INDEPENDENT AIR QUALITY FINAL REVIEW

CONCRETE BATCHING PLANT AT GLEBE ISLAND

Department of Planning and Environment

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Prepared by

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Independent Air Quality Review
Concrete Batching Plant
at Glebe Island

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1 INTRODUCTION

Todoroski Air Sciences has been engaged by the New South Wales (NSW) Department of Planning & Environment (DP&E) to review and provide independent advice in relation to air quality matters associated with the proposed Concrete Batching Plant at Glebe Island (hereafter referred to as the Project). Hanson Construction Materials Pty Ltd is the Proponent of the Project.

This report provides a review of the Air Quality Assessment (AQA) for the Project (**Pacific Environment, 2018**), related documentation and subsequent responses to submissions.

It is noted that in general, concrete batching plants can operate with largely sealed or enclosed processes. For example, cement is normally moved within pneumatically sealed piping and held inside silos. Similarly, sand and aggregates can also be stored in silos or bins and can be transferred via enclosed conveyors. Such facilities are thus generally able to achieve low levels of dust emissions and tend to have low effects on their surrounding environment.

2 PROJECT OVERVIEW

The Project involves the construction and operation of an intermodal aggregate storage facility and concrete batching plant on Glebe Island immediately to the north of Glebe Island Bridge.

The aggregate storage facility includes shipping terminal facilities with capacity for 1 million cubic metres (m^3) of concrete aggregates per annum delivered by ship. The concrete batching plant will be designed with a capacity to produce up to 1 million m^3 of concrete per annum with all batching activities taking place within an enclosed building.

The proposed hours of operation for the concrete batching plant are 24 hours per day, seven days per week.

Raw materials are proposed to be delivered to site via road or ship and the annual quantities of raw materials are outlined in **Table 2-1**. It is assumed that 2.3 million tonnes equate to 1 million cubic metres of material.

Table 2-1: Project material quantities

Material	Annual (t/yr)
Concrete	2,300,000
Aggregate	1,000,000
Sand	1,000,000
Cement	300,000

Error! Reference source not found. presents the proposed site layout for the Project.

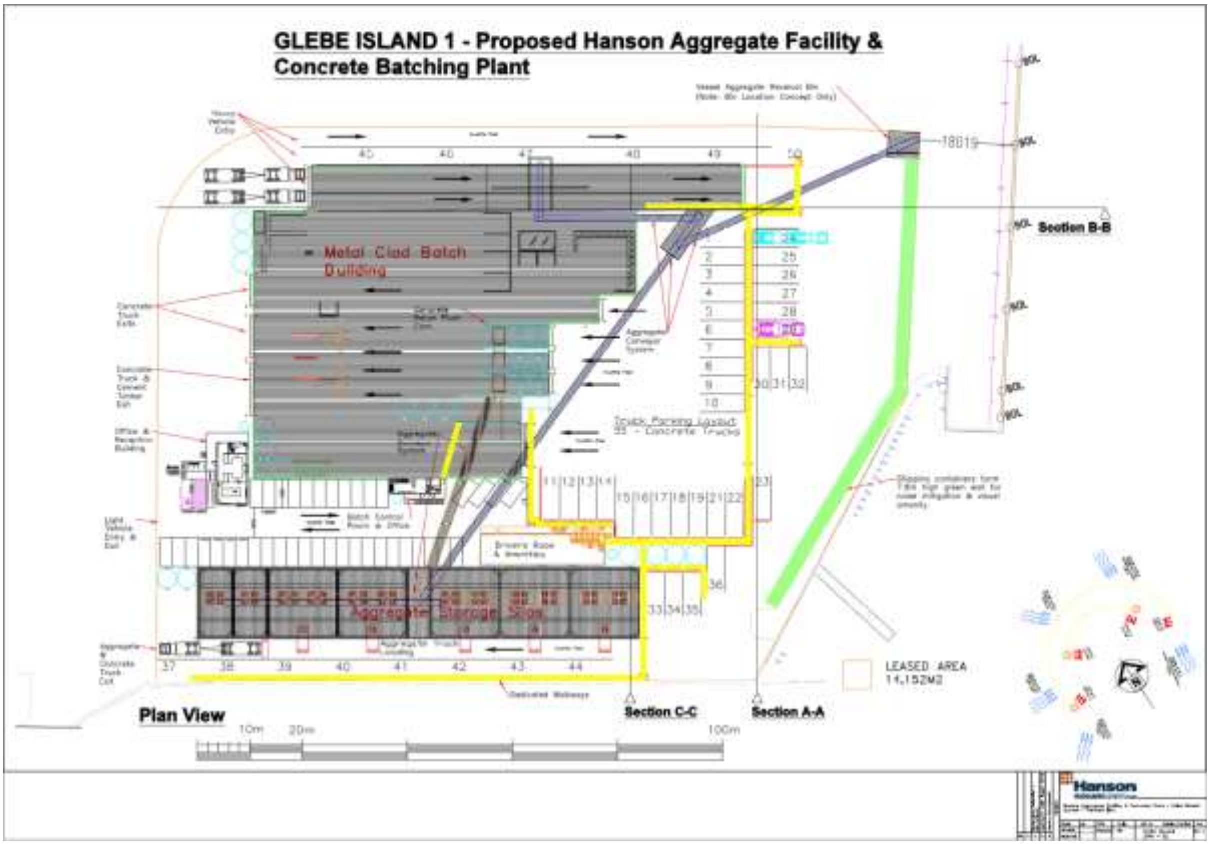

Figure 2-1: Proposed site layout

3 REVIEWS OF THE AIR QUALITY ASSESSMENT

Todoroski Air Sciences prepared an independent air quality review (**Todoroski Air Sciences, 2018**) as an initial review of the Hanson Glebe Island Concrete Batching Plant Air Quality Assessment (**Pacific Environment, 2018**). This review outlined key aspects of the AQA which warranted further discussion or clarification.

Response to submissions reports (**ERM, 2019 & Ethos Urban, 2019**) were then reviewed in the Glebe CBP – Review of Response to Submissions (**Todoroski Air Sciences, 2020a**). It was found that the air quality issues were not adequately addressed.

ERM and Ethos Urban provided additional responses (**ERM, 2020a & Ethos Urban, 2020** respectively) regarding the air quality issues raised which were discussed in a follow up review (**Todoroski Air Sciences, 2020b**). Again, relevant key issues were not adequately addressed.

Key issues in these reviewed assessments and responses that could have led to underestimation of potential impacts include errors in the emissions inventory, not assessing elevated receptors (which may be more affected by emissions released at height), using invalid meteorological data in the modelling, using an incorrect (lower) background pollutant level in the cumulative assessment, not considering all emissions. However, other issues identified in the review process could have led to some overestimation, such as modelling some emissions above levels prescribed in the legislation. There were a range of issues identified where it is unknown if there would be an increased or decreased impact predicted. These include the choice of model and weather data and baseline background pollutant data.

Whilst, it is reasonable to expect that such projects operate with low impacts, especially in this case where there the project is positioned a significant distance away from residential receptors, the previous assessments and responses for the project did not adequately or transparently show this to be the case via a reasonably error free assessment report.

Thus the assessment has been revised again, as presented in the technical addendums (**ERM, 2020b & 2020c**). The technical addendums have been reviewed in this report against the key outstanding issues and any additional issues that may have arisen in the revision. These residual maters are outlined below.

3.1 Choice of model in context of meteorological data

The dispersion model has been changed from AERMOD to CALPUFF. The CALPUFF model is considered satisfactory for use in the modelling context.

3.1.1 Use of Rozelle wind data

The revised modelling no longer utilises the 2015 Rozelle meteorological data which showed significant bias due to sheltering from trees adjacent to the monitoring station. Instead, CALMET was used with a "no-observations" approach using a CALTAPM generated 3D.dat file.

The TERRAD parameter in the modelling was set to 1km, which is low. Generally, TERRAD should be set to the ridge-to-ridge distance in the terrain in the area of interest. In this case, this is more than 1km and close to 2 km. Where TERRAD is set too low, the model is "blind" to terrain further away and cannot correctly model the terrain induced effects on the meteorological parameters. The example snapshot wind field that is provided at Figure 2.1, shows relatively uniform flows across the modelling domain, whilst on one hand this could mean there is a problem with the modelling (i.e. TARRAD could be too low to allow the model to determine the correct wind flows around terrain), it could also just be a poor example of the wind field that does not ideally show if the model is correctly responding to the terrain.

Thus, whilst there is some uncertainty that the model has been run correctly, in the reviewer's opinion, given that the nearby terrain is relatively low and there is some modest response to terrain in the illustrated example wind field, it is considered that the effects of this issue may not be significant.

3.1.2 Representative year

A statistical assessment of wind speed and direction over the latest five-year period has been provided based on the BoM Sydney Olympic Park station to determine the representative modelling year.

Whilst the assessment only considers two key factors, wind speed and direction, the selection of 2017 appears to be reasonable based on this assessment.

3.2 Omission of emissions

3.2.1 Building ventilation

The revised assessment states that *"No filtration of general air (from within the building) is proposed, hence a building ventilation source has not been included in the model"*. This is at odds with the commitment in the EIS that *"the building will be ventilated to ensure that the inside of the building complies with WHS air quality standards, filters will be applied to the ventilation system to ensure the expelled air is able to meet EPA standards"*.

As ERM have clarified that no filtration of the building is to occur, the corresponding contradictory commitment in the EIS would need to be addressed.

3.2.2 Silo ventilation rate

The revised model uses diurnal scaling profiles for non-shipping sources including silo filling.

The assessment does not provide any clear justification for the adoption of these profiles and thus the rationale behind these is unclear, however it is reasonable to expect that the silo filling would vary diurnally

3.2.3 Multiple silos filling

Previously the modelling used only one source of emissions to represent all of the silos and modelled an average emissions rate (i.e. did not adequately model short term emissions/ impacts consistent with multiple silos filling at any given time). The revised modelling includes five volume sources (SAS and AGSLS) to represent silo filling of sand via truck and aggregate via ship, one volume source (BLD_SA) to represent silo filling of aggregate via truck and one point source (CMSFF) to represent the cement silo fabric filter for flyash/cement delivered via truck. Some of these sources are modelled with averaged emissions, or rolling periodic emissions, hence there is scope for some underestimation (i.e. the maximum emissions in any hour may not be modelled, and the average concentrations that were modelled may not occur at the time of worst dispersion). However, most of the weather conditions are modelled, and the average emissions arise over large parts of the day (noting that the criteria apply for a 24-hour average period), thus based on the revised assessment, the underestimation is no longer likely to be large.

