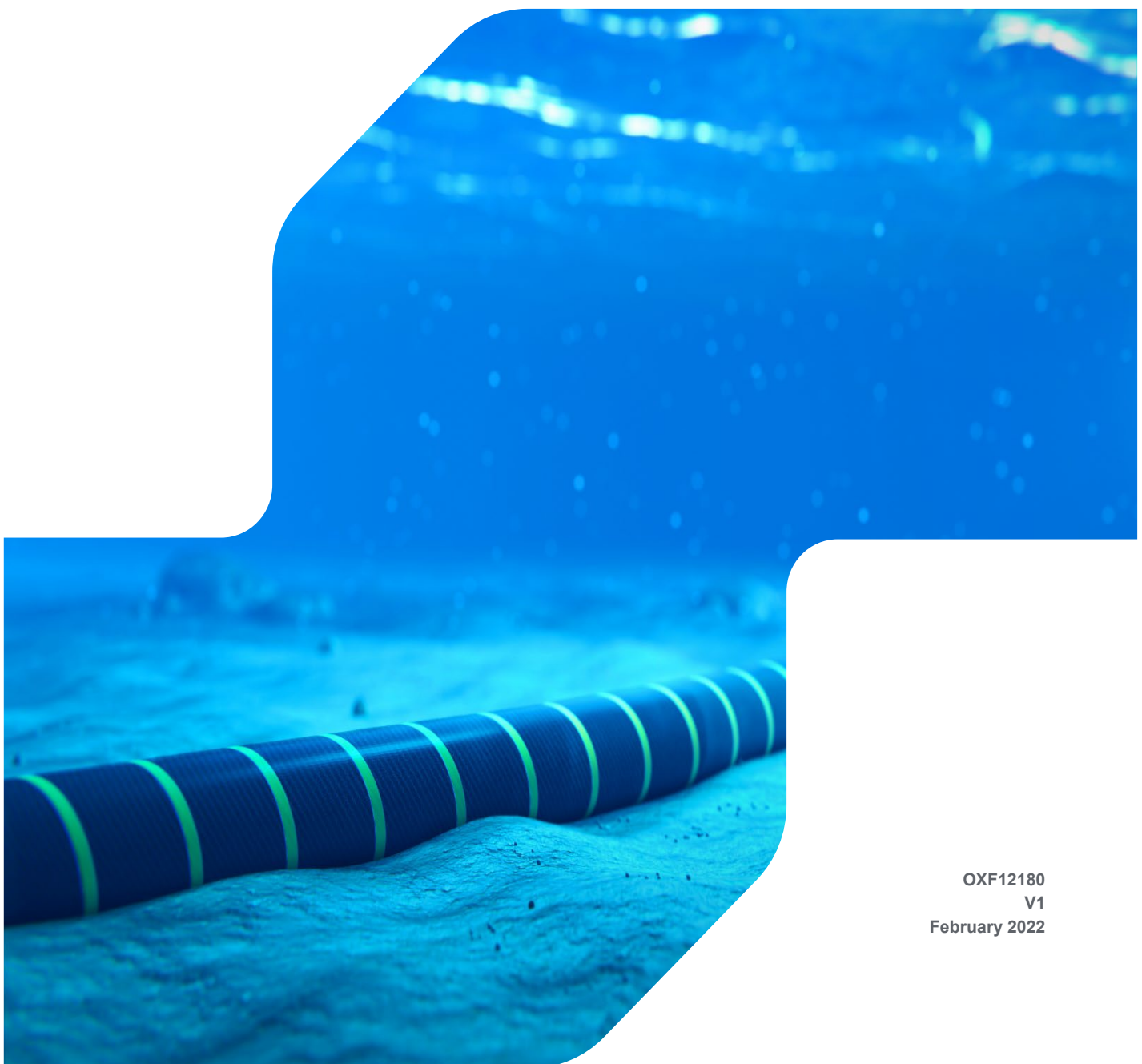


# **XLCC CABLE FACTORY - HUNTERSTON**

## **Appendix 13.4 – Sensitivity Test- Meteorological Data**



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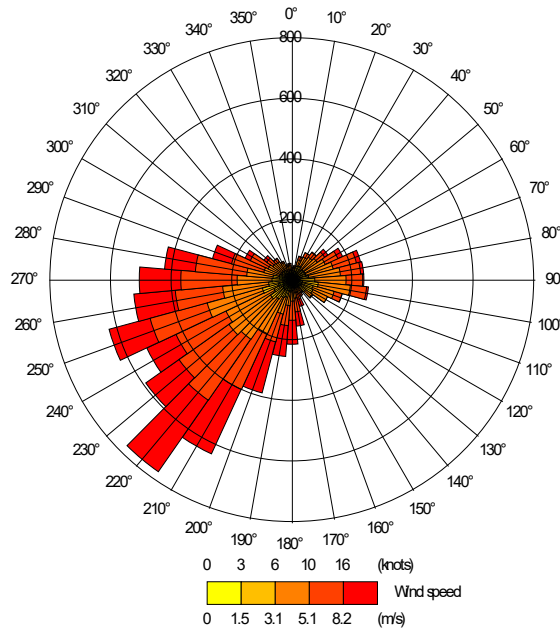
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## SENSITIVITY TEST – METEOROLOGICAL DATA

- 1.1 During consultation with North Ayrshire Council, the sensitivity of the modelling to alternative meteorological data was raised. This Appendix presents the results of modelling with meteorological data collected at Drumalbin in 2020.
- 1.2 The wind rose for Drumalbin, 2020 is presented in Figure 1 below.



