Awel y Môr Offshore Wind Farm

Category 6: Environmental Statement

Volume 5, Annex 9.3: Percentage Impact Calculations and Assessment Screening

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AWEL Y MÔR OFFSHORE WIND FARM

Volume 5, Annex 9.3 Percentage Impact Calculations and Assessment Screening

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DOCUMENT REFERENCES

TABLES

1.0 Introduction

This report is a technical annex (Volume 5, Annex 9.3) of Volume 3, Chapter 9: Traffic and Transport (application ref: 6.3.9), of the Environmental Statement (ES) It sets out the percentage impact calculations of forecast Maximum Design Scenario (MDS) construction vehicle movements associated with the assessment of the likely significant effects associated with the onshore elements of the Awel y Môr Offshore Wind Farm (AyM OWF) on traffic and transport.

2.0 Percentage impact calculations

Percentage impact calculations against a future baseline of 2026 have been undertaken for:

- The trip generation assessment scenarios 1a to 7b as set out in Section 3.3.3 of Volume 5, Annex 9.2 Trip Generation and Distribution (application ref: 6.5.9.2), which are provided in **Appendix A**; and
- The maximum two-way trip generation on the highway links identified in in Volume 5, Annex 9.2, which are shown in **Table 2-1**

Table 2-1 Maximum trip generation percentage impacts

Highway Link		Base 2026		AyM trip generation		Base + AyM		Percentage impact (%)	
		HGV	Total	HGV	Total	HGV	Total	HGV	Total
1.	A548 Rhyl Coast Road	188	13,104	22	48	210	13,152	11.7	0.4
2.	B5119 east of Rhyl	51	7,220	57	107	108	7,327	111.8	1.5
3.	B5119 west of the onshore ECC	70	3,507	57	107	127	3,614	81.4	3.1
4.	B5119 east of the onshore ECC	65	3,502	57	107	122	3,609	87.7	3.1
5.	A547 east of Rhuddlan	382	11,634	33	74	415	11,708	8.6	0.6
6.	A547 eastern Rhuddlan bypass	318	14,021	83	159	401	14,180	26.1	1.1
7.	A525 north of Rhuddlan	377	16,311	66	148	443	16,459	17.5	0.9
8.	A525 western Rhuddlan bypass	366	15,242	92	203	458	15,445	25.1	1.3
9.	A547 Abergele Road	630	24,336	39	96	669	24,432	6.2	0.4
10.	Bodelwyddan Road	123	6,649	29	63	152	6,712	23.6	0.9
11.	A525 south of Bodelwyddan Road	599	17,936	130	292	729	18,228	21.7	1.6
12.	B5381 Glascoed Road	37	1,125	143	262	180	1,387	386.5	23.3
13.	Ffordd William Morgan	95	4,495	146	276	241	4,771	153.7	6.1

3.0 Assessment screening

3.1 Method

Using the trip generation identified in **Table 2-1**, which shows the maximum predicted daily total and HGV traffic increases on each highway link and in accordance with the Institute of Environmental Management and Assessment (IEMA), Guidelines for Environmental Assessment of Road Traffic (GEART), 1993, Rule 1 and Rule 2 (as set out in Section 86 of Volume 3, Chapter 9), a screening process has been undertaken for each link to identify routes that are likely to have sufficient changes in traffic flows and therefore require further impact assessment.

Rule 1 and Rule 2 are:

- **Rule 1** - Include road links where total traffic flows are predicted to increase by more than 30% or where the number of HGVs is predicted to increase by more than 30%; and
- **Rule 2** - Include any other specifically sensitive areas where total traffic flows are predicted to increase by 10% or more.

3.2 Total Vehicles

The screening assessment, which identifies the sensitivity of each link to changes in traffic (as per Table 9 of Volume 3, Chapter 9) is shown in **Table 3-1** below.

Table 3-1 Traffic impact assessment screening

Highway link		Percentage increase (%)		Sensitivity	Threshold (%)		Assess further?
		HGV	Total		HGV	Total	
1.	A548 Rhyl Coast Road	11.7	0.4	Medium	30	10	No
2.	B5119 east of Rhyl	111.8	1.5	High	30	10	Yes
3.	B5119 west of the onshore ECC	81.4	3.1	High	30	10	Yes
4.	B5119 east of the onshore ECC	87.7	3.1	High	30	10	Yes
5.	A547 east of Rhuddlan	8.6	0.6	Low	30	30	No
6.	A547 eastern Rhuddlan bypass	26.1	1.1	Low	30	30	No
7.	A525 north of Rhuddlan	17.5	0.9	High	30	10	No
8.	A525 western Rhuddlan bypass	25.1	1.3	Low	30	30	No
9.	A547 Abergele Road	6.2	0.4	Low	30	30	No
10.	Bodelwyddan Road	23.6	0.9	High	30	10	No
11.	A525 south of Bodelwyddan Road	21.7	1.6	Low	30	30	No

