed to the seabed by a foundation; • floating buoys; • a network of subsea inter-array cables including cable crossings and cable protection; • and in connection with the above such other works as may be necessary or expedient for the purposes of the Licenced Activities and which fall within the scope of the work assessed by the environmental statement including: • scour protection around the foundations of the offshore structures; • cable protection measures such as rock placement and the placement of rock and/or concrete mattresses, with or without frond devices; • dredging;

HEADING	SUMMARY	ML1 (GENERATION)	ML2 (TRANSMISSION)	ML3 (GYM CONNECTION)	NOTES / QUERIES
					▲ the removal of material from the seabed required for the construction of the Licenced Activities and the disposal of inert material of natural origin and/or dredged material within the Order limits produced during construction drilling, and seabed preparation for the installation of the foundations of the offshore structures or during seabed preparation for cable laying; ▲ creation and use of temporary vessel laydown areas; ▲ removal of static fishing equipment; and ▲ lighting. ML2 to include: ▲ installation of up to two subsea cable circuits including cable ducts (if required) and cable crossings; ▲ up to two offshore substation platforms each fixed to the seabed by a foundation; ▲ cofferdam works including piling and creation of pits for trenchless installation techniques; and ▲ in the intertidal area: ▲ installation of up to two buried cable circuits including cable crossings, cable protection, cable ducts (if required), cofferdam works including piling, creation of pits for trenchless installation techniques, cable trenching works and removal and remediation of groynes ▲ and in connection with the above such other works as may be necessary or expedient for the purposes of the Licenced Activities and which fall within the scope of the work assessed by the environmental statement including: ▲ scour protection around the foundations of the offshore structures; ▲ cable protection measures such as rock placement and the placement of rock and/or concrete mattresses, with or without frond devices; ▲ dredging;

HEADING	SUMMARY	ML1 (GENERATION)	ML2 (TRANSMISSION)	ML3 (GYM CONNECTION)	NOTES / QUERIES
					▲ the removal of material from the seabed required for the construction of the Licenced Activities and the disposal of inert material of natural origin and/or dredged material within the Order limits produced during construction drilling, and seabed preparation for cable laying; ▲ creation and use of temporary vessel laydown areas; ▲ removal of static fishing equipment; ▲ lighting; and ▲ erection of temporary cofferdams during construction ML3 to include: ▲ installation of subsea cables to the Gwynt y Môr offshore wind farm including alteration of existing scour protection and cable protection and cable crossings ▲ and in connection with the above such other works as may be necessary or expedient for the purposes of the Licenced Activities and which fall within the scope of the work assessed by the environmental statement including: ▲ cable protection measures such as rock placement and the placement of rock and/or concrete mattresses, with or without frond devices; ▲ dredging; ▲ the removal of material from the seabed required for the construction of the Licenced Activities and the disposal of inert material of natural origin and/or dredged material within the Order limits produced during construction drilling, and seabed preparation for cable laying; ▲ creation and use of temporary vessel laydown areas; ▲ removal of static fishing equipment; and ▲ lighting
Licenced activities	Details of the type of licenced activities, description of the works and information on quantities / dimensions, ie:	✓	✓	✓	Possible split in the activities in each of the three MLs: ML1:

HEADING	SUMMARY	ML1 (GENERATION)	ML2 (TRANSMISSION)	ML3 (GYM CONNECTION)	NOTES / QUERIES
	ML1 **Activity 1 Construction, operation, maintenance, and decommissioning of wind turbine generators, substation platforms, and meteorological mast.** Type of Licensed Activity: Deposit/ Removal/ Construction Description: Construction, operation, maintenance and subsequent decommissioning of wind turbine generators, substation platforms and meteorological mast. These must fall within the parameters set out within ES Offshore Project Description Chapter (application ref 6.2.1) as detailed in Appendix [x]. Deposit of scour protection around the foundations of the offshore structures. Quantities / Dimensions: The wind turbine generators, substation platforms and				▲ Activity 1: WTGs and met mast ▲ Activity 2: Inter-array cables ML2: ▲ Activity 1: Offshore substation platform ▲ Activity 2: Export cable ML3: GyM connection The description of the design parameters should be as set out in the ES and replicate those set out in the DCO requirements, noting that some will not be included as not relevant to ML: Maximum number of wind turbine generators – 50 Maximum number of OSPs – 2 Maximum total rotor swept area (km^2) – 2,500,412 Maximum height of turbines when measured from MHWS to the tip of the vertical blade (m) – 332 Maximum rotor diameter of each turbine (m) – 306 Minimum distance from MHWS to the lowest point of the rotating blade for each turbine (m) – 22 Maximum pile diameter of single pile structures (m) – 15

