



North Wales Border Control Post Special Development Order 2021

Air Quality Appendix
BCP21-002-02-00

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1 Air Quality Appendix

1.1 Overview

This document supports the air quality assessment for the development at Plot 9 Parc Cybi, Holyhead, for a permanent Border Control Post (BCP). It should be read in conjunction with the main Environment Report (BCP21-002-00-00)¹, to which this report is an appendix.

1.2 Pollutants

The assessment has considered oxides of nitrogen (NO_x) and particulate matter (PM) as these are the key pollutants associated with the scheme and the key pollutants related to local air quality. NO_x is a term to describe a mixture of nitric oxide (NO) and nitrogen dioxide (NO₂), referred to collectively as NO_x. The main sources in the UK are road traffic and power generation. PM₁₀ and PM_{2.5} (where the aerodynamic diameter is less than 10 or 2.5 microns) are associated with combustion activities, construction activities, and sources such as tyre wear amongst others.

1.3 Legislation and Policy

1.3.1 Applicable Standards

The Air Quality Standards (Wales) Regulations 2010² and The Air Quality Standards (Wales) (Amendment) (EU Exit) Regulations 2019³ implement the EU's Directive 2008/50/EC on ambient air quality.

The air quality objectives specifically for use by local authorities in carrying out their air quality management duties are set out in the Air Quality (Wales) Regulations 2000⁴ and the Air Quality (Wales) (Amendment) Regulations 2002⁵.

The air quality objectives and limit values relevant to the assessment are summarised in Table 1.1.

Table 1.1: Air Quality Objectives, Limit Values and Critical Level

Pollutant	Averaging Period	Concentration	Allowance	Attainment Date	
				Air Quality Objectives	EU Limit Values
Nitrogen dioxide (NO ₂)	Annual	40 µg/m ³	-	31 December 2005 ^{(a)(b)}	1 January 2010 ^(b)
	1 Hour	200 µg/m ³	18 (equivalent to 99.8 th percentile)	31 December 2005 ^(a)	1 January 2010 ^(b)
Particulate Matter (PM ₁₀)	Annual	40 µg/m ³	-	31 December 2004 ^(a)	1 January 2005 ^(c)
	24 Hour	50 µg/m ³	35 (equivalent to 90.41 st percentile)	31 December 2004 ^(a)	1 January 2005 ^(c)

¹ Mott MacDonald (2021) North Wales Border Control Post Environmental Report. Document Number: BCP21-002-00-00

² Statutory Instrument. (2010), 'The Air Quality Standards (Wales) Regulations', No. 1433 (W.126). Queen's Printer of Acts of Parliament.

³ Statutory Instrument (2019) Air Quality Standards (Wales) (Amendment) (EU Exit) Regulations 2019, No. 390 (W.95). Queen's Printer of Acts of Parliament

⁴ Statutory Instrument. (2000), 'Air Quality (Wales) Regulations', No. 1940 (W.138). Queen's Printer of Acts of Parliament.

⁵ Statutory Instrument. (2002), 'Air Quality (Amendment) (Wales) Regulations', No. 3180 (W.298). Queen's Printer of Acts of Parliament.

Pollutant	Averaging Period	Concentration	Allowance	Attainment Date	
				Air Quality Objectives	EU Limit Values
Particulate Matter (PM _{2.5})	Annual	25µg/m ³	-	1 January 2015 ^(a)	-
		20µg/m ³	-	-	1 January 2020 ^(b)
Nitrogen Oxides (NO _x) ^(c)	Annual	30 µg/m ³	-	31st December 2000 ^(a)	

Notes:

^(a) Air Quality (Wales) Regulations 2000 as amended

^(b) EU Directive 2008/50/as transposed into UK Law

^(c) Designated for the protection of vegetation and ecosystems and also referred to as the 'critical level' for NO_x. The policy of the UK statutory nature conservation agencies is to apply the annual mean NO_x criterion in internationally designated conservation sites and SSSIs on a precautionary basis, as the Limit Value applies only to locations more than 20 km from towns with more than 250,000 inhabitants or more than 5 km from other built-up areas, industrial installations or motorways. On this basis the limit values have been excluded from this assessment.

1.3.2 Statutory Nuisance

Section 79(1)(d) of the Environmental Protection Act 1990⁶ defines one type of 'statutory nuisance' as "*any dust, steam, smell or other effluvia arising on industrial, trade or business premises and being prejudicial to health or a nuisance*". Where a local authority is satisfied that a statutory nuisance exists, or is likely to occur or recur, it must serve an abatement notice. Failure to comply with an abatement notice is an offence. However, it is a defence if an operator employs the best practicable means to prevent or to counteract the effects of the nuisance.

