



Resource Management (National Environmental Standards for Air Quality) Regulations 2004 – Regulation 16A Exceptional Circumstances

APPLICATION FORM

Before completing this form please read section 3.8 of the [2011 User's Guide to the revised National Environmental Standards for Air Quality](#).

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1 Applicant details

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2 Details of exceedance event

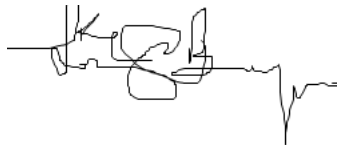
Containment	Nitrogen dioxide (NO ₂)
Date of exceedance <i>(application must be received within 3 months from date of the exceedance)</i>	9 - 17 June 2022
Relevant airshed	Auckland Urban Airshed

Monitoring station and technical specifications of monitor	<p>Customs Street monitoring station: Make: Teledyne Advanced Pollution Instrumentation Model : T200 Chemiluminescence NO/NO₂/NOX Gas Analyser Age : 3 years Serial: 3200</p> <p>Method: AS 3580.5.1-2011 Methods for sampling and analysis of ambient air Method 5.1: Determination of oxides of nitrogen—Direct-reading instrumental method</p> <p><i>Site metadata are provided in Appendix A.</i></p>	
Summary of monitoring reading showing exceedance event	<p>The Auckland Council ambient air quality monitoring site Customs Street experienced 85 exceedances of the National Environmental Standards for Air Quality (NESAQ) for NO₂ (1-hour average) between 09/06/2022 and 17/06/2022. The NO₂ exceedances were between 200.8 µg/m³ and 399.3 µg/m³. See Appendix B of Attachment 1 for details.</p>	
Analysis of baseline data	<p>An analysis of baseline data shows that NO₂ levels met the national standard (from 2020 to 2021), except for six exceedances on 30/07/2020, 3/08/2020, 2/10/2020 and 5/10/2020.</p> <p>See Attachment 1 for details.</p>	
Source speciation or other analysis	<p>See section 2 of Attachment 1</p>	
Explanation of any previous exceedance event/s from this monitoring station in the past 5 years	<p>There have been 14 exceedances of NO₂ since the establishment of this site in January 2020. This is the first time the NESAQ permissible excess per year has been breached. See section 4 of Attachment 1.</p>	
Monitoring readings covering exceedance event	<input checked="" type="checkbox"/> Attached	<input type="checkbox"/> Not attached

3 Details of exceptional circumstances

Exceptional circumstances leading to exceedance	<input checked="" type="checkbox"/> Localised impact on a monitor	<input checked="" type="checkbox"/> Anthropogenic extreme event	<input type="checkbox"/> Natural disaster or natural extreme event	<input type="checkbox"/> Other
Explanation of circumstances leading to exceedance event	<p>The breach at the Customs Street site is the result of exhaust emissions from a mobile power generator being used adjacent to the monitoring station. The fumes were directed at the monitoring station causing the NO₂ readings to spike. Vector Ltd was operating the generator while performing power lines repairs in the area. The generator was removed on the 18 June 2022.</p>			

<p>Reasons why these circumstances were beyond the reasonable control of the regional council</p>	<p>The emissions from the generator represent a strong and very short-term localised impact on the Customs Street monitoring site and are not representative of the wider emissions profile in the area monitored by this site. The repair work carried out by Vector was unforeseen and is critical to ensure power supply to businesses and apartments. Investigations have shown there was no other suitable location for the generator to operate in a safe manner.</p> <p>The Auckland Urban Airshed has been performing well (for NO₂ exceedances) in recent years, with no unpermitted exceedances since the site was commissioned in 2020.</p>	
<p>Supporting evidence (eg, meteorological report)</p>	<p><input checked="" type="checkbox"/> Attached</p>	<p><input type="checkbox"/> Not attached</p>



11/7/2022

Date

Signed

26 July 2022

Hon David Parker
Minister for the Environment

Tēnā koe Minister

Re: Application under National Environmental Standards for Air Quality – regulation 16A Exceptional Circumstances

Between 9th and 17th June 2022, the National Air Quality Standard for 1-hour NO₂ was exceeded in the Auckland Urban airshed (Customs Street site). Consequently, Auckland Council is seeking a determination that this exceedance was caused by exceptional circumstances, namely a mobile diesel power generator. The information in support of this application is attached.

If further information is required regarding this application, please contact Dr Louis Boamponsem in the Research and Evaluation Unit (RIMU) on 0272025907 or louis.boamponsem@aucklandcouncil.govt.nz.

Thank you for your consideration in this matter.

Ngā mihi



Dr Jonathan Bengé

Head of Research, Evaluation and Monitoring
Research and Evaluation Unit (RIMU)
Auckland Plan, Strategy and Research
Auckland Council

Cc: Jacqueline Lawrence-Sansbury - Team Manager Air, Land & Biodiversity

Resource Management (National Environmental Standards for Air Quality)
Regulations 2004 – Regulation 16A Exceptional Circumstances

Application for exceptional circumstances consideration:

Customs Street Nitrogen Dioxide (1-hour Average) (85 Exceedances)

Attachment 1

Louis Boamponsem

July 2022



This report has been prepared to support the application for exceptional circumstances consideration: Customs Street nitrogen dioxide (1-hour average) (85 exceedances)

Date: 11 July 2022

Executive summary

The Auckland Council ambient air quality monitoring site Customs Street recorded 85 exceedances of the National Environmental Standard for Air Quality (NESAQ) for Nitrogen Dioxide (NO₂) (1-hour average) between 09/06/2022 and 17/06/2022. This breach is the result of the exhaust emissions from a mobile power generator that was running intermittently approximately 50 metres to the north of the monitoring site. Vector Limited operated this generator while replacing and upgrading an existing high voltage network switch in the area. The emissions from the diesel generator represent a strong localised impact on the Customs Street monitoring site and are not representative of the wider emissions profile in the area generally monitored by this site. The upgrade works carried out by Vector Ltd was unforeseen and critical to ensure power supply to the upgrade operation.

The Auckland Urban Airshed has been performing well (for NO₂ exceedances) in recent years, with no unpermitted exceedances in many years. The generator is a temporary point source, and the emissions from the generator are additional to the 'baseline' concentrations recorded at the monitoring site, and this addition has elevated concentrations to the point of exceeding the NESAQ threshold.

These exceedances should be considered for exemption under Regulation 16A, for four reasons:

1. The emissions from the diesel generator represent a strong localised impact on the monitoring site and are not representative of the wider emissions profile generally monitored by the Customs Street Site.
2. Auckland Council could not have prevented the exceedances. The work carried out in the area was unforeseen and critical to ensure upgrade of power network equipment. Investigations revealed that there was no other suitable location for the diesel generator to operate in a safe manner.
3. The Auckland Airshed has been performing well (for NO₂ exceedances) with no unpermitted exceedances for many years. If these unusual results were to be included in the overall exceedance total, then the Auckland Airshed would be in breach of the National Environmental Standard based on the exceedances from an unusual point source over which the Auckland Council has no control. NO₂ exceedances are not typical of the Auckland Airshed.
4. The five requirements outlined by the MfE good practice guide (MfE, 2014) are all met by these exceedances.

This application uses monitoring data and investigation outcome to show that the 85 exceedances were caused by the operation of a diesel generator adjacent to the monitoring site, and accordingly these exceedances should be considered for exceptional circumstances exemption.

