

MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS

Annex 3.3: Helicopter Access Report – Additional flight data analysis

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Glossary

Term	Meaning
Applicant	Morgan Offshore Wind Limited.
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for a Nationally Significant Infrastructure Project (NSIP).
Morgan Offshore Wind Project: Generation Assets	This is the name given to the Morgan Generation Assets project as a whole (includes all infrastructure and activities associated with the project construction, operations and maintenance, and decommissioning).

Acronyms

Acronym	Description
ADS-B	Automatic Dependent Surveillance Broadcast
IMC	Instrument Meteorological Conditions
NPI	Non Production Installations
POB	Personnel On Board
VMC	Visual Meteorological Conditions

Units

Acronym	Description
nm	Nautical mile
%	Percent

1 HELICOPTER ACCESS REPORT – ADDITIONAL FLIGHT DATA ANALYSIS

1.1 Introduction

- 1.1.1.1 A Helicopter Access Report (Appendix A within Volume 4, Annex 11.1: Aviation and radar technical report (APP-045)) was prepared for the Morgan Generation Assets to identify the helicopter access available to nearby hydrocarbon assets. The report used meteorological data from the Millom West platform to assess the potential impact of the Morgan Generation Assets on helicopter access to 11 platforms/infrastructure, floating facilities and wellheads, within 9 nm of the Morgan Array Area, as required by CAP 764 (CAA, 2016), which included the Millom West platform and the Millom East well-heads. The report found that the Morgan Generation Assets could restrict or prevent access to the following installations operated by Harbour Energy under Instrument Meteorological Conditions (IMC) or night Visual Meteorological Conditions (VMC):
- Millom West platform
 - Millom East PLEM wellhead
 - Millom East Q1-3 Wellheads.
- 1.1.1.2 The Helicopter Access Report (Appendix A within Volume 4, Annex 11.1: Aviation and radar technical report (APP-045)) informed the conclusions of the assessment presented in Volume 2, Chapter 11: Aviation and radar (APP-015), where effects on Harbour Energy operations were predicted to be of minor adverse significance.
- 1.1.1.3 As noted above, the Helicopter Access Report (Appendix A within Volume 4, Annex 11.1: Aviation and radar technical report (APP-045)) was informed by site-specific meteorological data, however flight data (Vantage data) was not available to inform the analysis. This technical note has therefore been prepared to support the evidence base for the conclusions of the assessment through the inclusion of analysis of site-specific helicopter flight data to the Millom West platform between March 2021 and December 2022. Operations carried out at Millom West, particularly flights to Non Production Installations (NPI's) working at the site, are assumed to be very similar to the types of operations that will be carried out by NPI's for decommissioning at the adjacent Millom East field.
- 1.1.1.4 The offshore oil and gas operators use the Vantage Personnel On Board (POB) (CGI Group Inc. (2017)) system, or similar, to monitor staff movements, safety training and to produce manifests for offshore helicopter flights. The Vantage data identifies the date, time and routing an offshore flight took. The Vantage data can be correlated with the meteorological data to identify which flights would have been impacted if the Morgan Generation Assets had been built at the time of the flight. For example, if IMC or night flights are not permitted due to the helideck being within 3 nm of the Morgan Generation Assets, (if the proposed new CAA guidance comes into existence), any flights which took place at night or in IMC can be noted. This methodology permits the theoretical impact on flights to be identified, should the Morgan Generation Assets have been present at that time, and so if the pattern of future flights remains similar, it can be helpful in inferring the actual impact on future helicopter operations.

1.2 Automatic Dependent Surveillance Broadcast Flight Data

- 1.2.1.1 Vantage data was requested from Harbour Energy but has not been made available for this project and so an alternative source of data has been utilized, namely Automatic Dependent Surveillance Broadcast (ADS-B) data. ADS-B data is transmitted by aircraft to provide other aircraft and Air Traffic Control with their callsign, position, altitude and velocity. A set of ADS-B data for the Morecambe Bay area was obtained for the period 22 March 2021 to the end date of the meteorological data used in the helicopter access study, December 2022. The ADS-B data was used to identify when flights took place to areas of interest, such as the Millom West platform.
- 1.2.1.2 ADS-B data was obtained from an independent aviation company. It has been assumed that all the relevant flights have been recorded but it is possible that aircraft operating at low altitudes may not have been tracked. The data was filtered to identify the offshore helicopter flights and locations of interest. The start time of a flight track to a location was recorded as the departure time and the end of the track was recorded as the arrival time. As the exact take-off and landing times are likely to differ by several seconds from the start of the recorded track, this has to be recognised as a potential limitation of the data, however the meteorological data was sampled every 10 minutes (see below). Figure 1.1 presents the ADS-B data relative to the Millom West field and the Morgan Generation Assets. A 3 nm buffer around the Millom West platform is shown to illustrate where flights would be required to be day VMC only should the proposed new CAA guidance come into existence.