HEADING	SUMMARY		ML1 (GENERATION)	ML2 (TRANSMISSION)	ML3 (GYM CONNECTION)	NOTES / QUERIES
		meteorological mast must fall within the parameters set out in Appendix [x].				Maximum pile diameter of two or more pile structures (m) – 8 Maximum total seabed footprint for wind turbine generators (excluding scour protection) (m^2) – 98,175 Maximum total seabed footprint for wind turbine generators (including scour protection) (m^2) – 570,209 Maximum number of offshore substations – 2 Maximum total seabed footprint area for offshore electrical installation foundations (excluding scour protection) (m^2) – 14,000 Maximum total seabed footprint area for offshore electrical installation foundations (including scour protection) (m^2) – 21,600 Maximum volume of natural material for disposal (m^3) – 12,920,356 Maximum total volume of scour protection for wind turbine generators and offshore substation (m^3) – 952,282 Maximum number of meteorological masts – 1 Maximum total seabed footprint area for meteorological mast foundations (excluding scour protection) (m^2) – 20
	ML1 **Activity 2 Deposit, maintenance, and decommissioning of inter-array cables**					
	Type of Licensed Activity	Deposit/ Removal/ Construction				
	Description	Installation of inter-array cables. Deposit of cable protection measures including rock placement and the placement of rock and/or concrete mattresses.				
	Quantities / Dimensions	The inter-array cables must fall within the parameters set out in Appendix [x].				
	ML2 **Activity 1 Deposit, maintenance, and decommissioning of export cables**					

HEADING	SUMMARY		ML1 (GENERATION)	ML2 (TRANSMISSION)	ML3 (GYM CONNECTION)	NOTES / QUERIES
	Type of Licensed Activity	Deposit/ Removal/ Construction				Maximum total seabed footprint area for meteorological mast foundations (including scour protection) (m^2) – 855 Maximum width of any supporting structure for meteorological mast (m) – 5 Maximum number of any LIDAR measurement buoys – 3 Maximum number of any permanent vessel buoys – 3 Maximum total length of cables (km) – 203.4 Maximum volume of cable protection (m^3) – 366,513 Maximum footprint of cable protection (m^2) – 474,476 Maximum number of cable crossings – 19
	Description	Installation of up to two buried cable circuits including cable crossings. Deposit of cable protection measures including rock placement and the placement of rock and/or concrete mattresses.				
	Quantities / Dimensions	The export cables must fall within the parameters set out in Appendix [x].				
	ML2 **Activity 2 Construction, operation, maintenance, and decommissioning of offshore substation platforms.**					
	Type of Licensed Activity	Deposit/ Removal/ Construction				

HEADING	SUMMARY		ML1 (GENERATION)	ML2 (TRANSMISSION)	ML3 (GYM CONNECTION)	NOTES / QUERIES
	Description	Construction, operation, maintenance and subsequent decommissioning of up to two offshore substation platforms each fixed to the seabed by a foundation. These must fall within the parameters set out within ES Offshore Project Description Chapter (application ref: 6.2.1) as detailed in Appendix [x]. Deposit of scour protection around the foundations of the offshore structures.				
	Quantities / Dimensions	The substation platforms must fall within the parameters set out in Appendix [x].				
	ML3 Deposit, maintenance, and decommissioning of electrical connection to the Gwynt y Môr offshore wind farm					

HEADING	SUMMARY		ML1 (GENERATION)	ML2 (TRANSMISSION)	ML3 (GYM CONNECTION)	NOTES / QUERIES
	Type of Licensed Activity	Deposit/ Removal/ Construction				
	Description	Installation of subsea cable connection to the Gwynt y Môr offshore wind farm. Deposit of cable protection measures including rock placement and the placement of rock and/or concrete mattresses, cable crossings and alteration of existing scour protection.				
	Quantities / Dimensions	The connection cabling to the Gwynt y Môr offshore wind farm must fall within the parameters set out in Appendix [x].				
Licenced area	Tables of co-ordinates for the licenced area including any restricted areas – to cover all marine works to mean high water		✓	✓	✓	Relevant areas for each ML to be shown including any exclusion area(s).
Approved supporting documents	Documents supporting the ML		✓	✓	✓	
Notification of Commencement	AyM to notify various parties 14 days before commencement of any phase.		✓	✓	✓	Suggest weekly updates can be replaced with ‘at appropriate regular intervals’.