Table of contents

Executive summary.....	ii
Table of contents.....	iii
Table of figures.....	iii
List of tables.....	iv
Glossary of terms, acronyms, and abbreviations.....	v
1 Introduction.....	1
2 Summary of monitoring readings showing exceedance event.....	4
3 Analysis of baseline and historical data.....	5
4 Previous exceedances at Customs Street site.....	7
5 Exceptional circumstances.....	8
5.1 Cause of exceptional circumstances.....	8
5.2 Justification of exceptional events.....	8
6 Conclusion.....	11
7 References.....	12
Appendix A: Site metadata.....	13
Appendix B: NO ₂ exceedances – June 8-17, 2022.....	14
Appendix C: Spikes in SO ₂ , PM _{2.5} and black carbon concentrations during the operation of a diesel power generator near the Customs Street air quality monitoring site.....	17
Appendix D: Customs Street site historical NO ₂ (µg/m ³) data (Jan 2020 to May 2022).....	19

Table of figures

Figure 1. Location of the Customs Street air quality monitoring site (Source: Google maps).....	1
Figure 2. A picture showing the fenced diesel power generator and the Customs Street air quality monitoring site.....	2
Figure 3. Customs Street NO ₂ 1-hour average concentrations showing spikes during the operation of a diesel generator near the monitoring station.....	4
Figure 4. Temporal variation in monthly NO ₂ concentrations – Customs Street compared to Queen Street (nearby site) and Auckland average.....	5
Figure 5. Trends in NO ₂ at Customs Street. The plot shows the deseasonalised monthly mean concentrations of NO ₂ . The solid red line shows the trend estimate and the dashed red lines show the 95% confidence intervals for the trend based on resampling methods. The overall trend is shown at the top-left	

as - 12.6 ($\mu\text{g}/\text{m}^3$) per year and the 95% confidence intervals in the slope from -15.25 – (- 8.03) $\mu\text{g}/\text{m}^3$ /year. The '***' show that the trend is significant to the 0.001 level..... 6

Figure 6. Time series plot for Customs Street and Queen Street sites indication similar NO_2 patterns except on the days when the power generator was running adjacent to the Customs Street site. 6

List of tables

Table 1. Historical NO_2 exceedances in the Auckland Airshed (January 2005 – June 2022) 2

Table 2. Average 1-hour and maximum NO_2 concentrations at Customs Street 2020 to 2022..... 5

Table 3. Hourly NO_2 exceedances of the NESAQ at the Customs Street site since January 2020..... 7

Glossary of terms, acronyms, and abbreviations

Term	Meaning
Air pollutant/contaminant	Any substance in the air that could harm humans, animals, vegetation, or other parts of the environment when present in high enough concentrations
Air quality	Air quality is the degree to which air is suitable or clean enough for humans, animals, or plants to remain healthy
Airshed	A geographic area established to manage air pollution within the area as defined by the national environmental standard for air quality (NESAQ).
Ambient air	The external air environment (does not include the air environment inside buildings or structures)
Black carbon	Is an air pollutant made up of tiny soot-like particles discharged into the atmosphere from combustion processes.
Exceedance	An exceedance defines a period of time during which the concentration of a pollutant is greater than the appropriate air quality criteria.
MfE	Ministry for the Environment
Monitoring site	A facility for measuring the concentration of one or more pollutants in the ambient air; also referred to as 'monitoring station'.
NESAQ	National Environmental Standard for Air Quality
NO ₂	Nitrogen dioxide, a type of air pollutant.
NO _x	Oxides of nitrogen. NO _x is principally formed by the oxidation of nitrogen contained in air at high combustion temperatures.
PM _{2.5}	Particulate matter with an aerodynamic diameter of 2.5 micrometres or less; a type of air pollutant.
SO ₂	Sulphur dioxide, a type of air pollutant.
Stats NZ	Statistics New Zealand
µg/m ³	Microgram of pollutant (1 millionth of a gram) per cubic metre of air, referenced to temperature of 0°C (273.15 K) and absolute pressure of 101.325 kilopascals (kPa).

1 Introduction

Auckland Council is required under the Resource Management (National Environmental Standards for Air Quality) Regulations 2004 to report any breach of the air quality standard. The ambient standards are the minimum requirements that outdoor air quality should meet to guarantee a set level of protection for human health and the environment.

An ambient air quality concentration limit of 200 $\mu\text{g}/\text{m}^3$ (one hour average) for Nitrogen Dioxide (NO_2) must be met for all but nine hours each year. The Auckland Urban Airshed has breached this standard on 85 occasions this month at the Customs Street air quality monitoring site.

Auckland Council has been carrying out ambient air quality monitoring at Customs Street site since January 2020. The site's location is shown in Figure 1. Site metadata are provided in Appendix A. The site is classified as urban airshed and the main air pollution sources are motor vehicles, shipping emissions and home heating (during winter). The site monitors fine particulate matter ($\text{PM}_{2.5}$), oxides of nitrogen (NO_x), sulphur dioxide (SO_2) and black carbon. The site is operated in accordance with the MfE Good Practice Guide (MfE, 2014) and complies with AS/NZS 3580.1.1:2007 (site location). The NO_2 sensor at Customs Street site operates in accordance with relevant AS/NZS standards.

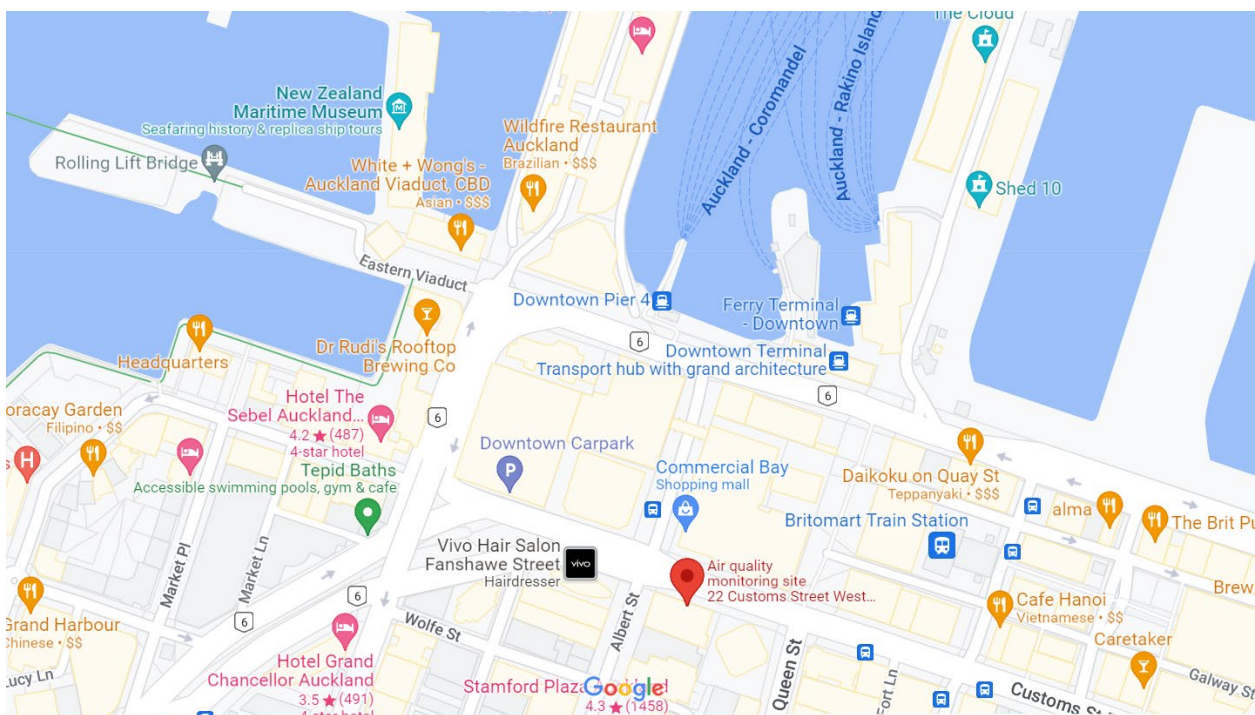


Figure 1. Location of the Customs Street air quality monitoring site (Source: Google maps)

Customs Street experienced 85 exceedances of the National Environmental Standards for Air Quality (MfE, 2014) (NESAQ) for NO_2 (1-hour average) between 09/06/2022 and 17/06/2022.

The unusual nature of these results led to an investigation, which showed that these exceedances were due to an exceptional circumstance. This application uses monitoring data and investigation results to demonstrate that the 85 exceedances were caused by a temporary point source (operation of a diesel generator adjacent to the monitoring site, see Figure 2).

The circumstances that required the use of the diesel generator (i.e. replacing and upgrading power network equipment by Vector Limited) were out of the control of Auckland Council, and accordingly, these exceedances should be considered for exceptional circumstances exemption.

It is worth noting that the exceedances stopped immediately the power generator was removed from the premises on 18th June 2022. This confirmed that the generator point source was responsible for the 85 exceedances.