Whilst it is stated that the emissions are distributed per the truck profile, it is the truck delivery profile that drives this issue and hence it remains unclear whether the short term emissions from multiple silos loading concurrently have been correctly modelled. Nevertheless, this is a relatively small source overall, and whilst it is elevated and has more scope to affect elevated receptors that are nearby, the revised data indicate relatively low effects would occur.

3.2.4 Ship emissions

The revised modelling includes main engine, auxiliary engine and auxiliary boiler emissions. Peak emissions from shipping have been modelled for a 14-hour berthing sequence repeating over a 23-hour cycle. This is equivalent to 380 events per year i.e. 3,800,000 tonnes/annum. Annual average concentrations have been scaled by the number of ships modelled to that anticipated (a factor of 120 / 380).

It is also noted that there is no change in tonnage for the delivery of aggregate material via ship for the peak scenario.

3.2.5 Vehicle exhaust emissions

The original EIS states that vehicle exhaust emissions have been based on PIARC (2012). Insufficient information has been provided to confirm that the correct emissions have been modelled. These emissions would be small relative to the nearby major multi-lane road,

3.3 Emissions inventory

The emissions inventory has been revised and appears to generally represent the appropriate tonnage of material that would be processed/produced. The revised assessment includes additional sources not previously accounted for, however includes controls for the enclosure. Overall, the scale of total annual emissions appears to be sensible.

3.3.1 Control for activities within the building

The original modelling assumed an unrealistic 99% control level for handling bulk materials. This has been revised to a 70% control factor for materials handling within the building. This control factor has also been applied to internal vehicle transit activities. A 70% control factor, in comparison to a 99% control factor represents a 30-fold increase in emissions.

The applied control factor of 70% is considered reasonable to account for dust mitigation for sources within a building enclosure.

3.3.2 Sealed road silt loading

The silt loading for internal transit activities and partially for external surfaces for sand and aggregate dispatch (80m each) has been updated from 0.4g/m^2 up to 4.0g/m^2.

A “carry out” source has also been included whereby it has been assumed that silt loadings progress from 4 g/m² to 0.4 g/m² over a 50m path from the exit of the site. This appears to have been modelled per an average silt loading of 2.18g/m² for four volume sources along this path.

The silt loading used for all other external road transit activities has been kept at 0.4 g/m², referencing for justification the 2nd Edition of the Air & Waste Management Association Air Pollution Engineering Manual which states that “Default silt loadings for normal roads are 0.1 g/m² for roads with at least 5,000 vehicles per day and 0.4 g/m² for roads with less than 5,000 vehicles per day”.

As previously outlined to ERM, these emissions factors are for public roads and not industrial roads, are based on data that are well out of date (i.e. 1970’s), and the equation in the reference source is also incorrect. It also appears that ERM are selectively quoting their reference source. The next sentence after the ERM quoted text in the reference source says; *“for dirty roads, such as those with visible carryout or road sand on them, the default values are 0.5 g/m² for roads with at least 5,000 vehicles per day and 3 g/m² for roads with fewer than 5,000 vehicles per day”*.

The justification for classifying the majority of the Project external road surfaces as “normal roads” as opposed to “dirty roads” appears to be the building enclosure prior to the washdown area, low vehicle speeds and wetted surfaces. It is agreed that these factors assist to significantly in reduce dust.

Based on the reviewer’s experience, the modelled emission values represent levels that could be achieved with exceptionally diligent control on the roads in question. This level of performance is possible, but can be challenging to achieve in practice. In the reviewer’s opinion, the modelling inputs determined per the (poorly justified) assumptions are likely to be hard to achieve in practice, but are consistent with, or exceed the level of performance per industry best practice for particulate emissions, as would be expected or required by EPA.

3.3.3 Truck travel distance

Previously, truck travel distances were considered likely to be underestimated. It is noted in the revised assessment that the vehicle paths have been updated based on the most recent site layout. The truck return travel distances are now typically around 350m (vs. ~245m previously) and appear to be generally appropriate in consideration of amended site layout.

3.3.4 Raw aggregate dispatch

The previous emissions inventory did not include emissions from conveying aggregate to trucks for dispatch. The revised modelling includes an additional 10% (approximately 100,000 tonnes per annum each) of truck-based delivery/dispatch of sand and aggregate for the average scenario.

However, the modelling has omitted the emissions from conveying aggregate to trucks in the peak scenario. This means the maximum impacts are underestimated. The emissions from conveying can be reasonably controlled and are generally a small proportion of the total emissions, thus the degree of underestimation would not be very large.

3.3.5 Wind erosion

Whilst the AQA listed wind erosion from exposed areas as a significant source of dust it has now been clarified that this was an error and that wind erosion emissions were omitted from the emissions inventory as there are no open stockpiles, the main operating areas are enclosed and the activity is largely with the building.

3.4 Elevated receptors

Elevated receptors have now been included at 5m increments for seven locations to the east of the Project with the maximum height ranging between 10m and 50m. Whilst the adopted heights do not always appear to match the actual building height of the receptor (i.e. the receptor at 332.394kmE, 6250.969kmN is modelled to a height of 40m, however the receptor appears to be approximately 20 stories high and is likely be close to 60m high) generally the elevated receptors are considered sufficient for assessing impacts at height, especially when considering the maximum Project point source height is 25m.

3.5 Background data

As the modelling year has been changed to 2017 it is considered appropriate to use the 2017 background dataset.

The WBCT data for 2017 is explained to be erroneous (6µg/m^3 measured during a zero test conducted in mid-October) and as it was not possible to reconcile the influence of the error for the data in previous months, the data have not been used further in the assessment.

It is noted that where local monitoring data are not used, (i.e. as arises in this case because the selected year has erroneous data) a more detailed assessment of the localised pollution sources is warranted to adequately account for cumulative effects.

It is noted that there is a likely typographical error in Table 7.1 which indicates that the adopted annual average PM_{10} background was 7.2µg/m^3 however the results presented in Table 8.3 indicate that a (correct) background value of 18.2µg/m^3 was adopted.

3.6 Cumulative impacts

To address issues of cumulative impacts, ERM refers to the findings of Appendix C of the Glebe Island Multi-User Facility Response to Submissions (**AECOM, 2019**). While the findings suggest that cumulative impacts would be below the relevant air quality criteria it is noted that the emissions are based on the 2018 Project AQA (**Pacific Environment, 2018**) which as stated in the independent review (**Todoroski Air Sciences, 2018**) and the review of the response to submissions (**Todoroski Air Sciences, 2020a & 2020b**) omit significant sources and potentially underpredict others.

Thus, the cumulative assessment in (**AECOM 2019**) has become redundant, and ERM has not added the additional impacts of this project per the current assessment.

Further, the cumulative assessment appears to utilise incorrect background data, for example it states that an annual average $PM_{2.5}$ background level of 7.4µg/m^3 is adopted however in the cumulative assessment uses a level of 6.8µg/m^3. A 0.6 µg/m^3 underestimation in annual average $PM_{2.5}$ is significant.

Overall, the potential for cumulative impacts has not been sufficiently addressed, and there appears to be scope for such impacts to arise. It is important to note that predicted cumulative impacts are common in air assessments, and in general arise for many projects. This is mainly due to existing background concentrations being over or close the criteria. Thus, even a small contribution from a project can lead to a predicted cumulative impact.

It is generally acceptable to approve projects where cumulative dust impacts arise (as may potentially be the case here), provided that the project implements best practice controls to minimise dust as far as is practicable and does not add a significant additional dust burden on the community.

4 RESULTS

The predicted results have changed due to the corrections made to the assessment. It is difficult to make a complete comparison at every receptor as a different set of receptors is used, there are some receptors removed, and some elevated receptors added for example, and the assessment does not specify the receptor at which some of the maximum impacts occur. Nevertheless, a reasonable comparison can be made by considering the most impacted receptors, as set out in Table 4-1. The results indicate that some significantly higher short term impacts now may arise, but also some lower short and long term impacts may arise.

It can also be seen that some of the criteria are close to the limits.

Table 4-1: Summary of key predicted impacts at most affected receptors

Pollutant	Averaging period	Most cumulatively impacted receptor - original assessment*	Most cumulatively impacted receptor - technical addendum	Criteria
NO_2	1-hour	92µg/m^3 at R02	185µg/m^3 receptor unknown	246µg/m^3
NO_2	Annual	30.8µg/m^3 at R06	23.5µg/m^3 at R01	62µg/m^3
SO_2	10-minute	289µg/m^3 at R02	278µg/m^3 at R42_30m	712µg/m^3
SO_2	1-hour	171µg/m^3 at R02	195µg/m^3 at R42_30m	570µg/m^3
SO_2	24-hour	31µg/m^3 at R02 & R03	29µg/m^3 at R39_15m & R40_20m	228µg/m^3
SO_2	Annual	2.2µg/m^3 at R02	1.8µg/m^3 at R01	60µg/m^3
PM_{10}	24-hour	49µg/m^3 at R06	40.7 µg/m^3 receptor unknown	50µg/m^3
PM_{10}	Annual	18.5µg/m^3 at R06	19.16 µg/m^3 at R06	25µg/m^3
$PM_{2.5}$	24-hour	22µg/m^3 at R02 &R07	24µg/m^3 at R39_15m & R40_20m	25µg/m^3
$PM_{2.5}$	Annual	7.6µg/m^3 at R06	7.33µg/m^3 at R01	8µg/m^3

*Excluding receptors R04, R07 and R08 which were not included as sensitive receptors in the technical addendum

The range of the change in impact at each receptor resulting from the corrections made in the assessment are summarised in Table 4-2. It should be noted that a comparison cannot be made where there are no corresponding receptors or a corresponding analysis in the assessments.

Table 4-2: Summary of range of changed impacts at each receptor

Pollutant	Averaging period	Difference in incremental levels between the original assessment and technical addendum at receptors (µg/m³)	Difference in cumulative levels between the original assessment and technical addendum at receptors (µg/m³)
NO_2	1-hour	-113 to 42	-
NO_2	Annual	-7.5 to 0	-7.5 to 0.1
SO_2	10-minute	-64.8 to 55.1	-112.8 to 7.1
SO_2	1-hour	-45 to 38	-47 to 36
SO_2	24-hour	-2 to 9	-11 to 0
SO_2	Annual	-1 to 0.2	-0.5 to 0.7
PM_{10}	24-hour	0 to 10.5	-
PM_{10}	Annual	0.4 to 1.2	-0.8 to 0
$PM_{2.5}$	24-hour	-0.4 to 3.9	-2.7 to 1.6
$PM_{2.5}$	Annual	-0.5 to -0.1	-0.3 to 0.2

It is noted that it is unusual to be referring to and making comparisons with a prior assessment that would normally be considered obsolete due to the many errors within it. However a comparison is made in this report for transparency, given that ERM does not accept it necessary to have corrected these errors.