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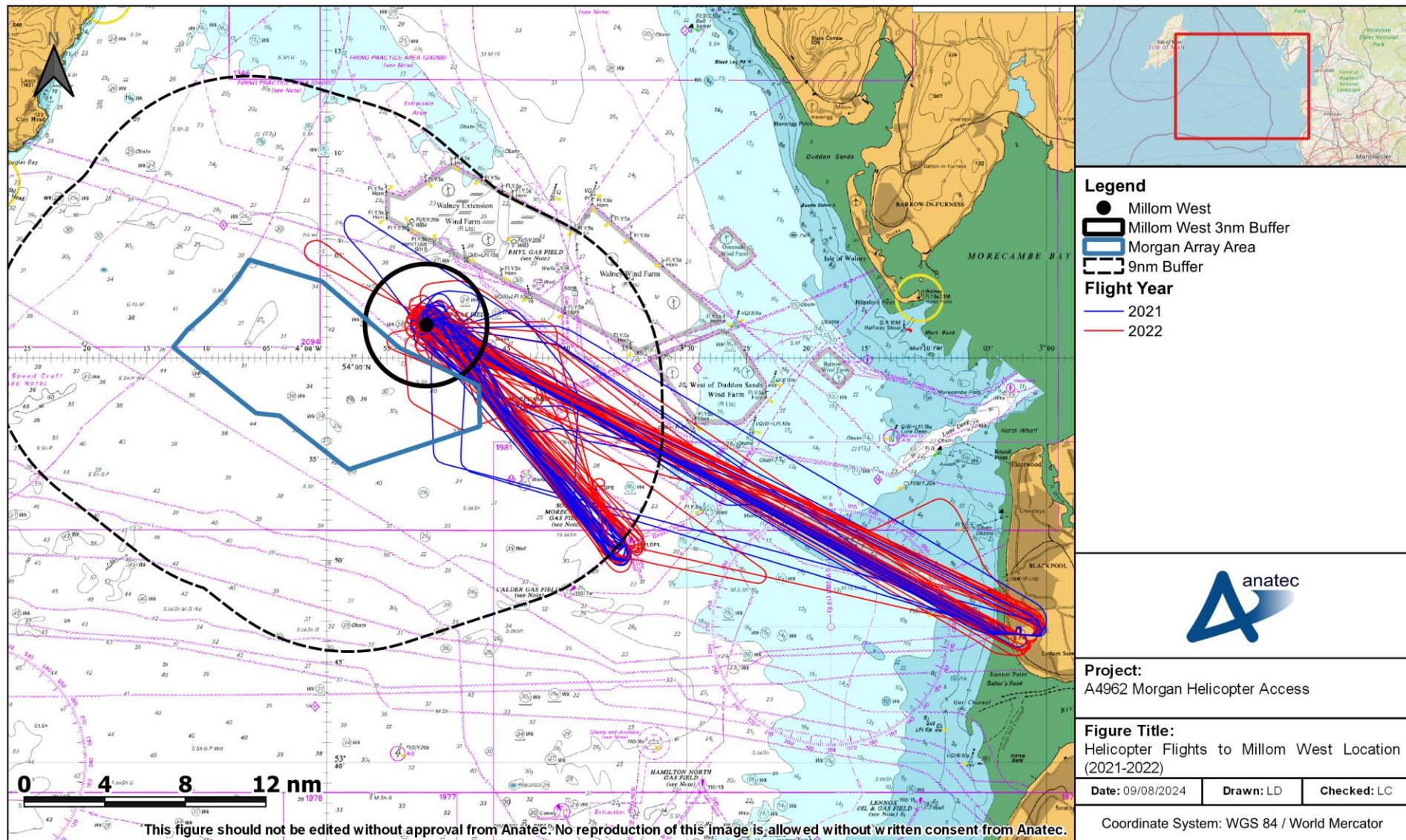


Figure 1.1: Helicopter Flights to Millom West Location (2021-2022).