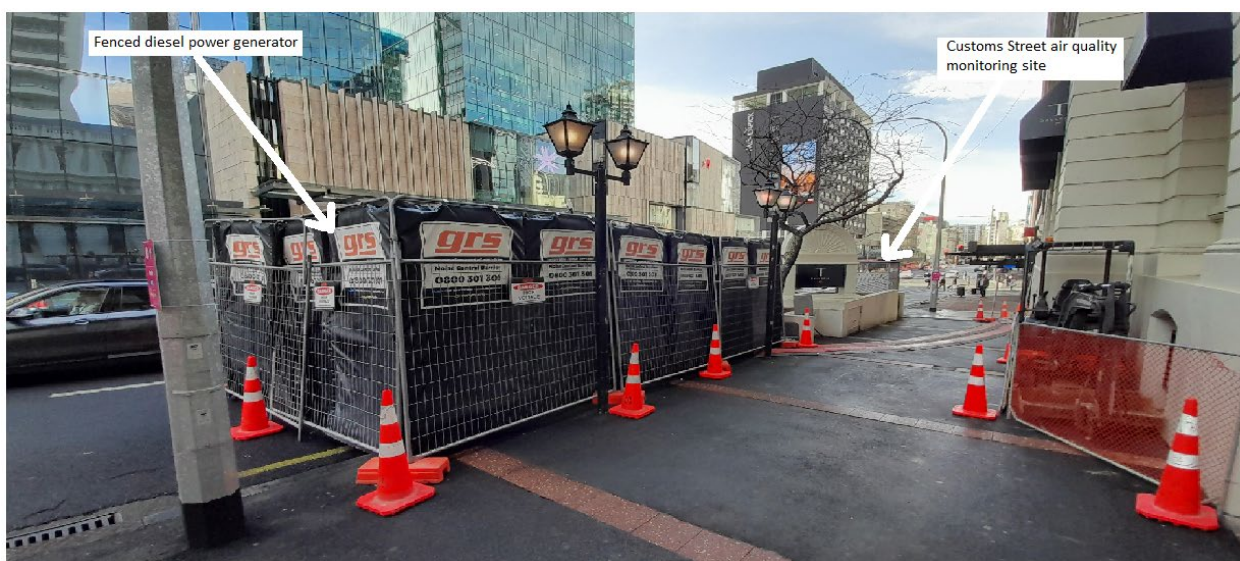


Figure 2. A picture showing the fenced diesel power generator and the Customs Street air quality monitoring site.

The Auckland Airshed has not recorded exceedances of the NESAQ for NO₂ since October 2020, and has not been in breach of the NESAQ for NO₂ since 2009 (see Table 1).

Table 1. Historical NO₂ exceedances in the Auckland Airshed (January 2005 – June 2022)

Year	Number of NO ₂ exceedances
2007	61
2008	9
2009	17
2010	None
2011	None

2012	2
2013	None
2014	13*
2015	None
2016	None
2017	None
2018	None
2019	None
2020	5 (Customs Street Site)
2021	None
2022	9 (Customs Street; excluding the 85 reported in this application)

* Breach of NO₂ standard was caused by an exceptional circumstance (diesel power generator) – The minister approved this application (Nick, 2014).

2 Summary of monitoring readings showing exceedance event

The Auckland Council ambient air quality monitoring site Customs Street experienced 85 exceedances of the National Environmental Standards for Air Quality (NESAQ) for NO₂ (1-hour average) between 04/06/2014 and 08/07/2014. The NO₂ exceedances were between 201.7 µg/m³ and 399.7 µg/m³. Appendix B provides details of the exceedances.

The monitoring site NO₂ concentrations started spiking above the acceptable threshold on the first night the power generator was in operation. The NO₂ concentrations returned to usual readings as soon as the generator was removed from the premises on Saturday 18th June 2022 (See Figure 3). The emissions from the generator also caused spikes in SO₂, PM_{2.5} and black carbon concentrations at the monitoring site (See Figures A1-3 of Appendix C). The NO₂ exceedances can be considered as from unusual temporary point source rather than a meaningful change in baseline concentrations. Nitrogen dioxide (NO₂) is a gas primarily generated by the burning of fossil fuels (MfE & Stats NZ, 2021).

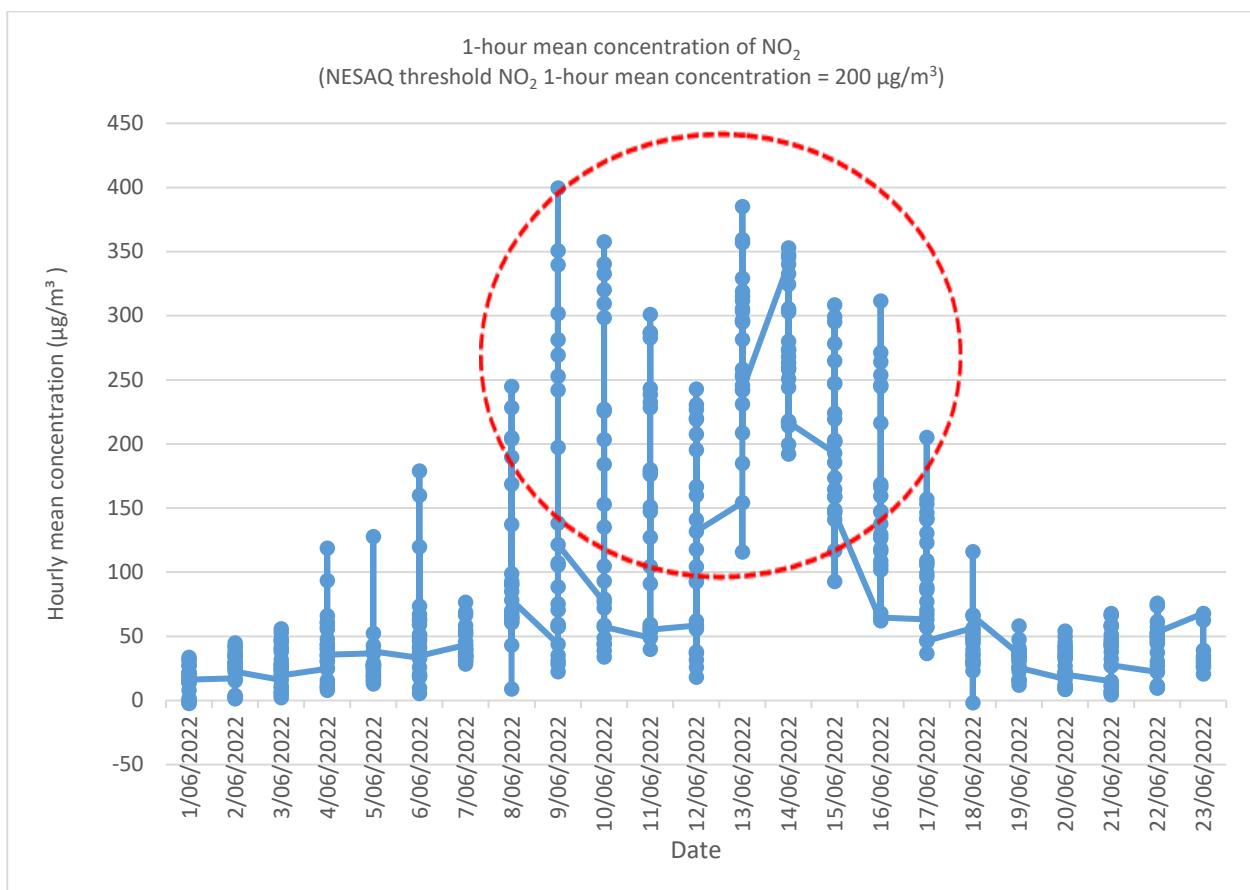


Figure 3. Customs Street NO₂ 1-hour average concentrations showing spikes during the operation of a diesel generator near the monitoring station.

3 Analysis of baseline and historical data

Overall, Customs Street average NO₂ concentration is 70 % more than Auckland’s average and 8.2% higher than Queen Street (a nearby monitoring site). The average NO₂ 1-hour mean per month ranges from 27.2 µg/m³ to 40.5 µg/m³. The highest NO₂ concentrations are typically recorded in winter (see Figure 4). The pattern of historical NO₂ variations at Customs Street site is similar to Queen Street, the closest air quality monitoring site. Since the commissioning of the Customs street site, the annual average 1-hour and maximum NO₂ concentrations have been declining (See Table 3).