The complete revised results at each receptor are shown in **Appendix A**.

5 DISCUSSION AND CONCLUSIONS

The review of the revised assessment outlined in the technical addendum found that the majority of issues have now been sufficiently clarified, however the potential for cumulative impacts with the Glebe Island Multi-User Facility has not been well addressed.

In our opinion, based on the available information, it is possible that the cumulative EPA impact assessment criteria for particles may not be met at all receptors at all times, however it is important to note that this would be the case with or without the project. For particles, few projects of any scale in NSW can demonstrate complete compliance with the EPA criteria at all receptors at all times, given that background levels at most monitors in NSW will at some time show levels that exceed the criteria, and it would be unreasonable to refuse a project on such a basis alone. In such circumstances, the project is generally considered acceptable when best practice controls are used to minimise particulate matter emissions and impacts as far as is practicable, and there is a relatively low contribution to air quality from the project alone.

It has now been shown that the project contribution to air quality (or the project incremental impact) is low. Whilst there is some scope for underestimation in the assessment, there is also sufficient information to show that any underestimation would be relatively small, for example the underestimated activities are only a relatively small part of the total actives and emissions, or the degree of underestimation that could occur is small.

This is reflected in the results in **Table 4-1**, as summarised for the most impacted receptors, and the complete results in **Appendix A**.

Thus, the key issue to consider is whether the proposal is commensurate with best practice, meaning that emissions must be minimised to the maximum practicable extent. In this regard, whilst there may be some underestimations and uncertainties in the modelling presented, and no specific or stand-alone assessment of best practice, when viewed overall the total emissions and total project impacts that may arise are broadly consistent with industry best practice.

The key issue therefore is for the regulator to ensure that the project operates diligently to control its emissions.

6 REFERENCES

AECOM (2019)

"Glebe Island Multi-User Facility Response to Submissions", AECOM on behalf of Port Authority NSW, January 2019

ERM (2019)

"Hanson Glebe Island Concrete Batching Plant - Response to Submissions – Air Quality", ERM, January 2019

ERM (2020a)

"Hanson Glebe Island Concrete Batching Plant – Response to TAS Air Quality Review", ERM, May 2020

ERM (2020b)

"Hanson Glebe Island Concrete Batching Plant AQIA – Dispersion Modelling Technical Addendum: Proposed Technical Approaches", ERM, August 2020

ERM (2020c)

"Hanson Glebe Island Concrete Batching Plant AQIA - Technical Addendum: Dispersion Modelling Sensitivity Analysis", ERM, October 2020

Ethos Urban (2019)

"Response to Submissions SSD 8544 Glebe Island Concrete Batching Plant and Aggregate Storage Facility", Ethos Urban, December 2019

Ethos Urban (2020)

"Further Response to Submissions SSD 8544 Glebe Island Concrete Batching Plant and Aggregate Handling Facility", Ethos Urban, June 2020

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"Hanson Glebe Island Concrete Batching Plant Air Quality Assessment", Pacific Environment, March 2018

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" Independent Air Quality Review Concrete Batching Plant at Glebe Island", Todoroski Air Sciences, July 2018

Todoroski Air Sciences (2020a)

"Glebe CBP – Review of Response to Submissions", Todoroski Air Sciences, April 2020

Todoroski Air Sciences (2020b)

"Glebe CBP – Review of Response to Submissions", Todoroski Air Sciences, July 2020

Appendix A

Comparison of dispersion modelling results

Figure A-1: Comparison of 24-hour average PM_{10} modelling predictions (µg/m³)

Receptor	Original assessment			Technical addendum			Difference in incremental 24-hour PM_{10}	Difference in cumulative 24-hour PM_{10}	Cumulative criterion
	Incremental 24-hour PM_{10}	Background	Cumulative 24-hour PM_{10}	Incremental 24-hour PM_{10}	Background	Cumulative 24-hour PM_{10}			
R01	3	44	47	13.5	time varying	-	10.5	-	50
R02	8	44	46*	12.8	time varying	-	4.8	-	50
R03	4	44	48	12.4	time varying	-	8.4	-	50
R04	9	44	48*	-	-	-	-	-	50
R05	4	44	48	9.3	time varying	-	5.3	-	50
R06	5	44	49	12.4	time varying	-	7.4	-	50
R07	7	44	47*	-	-	-	-	-	50
R08	7	44	47*	-	-	-	-	-	50
R09	1	44	45	3.2	time varying	-	2.2	-	50
R10	1	44	45	2.2	time varying	-	1.2	-	50
R11	1	44	45	3.5	time varying	-	2.5	-	50
R12	2	44	46	2.9	time varying	-	0.9	-	50
R13	1	44	45	3.7	time varying	-	2.7	-	50
R14	1	44	45	1.6	time varying	-	0.6	-	50
R15	1	44	45	3.3	time varying	-	2.3	-	50
R16	2	44	46	4	time varying	-	2	-	50
R17	1	44	45	1.5	time varying	-	0.5	-	50
R18	1	44	45	3.8	time varying	-	2.8	-	50
R19	1	44	45	2.6	time varying	-	1.6	-	50
R20	1	44	45	1.4	time varying	-	0.4	-	50
R21	1	44	45	1.8	time varying	-	0.8	-	50
R22	1	44	45	4.2	time varying	-	3.2	-	50
R23	2	44	46	6.4	time varying	-	4.4	-	50
R24	2	44	46	3.6	time varying	-	1.6	-	50
R25	2	44	46	3.3	time varying	-	1.3	-	50
R26	0	44	44	1.2	time varying	-	1.2	-	50
R27	0	44	44	0.9	time varying	-	0.9	-	50
R28	1	44	45	2.9	time varying	-	1.9	-	50
R29	2	44	46	2.6	time varying	-	0.6	-	50
R30	1	44	45	1.2	time varying	-	0.2	-	50
R31	1	44	45	1	time varying	-	0	-	50
R32	0	44	44	1.3	time varying	-	1.3	-	50
R33	0	44	44	1.7	time varying	-	1.7	-	50
R34	1	44	45	1.6	time varying	-	0.6	-	50
R35	1	44	45	2.8	time varying	-	1.8	-	50
R36_00m	-	-	-	14.2	time varying	-	-	-	50
R37_05m	-	-	-	14.2	time varying	-	-	-	50
R38_10m	-	-	-	13.9	time varying	-	-	-	50
R39_15m	-	-	-	13.4	time varying	-	-	-	50
R40_20m	-	-	-	12.6	time varying	-	-	-	50
R41_25m	-	-	-	11.3	time varying	-	-	-	50
R42_30m	-	-	-	9.8	time varying	-	-	-	50
R43_00m	-	-	-	7.9	time varying	-	-	-	50
R44_05m	-	-	-	7.7	time varying	-	-	-	50
R45_10m	-	-	-	7.3	time varying	-	-	-	50
R46_15m	-	-	-	6.7	time varying	-	-	-	50
R47_20m	-	-	-	6.1	time varying	-	-	-	50
R48_00m	-	-	-	13.1	time varying	-	-	-	50
R49_05m	-	-	-	13.1	time varying	-	-	-	50
R50_10m	-	-	-	12.8	time varying	-	-	-	50
R51_15m	-	-	-	12.3	time varying	-	-	-	50
R52_20m	-	-	-	11.7	time varying	-	-	-	50
R53_25m	-	-	-	10.9	time varying	-	-	-	50
R54_30m	-	-	-	9.9	time varying	-	-	-	50
R55_35m	-	-	-	8.7	time varying	-	-	-	50
R56_40m	-	-	-	8.1	time varying	-	-	-	50
R57_00m	-	-	-	15.2	time varying	-	-	-	50
R58_05m	-	-	-	15	time varying	-	-	-	50
R59_10m	-	-	-	14.4	time varying	-	-	-	50
R60_00m	-	-	-	9	time varying	-	-	-	50
R61_05m	-	-	-	8.9	time varying	-	-	-	50
R62_10m	-	-	-	8.5	time varying	-	-	-	50
R63_15m	-	-	-	7.9	time varying	-	-	-	50

R64_20m	-	-	-	7.2	time varying	-	-	-	50
R65_25m	-	-	-	6.4	time varying	-	-	-	50
R66_30m	-	-	-	5.7	time varying	-	-	-	50
R67_35m	-	-	-	5.1	time varying	-	-	-	50
R68_40m	-	-	-	4.5	time varying	-	-	-	50
R69_45m	-	-	-	4	time varying	-	-	-	50
R70_50m	-	-	-	3.5	time varying	-	-	-	50
R71_00m	-	-	-	12	time varying	-	-	-	50
R72_05m	-	-	-	11.8	time varying	-	-	-	50
R73_10m	-	-	-	11.2	time varying	-	-	-	50
R74_00m	-	-	-	12.3	time varying	-	-	-	50
R75_05m	-	-	-	12	time varying	-	-	-	50
R76_10m	-	-	-	11.4	time varying	-	-	-	50

* A contemporaneous assessment of cumulative PM_{10} concentrations was adopted at these receptors.