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	There is also a requirement to issue a notice to mariners and regular updates				Add provision for replacement body agreed with NRW if (i.e. Kingfisher) ceases to operate.
Notification of Vessels and/or Vehicles	Details of vessels/ vehicles to be notified to NRW and WG at least 24 hours before commencement.	✓	✓	✓	
Notification of Agents/Contractors/Sub-contractors	Details of agents/ contractors/ sub-contractors to be notified to NRW and WG at least 24 hours before commencement.	✓	✓	✓	
Notification of HM Coastguard	Coastguard to be informed of works 24 hours before commencement.	✓	✓	✓	
Inspection of Licensed Activities	MCA and WG can inspect works at reasonable time.	✓	✓	✓	
Notification of Completion	AyM to notify NRW, WG Marine and Fisheries, UKHO and Kingfisher 10 days after completion of Licenced Activities or any phase of them.	✓	✓	✓	
Accident or Emergency	Other parties to be notified of any articles deposited at sea not authorised by ML due to force majeure within 48 hours.	✓	✓	✓	To discuss – AyM preference is for Dropped Objects Plan (DOP) to be agreed as this allows for a risk-based approach to be taken depending on nature of object and risk.
Distribution of Copies of this Licence	Copies of ML to be provided to agents/ contractors/ vessels/ transport managers	✓	✓	✓	
Inspection of Documents	ML to be available for inspection at office used by licences holder/ contractor near site and on vessels/ vehicles used for works.	✓	✓	✓	

HEADING	SUMMARY	ML1 (GENERATION)	ML2 (TRANSMISSION)	ML3 (GYM CONNECTION)	NOTES / QUERIES
Notified Contractors, Vessels and/or Vehicles only to Carry out Licensed Activities	Only notified agents/ contractors/ vessels/ vehicles can undertake works. Any changes to be notified to NRW.	✓	✓	✓	
Removal of Deposited Material	Deposited material to be removed within 1 month of notice being given by NRW/ WG.	✓	✓	✓	See above – would ordinarily be covered by DOP.
Pollution Prevention	Pollution prevention best practice to be adhered to and incidents to be reported asap.	✓	✓	✓	AyM are proposing PEMP to cover pollution prevention.
Spillage of Pollutants	Bunding, storage facilities and spill kits to be used to contain and prevent spillage of pollutants.	✓	✓	✓	
Coatings	Only suitable coatings for the marine environment are to be used.	✓	✓	✓	
Prevention of Disposal of Man-made Debris	Precautions to be taken to prevent disposal of man-made debris to the marine area.	✓	✓	✓	
Biosecurity	Equipment to be washed thoroughly before moving locations. Invasive Non-Native Species Management Plan to be submitted for approval 4 months prior to commencement of activities. The plan must be implemented and any changes must be approved by NRW.	✓	✓	✓	
Equipment, Structures and Access	Equipment, temporary structures, access tracks, waste, and/ or debris to be removed on completion.	✓	✓	✓	