**Figure 1: Wind rose for Drumalbin, 2020**

- 1.3 At set out in Appendix 13.2, Prestwick meteorological station has been used in the assessment due to its similar elevation and similar distance from the coast as the Project Site.
- 1.4 Additional modelling has been undertaken to test the sensitivity of the model output to alternative meteorological data.
- 1.5 Drumalbin meteorological station is located approximately 60 km from the coast and has an elevation of 245m.

## Assessment of Air Quality Impacts on Surrounding Area - Sensitivity

- 1.6 Table 1, Table 2 and Table 3 present the predicted annual-mean NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> concentrations using the Drumalbin meteorological data.

**Table 1: Predicted Annual-Mean NO2 Impacts at Existing Receptors**

Receptor ID	Concentration ( $\mu\text{g.m}^{-3}$ )		With – Without Dev as % of the AQS Objective	Impact Descriptor
	Without Development	With Development		
The Gatehouse	17.6	17.6	0	Negligible
The Catch at Fins Restaurant	18.6	18.7	0	Negligible
Irvine Road 1	18.2	18.2	0	Negligible
Irvine Road 2	17.8	17.9	0	Negligible
32 Snowdon Terrace	18.7	18.8	0	Negligible
The Rowan Tree Restaurant	18.2	18.2	0	Negligible
118 Ardrossan Road	18.0	18.1	0	Negligible
<b>Maximum</b>	<b>18.7</b>	<b>18.8</b>	<b>0</b>	-
<b>Minimum</b>	<b>17.6</b>	<b>17.6</b>	<b>0</b>	-

AQS objective = 40  $\mu\text{g.m}^{-3}$

**Table 2: Predicted Annual-Mean PM10 Impacts at Existing Receptors**

Receptor ID	Concentration ( $\mu\text{g.m}^{-3}$ )		With – Without Dev as % of the AQS Objective	Impact Descriptor
	Without Development	With Development		
The Gatehouse	7.5	7.5	0	Negligible
The Catch at Fins Restaurant	7.6	7.6	0	Negligible
Irvine Road 1	7.5	7.5	0	Negligible
Irvine Road 2	7.5	7.5	0	Negligible
32 Snowdon Terrace	7.6	7.6	0	Negligible
The Rowan Tree Restaurant	7.5	7.5	0	Negligible
118 Ardrossan Road	7.5	7.5	0	Negligible
<b>Maximum</b>	<b>7.6</b>	<b>7.6</b>	<b>0</b>	-
<b>Minimum</b>	<b>7.5</b>	<b>7.5</b>	<b>0</b>	-

AQS objective = 18  $\mu\text{g.m}^{-3}$

**Table 3: Predicted Annual-Mean PM2.5 Impacts at Existing Receptors**

Receptor ID	Concentration ( $\mu\text{g.m}^{-3}$ )		With – Without Dev as % of the AQS Objective	Impact Descriptor
	Without Development	With Development		
The Gatehouse	4.9	4.9	0	Negligible
The Catch at Fins Restaurant	5.1	5.1	0	Negligible
Irvine Road 1	5.0	5.0	0	Negligible
Irvine Road 2	4.9	5.0	0	Negligible
32 Snowdon Terrace	5.2	5.2	0	Negligible
The Rowan Tree Restaurant	5.0	5.0	0	Negligible
118 Ardrossan Road	5.0	5.0	0	Negligible
<b>Maximum</b>	<b>5.2</b>	<b>5.2</b>	<b>0</b>	-
<b>Minimum</b>	<b>4.9</b>	<b>4.9</b>	<b>0</b>	-

AQS objective = 10  $\mu\text{g.m}^{-3}$

- 1.7 When comparing the results of the assessment of operational effects (See Chapter 13 of the EIA Report: Table 13.13, Table 13.14 and Table 13.15) with results of the meteorological data sensitivity test above, there is little difference for all modelled pollutants at all receptors. For five of the seven modelled receptors, the predicted concentrations using Drumlabin are slightly higher than for Prestwick. For Irvine Road 1 and 2, the predicted concentrations using Prestwick meteorological data are higher.
- 1.8 For both meteorological stations, the impact descriptors for all receptors are negligible and the predicted concentrations are well below the relevant air quality objectives.
- 1.9 In conclusion, using a different meteorological dataset does not alter the conclusions of the assessment.