Figure A-2: Comparison of annual average PM_{10} modelling predictions (µg/m³)

Receptor	Original assessment			Technical addendum			Difference in incremental annual PM_{10}	Difference in cumulative annual PM_{10}	Cumulative criterion
	Incremental annual PM_{10}	Background	Cumulative annual PM_{10}	Incremental annual PM_{10}	Background	Cumulative annual PM_{10}			
R01	0.8	17	17.8	0.6	18.2	18.8	-0.2	1.0	25.0
R02	1.3	17	18.3	0.5	18.2	18.7	-0.8	0.4	25.0
R03	1.1	17	18.1	0.5	18.2	18.7	-0.6	0.6	25.0
R04	2.7	17	19.7	-	-	-	-	-	25.0
R05	1.1	17	18.1	0.6	18.2	18.8	-0.5	0.7	25.0
R06	1.5	17	18.5	1	18.2	19.2	-0.5	0.7	25.0
R07	2.1	17	19.1	-	-	-	-	-	25.0
R08	1.9	17	18.9	-	-	-	-	-	25.0
R09	0.4	17	17.4	0.2	18.2	18.4	-0.2	1.0	25.0
R10	0.3	17	17.3	0.1	18.2	18.3	-0.2	1.0	25.0
R11	0.3	17	17.3	0.1	18.2	18.3	-0.2	1.0	25.0
R12	0.3	17	17.3	0.1	18.2	18.3	-0.2	1.0	25.0
R13	0.4	17	17.4	0.2	18.2	18.4	-0.2	1.0	25.0
R14	0.1	17	17.1	0.1	18.2	18.3	0	1.2	25.0
R15	0.3	17	17.3	0.2	18.2	18.4	-0.1	1.1	25.0
R16	0.5	17	17.5	0.2	18.2	18.4	-0.3	0.9	25.0
R17	0.1	17	17.1	0	18.2	18.2	-0.1	1.1	25.0
R18	0.4	17	17.4	0.2	18.2	18.4	-0.2	1.0	25.0
R19	0.3	17	17.3	0.1	18.2	18.3	-0.2	1.0	25.0
R20	0.2	17	17.2	0	18.2	18.2	-0.2	1.0	25.0
R21	0.2	17	17.2	0.1	18.2	18.3	-0.1	1.1	25.0
R22	0.3	17	17.3	0.2	18.2	18.4	-0.1	1.1	25.0
R23	0.6	17	17.6	0.4	18.2	18.6	-0.2	1.0	25.0
R24	0.2	17	17.2	0.2	18.2	18.4	0	1.2	25.0
R25	0.3	17	17.3	0.1	18.2	18.3	-0.2	1.0	25.0
R26	0.1	17	17.1	0.1	18.2	18.3	0	1.2	25.0
R27	0.1	17	17.1	0	18.2	18.2	-0.1	1.1	25.0
R28	0.2	17	17.2	0.1	18.2	18.3	-0.1	1.1	25.0
R29	0.3	17	17.3	0.1	18.2	18.3	-0.2	1.0	25.0
R30	0.1	17	17.1	0	18.2	18.2	-0.1	1.1	25.0
R31	<0.1	17	17	0	18.2	18.2	-	1.2	25.0
R32	<0.1	17	17	0	18.2	18.2	-	1.2	25.0
R33	0.1	17	17.1	0.1	18.2	18.3	0	1.2	25.0
R34	0.1	17	17.1	0.1	18.2	18.3	0	1.2	25.0
R35	0.2	17	17.2	0.1	18.2	18.3	-0.1	1.1	25.0
R36_00m	-	-	-	0.6	18.2	18.8	-	-	25.0
R37_05m	-	-	-	0.6	18.2	18.8	-	-	25.0
R38_10m	-	-	-	0.6	18.2	18.8	-	-	25.0
R39_15m	-	-	-	0.5	18.2	18.7	-	-	25.0
R40_20m	-	-	-	0.5	18.2	18.7	-	-	25.0
R41_25m	-	-	-	0.4	18.2	18.6	-	-	25.0
R42_30m	-	-	-	0.4	18.2	18.6	-	-	25.0
R43_00m	-	-	-	0.6	18.2	18.8	-	-	25.0
R44_05m	-	-	-	0.6	18.2	18.8	-	-	25.0
R45_10m	-	-	-	0.5	18.2	18.7	-	-	25.0
R46_15m	-	-	-	0.5	18.2	18.7	-	-	25.0
R47_20m	-	-	-	0.5	18.2	18.7	-	-	25.0
R48_00m	-	-	-	0.5	18.2	18.7	-	-	25.0

R49_05m	-	-	-	0.5	18.2	18.7	-	-	25.0
R50_10m	-	-	-	0.5	18.2	18.7	-	-	25.0
R51_15m	-	-	-	0.4	18.2	18.6	-	-	25.0
R52_20m	-	-	-	0.4	18.2	18.6	-	-	25.0
R53_25m	-	-	-	0.3	18.2	18.5	-	-	25.0
R54_30m	-	-	-	0.3	18.2	18.5	-	-	25.0
R55_35m	-	-	-	0.3	18.2	18.5	-	-	25.0
R56_40m	-	-	-	0.2	18.2	18.4	-	-	25.0
R57_00m	-	-	-	0.4	18.2	18.6	-	-	25.0
R58_05m	-	-	-	0.4	18.2	18.6	-	-	25.0
R59_10m	-	-	-	0.4	18.2	18.6	-	-	25.0
R60_00m	-	-	-	0.4	18.2	18.6	-	-	25.0
R61_05m	-	-	-	0.4	18.2	18.6	-	-	25.0
R62_10m	-	-	-	0.4	18.2	18.6	-	-	25.0
R63_15m	-	-	-	0.3	18.2	18.5	-	-	25.0
R64_20m	-	-	-	0.3	18.2	18.5	-	-	25.0
R65_25m	-	-	-	0.3	18.2	18.5	-	-	25.0
R66_30m	-	-	-	0.3	18.2	18.5	-	-	25.0
R67_35m	-	-	-	0.2	18.2	18.4	-	-	25.0
R68_40m	-	-	-	0.2	18.2	18.4	-	-	25.0
R69_45m	-	-	-	0.2	18.2	18.4	-	-	25.0
R70_50m	-	-	-	0.2	18.2	18.4	-	-	25.0
R71_00m	-	-	-	0.5	18.2	18.7	-	-	25.0
R72_05m	-	-	-	0.5	18.2	18.7	-	-	25.0
R73_10m	-	-	-	0.4	18.2	18.6	-	-	25.0
R74_00m	-	-	-	0.4	18.2	18.6	-	-	25.0
R75_05m	-	-	-	0.4	18.2	18.6	-	-	25.0
R76_10m	-	-	-	0.4	18.2	18.6	-	-	25.0

Figure A-3: Comparison of 24-hour average $PM_{2.5}$ modelling predictions (µg/m³)

Receptor	Original assessment			Technical addendum			Difference in incremental 24-hour $PM_{2.5}$	Difference in cumulative 24-hour $PM_{2.5}$	Cumulative criterion
	Incremental 24-hour $PM_{2.5}$	Background	Cumulative 24-hour $PM_{2.5}$	Incremental 24-hour $PM_{2.5}$	Background	Cumulative 24-hour $PM_{2.5}$			
R01	1	19	20	4.5	16.7	21.2	3.5	1.2	25
R02	3	19	22	4.2	16.7	20.9	1.2	-1.1	25
R03	2	19	21	5.9	16.7	22.6	3.9	1.6	25
R04	4	19	23	-	-	-	-	-	25
R05	1	19	20	1.4	16.7	18.1	0.4	-1.9	25
R06	2	19	21	2.2	16.7	18.9	0.2	-2.1	25
R07	3	19	22	-	-	-	-	-	25
R08	2	19	21	-	-	-	-	-	25
R09	0	19	19	0.8	16.7	17.5	0.8	-1.5	25
R10	0	19	19	0.7	16.7	17.4	0.7	-1.6	25
R11	0	19	19	0.8	16.7	17.5	0.8	-1.5	25
R12	1	19	20	0.7	16.7	17.4	-0.3	-2.6	25
R13	1	19	20	1.2	16.7	17.9	0.2	-2.1	25
R14	0	19	19	0.5	16.7	17.2	0.5	-1.8	25
R15	0	19	19	1.5	16.7	18.2	1.5	-0.8	25
R16	1	19	20	1.7	16.7	18.4	0.7	-1.6	25
R17	0	19	19	0.4	16.7	17.1	0.4	-1.9	25
R18	1	19	20	1.4	16.7	18.1	0.4	-1.9	25
R19	0	19	19	0.9	16.7	17.6	0.9	-1.4	25
R20	0	19	19	0.5	16.7	17.2	0.5	-1.8	25
R21	0	19	19	0.6	16.7	17.3	0.6	-1.7	25
R22	0	19	19	1.3	16.7	18	1.3	-1	25
R23	1	19	20	1.8	16.7	18.5	0.8	-1.5	25
R24	1	19	20	1.2	16.7	17.9	0.2	-2.1	25
R25	1	19	20	1.1	16.7	17.8	0.1	-2.2	25
R26	0	19	19	0.5	16.7	17.2	0.5	-1.8	25
R27	0	19	19	0.4	16.7	17.1	0.4	-1.9	25
R28	0	19	19	1	16.7	17.7	1	-1.3	25
R29	1	19	20	0.6	16.7	17.3	-0.4	-2.7	25
R30	0	19	19	0.4	16.7	17.1	0.4	-1.9	25
R31	0	19	19	0.3	16.7	17	0.3	-2	25
R32	0	19	19	0.4	16.7	17.1	0.4	-1.9	25

R33	0	19	19	0.4	16.7	17.1	0.4	-1.9	25
R34	0	19	19	0.4	16.7	17.1	0.4	-1.9	25
R35	0	19	19	0.8	16.7	17.5	0.8	-1.5	25
R36_00m	-	-	-	6.9	16.7	23.6	-	-	25
R37_05m	-	-	-	7	16.7	23.7	-	-	25
R38_10m	-	-	-	7.2	16.7	23.9	-	-	25
R39_15m	-	-	-	7.3	16.7	24	-	-	25
R40_20m	-	-	-	7.3	16.7	24	-	-	25
R41_25m	-	-	-	6.9	16.7	23.6	-	-	25
R42_30m	-	-	-	6.1	16.7	22.8	-	-	25
R43_00m	-	-	-	1.9	16.7	18.6	-	-	25
R44_05m	-	-	-	1.9	16.7	18.6	-	-	25
R45_10m	-	-	-	1.9	16.7	18.6	-	-	25
R46_15m	-	-	-	1.8	16.7	18.5	-	-	25
R47_20m	-	-	-	1.7	16.7	18.4	-	-	25
R48_00m	-	-	-	4.2	16.7	20.9	-	-	25
R49_05m	-	-	-	4.2	16.7	20.9	-	-	25
R50_10m	-	-	-	4.3	16.7	21	-	-	25
R51_15m	-	-	-	4.4	16.7	21.1	-	-	25
R52_20m	-	-	-	4.4	16.7	21.1	-	-	25
R53_25m	-	-	-	4.4	16.7	21.1	-	-	25
R54_30m	-	-	-	4.5	16.7	21.2	-	-	25
R55_35m	-	-	-	4.5	16.7	21.2	-	-	25
R56_40m	-	-	-	4.3	16.7	21	-	-	25
R57_00m	-	-	-	6.8	16.7	23.5	-	-	25
R58_05m	-	-	-	6.8	16.7	23.5	-	-	25
R59_10m	-	-	-	6.6	16.7	23.3	-	-	25
R60_00m	-	-	-	3.2	16.7	19.9	-	-	25
R61_05m	-	-	-	3.1	16.7	19.8	-	-	25
R62_10m	-	-	-	3.1	16.7	19.8	-	-	25
R63_15m	-	-	-	3	16.7	19.7	-	-	25
R64_20m	-	-	-	2.8	16.7	19.5	-	-	25
R65_25m	-	-	-	2.7	16.7	19.4	-	-	25
R66_30m	-	-	-	2.5	16.7	19.2	-	-	25
R67_35m	-	-	-	2.3	16.7	19	-	-	25
R68_40m	-	-	-	2.1	16.7	18.8	-	-	25
R69_45m	-	-	-	1.9	16.7	18.6	-	-	25
R70_50m	-	-	-	1.8	16.7	18.5	-	-	25
R71_00m	-	-	-	5.4	16.7	22.1	-	-	25
R72_05m	-	-	-	5.4	16.7	22.1	-	-	25
R73_10m	-	-	-	5.2	16.7	21.9	-	-	25
R74_00m	-	-	-	5.7	16.7	22.4	-	-	25
R75_05m	-	-	-	5.6	16.7	22.3	-	-	25
R76_10m	-	-	-	5.4	16.7	22.1	-	-	25