Although the assessment shows that air quality emissions or dust from the site is not expected to cause any significant effects, the application of Statutory Nuisance provisions would require discussion with the local authority in the event of a justified complaint.

1.3.3 Regional Air Quality Policy

Planning Policy Wales (PPW) Edition 10⁷ was published in December 2018 and sets out the land use planning policies of the Welsh Assembly. Regarding air quality, a key outcome of the PPW is "Clean Air" with a number of strategies proposed to help achieve this outcome. Specifically, the PPW states:

"The planning system should maximise its contribution to achieving the well-being goals, and in particular a healthier Wales, by aiming to reduce average population exposure to air and noise pollution alongside action to tackle high pollution hotspots. In doing so, it should consider the long-term effects of current and predicted levels of air and noise pollution on individuals, society and the environment and identify and pursue any opportunities to reduce, or at least, minimise population exposure to air and noise pollution, and improve soundscapes, where it is practical and feasible to do so."

"In proposing new development, planning authorities and developers must, therefore:

- *address any implication arising as a result of its association with, or location within, air quality management areas... or areas where there are sensitive receptors*
- *not create areas of poor air quality...*
- *seek to incorporate measures which reduce overall exposure to air and noise pollution ..."*

⁶ Parliament of the United Kingdom. (1990), 'Environmental Protection Act', Chapter 43. Queen's Printer of Acts of Parliament.

⁷ Welsh Government, 2018. Planning Policy Wales, Edition 10.

The PPW also states that: “*Planning authorities must consider the potential for temporary environmental risks, including airborne pollution and surface and subsurface risks, arising during the construction phases of development.*”

1.3.4 Local Air Quality Policy

The Anglesey and Gwynedd Joint Local Development Plan 2011 - 2026⁸ was adopted on 31st July 2017. The plan is a land use development strategy for a period of 15 years. There is one policy that relates to air quality, this is Policy PCYFF2: Development Criteria, and it states:

“Planning permission will be refused where the proposed development would have an unacceptable adverse impact on:

7. The health, safety or amenity of occupiers of local residences, other land and property uses or characteristic of the locality due to increased activity, disturbance, vibration, noise, dust, fumes, litter, drainage, light pollution, or other forms of pollution or nuisance”.

1.4 Baseline Conditions

1.4.1 Overview

This section provides an overview of the existing baseline conditions of the site and the surrounding area for 2019 which is the most recent year for which a full data set exists.

Background pollutant concentrations are spatially and temporally variable throughout the UK. Information on air quality within the UK is available from a variety of sources including Local Authorities, national network monitoring sites and other published sources. This assessment is based on Local Authority data from Isle of Anglesey County Council (IACC) and data available from Defra.

There are no air quality management areas (AQMAs) declared for exceedances of the air quality objectives in the IACC administrative area.

1.4.2 Local Authority Monitoring

There are four automatic monitors within the IACC area, these sites all monitor particulate matter (PM₁₀ and PM_{2.5}) and are located in rural settings. Two are located at quarrying sites, one is located next to the construction site of the Wylfa Newydd nuclear power plant and the other is located at Penhesgyn recycling centre. These monitors are not in settings considered to be representative of site conditions or the haulage routes used to access the scheme. As such, they are not considered further.

1.4.3 Diffusion Tube Monitoring

IACC undertakes diffusion tube monitoring at 11 sites across the borough. There is one diffusion tube located approximately 1.4km north east of the scheme at Orthios Penrhost Lodge, this tube was introduced in 2019 and only had 17% data capture for 2019 and not suitable for comparison with annual mean objectives and therefore, it is not considered further.

Further monitoring is located at Marine Square, Holyhead close to the port and approximately 2.5km north west of the site. This site began monitoring in 2018. The site is considered representative of the route used by the Heavy Goods Vehicles (HGVs) to access the scheme.

⁸ Isle of Anglesey County Council and Gwynedd Council (2017) Anglesey and Gwynedd Joint Local Development Plan 2011 – 2026. [Online] Available at: [Anglesey-and-Gwynedd-Joint-Local-Development-Plan-Written-Statement.pdf \(llyw.cymru\)](#)