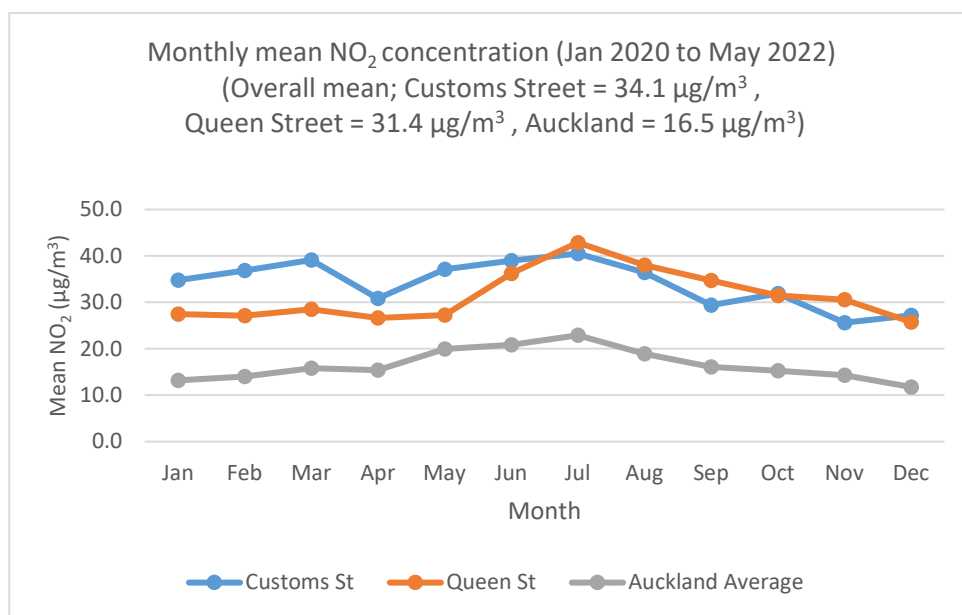


Figure 4. Temporal variation in monthly NO₂ concentrations – Customs Street compared to Queen Street (nearby site) and Auckland average.

Table 2. Average 1-hour and maximum NO₂ concentrations at Customs Street 2020 to 2022.

Year	2020	2021	2022*
Average (1-hour)(µg/m³)	41.7	31.8	23.7
Maximum (1-hour) (µg/m³)	241	200	138

*Data to 31/05/2022

Deseasonalised trend analysis results show there is a downward trend in NO₂ average concentrations (See Figure 5). Calendar and heat map plots of Customs Street site historical NO₂ (µg/m³) data (Jan 2020 to May 2022) indicate a declining level (see Appendix D).



Figure 5. Trends in NO₂ at Customs Street. The plot shows the deseasonalised monthly mean concentrations of NO₂. The solid red line shows the trend estimate and the dashed red lines show the 95% confidence intervals for the trend based on resampling methods. The overall trend is shown at the top-left as - 12.6 (µg/m³) per year and the 95% confidence intervals in the slope from -15.25 – (- 8.03) µg/m³ /year. The ‘***’ show that the trend is significant to the 0.001 level.

Importantly, the exceedances recorded at Customs Street site from 8th June to 17th June 2022 are not accompanied by elevated ambient concentrations at Queen Street, indicating the likely presence of a point source at the Customs Street site (See Figure 6).

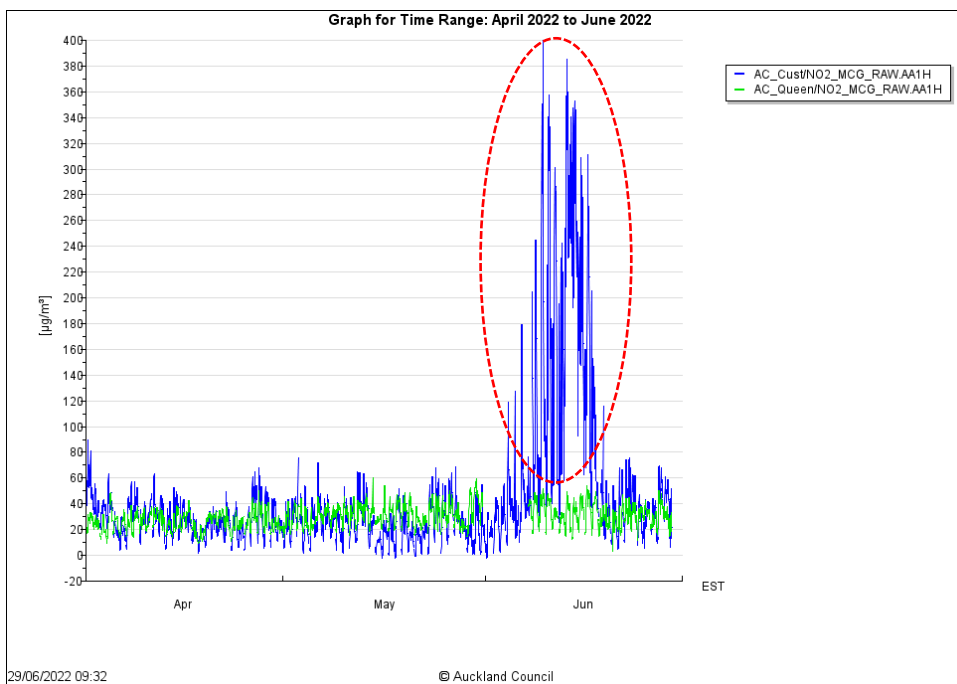


Figure 6. Time series plot for Customs Street and Queen Street sites indication similar NO₂ patterns except on the days when the power generator was running adjacent to the Customs Street site.

4 Previous exceedances at Customs Street site

There have been 14 NESAQ permissible exceedances of NO₂ concentrations since the establishment of Customs Street site in January 2020. Table 3 presents details of the previous NO₂ exceedances and their source attribution.

Table 3. Hourly NO₂ exceedances of the NESAQ at the Customs Street site since January 2020.

Date/time	Time	Concentration (µg/m ³)	Likely caused by
30/07/2020	8:00	228.0	Diesel vehicles
3/08/2020	9:00	210.0	Diesel vehicles
2/10/2020	16:00	212.0	Diesel vehicles
5/10/2020	8:00	241.0	Diesel vehicles
5/10/2020	16:00	208.0	Diesel vehicles
8/06/2022	2:00	204.80	Diesel power generator
8/06/2022	16:00	205.00	Diesel power generator
8/06/2022	15:00	227.90	Diesel power generator
9/06/2022	14:00	244.40	Diesel power generator
9/06/2022	11:00	240.40	Diesel power generator
9/06/2022	18:00	252.40	Diesel power generator
9/06/2022	16:00	267.90	Diesel power generator
9/06/2022	13:00	280.80	Diesel power generator
9/06/2022	14:00	301.70	Diesel power generator

5 Exceptional circumstances

The NESAQ standard breach at the Customs Street occurred during the unusual running of a diesel power generator near the monitoring site. The exceedances of the NO₂ standard have ceased to occur again after the generator was removed from its location on 18th June 2022. NO₂ concentrations at the site are back to normal ranges below the threshold concentration of 200 µg/m³. This application demonstrates that the exceedance values were caused by exhaust emissions from the generator which operated nearby. The operation of the generator represents a temporary point source, over which Auckland Council had no ability to control.

These exceedances should be considered for exemption under Regulation 16A, for four reasons:

1. The emissions from the diesel generator represent a strong localised impact on the monitoring site and are not representative of the wider emissions profile generally monitored by the Customs Street Site.
2. Auckland Council could not have prevented the exceedances. The work carried out in the area was unforeseen and critical to ensure upgrade of power network equipment. Investigations revealed that there was no other suitable location for the diesel generator to operate in a safe manner.
3. The Auckland Airshed has been performing well (for NO₂ exceedances) with no unpermitted exceedances for many years. If these unusual results were to be included in the overall exceedance total, then the Auckland Airshed would be in breach of the National Environmental Standard based on the exceedances from an unusual point source over which the Auckland Council has no control. NO₂ exceedances are not typical of the Auckland Airshed.
4. The five requirements outlined by the MfE good practice guide (MfE, 2014) are all met by these exceedances.

5.1 Cause of exceptional circumstances

The NO₂ NESAQ standard breach at the Customs Street site is the result of the exhaust emissions from a mobile diesel generator that was located very close to the monitoring station. Vector Ltd operated the generator while performing power lines upgrade in the area. Detailed information on the upgrade work by Vector Ltd can be found on Attachment 2.

5.2 Justification of exceptional events

The operation of the diesel generator was beyond the reasonable control of Auckland Council. Vector owns and operates networks that distribute electricity and gas across the Auckland region. They are entitled to carry out works on their infrastructure. These works are essential to ensure upgrade of the power network equipment. This work required the use of a power generator to provide power for the operation. The location of the work meant that the generator could only be located near the monitoring site.