Figure A-4: Comparison of annual average $PM_{2.5}$ modelling predictions (µg/m³)

Receptor	Original assessment			Technical addendum			Difference in incremental annual PM2.5	Difference in cumulative annual PM2.5	Cumulative criterion
	Incremental annual PM2.5	Background	Cumulative annual PM2.5	Incremental annual PM2.5	Background	Cumulative annual PM2.5			
R01	0.3	7	7.3	0.13	7.2	7.3	-0.17	0.0	8.0
R02	0.5	7	7.5	0.08	7.2	7.3	-0.42	-0.2	8.0
R03	0.4	7	7.4	0.09	7.2	7.3	-0.31	-0.1	8.0
R04	1	7	8	-	-	-	-	-	8.0
R05	0.4	7	7.4	0.08	7.2	7.3	-0.32	-0.1	8.0
R06	0.6	7	7.6	0.09	7.2	7.3	-0.51	-0.3	8.0
R07	0.8	7	7.8	-	-	-	-	-	8.0
R08	0.7	7	7.7	-	-	-	-	-	8.0
R09	0.1	7	7.1	0.03	7.2	7.2	-0.07	0.1	8.0
R10	0.1	7	7.1	0.02	7.2	7.2	-0.08	0.1	8.0
R11	0.1	7	7.1	0.02	7.2	7.2	-0.08	0.1	8.0
R12	0.1	7	7.1	0.02	7.2	7.2	-0.08	0.1	8.0
R13	0.1	7	7.1	0.02	7.2	7.2	-0.08	0.1	8.0
R14	<0.1	7	7	0.01	7.2	7.2	-	0.2	8.0
R15	0.1	7	7.1	0.03	7.2	7.2	-0.07	0.1	8.0
R16	0.2	7	7.2	0.03	7.2	7.2	-0.17	0.0	8.0

R17	<0.1	7	7	0.01	7.2	7.2	-	0.2	8.0
R18	0.2	7	7.2	0.04	7.2	7.2	-0.16	0.0	8.0
R19	0.1	7	7.1	0.02	7.2	7.2	-0.08	0.1	8.0
R20	0.1	7	7.1	0.01	7.2	7.2	-0.09	0.1	8.0
R21	0.1	7	7.1	0.01	7.2	7.2	-0.09	0.1	8.0
R22	0.1	7	7.1	0.03	7.2	7.2	-0.07	0.1	8.0
R23	0.2	7	7.2	0.06	7.2	7.3	-0.14	0.1	8.0
R24	<0.1	7	7	0.03	7.2	7.2	-	0.2	8.0
R25	0.1	7	7.1	0.02	7.2	7.2	-0.08	0.1	8.0
R26	<0.1	7	7	0.01	7.2	7.2	-	0.2	8.0
R27	<0.1	7	7	0.01	7.2	7.2	-	0.2	8.0
R28	0.1	7	7.1	0.01	7.2	7.2	-0.09	0.1	8.0
R29	0.1	7	7.1	0.02	7.2	7.2	-0.08	0.1	8.0
R30	<0.1	7	7	0.01	7.2	7.2	-	0.2	8.0
R31	<0.1	7	7	0	7.2	7.2	-	0.2	8.0
R32	<0.1	7	7	0.01	7.2	7.2	-	0.2	8.0
R33	<0.1	7	7	0.01	7.2	7.2	-	0.2	8.0
R34	<0.1	7	7	0.01	7.2	7.2	-	0.2	8.0
R35	0.1	7	7.1	0.01	7.2	7.2	-0.09	0.1	8.0
R36_00m	-	-	-	0.11	7.2	7.3	-	-	8.0
R37_05m	-	-	-	0.11	7.2	7.3	-	-	8.0
R38_10m	-	-	-	0.11	7.2	7.3	-	-	8.0
R39_15m	-	-	-	0.11	7.2	7.3	-	-	8.0
R40_20m	-	-	-	0.11	7.2	7.3	-	-	8.0
R41_25m	-	-	-	0.11	7.2	7.3	-	-	8.0
R42_30m	-	-	-	0.1	7.2	7.3	-	-	8.0
R43_00m	-	-	-	0.1	7.2	7.3	-	-	8.0
R44_05m	-	-	-	0.1	7.2	7.3	-	-	8.0
R45_10m	-	-	-	0.1	7.2	7.3	-	-	8.0
R46_15m	-	-	-	0.09	7.2	7.3	-	-	8.0
R47_20m	-	-	-	0.09	7.2	7.3	-	-	8.0
R48_00m	-	-	-	0.09	7.2	7.3	-	-	8.0
R49_05m	-	-	-	0.09	7.2	7.3	-	-	8.0
R50_10m	-	-	-	0.09	7.2	7.3	-	-	8.0
R51_15m	-	-	-	0.08	7.2	7.3	-	-	8.0
R52_20m	-	-	-	0.08	7.2	7.3	-	-	8.0
R53_25m	-	-	-	0.08	7.2	7.3	-	-	8.0
R54_30m	-	-	-	0.07	7.2	7.3	-	-	8.0
R55_35m	-	-	-	0.07	7.2	7.3	-	-	8.0
R56_40m	-	-	-	0.06	7.2	7.3	-	-	8.0
R57_00m	-	-	-	0.1	7.2	7.3	-	-	8.0
R58_05m	-	-	-	0.1	7.2	7.3	-	-	8.0
R59_10m	-	-	-	0.1	7.2	7.3	-	-	8.0
R60_00m	-	-	-	0.08	7.2	7.3	-	-	8.0
R61_05m	-	-	-	0.08	7.2	7.3	-	-	8.0
R62_10m	-	-	-	0.08	7.2	7.3	-	-	8.0
R63_15m	-	-	-	0.07	7.2	7.3	-	-	8.0
R64_20m	-	-	-	0.07	7.2	7.3	-	-	8.0
R65_25m	-	-	-	0.06	7.2	7.3	-	-	8.0
R66_30m	-	-	-	0.06	7.2	7.3	-	-	8.0
R67_35m	-	-	-	0.06	7.2	7.3	-	-	8.0
R68_40m	-	-	-	0.05	7.2	7.3	-	-	8.0
R69_45m	-	-	-	0.05	7.2	7.3	-	-	8.0
R70_50m	-	-	-	0.05	7.2	7.3	-	-	8.0
R71_00m	-	-	-	0.09	7.2	7.3	-	-	8.0
R72_05m	-	-	-	0.09	7.2	7.3	-	-	8.0
R73_10m	-	-	-	0.09	7.2	7.3	-	-	8.0
R74_00m	-	-	-	0.09	7.2	7.3	-	-	8.0
R75_05m	-	-	-	0.09	7.2	7.3	-	-	8.0
R76_10m	-	-	-	0.08	7.2	7.3	-	-	8.0

Figure A-5: Comparison of 1-hour average NO_2 modelling predictions (µg/m³)

Receptor	Original assessment			Technical addendum			Difference in incremental 1-hour NO_2	Difference in cumulative 1-hour NO_2	Cumulative criterion
	Incremental 1-hour NO_x	Background	Cumulative 1-hour NO_2	Incremental 1-hour NO_2	Background	Cumulative 1-hour NO_2			
R01	64	123	62	81	time varying	-	17	-	25

R02	92*	123	92	106	time varying	-	14	-	25
R03	151	123	70	98	time varying	-	-53	-	25
R04	197	123	75	-	-	-	-	-	25
R05	84	123	64	68	time varying	-	-16	-	25
R06	106	123	66	66	time varying	-	-40	-	25
R07	137	123	69	-	-	-	-	-	25
R08	132	123	69	-	-	-	-	-	25
R09	41	123	59	47	time varying	-	6	-	25
R10	29	123	51	55	time varying	-	26	-	25
R11	30	123	53	62	time varying	-	32	-	25
R12	109	123	66	59	time varying	-	-50	-	25
R13	28	123	51	56	time varying	-	28	-	25
R14	19	123	42	37	time varying	-	18	-	25
R15	22	123	45	64	time varying	-	42	-	25
R16	51	123	60	81	time varying	-	30	-	25
R17	37	123	59	45	time varying	-	8	-	25
R18	42	123	60	60	time varying	-	18	-	25
R19	48	123	60	68	time varying	-	20	-	25
R20	42	123	60	55	time varying	-	13	-	25
R21	43	123	60	43	time varying	-	0	-	25
R22	21	123	43	63	time varying	-	42	-	25
R23	42	123	60	73	time varying	-	31	-	25
R24	107	123	66	55	time varying	-	-52	-	25
R25	162	123	72	49	time varying	-	-113	-	25
R26	7	123	30	40	time varying	-	33	-	25
R27	9	123	31	48	time varying	-	39	-	25
R28	25	123	47	54	time varying	-	29	-	25
R29	64	123	62	62	time varying	-	-2	-	25
R30	47	123	60	36	time varying	-	-11	-	25
R31	34	123	57	30	time varying	-	-4	-	25
R32	23	123	45	38	time varying	-	15	-	25
R33	44	123	60	54	time varying	-	10	-	25
R34	42	123	60	56	time varying	-	14	-	25
R35	35	123	58	52	time varying	-	17	-	25
R36_00m	-	-	-	108	time varying	-	-	-	25
R37_05m	-	-	-	109	time varying	-	-	-	25
R38_10m	-	-	-	114	time varying	-	-	-	25
R39_15m	-	-	-	123	time varying	-	-	-	25
R40_20m	-	-	-	132	time varying	-	-	-	25
R41_25m	-	-	-	138	time varying	-	-	-	25
R42_30m	-	-	-	138	time varying	-	-	-	25
R43_00m	-	-	-	119	time varying	-	-	-	25
R44_05m	-	-	-	119	time varying	-	-	-	25
R45_10m	-	-	-	118	time varying	-	-	-	25
R46_15m	-	-	-	118	time varying	-	-	-	25
R47_20m	-	-	-	115	time varying	-	-	-	25
R48_00m	-	-	-	117	time varying	-	-	-	25
R49_05m	-	-	-	117	time varying	-	-	-	25
R50_10m	-	-	-	117	time varying	-	-	-	25
R51_15m	-	-	-	117	time varying	-	-	-	25
R52_20m	-	-	-	113	time varying	-	-	-	25
R53_25m	-	-	-	110	time varying	-	-	-	25
R54_30m	-	-	-	110	time varying	-	-	-	25
R55_35m	-	-	-	110	time varying	-	-	-	25
R56_40m	-	-	-	114	time varying	-	-	-	25
R57_00m	-	-	-	122	time varying	-	-	-	25
R58_05m	-	-	-	122	time varying	-	-	-	25
R59_10m	-	-	-	122	time varying	-	-	-	25
R60_00m	-	-	-	62	time varying	-	-	-	25
R61_05m	-	-	-	62	time varying	-	-	-	25
R62_10m	-	-	-	62	time varying	-	-	-	25
R63_15m	-	-	-	62	time varying	-	-	-	25
R64_20m	-	-	-	61	time varying	-	-	-	25
R65_25m	-	-	-	60	time varying	-	-	-	25
R66_30m	-	-	-	60	time varying	-	-	-	25
R67_35m	-	-	-	60	time varying	-	-	-	25
R68_40m	-	-	-	61	time varying	-	-	-	25
R69_45m	-	-	-	61	time varying	-	-	-	25
R70_50m	-	-	-	61	time varying	-	-	-	25