HEADING	SUMMARY	ML1 (GENERATION)	ML2 (TRANSMISSION)	ML3 (GYM CONNECTION)	NOTES / QUERIES
Project Parameters	Project must fall within parameters set out in PD ES chapter and in the ML.	✓	✓	✓	These details would normally also be agreed with TH and MCA. Also agreement of lighting of structures and lighting management plan and ERCOP.
Array Layout	WTGs and offshore platforms to be arrayed in accordance with the project parameters. Array layout plan to be prepared pre-construction.	✓	X	X	TH and MCA to agree array layout plan before commencement of offshore works. Lighting and Marking Plan also to be agreed with TH and MCA pre-construction.
Cable Installation Methodology	Cable Installation Methodology to be submitted for written approval at least 4 months prior to commencement of any cable installation works. The plan must be implemented and any changes must be approved by NRW.	✓	✓	✓	Cable installation methodology to also include post-construction but pre-operational remedial works.
Cable Management Plan	Cable Management Plan to be submitted for written approval at least 4 months prior to commencement of any cable maintenance works/ or within 6 months of completion of cable installation works. The plan must be implemented and any changes must be approved by NRW.	✓	✓	✓	
Programme of Works	Programme of Works for each phase to be submitted for approval 4 months before commencement of activities. The programme must be implemented and any changes must be approved by NRW.	✓	✓	✓	Condition to allow AyM to construct elements separately (i.e. foundations, WTGs, landfall, cables etc.) and for conditions to be discharged as such.

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Installed Cable Report	Installed Cable Report to be submitted for approval	✓	✓	✓	AyM considers that a post-geophysical survey report would be more informative and would be possible to submit within 12 months of completing works.
Operations and Maintenance Plan	OMP to be submitted for written approval at least 4 months prior to commencement of construction / deployment of wind turbine generators and associated infrastructure. The plan must be implemented and any changes must be approved by NRW.	✓	✓	✓	AyM suggest before operation would be more reasonable as should reflect as-built project. May also be helpful for notification of commercial operation to be given to NRW in relation to OFTO transfer and completion of works authorised under ML.
Construction Environment Management Plan	CEMP to be submitted for written approval at least 4 months prior to commencement of activities. The plan must be implemented and any changes must be approved by NRW.	✓	✓	✓	AyM would prefer reference to CMS rather than CEMP (as CEMP is for onshore).
Unexploded Ordnance Survey	UXO survey to be carried out prior to commencement of activities.	X	X	X	Not required for AyM as separate ML will be sought for UXO clearance.
Marine Archaeology	Protocol for Archaeological Discoveries to be submitted for written approval prior to commencement of activities. The protocol must be implemented and any changes must be approved by NRW. WSI to be submitted for written approval at least 4 months prior to commencement of activities. The WSI must be implemented and any changes must be approved by NRW.	✓	✓	✓	Reference should be made to this being in accordance with the outline WSI submitted by AyM.
Pre-construction Marine Archaeology Survey	Archaeology Pre-construction Survey to be submitted for written approval at least 2	✓	✓	✓	Suggest that could be included as part of post-construction geophysical monitoring plan rather than justifying separate survey.

HEADING	SUMMARY	ML1 (GENERATION)	ML2 (TRANSMISSION)	ML3 (GYM CONNECTION)	NOTES / QUERIES
	months prior to commencement of the survey. This must be implemented as approved and any changes must be approved by NRW. A report on the results of the survey must be submitted 2 months prior to commencement of construction / deployment of cables, array and associated infrastructure.				
Fisheries Liaison	A fisheries liaison and coexistence plan to be produced and implemented.	✓	✓	✓	Reference should be made to this being in accordance with the plan submitted with the application.
Aids to Navigation	Aids to Navigation Plan to be submitted for written approval at least 4 months prior to commencement of construction/ deployment of cables, array and associated infrastructure. The plan must be implemented and any changes must be approved by NRW. A report on the availability of aids to navigation to be provided to NRW in accordance with timetable in the plan. Licence holder to follow any steps required by Trinity House in relation to aids to navigation.	✓	✓	✓	Schedule of mitigation refers to a Lighting and Marking Plan being agreed pre-construction. NRW conditions need to reflect Trinity House and MCA requirements/ standard wording.
Depth Reduction	Depth reductions from cable protection must not compromise safe navigation and must not result in a x% reduction in	✓	✓	✓	

