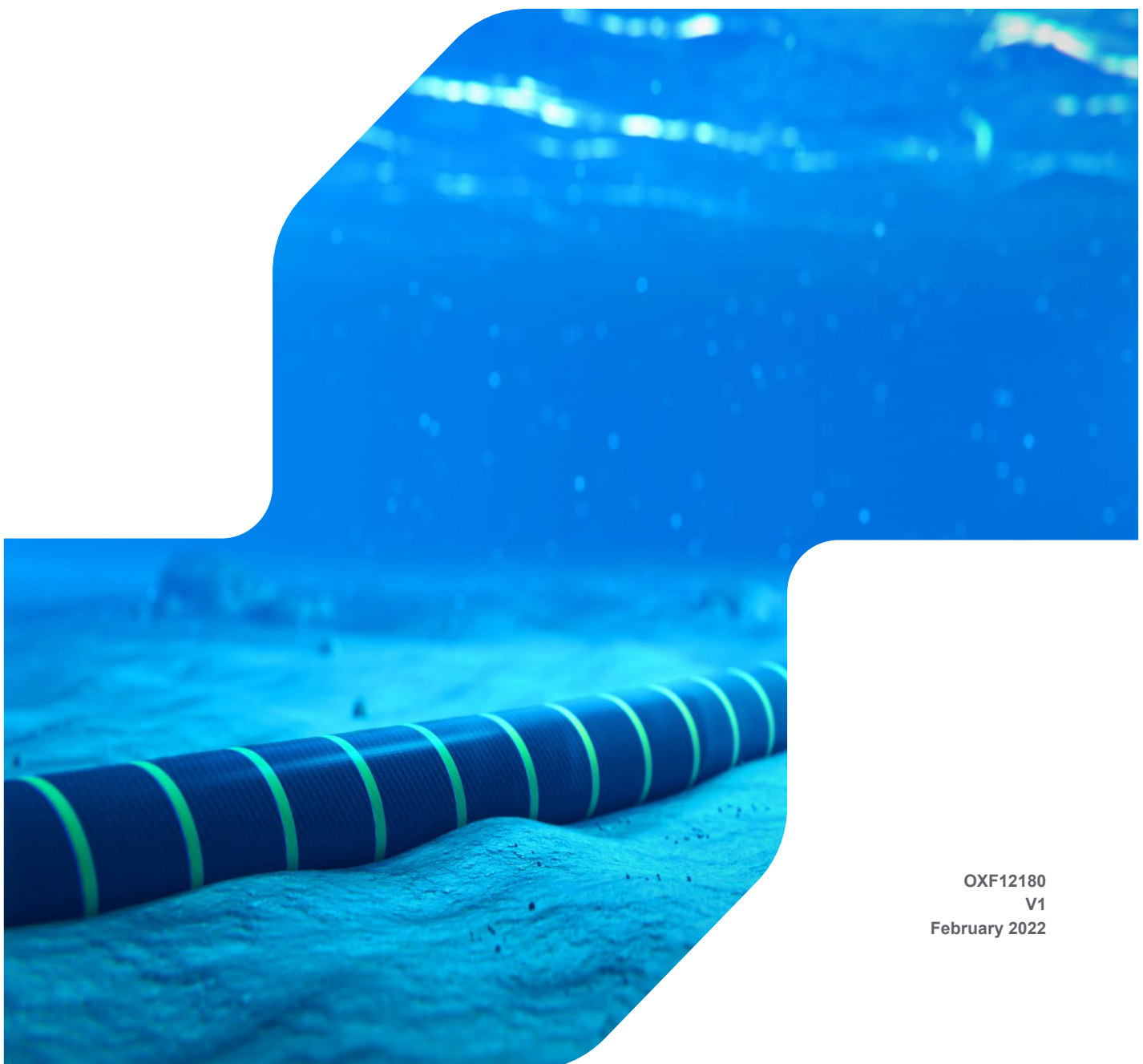


XLCC CABLE FACTORY - HUNTERSTON

Appendix 13.3 – Sensitivity Test – Correction Factor



OXF12180
V1
February 2022

Document status

Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
0	Draft	ACD	JT	MB	09/02/2022

Approval for issue

Mark Barrett

9 February 2022

The report has been prepared for the exclusive use and benefit of our client and solely for the purpose for which it is provided. Unless otherwise agreed in writing by RPS Group Plc, any of its subsidiaries, or a related entity (collectively 'RPS') no part of this report should be reproduced, distributed or communicated to any third party. RPS does not accept any liability if this report is used for an alternative purpose from which it is intended, nor to any third party in respect of this report. The report does not account for any changes relating to the subject matter of the report, or any legislative or regulatory changes that have occurred since the report was produced and that may affect the report.