Highway link	Percentage increase (%)		Sensitivity	Threshold (%)		Assess further?
	HGV	Total		HGV	Total	
12. B5381 Glascoed Road	386.5	23.3	High	30	10	Yes
13. Ffordd William Morgan	153.7	6.1	Low	30	30	Yes

As set out in **Table 3-1** the highway links that are identified for further assessment in terms of the impact of a change in traffic volume within the ES are:

- B5119;
- B5381 Glascoed Road; and
- Ffordd William Morgan

3.3 HGVs

Notwithstanding the conclusions drawn in **Section 3.3**, there are a number of different peaks in vehicular activity for each of the ECC Route Sections (including proposed and existing NG substations) and across the proposed construction programme.

In particular, the peak month for total vehicles and HGVs differs for some of the Route Sections. As part of the screening assessment, to ensure a robust assessment of impacts associated with HGV movements in the ES, a review of the peak months for HGVs only and the differences in HGV movements compared to the HGV movements in the peak month for total vehicles has been undertaken.

The peak month of each Route Section in terms of total vehicles and HGVs only is set out in **Table 3-2:**

Table 3-2 Peak Months (Total Vehicles and HGVs)

ECC Route Section	Peak Month (maximum vehicle movements)	
	Total Vehicles	HGVs
A	7	7
B/ C[1]	6	16
D	6	4
Section E	7	1
Section F	12	10
Proposed substation	Even distribution across the construction programme assumed	
G/ Existing National Grid substation[2]	10	15

[1] Combined due to the use of B5119 Dyserth Road to access both
[2] Combined due to the potential for the shared use of Access S

Table 3-2 shows the peak month for total vehicles and HGVs is the same for the works at ECC Route Section A and therefore, the assessment of total vehicles in the ES is suitable.

The peak month of HGVs is different to the peak month for total vehicles for all other ECC Route Sections and therefore a review of the differences has been undertaken.

The differences in the number of HGV movements (two-way) in the peak HGV month compared to the HGVs movements in the peak month for total vehicles is set out in **Table 3-3:**

Table 3-3 Difference in HGV movements using HGV only Peak Months

Route Section	Maximum Daily HGV Movements (two-way)			Average Hourly HGV Movements (two-way)		
	Total Vehicles Peak	HGV Peak	Difference	Total Vehicles Peak	HGV Peak	Difference
B/ C	57	50	-7	5	4	-1
D	17	42	+25	1	4	+2
Section E	57	97	+40	5	8	+3
Section F	18	26	+8	2	2	+1
G/ Existing National Grid substation	31	46	+15	3	4	+1

Table 3-3 shows that the number of HGV movements is greater for Sections D, E, F and G/ Existing National Grid substation, using the peak month for HGVs. An analysis of the implications of this for the assessment within the ES is set out below:

- Section D is accessed via the A55 and A525, which are strategic highway links and the minor increase in HGVs in the HGV peak month would not change the results of the screening assessment;
- Section E is accessed via three possible access locations (Access J, L and O1 or O2) with 50% maximum at either J (A547 Abergele Road) or L (Bodelwyddan Road). In the scenario with 50% of HGVs to and from Bodelwyddan Road (see Section 3.3.2 of Volume 5, Annex 9.2), the screening threshold of 30% for full assessment under EIA Regulations is breached (39.6%) and therefore Bodelwyddan Road has been assessed in the ES based on the HGV peak month;
- Section F is accessed via Junction 26 of the A55, a short section of Ffordd William Morgan and the minor increase in HGVs in the HGV peak month would not change the results of the screening assessment; and
- The screening threshold of 30% for full assessment under EIA Regulations is already breached for ECC Route Section G/ Existing National Grid substation in the total vehicles peak month assessment and therefore the minor increase in HGVs identified the HGV peak month would not change the results of the screening assessment.

Therefore, it can be concluded that the MDS proposed is a robust assessment of total and HGV impacts on each highway link, with the exception of Bodelwyddan Road, which has been taken forward for full assessment in the ES under EIA Regulations, based on the vehicle movements in the HGV peak month.

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