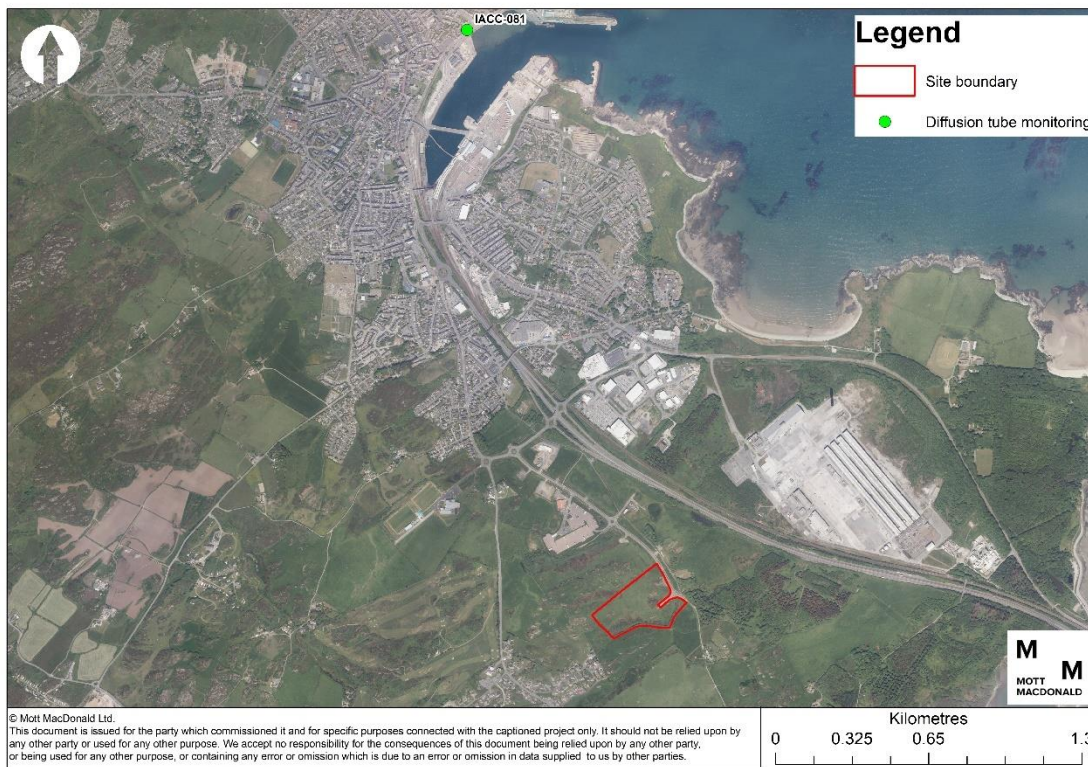
Table 1.2 below presents the monitoring results from diffusion tube IACC-081, the location of the monitor is presented in Figure 1.1. The concentrations at the monitor are well below the NO₂ annual mean objective of 40µg/m³⁹.

Table 1.2: Diffusion Tube Monitoring Data for NO₂

Site ID	Site Name	Site classification	National grid reference		Annual mean NO ₂ concentration (µg/m ³)	
			X	Y	2018	2019
IACC-081	Marine Sq. Holyhead	Roadside	224942	382866	19.7	18.7

Source: North Wales Authorities Collaborative Project 2020 Air Quality Progress Report¹⁰
 All concentrations have been bias adjusted by IACC
 Data capture for all years is 100%

Figure 1.1: Diffusion Tube Monitoring



Source: Mott MacDonald 2021

1.4.4 Defra Background Concentrations

Defra provides estimates of background pollution concentrations for NO_x, NO₂, PM₁₀ and PM_{2.5} across the UK for each one-kilometre grid square for every year from 2018 to 2030. Future year projections have been developed from the base year of the background maps, which is currently 2018. The maps include a breakdown of background concentrations by emission source,

⁹ Statutory Instrument (2010) The Air Quality Standards (Wales) Regulations, No. 1001. Statutory Instrument. (2016), 'The Air Quality Standards (Wales) (Amendment) Regulations 2016', No. 1184. Queen's Printer of Acts of Parliament. Statutory Instrument (2019) Air Quality (Wales) (Amendment of Domestic Regulations) (EU Exit) Regulations., No. 74

¹⁰ North Wales Authorities Collaborative Project (2020) Air Quality Progress Report 2020. [Online] Available at: <https://www.anglesey.gov.uk/en/Residents/Pests-pollution-dogs-and-food-safety/Pollution/Air-quality/Air-quality.aspx>

including road and industrial sources which have been calibrated against 2018 UK monitoring data.

Background concentrations for the 1km grid square covering the site are presented in Table 1.3 for 2021. The data shows mapped background concentrations for all pollutants are well below the relevant objectives.

Table 1.3: Defra Projected Background Concentrations of NO_x, NO₂ and PM₁₀ for Human Health in 2021

1km grid square location (OS grid reference)		2021			
X	Y	NO _x	NO ₂	PM ₁₀	PM _{2.5}
225500	380500	5.0	4.0	8.4	5.4

Source: <https://uk-air.defra.gov.uk/data/laqm-background-maps>