R71_00m	-	-	-	104	time varying	-	-	-	25
R72_05m	-	-	-	104	time varying	-	-	-	25
R73_10m	-	-	-	105	time varying	-	-	-	25
R74_00m	-	-	-	95	time varying	-	-	-	25
R75_05m	-	-	-	95	time varying	-	-	-	25
R76_10m	-	-	-	95	time varying	-	-	-	25

* Cumulative NO_2 concentration evaluated using the OLM method has been reported at this receptor

Figure A-6: Comparison of annual average NO_2 modelling predictions (µg/m³)

Receptor	Original assessment			Technical addendum			Difference in incremental annual NO_2	Difference in cumulative annual NO_2	Cumulative criterion
	Incremental annual NO_x	Background	Cumulative annual NO_2	Incremental annual NO_2	Background	Cumulative annual NO_2			
R01	4.5	21	27.1	0.9	22.6	23.5	-3.6	-3.6	62.0
R02	7.3	21	29.8	0.7	22.6	23.3	-6.6	-6.5	62.0
R03	6.2	21	28.8	0.6	22.6	23.2	-5.6	-5.6	62.0
R04	15.5	21	38	-	-	-	-	-	62.0
R05	6	21	28.6	0.7	22.6	23.3	-5.3	-5.3	62.0
R06	8.2	21	30.8	0.7	22.6	23.3	-7.5	-7.5	62.0
R07	11.7	21	34.2	-	-	-	-	-	62.0
R08	10.7	21	33.3	-	-	-	-	-	62.0
R09	2	21	24.5	0.3	22.6	22.9	-1.7	-1.6	62.0
R10	1.4	21	24	0.2	22.6	22.8	-1.2	-1.2	62.0
R11	1.5	21	24.1	0.2	22.6	22.8	-1.3	-1.3	62.0
R12	1.4	21	23.9	0.2	22.6	22.8	-1.2	-1.1	62.0
R13	2.2	21	24.8	0.2	22.6	22.8	-2	-2.0	62.0
R14	0.7	21	23.3	0.2	22.6	22.8	-0.5	-0.5	62.0
R15	1.5	21	24.1	0.4	22.6	23.0	-1.1	-1.1	62.0
R16	2.9	21	25.5	0.3	22.6	22.9	-2.6	-2.6	62.0
R17	0.3	21	22.8	0.1	22.6	22.7	-0.2	-0.1	62.0
R18	2.3	21	24.8	0.5	22.6	23.1	-1.8	-1.7	62.0
R19	1.7	21	24.2	0.1	22.6	22.7	-1.6	-1.5	62.0
R20	1	21	23.6	0.1	22.6	22.7	-0.9	-0.9	62.0
R21	1.2	21	23.8	0.1	22.6	22.7	-1.1	-1.1	62.0
R22	1.5	21	24.1	0.3	22.6	22.9	-1.2	-1.2	62.0
R23	3.1	21	25.6	0.5	22.6	23.1	-2.6	-2.5	62.0
R24	0.5	21	23.1	0.2	22.6	22.8	-0.3	-0.3	62.0
R25	1.4	21	23.9	0.2	22.6	22.8	-1.2	-1.1	62.0
R26	0.5	21	23.1	0.1	22.6	22.7	-0.4	-0.4	62.0
R27	0.6	21	23.2	0.1	22.6	22.7	-0.5	-0.5	62.0
R28	1.3	21	23.9	0.2	22.6	22.8	-1.1	-1.1	62.0
R29	1.5	21	24.1	0.2	22.6	22.8	-1.3	-1.3	62.0
R30	0.4	21	23	0.1	22.6	22.7	-0.3	-0.3	62.0
R31	0.1	21	22.6	0	22.6	22.6	-0.1	0.0	62.0
R32	0.1	21	22.6	0.1	22.6	22.7	0	0.1	62.0
R33	0.3	21	22.8	0.1	22.6	22.7	-0.2	-0.1	62.0
R34	0.3	21	22.9	0.1	22.6	22.7	-0.2	-0.2	62.0
R35	0.9	21	23.4	0.1	22.6	22.7	-0.8	-0.7	62.0
R36_00m	-	-	-	0.8	22.6	23.4	-	-	62.0
R37_05m	-	-	-	0.8	22.6	23.4	-	-	62.0
R38_10m	-	-	-	0.8	22.6	23.4	-	-	62.0
R39_15m	-	-	-	0.8	22.6	23.4	-	-	62.0
R40_20m	-	-	-	0.8	22.6	23.4	-	-	62.0
R41_25m	-	-	-	0.8	22.6	23.4	-	-	62.0
R42_30m	-	-	-	0.7	22.6	23.3	-	-	62.0
R43_00m	-	-	-	0.8	22.6	23.4	-	-	62.0
R44_05m	-	-	-	0.8	22.6	23.4	-	-	62.0
R45_10m	-	-	-	0.8	22.6	23.4	-	-	62.0
R46_15m	-	-	-	0.8	22.6	23.4	-	-	62.0
R47_20m	-	-	-	0.7	22.6	23.3	-	-	62.0
R48_00m	-	-	-	0.7	22.6	23.3	-	-	62.0
R49_05m	-	-	-	0.7	22.6	23.3	-	-	62.0
R50_10m	-	-	-	0.7	22.6	23.3	-	-	62.0
R51_15m	-	-	-	0.7	22.6	23.3	-	-	62.0
R52_20m	-	-	-	0.7	22.6	23.3	-	-	62.0
R53_25m	-	-	-	0.7	22.6	23.3	-	-	62.0
R54_30m	-	-	-	0.6	22.6	23.2	-	-	62.0
R55_35m	-	-	-	0.6	22.6	23.2	-	-	62.0
R56_40m	-	-	-	0.5	22.6	23.1	-	-	62.0

R57_00m	-	-	-	0.8	22.6	23.4	-	-	62.0
R58_05m	-	-	-	0.8	22.6	23.4	-	-	62.0
R59_10m	-	-	-	0.8	22.6	23.4	-	-	62.0
R60_00m	-	-	-	0.5	22.6	23.1	-	-	62.0
R61_05m	-	-	-	0.5	22.6	23.1	-	-	62.0
R62_10m	-	-	-	0.5	22.6	23.1	-	-	62.0
R63_15m	-	-	-	0.5	22.6	23.1	-	-	62.0
R64_20m	-	-	-	0.5	22.6	23.1	-	-	62.0
R65_25m	-	-	-	0.5	22.6	23.1	-	-	62.0
R66_30m	-	-	-	0.5	22.6	23.1	-	-	62.0
R67_35m	-	-	-	0.4	22.6	23.0	-	-	62.0
R68_40m	-	-	-	0.4	22.6	23.0	-	-	62.0
R69_45m	-	-	-	0.4	22.6	23.0	-	-	62.0
R70_50m	-	-	-	0.4	22.6	23.0	-	-	62.0
R71_00m	-	-	-	0.7	22.6	23.3	-	-	62.0
R72_05m	-	-	-	0.7	22.6	23.3	-	-	62.0
R73_10m	-	-	-	0.7	22.6	23.3	-	-	62.0
R74_00m	-	-	-	0.7	22.6	23.3	-	-	62.0
R75_05m	-	-	-	0.6	22.6	23.2	-	-	62.0
R76_10m	-	-	-	0.6	22.6	23.2	-	-	62.0

Figure A-7: Comparison of 10-minute average SO_2 modelling predictions ($\mu g/m^3$)