The Users' Guide to the revised NESAQ (MfE, 2014) lays out 5 conditions which must be met in order for an event to be considered exceptional:

1. Causation – whether the exceedance was caused by the events being assessed
2. Control – the circumstances must be beyond the reasonable control of the regional council
3. Foreseeability – an assessment of whether the circumstances were able to be reasonably predicted and/or planned for
4. Frequency and likelihood of reoccurrence – an assessment of how unusual the events were
5. Purpose of the RMA – whether a determination that circumstances were exceptional is consistent with the purpose of the RMA.

This application meets all 5 of the requirements outlined by MfE (2014) as detailed below:

a. Causation

As described earlier in this section, we are confident that the exceedances described in this application were caused by an additional point source (diesel generator) operating near the monitoring site, which has temporarily elevated concentrations of NO₂ in the area. In contrast, the monitoring site typically records NO₂ 1-hour average concentrations typically 20% of the NESAQ threshold level. The additional point source temporarily elevated concentrations and is not representative of ambient concentrations. In addition, the exceedances were only recorded when the generator was running. Owing to this, and the analysis in the preceding sections, it is considered that the cause of the exceedances is clearly the diesel power generator.

b. Control

The circumstances which led to these exceedances were beyond the reasonable control of Auckland Council. Firstly, the work carried out at the area is critical – as identified by the letter from Vector Ltd provided in Attachment 2. Secondly, there was little that could have been done to minimise the impact of the diesel generator on the monitoring site as it needed to be located near the active work area for operational and health and safety requirements. Auckland Council has little ability to restrict this kind of activity, as it is not restricted, and does not require consent.

c. Foreseeability

There was little that Auckland Council could have done to foresee this event. The work carried out in the area was essential to ensure safety and reliability of the power networks. If this event was foreseen, it is unclear whether this would have had an impact in terms of preventing these exceedances from occurring, given that the location of the power generator was limited to the vicinity of the monitoring site, and that the work being carried out was critical and could not be put off or delayed.

d. Frequency and likelihood of reoccurrence

The events detailed in this application are extremely unusual. The Auckland Urban airshed has not been in breach of the NESAQ for NO₂ since 2009. The cause of the exceedances is unusual, in that they were caused by a temporary additional point source. Given that this point source was temporary, there is little likelihood that the exceedances will be repeated, in that after the work was completed the source was removed.

e. Purpose of the RMA

The purpose of the RMA is to promote sustainable management of resources, whilst allowing responsible use of natural resources. In this case, the exceedances are consistent with the purpose of the RMA, as it allows for a certain degree of use of resources. The generator was located near the site to allow use of the resource in a practicable and safe manner. In addition, the regulations (NESAQ) are designed to manage poor air quality from representative sites and emissions profiles. As this application has shown, the exceedances recorded at the Customs Street site are not representative of the ambient pollutant profile at the site and are due to the impact of a temporary point source. Accordingly, this application is consistent with the purpose of the RMA.

6 Conclusion

The Auckland Urban Airshed has been performing well (for NO₂ exceedances) in recent years, with no unpermitted exceedances in many years. The repair works carried out by Vector Ltd was unforeseen and is critical to ensure power supply to the upgrade operation. The Customs Street site monitoring data and investigation outcome to show that the 85 exceedances were caused by the operation of a diesel generator adjacent to the monitoring site, and accordingly these exceedances should be considered for exceptional circumstances exemption.


7 References

MfE and Stats NZ (2021). New Zealand's Environmental Reporting Series: Our air 2021. Available at www.environment.govt.nz , (Accessed: 18 January 2022)

Ministry for the Environment (2011). 2011 Users' Guide to the revised National Environmental Standards for Air Quality: Updated 2014. Wellington: Ministry for the Environment.

Nick, R (2014). Application for exceptional circumstances consideration: Auckland Waterfront Nitrogen Dioxide (1-hour Average) (13 Exceedances). Auckland Council. Available on: <https://environment.govt.nz/acts-and-regulations/regulations/national-environmental-standards-for-air-quality/applying-to-have-a-breach-of-an-air-quality-standard-excluded/>

Appendix A: Site metadata

Site name	Customs Street			
Address	Outside DFS Galleria, 22 Customs Street West, Auckland Central			
Monitoring commenced	January 2020			
Coordinates	Easting	Northing	Elevation	
	NZMG 2667892	NZMG 6482615	10	
AS2922 compliant?	No			
Site description and area characteristics	<p>Located on the roadside, this site is in the heart of the city. The key emission source measured at this site is combustion from vehicle exhausts. This site is one of our most central providing information on possible personal exposure in one of the most densely populated areas of Auckland.</p>			
Distance from road and other major sources	On roadside			
Pollutants monitored	<p>NO_x – API T200 Gas Analyser SO₂ – API T100 Gas Analyser PM_{2.5} – MetOne ES642 Nephelometer (non-regulatory) Black Carbon – MetOne 1060 Aethalometer</p>			
Meteorological parameters measured on site	NA			
Mast height	NA			
Inlet height (m)	2m			

Appendix B: NO₂ exceedances – June 9-17, 2022 (Validated data)

Date	Time	NO₂ (µg/m³)
9/06/2022	12:00	348.10
9/06/2022	15:00	338.80
9/06/2022	17:00	399.30
10/06/2022	9:00	223.10
10/06/2022	11:00	200.80
10/06/2022	12:00	221.20
10/06/2022	13:00	336.90
10/06/2022	14:00	295.50
10/06/2022	15:00	316.30
10/06/2022	16:00	355.40
10/06/2022	17:00	307.80
10/06/2022	18:00	329.50
11/06/2022	11:00	234.70
11/06/2022	12:00	297.00
11/06/2022	13:00	282.60
11/06/2022	14:00	284.30
11/06/2022	15:00	239.70
11/06/2022	16:00	279.20
11/06/2022	17:00	229.10
11/06/2022	18:00	225.00
12/06/2022	10:00	226.60
12/06/2022	14:00	221.20
12/06/2022	15:00	242.40
12/06/2022	16:00	204.90
12/06/2022	18:00	217.50
12/06/2022	19:00	216.60
13/06/2022	0:00	338.20
13/06/2022	3:00	251.60
13/06/2022	4:00	206.00
13/06/2022	5:00	302.60
13/06/2022	6:00	354.10
13/06/2022	7:00	316.50
13/06/2022	8:00	383.20
13/06/2022	9:00	327.70
13/06/2022	10:00	358.20
13/06/2022	11:00	309.60
13/06/2022	12:00	279.20
13/06/2022	13:00	249.50
13/06/2022	14:00	227.00
13/06/2022	15:00	291.40

13/06/2022	16:00	244.20
13/06/2022	17:00	241.10
13/06/2022	18:00	292.60
13/06/2022	19:00	300.10
13/06/2022	20:00	293.80
13/06/2022	21:00	315.40
13/06/2022	22:00	254.00
13/06/2022	23:00	239.60
14/06/2022	2:00	213.30
14/06/2022	3:00	300.80
14/06/2022	4:00	270.00
14/06/2022	5:00	344.40
14/06/2022	6:00	260.20
14/06/2022	8:00	215.00
14/06/2022	10:00	212.20
14/06/2022	11:00	243.30
14/06/2022	12:00	331.80
14/06/2022	13:00	350.50
14/06/2022	14:00	270.80
14/06/2022	15:00	298.80
14/06/2022	16:00	322.80
14/06/2022	17:00	343.40
14/06/2022	18:00	265.60
14/06/2022	19:00	255.50
14/06/2022	20:00	214.80
14/06/2022	21:00	256.20
14/06/2022	22:00	247.20
14/06/2022	23:00	214.40
15/06/2022	6:00	214.30
15/06/2022	7:00	243.70
15/06/2022	8:00	243.90
15/06/2022	11:00	305.70
15/06/2022	12:00	297.40
15/06/2022	13:00	261.80
15/06/2022	14:00	293.50
15/06/2022	15:00	222.30
15/06/2022	17:00	277.10
16/06/2022	12:00	251.30
16/06/2022	13:00	243.40
16/06/2022	14:00	312.00
16/06/2022	15:00	241.20
16/06/2022	16:00	259.90
16/06/2022	17:00	267.80
16/06/2022	18:00	213.40

17/06/2022	2:00	201.80
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Appendix C: Spikes in SO₂, PM_{2.5} and black carbon concentrations during the operation of a diesel power generator near the Customs Street air quality monitoring site.