HEADING	SUMMARY	ML1 (GENERATION)	ML2 (TRANSMISSION)	ML3 (GYM CONNECTION)	NOTES / QUERIES
	surrounding depth, unless otherwise agreed with NRW.				
Emergency Response Co-operation Plan	ERCoP to be submitted for written approval at least 4 months prior to commencement of activities. The plan must be implemented and any changes must be approved by NRW.	✓	✓	✓	Note that detailed completion of the plan to be in cooperation with the Maritime Rescue Coordination Centre (MRCC), responsible for maritime emergency response.
Colouring of Infrastructure	Trinity House to direct colour of infrastructure.	✓	✓	X	Consider whether this should sit in DCO or ML.
Detailed Environmental Management and Monitoring Plan	dEMMP to be submitted for written approval 6 months prior to deployment of WTG. dEMMP to be implemented and any changes must be approved by NRW.	✓	✓	✓	Requirement for and approach to pre-, during and post-construction management and monitoring to be discussed.
Marine Mammal Mitigation Protocol	MMMP to be submitted for written approval at least 4 months prior to commencement of activities. The protocol must be implemented and any changes must be approved by NRW.	✓	✓	X	Trigger should be 4 months before commencing piling activities and note draft MMMP submitted by AyM.
Pre-construction Monitoring Survey	Pre-construction Monitoring Survey to be submitted for written approval at least 2 months prior to commencement of the survey. This must be implemented as approved and any changes must be approved by NRW. A report on the results of the survey must be submitted 4 months prior to commencement of construction/	✓	✓	✓	Requirement for and approach to pre-, during and post-construction management and monitoring to be discussed.

HEADING	SUMMARY	ML1 (GENERATION)	ML2 (TRANSMISSION)	ML3 (GYM CONNECTION)	NOTES / QUERIES
	deployment of cables, array and associated infrastructure.				
Pollution Prevention and Management Plan	PPMP to be submitted for written approval at least 6 weeks prior to commencement of activities. The plan must be implemented, and any changes must be approved by NRW.	✓	✓	✓	PEMP to be produced which includes MPCP.
Environmental Monitoring	Specification for construction and post-construction monitoring surveys to be submitted for written approval at least 4 months prior to commencement of activities. This must be implemented as approved, and any changes must be approved by NRW. Environmental monitoring reports to be submitted for approval within 8 months of the survey dates specified in the monitoring programme.	✓	✓	✓	Requirement for and approach to pre-, during and post-construction management and monitoring to be discussed.
Chemical Risk Assessment	Chemical Risk Assessment report to be produced and implemented. Report to be available for inspection at relevant locations.	✓	✓	✓	Alternative approach would be to sign with approved chemicals.
Decommissioning	Decommissioning Programme to be submitted for approval 4 months prior to commencement of construction/ deployment of export cable, array, associated infrastructure.	✓	✓	✓	

HEADING	SUMMARY	ML1 (GENERATION)	ML2 (TRANSMISSION)	ML3 (GYM CONNECTION)	NOTES / QUERIES
	Decommissioning Programme to be updated and submitted for approval 4 months prior to any decommissioning works taking place. Programme to be implemented and changes to be approved by NRW. Decommissioning must take place before licence end date.				
Compliance Report	Report on compliance with conditions to be submitted for approval 2 months prior to commencement of construction / deployment of export cable, array, associated infrastructure.	✓	✓	✓	
Reporting on impacts of pile driving	Information to be provided to UK Marine Noise Registry where driven or part-driven pile foundations are proposed to be used.	✓	X	X	
Seabed Morphology and Scour	Scour protection management plan and swath bathymetric survey on sample of turbines may be required.	x	x	x	Not anticipated to be needed given minimal scour predictions.
Noise and vibration	Specification for noise and vibration impacts from foundation piling may be required.	✓	✓	X	
Met masts	NRW to agree any proposed met masts.	✓	X	X	Covered in AyM licenced activities.
Aviation safety	Lights, shape, colour and character of array to comply with Air Navigation Order 2016. Consultation with the Defence Infrastructure Organisation may be required.	✓	X	X	

HEADING	SUMMARY	ML1 (GENERATION)	ML2 (TRANSMISSION)	ML3 (GYM CONNECTION)	NOTES / QUERIES
Notification to aviation stakeholders		✓	X	X	Schedule of mitigation refers to informing DGC of the locations, heights and lighting status of the wind turbines, including estimated and actual dates of construction and the maximum height of any construction equipment to be used, prior to the start of construction, to allow inclusion on Aviation Charts.
Marking on Admiralty charts		✓	✓	X	Schedule of mitigation refers to details of AyM being provided to UKHO so they are displayed on nautical charts.
Contact details	Primary point of contact and details for NRW and WG.	✓	✓	✓	TBC whether Fisheries Office, CEFAS, and CADW to be included here.

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