Receptor	Original assessment			Technical addendum			Difference in incremental 10-minute SO_2	Difference in cumulative 10-minute SO_2	Cumulative criterion
	Incremental 10-minute SO_2	Background	Cumulative 10-minute SO_2	Incremental 10-minute SO_2	Background	Cumulative 10-minute SO_2			
R01	24	146	170	79.1	98	177.1	55.1	7.1	712
R02	143	146	289	80.5	98	178.5	-62.5	-110.5	712
R03	135	146	281	86.1	98	184.1	-48.9	-96.9	712
R04	113	146	259	-	-	-	-	-	712
R05	93	146	239	28.2	98	126.2	-64.8	-112.8	712
R06	98	146	244	54.3	98	152.3	-43.7	-91.7	712
R07	94	146	240	-	-	-	-	-	712
R08	114	146	260	-	-	-	-	-	712
R09	58	146	204	18.8	98	116.8	-39.2	-87.2	712
R10	36	146	182	21.9	98	119.9	-14.1	-62.1	712
R11	37	146	183	19.9	98	117.9	-17.1	-65.1	712
R12	59	146	205	26.1	98	124.1	-32.9	-80.9	712
R13	56	146	202	31.1	98	129.1	-24.9	-72.9	712
R14	22	146	168	14.3	98	112.3	-7.7	-55.7	712
R15	27	146	173	29.9	98	127.9	2.9	-45.1	712
R16	57	146	203	45.2	98	143.2	-11.8	-59.8	712
R17	41	146	187	13.5	98	111.5	-27.5	-75.5	712
R18	60	146	206	40.6	98	138.6	-19.4	-67.4	712
R19	73	146	219	29.4	98	127.4	-43.6	-91.6	712
R20	58	146	204	17.1	98	115.1	-40.9	-88.9	712
R21	55	146	201	18.8	98	116.8	-36.2	-84.2	712
R22	39	146	185	27.6	98	125.6	-11.4	-59.4	712
R23	25	146	171	33.3	98	131.3	8.3	-39.7	712
R24	47	146	193	26.6	98	124.6	-20.4	-68.4	712
R25	59	146	205	23.9	98	121.9	-35.1	-83.1	712
R26	9	146	155	18.3	98	116.3	9.3	-38.7	712
R27	12	146	158	18.2	98	116.2	6.2	-41.8	712
R28	25	146	171	19.9	98	117.9	-5.1	-53.1	712
R29	59	146	205	25.1	98	123.1	-33.9	-81.9	712
R30	36	146	182	14.3	98	112.3	-21.7	-69.7	712
R31	24	146	170	10.1	98	108.1	-13.9	-61.9	712
R32	23	146	169	9.4	98	107.4	-13.6	-61.6	712
R33	50	146	196	19.9	98	117.9	-30.1	-78.1	712
R34	45	146	191	18.9	98	116.9	-26.1	-74.1	712
R35	49	146	195	21.5	98	119.5	-27.5	-75.5	712
R36_00m	-	-	-	108.3	98	206.3	-	-	712
R37_05m	-	-	-	110.9	98	208.9	-	-	712
R38_10m	-	-	-	117.5	98	215.5	-	-	712
R39_15m	-	-	-	134.8	98	232.8	-	-	712
R40_20m	-	-	-	157.4	98	255.4	-	-	712

R41_25m	-	-	-	171.4	98	269.4	-	-	712
R42_30m	-	-	-	180.2	98	278.2	-	-	712
R43_00m	-	-	-	52.5	98	150.5	-	-	712
R44_05m	-	-	-	52.4	98	150.4	-	-	712
R45_10m	-	-	-	52.2	98	150.2	-	-	712
R46_15m	-	-	-	52	98	150	-	-	712
R47_20m	-	-	-	51.7	98	149.7	-	-	712
R48_00m	-	-	-	78.8	98	176.8	-	-	712
R49_05m	-	-	-	80	98	178	-	-	712
R50_10m	-	-	-	83.1	98	181.1	-	-	712
R51_15m	-	-	-	86.3	98	184.3	-	-	712
R52_20m	-	-	-	91.1	98	189.1	-	-	712
R53_25m	-	-	-	105.3	98	203.3	-	-	712
R54_30m	-	-	-	112.9	98	210.9	-	-	712
R55_35m	-	-	-	134.9	98	232.9	-	-	712
R56_40m	-	-	-	151.3	98	249.3	-	-	712
R57_00m	-	-	-	93.3	98	191.3	-	-	712
R58_05m	-	-	-	92.8	98	190.8	-	-	712
R59_10m	-	-	-	91.6	98	189.6	-	-	712
R60_00m	-	-	-	58.8	98	156.8	-	-	712
R61_05m	-	-	-	58.8	98	156.8	-	-	712
R62_10m	-	-	-	58.9	98	156.9	-	-	712
R63_15m	-	-	-	59.1	98	157.1	-	-	712
R64_20m	-	-	-	59.3	98	157.3	-	-	712
R65_25m	-	-	-	59.5	98	157.5	-	-	712
R66_30m	-	-	-	59.7	98	157.7	-	-	712
R67_35m	-	-	-	59.9	98	157.9	-	-	712
R68_40m	-	-	-	60.1	98	158.1	-	-	712
R69_45m	-	-	-	60.2	98	158.2	-	-	712
R70_50m	-	-	-	69.1	98	167.1	-	-	712
R71_00m	-	-	-	117.7	98	215.7	-	-	712
R72_05m	-	-	-	116.7	98	214.7	-	-	712
R73_10m	-	-	-	113.6	98	211.6	-	-	712
R74_00m	-	-	-	123.5	98	221.5	-	-	712
R75_05m	-	-	-	122.8	98	220.8	-	-	712
R76_10m	-	-	-	120.1	98	218.1	-	-	712

Figure A-8: Comparison of 1-hour average SO_2 modelling predictions (µg/m³)

Receptor	Original assessment			Technical addendum			Difference in incremental 1-hour SO_2	Difference in cumulative 1-hour SO_2	Cumulative criterion
	Incremental 1-hour SO_2	Background	Cumulative 1-hour SO_2	Incremental 1-hour SO_2	Background	Cumulative 1-hour SO_2			
R01	17	71	88	55	69	124.0	38	36.0	570
R02	100	71	171	56	69	125.0	-44	-46.0	570
R03	94	71	165	60	69	129.0	-34	-36.0	570
R04	79	71	150	-	-	-	-	-	570
R05	65	71	136	20	69	89.0	-45	-47.0	570
R06	69	71	140	38	69	107.0	-31	-33.0	570
R07	66	71	137	-	-	-	-	-	570
R08	80	71	151	-	-	-	-	-	570
R09	41	71	112	13	69	82.0	-28	-30.0	570
R10	25	71	96	15	69	84.0	-10	-12.0	570
R11	26	71	97	14	69	83.0	-12	-14.0	570
R12	41	71	112	18	69	87.0	-23	-25.0	570
R13	39	71	110	22	69	91.0	-17	-19.0	570
R14	16	71	87	10	69	79.0	-6	-8.0	570
R15	19	71	90	21	69	90.0	2	0.0	570
R16	40	71	111	32	69	101.0	-8	-10.0	570
R17	29	71	100	9	69	78.0	-20	-22.0	570
R18	42	71	113	28	69	97.0	-14	-16.0	570
R19	51	71	122	21	69	90.0	-30	-32.0	570
R20	40	71	111	12	69	81.0	-28	-30.0	570
R21	38	71	109	13	69	82.0	-25	-27.0	570
R22	27	71	98	19	69	88.0	-8	-10.0	570
R23	17	71	88	23	69	92.0	6	4.0	570
R24	33	71	104	19	69	88.0	-14	-16.0	570
R25	42	71	113	17	69	86.0	-25	-27.0	570

R26	7	71	78	13	69	82.0	6	4.0	570
R27	8	71	79	13	69	82.0	5	3.0	570
R28	17	71	88	14	69	83.0	-3	-5.0	570
R29	41	71	112	18	69	87.0	-23	-25.0	570
R30	25	71	96	10	69	79.0	-15	-17.0	570
R31	16	71	87	7	69	76.0	-9	-11.0	570
R32	16	71	87	7	69	76.0	-9	-11.0	570
R33	35	71	106	14	69	83.0	-21	-23.0	570
R34	31	71	102	13	69	82.0	-18	-20.0	570
R35	34	71	105	15	69	84.0	-19	-21.0	570
R36_00m	-	-	-	76	69	145.0	-	-	570
R37_05m	-	-	-	78	69	147.0	-	-	570
R38_10m	-	-	-	82	69	151.0	-	-	570
R39_15m	-	-	-	94	69	163.0	-	-	570
R40_20m	-	-	-	110	69	179.0	-	-	570
R41_25m	-	-	-	120	69	189.0	-	-	570
R42_30m	-	-	-	126	69	195.0	-	-	570
R43_00m	-	-	-	37	69	106.0	-	-	570
R44_05m	-	-	-	37	69	106.0	-	-	570
R45_10m	-	-	-	37	69	106.0	-	-	570
R46_15m	-	-	-	36	69	105.0	-	-	570
R47_20m	-	-	-	36	69	105.0	-	-	570
R48_00m	-	-	-	55	69	124.0	-	-	570
R49_05m	-	-	-	56	69	125.0	-	-	570
R50_10m	-	-	-	58	69	127.0	-	-	570
R51_15m	-	-	-	60	69	129.0	-	-	570
R52_20m	-	-	-	64	69	133.0	-	-	570
R53_25m	-	-	-	74	69	143.0	-	-	570
R54_30m	-	-	-	79	69	148.0	-	-	570
R55_35m	-	-	-	94	69	163.0	-	-	570
R56_40m	-	-	-	106	69	175.0	-	-	570
R57_00m	-	-	-	65	69	134.0	-	-	570
R58_05m	-	-	-	65	69	134.0	-	-	570
R59_10m	-	-	-	64	69	133.0	-	-	570
R60_00m	-	-	-	41	69	110.0	-	-	570
R61_05m	-	-	-	41	69	110.0	-	-	570
R62_10m	-	-	-	41	69	110.0	-	-	570
R63_15m	-	-	-	41	69	110.0	-	-	570
R64_20m	-	-	-	41	69	110.0	-	-	570
R65_25m	-	-	-	42	69	111.0	-	-	570
R66_30m	-	-	-	42	69	111.0	-	-	570
R67_35m	-	-	-	42	69	111.0	-	-	570
R68_40m	-	-	-	42	69	111.0	-	-	570
R69_45m	-	-	-	42	69	111.0	-	-	570
R70_50m	-	-	-	48	69	117.0	-	-	570
R71_00m	-	-	-	82	69	151.0	-	-	570
R72_05m	-	-	-	82	69	151.0	-	-	570
R73_10m	-	-	-	79	69	148.0	-	-	570
R74_00m	-	-	-	86	69	155.0	-	-	570
R75_05m	-	-	-	86	69	155.0	-	-	570
R76_10m	-	-	-	84	69	153.0	-	-	570

Figure A-9: Comparison of 24-hour average SO_2 modelling predictions (µg/m³)

Receptor	Original assessment			Technical addendum			Difference in incremental 24-hour SO_2	Difference in cumulative 24-hour SO_2	Cumulative criterion
	Incremental 24-hour SO_2	Background	Cumulative 24-hour SO_2	Incremental 24-hour SO_2	Background	Cumulative 24-hour SO_2			
R01	2	18	20	11	9	21.2	9	1.2	228
R02	13	18	31	11	9	20.9	-2	-10.1	228
R03	13	18	31	16	9	22.6	3	-8.4	228
R04	6	18	24	-	-	-	-	-	228
R05	4	18	22	4	9	18.1	0	-3.9	228
R06	4	18	22	5	9	18.9	1	-3.1	228
R07	8	18	26	-	-	-	-	-	228
R08	8	18	26	-	-	-	-	-	228
R09	2	18	20	2	9	17.5	0	-2.5	228