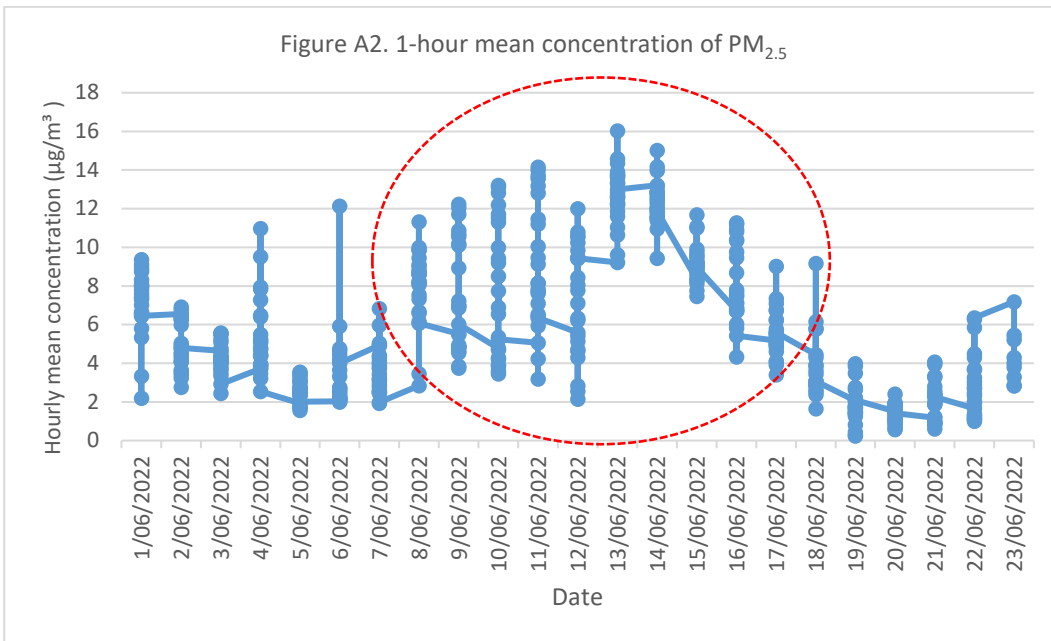
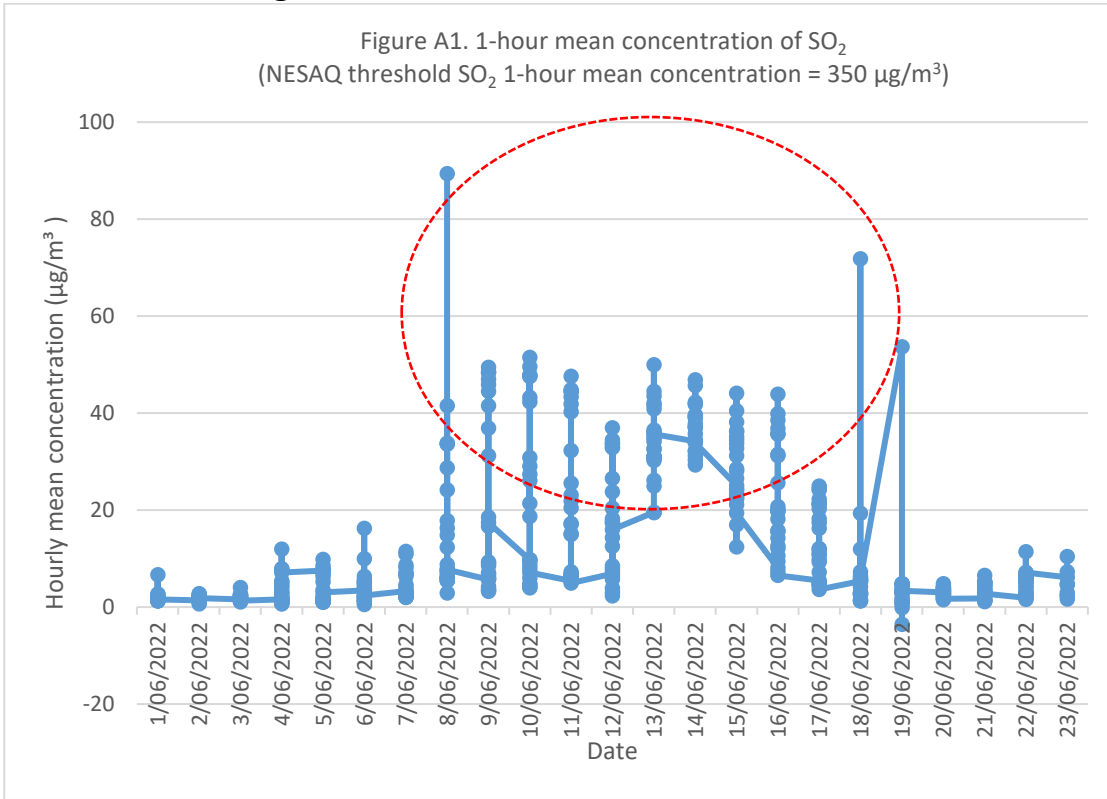
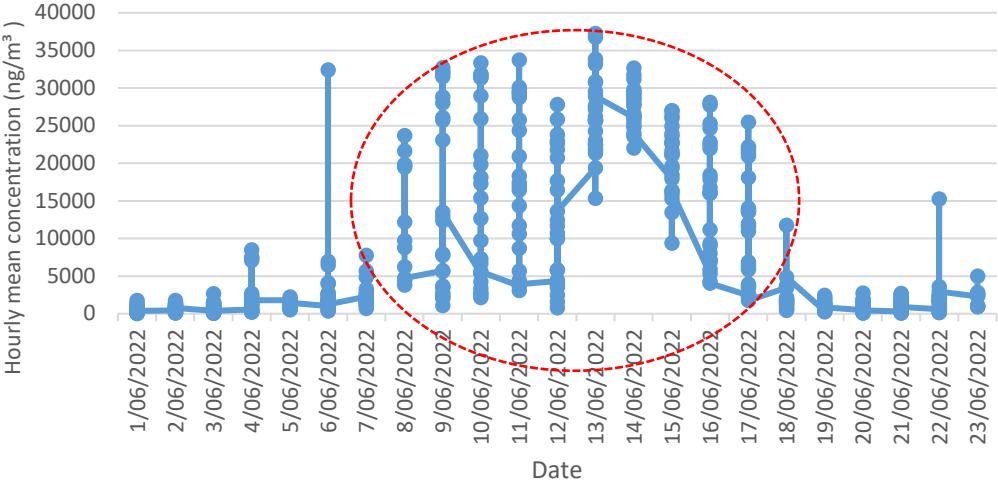


Figure A3. 1-hour mean concentration of black carbon



Appendix D: Customs Street site historical NO₂ (µg/m³) data (Jan 2020 to May 2022)