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1.3 Analysis

- 1.3.1.1 The departure times and arrival times for each sector were correlated with the meteorological data used in the Helicopter Access Report (Appendix A within Volume 4, Annex 11.1: Aviation and radar technical report (APP-045)). As the flight data was recorded to the nearest second and the meteorological data was sampled every 10 minutes, the two sets of timings were aligned by rounding the departure and arrival times to the nearest 10 minutes.

1.4 Results

- 1.4.1.1 Flights to and from Blackpool Airport to the Millom West platform were assessed, along with flights from the CPC-1 Platform to the Millom West platform. The recorded flights to the Millom West platform ceased after 21 November 2021 as it is understood the helideck was decommissioned at some point and the Ensco 92 jack-up moved into that location. The first recorded flight to the Ensco 92 was on 25 February 2022 and the final recorded flight in 2022 was 17 October.

Table 1.1: Flights to Millom West platform (22nd March – 21st November 2021).

Routing	Number of Flights
Number of Flights Blackpool Airport to Millom West	34
Number of Shuttles CPC-1 to Millom West	32
Number of Day VMC Arrivals at Millom West	63
Number of Day IMC Arrivals at Millom West	3
Number of Night VMC Arrivals at Millom West	0
Number of Night IMC Arrivals at Millom West	0

- 1.4.1.2 The combined flight and meteorological data indicates that all the flights took place in daylight, which is as expected as the Millom West's helideck was not equipped for night operations. A total of 34 flights were flown from Blackpool Airport to Millom West in 2021, all of these departed under VMC. A total of 32 flights were flown from CPC-1 to Millom West, all these flights departed CPC-1 under VMC.
- 1.4.1.3 Three flights to Millom West would have arrived under IMC, which due to the proximity of the Morgan Generation Assets, would not be permitted. Therefore, the data indicates that three out of 66 flights (i.e. 4.5%) would have been affected, which is similar to the percentage of day IMC shown in the Helicopter Access Report (Table A.2 of Appendix A within Volume 4, Annex 11.1: Aviation and radar technical report (APP-045)). Therefore, the impact is considered to be of minor adverse significance, as concluded within Volume 2, Chapter 11: Aviation and radar (APP-015).
- 1.4.1.4 The Ensco 92 jack-up is a NPI typical of assets used in the decommissioning of gas infrastructure and therefore expected to be representative of flights taking place to an NPI at Millom East during decommissioning operations. The Ensco 92 helicopter access analysis covered the period from February to October 2022 (Table 1.2).

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Table 1.2: Flights to Ensco 92 (25th February – 17th October 2022).

Routing	Number of Flights
Number of Flights Blackpool Airport to Ensco 92	82
Number of Shuttles CPC-1 to Ensco 92	35
Number of Day VMC Arrivals at Ensco 92	114
Number of Day IMC Arrivals at Ensco 92	2
Number of Night VMC Arrivals at Ensco 92	1
Number of Night IMC Arrivals at Ensco 92	0

- 1.4.1.5 The combined flight and meteorological data indicates that there was one night flight to the Ensco 92 in 2022, the rest of the flights took place in daylight. Of the 116 day landings in 2022 on the Ensco 92, 114 were under VMC. This gives a total of three out of 117 (i.e. 2.6%) flights that would have been affected by the Morgan Generation Assets if the new CAA rules are taken into consideration. This indicates that the operational impact on the Ensco 92 would have been minimal, supporting the conclusion that the impact on Millom East decommissioning operations would be of minor adverse significance (APP-015).

1.5 Conclusion

- 1.5.1.1 The purpose of this technical note is to verify the conclusions made in the Helicopter Access Report (APP-045) by identifying flights to the Millom West platform and to a rig operating at the Millom West platform that would have been affected if the Morgan Generation Assets had been present when they took place. The conclusions are expected to be representative of the potential impact to the adjacent Millom East location.
- 1.5.1.2 The data confirms that a large proportion of flights were conducted under day VMC. Based on the available flight data, the loss of access due to the presence of the Morgan Generation Assets would be similar, or lower than that predicted in the Helicopter Access Report, with the impact being of minor adverse significance (APP-015) and considered to be logistical in nature.
- 1.5.1.3 It is accepted that this technical note is based on limited flight data. A broader assessment would be possible if Harbour Energy provided their Vantage data for a wider time period, coinciding with the full range of meteorological data they have previously provided to the Applicant. The analysis of Vantage data, whilst being more comprehensive, is likely to yield the same conclusions.

2 REFERENCES

CAA (2016) CAP 764 Policy and Guidelines on Wind Turbines. Sixth Edition. Gatwick: CAA.

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