The report has been prepared using the information provided to RPS by its client, or others on behalf of its client. To the fullest extent permitted by law, RPS shall not be liable for any loss or damage suffered by the client arising from fraud, misrepresentation, withholding of information material relevant to the report or required by RPS, or other default relating to such information, whether on the client's part or that of the other information sources, unless such fraud, misrepresentation, withholding or such other default is evident to RPS without further enquiry. It is expressly stated that no independent verification of any documents or information supplied by the client or others on behalf of the client has been made. The report shall be used for general information only.

Prepared by:

RPS

20 Western Avenue, Milton Park, Abingdon,
Oxfordshire, OX14 4SH.

Prepared for:

XLCC

David Kelly
UK Development Manager

Kingfisher House, Radford Way,
Billericay, Essex, CM12 0EQ

T 07907813786

SENSITIVITY TEST – CORRECTION FACTOR

- 1.1 The approach to model verification that LAQM.TG16 recommends for local authorities when they carry out their LAQM duties is summarised in the Limitations section of Chapter 13: Air Quality. For the verification and adjustment of NO_x/NO₂ concentrations, the guidance recommends that the comparison considers a broad spread of automatic and diffusion-tube monitoring.
- 1.2 In this case, a broad spread of monitoring data is not currently available to allow the model to be verified for the study area. Instead, the modelled road contributions have been multiplied by a factor of 2. The results with this adjustment factor of 2 is shown in the following tables.

Assessment of Air Quality Impacts on Surrounding Area - Sensitivity to Model Correction

- 1.3 Table 1, Table 2 and Table 3 present the annual-mean NO₂, PM₁₀ and PM_{2.5} concentrations predicted at the façades of existing receptors.

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

Receptor ID	Concentration (µg.m ⁻³)		With – Without Dev as % of the AQS Objective	Impact Descriptor
	Without Development	With Development		
The Gatehouse	18.0	18.1	0	Negligible
The Catch at Fins Restaurant	19.7	19.9	0	Negligible
Irvine Road 1	20.9	21.2	1	Negligible
Irvine Road 2	20.3	20.5	1	Negligible
32 Snowdon Terrace	20.1	20.3	1	Negligible
The Rowan Tree Restaurant	19.0	19.1	0	Negligible
118 Ardrossan Road	19.0	19.1	0	Negligible
Maximum	20.9	21.2	-	-
Minimum	18.0	18.1	-	-

AQS objective = 40 µg.m⁻³

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

Receptor ID	Concentration (µg.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	7.7	7.7	0	Negligible
Irvine Road 1	7.8	7.8	0	Negligible
Irvine Road 2	7.7	7.8	0	Negligible
32 Snowdon Terrace	7.8	7.8	0	Negligible

Receptor ID	Concentration ($\mu\text{g.m}^{-3}$)		With – Without Dev as % of the AQS Objective	Impact Descriptor
	Without Development	With Development		
The Rowan Tree Restaurant	7.6	7.6	0	Negligible
118 Ardrossan Road	7.6	7.7	0	Negligible
Maximum	7.8	7.8	-	-
Minimum	7.5	7.5	-	-

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	5.0	5.0	0	Negligible
The Catch at Fins Restaurant	5.3	5.3	0	Negligible
Irvine Road 1	5.4	5.5	0	Negligible
Irvine Road 2	5.4	5.4	0	Negligible
32 Snowdon Terrace	5.5	5.5	0	Negligible
The Rowan Tree Restaurant	5.1	5.1	0	Negligible
118 Ardrossan Road	5.2	5.2	0	Negligible
Maximum	5.5	5.5	-	-
Minimum	5.0	5.0	-	-

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

- 1.4 Predicted annual-mean concentrations in the opening year at the façades of the existing receptors are below the AQS objective at all modelled receptors. When the magnitude of change is considered in the context of the absolute concentrations, the impact descriptor is categorised as 'negligible' at all modelled receptors.
- 1.5 As all predicted annual-mean NO_2 concentrations are below $60 \mu\text{g.m}^{-3}$, the hourly-mean objective for NO_2 is likely to be met at all modelled receptors. The short-term NO_2 impact can be considered 'negligible'.
- 1.6 As all predicted annual mean PM_{10} concentrations are below $22.4 \mu\text{g.m}^{-3}$, the daily-mean PM_{10} objective is expected to be met at all modelled receptors. The short-term PM_{10} impact can be considered 'negligible'.
- 1.7 As all annual-mean concentrations for $\text{PM}_{2.5}$ are well below the AQS objective for $\text{PM}_{2.5}$, as stated above, the $\text{PM}_{2.5}$ impact can be described as 'negligible'.
- 1.8 Overall, the impact on the surrounding area is considered to be 'negligible', using the criteria adopted for this assessment and based on professional judgement.