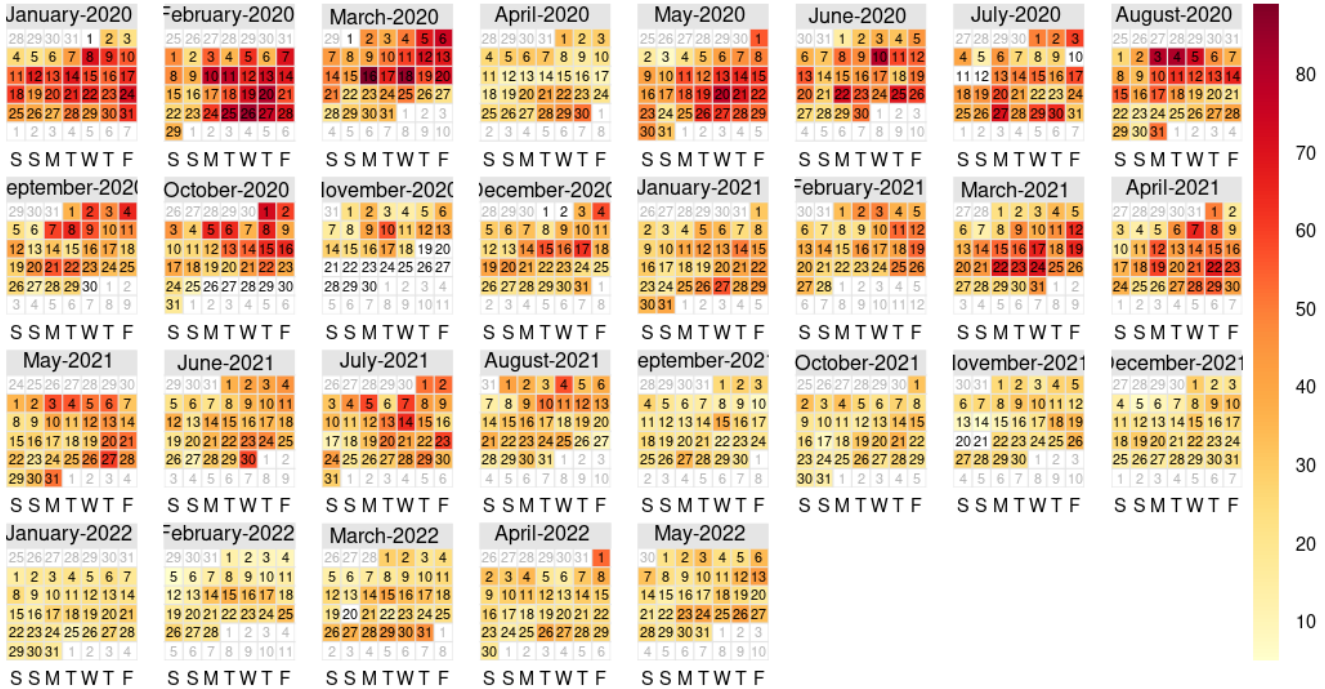


Figure A4. Calendar plot for NO₂ concentrations (µg/m³) at Customs Street.

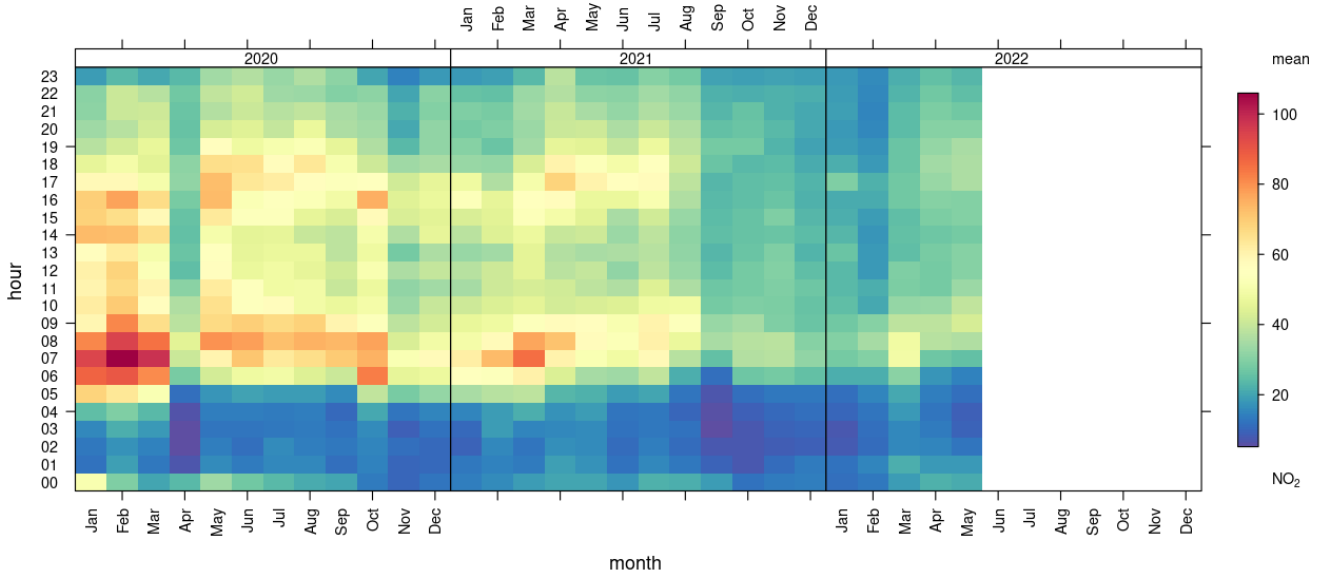


Figure A5. Trend heat map plot for NO₂ concentrations (µg/m³) at Customs Street

Find out more:
Louis.boamponsem@aucklandcouncil.govt.nz
or visit knowledgeauckland.org.nz



20 May 2022

Dear Customer,

We're upgrading some network equipment.

Vector owns and operates networks that distribute electricity and gas across the greater Auckland region. We are constantly working to ensure the safety and reliability of our networks.

We are writing to inform you about some upcoming work we are completing around your area, including details around how it could potentially impact you, given your property's proximity to the worksite.

We will be replacing and upgrading an existing high voltage network switch as the current one is reaching its end of serviceable life. This equipment enables us to control the flow and the distribution of the power supply around the network more efficiently.

The equipment that is being replaced is located inside **12-14 Custom St West, Auckland Central, Auckland**. The work will be completed by our contractor Electrix Limited.

These planned projects have been carefully assessed to minimise impact wherever possible and we thank you for your patience during these works.

How this work will affect you

The entire scope of our site works, from preparation to completion is scheduled to take place from 3 June 2022 to 30 June 2022 weather permitting.

During the work period, please expect the following:

- **Work hours and noise minimisation** – most of the noisy civil work will happen between 7am and 6pm from 3 June 2022 to 6 June 2022. Some aspects of the project will be completed overnight between 8pm and 6am from 7 June 2022 to 30 June 2022 to help minimise customer interruption. There will be low to medium noise on an intermittent basis during these times. If we need to complete any work at night, we will aim to minimise noise. Any lighting used is only as much as is required to safely undertake the work and will be directed away from residents' homes where practically possible.
- **Generator noise** – there will be a generator on the worksite as part of the project. The generator will be located near 12-14 Custom St West, Auckland Central, Auckland. The generator will be fenced off and enclosed with a sound barrier.

- **Traffic management** - traffic management will be in place to allow crews to work safely. Traffic controllers will be on site as needed to assist with traffic flows as needed.
- **Outages** – if any outages are needed as part of the work, you will have received prior notification of these. If you use medical equipment that relies on electricity, you should let your power company know, and ensure you are prepared for power disruption. If there is an immediate health threat, please contact your health provider or call 111.
- **Parking restrictions** - there will be limited parking directly around the worksite to allow our trucks and vehicles access to the worksite. Traffic controllers will assist residents with parking if required.
- **Excavation work** – there will be a small excavation area as part of the work which will create occasional noise.
- **Pedestrian management** - parts of the footpath may need be closed temporarily for pedestrian safety.

If you have any questions, please contact the **Project Manager Melvin Mathew on 021 734 361**.

Kind regards,

Vector Customer Service Team

Deaths

ROBERTSON, Ewing.
To the Robertson families we offer our sincere sympathies at the passing of Ewing. We have not seen Ewing for some time but remember him well.
Stuart and Val Flexman

RYAN, Thomas Walter.
At Sarah Selwyn Hospital, Selwyn Village, on May 26, 2022, in his 98th year. Best friend and wonderful soulmate and cherished husband of Marjorie (deceased) for 68 years. Dearly loved and loving father to David and Ruth, Alison Guilford, Graeme and Judy, Chris and Norm Jager and Judi and Earl McWhirter. Much loved and admired Grandy of his thirteen grandchildren and their families including 28.5 great grandchildren. Special thanks to the staff of Sarah Selwyn Hospital for their dedicated and loving care of Dad over the past four years.
A Memorial Service will be held at St Columba Presbyterian Church, 502 Otumoetai Road, Tauranga on Friday, 15 July at 1.30pm. For those wishing to attend the Service via live-stream, please email grandy.tom.ryan@gmail.com for the event link.



SWANWICK, Michael.
On 1 July 2022 peacefully at Ambridge Rose Manor. Beloved husband of Tunis. Loving father and father-in-law of Debbie, Treena and Paul, and Mark. Special poppa of Brooklyn, Eden and Jack.
A service will be held in the Chapel of Resthaven Funerals, cnr Picton and Walter MacDonald Streets, Howick on Friday 8 July at 2pm.



THOMPSON, Valerie Freda.
Born June 16, 1929. Passed away peacefully on the 5th of July, aged 93. Beloved wife of the late Nelson Thompson. Treasured Mother of Paul and Amanda, Deb and Andrew. Adored and adoring Grandma of Rebecca, Katie, Emma, Samuel, Martyn and Jessie. Besotted Great-Grandmother of Cooper and Leo. Many thanks to the wonderful staff at Eden Village who cared so well for her over the last three years. We take comfort in the fact that Val had a joyful life and is reunited with her beloved Nelson.
A service to celebrate Val's life will be held at Kohimarama Presbyterian Church at 11am on the 1st of August 2022. In lieu of flowers donations to Dementia Auckland would be appreciated.