R10	1	18	19	2	9	17.4	1	-1.6	228
R11	1	18	19	2	9	17.5	1	-1.5	228
R12	2	18	20	2	9	17.4	0	-2.6	228
R13	2	18	20	3	9	17.9	1	-2.1	228
R14	1	18	19	1	9	17.2	0	-1.8	228
R15	1	18	19	4	9	18.2	3	-0.8	228
R16	3	18	21	5	9	18.4	2	-2.6	228
R17	2	18	20	1	9	17.1	-1	-2.9	228
R18	4	18	22	4	9	18.1	0	-3.9	228
R19	3	18	21	2	9	17.6	-1	-3.4	228
R20	3	18	21	1	9	17.2	-2	-3.8	228
R21	4	18	22	2	9	17.3	-2	-4.7	228
R22	2	18	20	3	9	18	1	-2	228
R23	1	18	19	4	9	18.5	3	-0.5	228
R24	3	18	21	3	9	17.9	0	-3.1	228
R25	3	18	21	3	9	17.8	0	-3.2	228
R26	0	18	18	1	9	17.2	1	-0.8	228
R27	1	18	19	1	9	17.1	0	-1.9	228
R28	1	18	19	3	9	17.7	2	-1.3	228
R29	2	18	20	2	9	17.3	0	-2.7	228
R30	2	18	20	1	9	17.1	-1	-2.9	228
R31	1	18	19	1	9	17	0	-2	228
R32	1	18	19	1	9	17.1	0	-1.9	228
R33	2	18	20	1	9	17.1	-1	-2.9	228
R34	2	18	20	1	9	17.1	-1	-2.9	228
R35	2	18	20	2	9	17.5	0	-2.5	228
R36_00m	-	-	-	19	9	23.6	-	-	228
R37_05m	-	-	-	19	9	23.7	-	-	228
R38_10m	-	-	-	19	9	23.9	-	-	228
R39_15m	-	-	-	20	9	24	-	-	228
R40_20m	-	-	-	20	9	24	-	-	228
R41_25m	-	-	-	19	9	23.6	-	-	228
R42_30m	-	-	-	17	9	22.8	-	-	228
R43_00m	-	-	-	5	9	18.6	-	-	228
R44_05m	-	-	-	5	9	18.6	-	-	228
R45_10m	-	-	-	5	9	18.6	-	-	228
R46_15m	-	-	-	5	9	18.5	-	-	228
R47_20m	-	-	-	5	9	18.4	-	-	228
R48_00m	-	-	-	11	9	20.9	-	-	228
R49_05m	-	-	-	11	9	20.9	-	-	228
R50_10m	-	-	-	11	9	21	-	-	228
R51_15m	-	-	-	11	9	21.1	-	-	228
R52_20m	-	-	-	12	9	21.1	-	-	228
R53_25m	-	-	-	12	9	21.1	-	-	228
R54_30m	-	-	-	12	9	21.2	-	-	228
R55_35m	-	-	-	12	9	21.2	-	-	228
R56_40m	-	-	-	12	9	21	-	-	228
R57_00m	-	-	-	18	9	23.5	-	-	228
R58_05m	-	-	-	18	9	23.5	-	-	228
R59_10m	-	-	-	17	9	23.3	-	-	228
R60_00m	-	-	-	8	9	19.9	-	-	228
R61_05m	-	-	-	8	9	19.8	-	-	228
R62_10m	-	-	-	8	9	19.8	-	-	228
R63_15m	-	-	-	8	9	19.7	-	-	228
R64_20m	-	-	-	7	9	19.5	-	-	228
R65_25m	-	-	-	7	9	19.4	-	-	228
R66_30m	-	-	-	7	9	19.2	-	-	228
R67_35m	-	-	-	6	9	19	-	-	228
R68_40m	-	-	-	6	9	18.8	-	-	228
R69_45m	-	-	-	5	9	18.6	-	-	228
R70_50m	-	-	-	5	9	18.5	-	-	228
R71_00m	-	-	-	14	9	22.1	-	-	228
R72_05m	-	-	-	14	9	22.1	-	-	228
R73_10m	-	-	-	14	9	21.9	-	-	228
R74_00m	-	-	-	16	9	22.4	-	-	228
R75_05m	-	-	-	15	9	22.3	-	-	228
R76_10m	-	-	-	15	9	22.1	-	-	228

Figure A-10: Comparison of annual average SO_2 modelling predictions (µg/m³)

Receptor	Original assessment			Technical addendum			Difference in incremental annual SO_2	Difference in cumulative annual SO_2	Cumulative criterion
	Incremental annual SO_2	Background	Cumulative annual SO_2	Incremental annual SO_2	Background	Cumulative annual SO_2			
R01	0.1	1	1.1	0.3	1.5	1.8	0.2	0.7	60
R02	1.2	1	2.2	0.2	1.5	1.7	-1	-0.5	60
R03	1	1	2	0.2	1.5	1.7	-0.8	-0.3	60
R04	0.5	1	1.5	-	-	-	-	-	60
R05	0.3	1	1.3	0.1	1.5	1.6	-0.2	0.3	60
R06	0.2	1	1.2	0.1	1.5	1.6	-0.1	0.4	60
R07	0.6	1	1.6	-	-	-	-	-	60
R08	0.5	1	1.5	-	-	-	-	-	60
R09	0.1	1	1.1	0	1.5	1.5	-0.1	0.4	60
R10	<0.1	1	1	0	1.5	1.5	-	0.5	60
R11	<0.1	1	1	0	1.5	1.5	-	0.5	60
R12	0.1	1	1.1	0	1.5	1.5	-0.1	0.4	60
R13	0.1	1	1.1	0	1.5	1.5	-0.1	0.4	60
R14	<0.1	1	1	0	1.5	1.5	-	0.5	60
R15	0.1	1	1.1	0.1	1.5	1.6	0	0.5	60
R16	0.2	1	1.2	0.1	1.5	1.6	-0.1	0.4	60
R17	0.1	1	1.1	0	1.5	1.5	-0.1	0.4	60
R18	0.2	1	1.2	0.1	1.5	1.6	-0.1	0.4	60
R19	0.1	1	1.1	0	1.5	1.5	-0.1	0.4	60
R20	0.1	1	1.1	0	1.5	1.5	-0.1	0.4	60
R21	0.3	1	1.3	0	1.5	1.5	-0.3	0.2	60
R22	<0.1	1	1	0.1	1.5	1.6	-	0.6	60
R23	0.1	1	1.1	0.1	1.5	1.6	0	0.5	60
R24	0.2	1	1.2	0.1	1.5	1.6	-0.1	0.4	60
R25	0.2	1	1.2	0	1.5	1.5	-0.2	0.3	60
R26	<0.1	1	1	0	1.5	1.5	-	0.5	60
R27	<0.1	1	1	0	1.5	1.5	-	0.5	60
R28	0.1	1	1.1	0	1.5	1.5	-0.1	0.4	60
R29	0.2	1	1.2	0	1.5	1.5	-0.2	0.3	60
R30	0.1	1	1.1	0	1.5	1.5	-0.1	0.4	60
R31	<0.1	1	1	0	1.5	1.5	-	0.5	60
R32	<0.1	1	1	0	1.5	1.5	-	0.5	60
R33	0.1	1	1.1	0	1.5	1.5	-0.1	0.4	60
R34	0.1	1	1.1	0	1.5	1.5	-0.1	0.4	60
R35	0.1	1	1.1	0	1.5	1.5	-0.1	0.4	60
R36_00m	-	-	-	0.2	1.5	1.7	-	-	60
R37_05m	-	-	-	0.2	1.5	1.7	-	-	60
R38_10m	-	-	-	0.2	1.5	1.7	-	-	60
R39_15m	-	-	-	0.2	1.5	1.7	-	-	60
R40_20m	-	-	-	0.2	1.5	1.7	-	-	60
R41_25m	-	-	-	0.2	1.5	1.7	-	-	60
R42_30m	-	-	-	0.2	1.5	1.7	-	-	60
R43_00m	-	-	-	0.2	1.5	1.7	-	-	60
R44_05m	-	-	-	0.2	1.5	1.7	-	-	60
R45_10m	-	-	-	0.2	1.5	1.7	-	-	60
R46_15m	-	-	-	0.2	1.5	1.7	-	-	60
R47_20m	-	-	-	0.2	1.5	1.7	-	-	60
R48_00m	-	-	-	0.2	1.5	1.7	-	-	60
R49_05m	-	-	-	0.2	1.5	1.7	-	-	60
R50_10m	-	-	-	0.2	1.5	1.7	-	-	60
R51_15m	-	-	-	0.2	1.5	1.7	-	-	60
R52_20m	-	-	-	0.2	1.5	1.7	-	-	60
R53_25m	-	-	-	0.2	1.5	1.7	-	-	60
R54_30m	-	-	-	0.2	1.5	1.7	-	-	60
R55_35m	-	-	-	0.2	1.5	1.7	-	-	60
R56_40m	-	-	-	0.1	1.5	1.6	-	-	60
R57_00m	-	-	-	0.2	1.5	1.7	-	-	60
R58_05m	-	-	-	0.2	1.5	1.7	-	-	60
R59_10m	-	-	-	0.2	1.5	1.7	-	-	60
R60_00m	-	-	-	0.2	1.5	1.7	-	-	60
R61_05m	-	-	-	0.2	1.5	1.7	-	-	60
R62_10m	-	-	-	0.1	1.5	1.6	-	-	60
R63_15m	-	-	-	0.1	1.5	1.6	-	-	60
R64_20m	-	-	-	0.1	1.5	1.6	-	-	60

R65_25m	-	-	-	0.1	1.5	1.6	-	-	60
R66_30m	-	-	-	0.1	1.5	1.6	-	-	60
R67_35m	-	-	-	0.1	1.5	1.6	-	-	60
R68_40m	-	-	-	0.1	1.5	1.6	-	-	60
R69_45m	-	-	-	0.1	1.5	1.6	-	-	60
R70_50m	-	-	-	0.1	1.5	1.6	-	-	60
R71_00m	-	-	-	0.2	1.5	1.7	-	-	60
R72_05m	-	-	-	0.2	1.5	1.7	-	-	60
R73_10m	-	-	-	0.2	1.5	1.7	-	-	60
R74_00m	-	-	-	0.2	1.5	1.7	-	-	60
R75_05m	-	-	-	0.2	1.5	1.7	-	-	60
R76_10m	-	-	-	0.2	1.5	1.7	-	-	60