THORN, Ave Henry (Ave).
Born October 3, 1928. Passed away on July 6, 2022. Thanks for being an awesome Pa and Great-Grandad. From Ngatimoti / Ararua and Maungatapere, you lived a great life. RIP. Adina, Rohan, William and Charlie.

VITAS, Lidia Giorgina.
On July 1, 2022 peacefully at Auckland Hospital aged 90 years. Dearly loved wife of Tommaso, cherished and treasured mother of Maria, Nadia and Sonia, Mother-in-law of Michael and Sam. Adored Nonna of Kristian, Alexander, Lidia and Marcus. Devoted sister of Silvana. Requiem Mass will be celebrated at St Joseph's Church, 16 Brenton Avenue, Orakei on Saturday 9 July 2022 at 11am, to be followed by interment at the Purewa Lawn Cemetery. In lieu of flowers, please donate to your favourite charity.



WAITE, John William.
Passed away 6th July 2022, aged 79 Years.
Adored Husband and Best Friend of Sheryl. Treasured Father and Father-in-law of Shelly and Andrew Wilson, Donna and Brett Hartley, and Lisa Waite. Much loved and respected Step Father of Stephen and Tony Gavin. Adored Brother of Pamela McLeod (Taupo). Cherished Poppa to 13 Grandchildren and 7 Great Grandchildren. Our grateful thanks to the awesome team at Waikato Hospital ICU Unit for their care.
A Colourful Celebration of Johnny's life will be held at 1pm, (tomorrow) Saturday, the 9th of July at the Papatoetoe Cosmopolitan Club, 53 Rangitoto Road, Papatoetoe. Followed by refreshments and a private cremation.



WAITE, John.
Best friend of Lee and Derek (deceased). Father you were my rock. I will love and miss you always.



WILSON, Craig James.
Born January 26, 1972. Passed away on July 6, 2022. Very beloved darling of Celia Nelson, much loved son and brother, of Jim and Jan Willson, Debbie, Marie, the late Kerry, Stephen and Greg. Brother in law and uncle of John and Brett, Chris, Mike, Nick and Kane. After a brief battle, you never lost your humour - we love you.

WOOSTER, Derek Kotuku Totorewa.
Derek passed away suddenly on the 5th July 2022. Loving long time partner to Dean Colman and a much loved brother to Pamela, Margaret, Diana, Jenni, Helen and Anna. Highly liked and respected brother in law to Brian, Jim, Mike, Peter and Andy. Dearly loved uncle to all his nephews and nieces.
A service will be held, 11am, Saturday 9th July at Te Kauae Marae, Mangarino Road, Hangatiki, thereafter, burial at Otorohanga Public Cemetery followed by a haka at the Otorohanga Club. Tributes can be left on our website www.vjwilliams.co.nz/funerals-tributes
All communications to Wooster Family c/- PO Box 241, Te Kuiti 3941.
In the Care of: VJ Williams & Sons Funeral Directors Association of NZ

In Memoriam

FARRELL, Barbara Anne.
1942 - 2020. In loving memory of Barbara on the 2nd anniversary of her passing. Loved and missed by her oldest sister Mary and aunt of Suzie, Paul and Gary and families. Always remembered, always loved.



HORNE, Amy Caitlin (Amy).
July 8, 1997 - July 7 2007. Treasured daughter, sister, granddaughter and friend. We are blessed to have you in our lives and love you right up to the moon and back. Happy 25th birthday Ames. Love Mum, Dad, Ben and Snowy



JENNER, Edward Alexander (Ted).
On July 8, 2021. Born September 19, 1946. Ted, my darling and soul mate. It's been one year since you were taken away and I'm lost without you. The grief is hard to bear at times but your spirit lives on in my heart always. I miss you so much. Most loved husband of Vasalua and loved son of the late Gordon and Margaret.

PIACUN, Barbara- Mary (Née Wales).
4th March 1944 - 8th July 2020
I miss you very much.
Love Paul



STEPHENS, Marguerite.
On November 08, 2021 Born December 06, 1927 To our Lord Jesus you were "Everything". I honor you my friend, Germaine Neuell.

BE SEEN. BE HEARD.
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Public notices

Edmund Hillary School School Board Elections Parent Election Notice

Nominations are open for the election of two parent representatives to the Edmund Hillary School board.

All eligible voters will receive a nomination form. Use this form to nominate yourself or someone in your community. You will also receive a nomination cover letter calling for nominations. Information on who is not eligible to be a board member is provided with the nomination form.

If you need more nomination forms, contact the school office on 09 2989132 between 8.30am and 3.15pm.

Nominations close at **noon** on Wednesday 3rd August 2022. You may provide a signed candidate statement and photograph with your nomination.

The electoral roll is held at the school and can be viewed during normal school hours.

As nominations are received, there will be a list of candidates' names kept at the school up until election day, which you can view.

Voting closes at **4pm** on 7th September 2022.

Fiona Greenshields
Returning Officer
Edmund Hillary School

National Environmental Standard

Auckland Council is required under the Resource Management (National Environmental Standards for Air Quality) Regulations 2004 to report any breach of the air quality standard.

The Auckland Urban Airshed is in breach of the standard for Nitrogen Dioxide (NO₂)

Date breach occurred: 9 - 17 June 2022

Number of breaches: 88

Location: Customs St (City Centre)

1 - hour average NO₂: 203.6 - 399.7 µg/m³

The National Environmental Standard for 1-hour average NO₂ is 200 µg/m³. NO₂ is primarily generated by the burning of fossil fuels (coal, gas and oil). Exposure to NO₂ can adversely affect health, especially in asthmatics and people with heart and lung illnesses.

This breach was caused by exhaust emissions from a mobile power generator operating adjacent to the site in June. See ourauckland.aucklandcouncil.govt.nz and search 'air quality' for more information on this breach.

To find out more about what Auckland Council is doing to improve Auckland's air quality, visit www.aucklandcouncil.govt.nz and search 'air quality'.

Find out more: phone 09 301 0101 or visit aucklandcouncil.govt.nz

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Auckland Unitary Plan

Notification of Material to be Incorporated by Reference into the Auckland Unitary Plan Operative in Part

Auckland Council is seeking to incorporate the Waste Management and Minimisation Bylaw 2019 and the Auckland Council Solid Waste Calculator (Taken from the Auckland Design Manual, specifically the spreadsheet 'Multi-unit Development Waste Space Calculator V3R2 Beta.xlsx') by reference into the Auckland Unitary Plan Operative in Part under Clause 34(2)(d) of Part 3 of the First Schedule of the Resource Management Act 1991(RMA).

Material incorporated by reference is publications that have been referred to in the body of a proposed plan or a proposed plan change. This document may include standards, requirements, recommended practices or any other written material dealing with technical matters. In this case, the Waste Management and Minimisation Bylaw 2019 and the Auckland Council Solid Waste Calculator (Taken from the Auckland Design Manual, specifically the spreadsheet 'Multi-unit Development Waste Space Calculator V3R2 Beta.xlsx') is referred to in the plan change being notified on 18 August 2022 in response to central government's planning reform implementing the National Policy Statement on Urban Development and Medium Density Residential Standards.

A full copy of the public notice, all information about the proposal (including how to view or download a copy of proposal) and advice about making submissions can be found online at www.aucklandcouncil.govt.nz/unitaryplanmodifications

Submissions open Friday, 8 July 2022 – Friday, 22 July 2022

Find out more: phone 09 301 0101 or visit aucklandcouncil.govt.nz

Two-year temporary fisheries closure at Te Mātā and Waipatukahu (Tapu), west Coromandel, to the harvest of pipi, cockles, mussels and oysters.

Pursuant to section 186A of the Fisheries Act 1996, notification is given of the Fisheries (Te Mātā and Waipatukahu Temporary Closure) Notice 2022.

The notice closes fisheries waters at Te Mātā and Waipatukahu (Tapu) to the take of pipi, cockles, mussels, and oysters from **Sunday 10 July 2022 to Tuesday 9 July 2024**. The closure was requested by Ngāti Tamatera Treaty Settlement Trust.

The temporary closure includes all that area of New Zealand fisheries waters enclosed by a line starting at Ōtaki Creek to Diehard Stream (also known as Onepoto Stream), and offshore one nautical mile.

Further information about temporary closures and a map of this closed area are available on the Ministry for Primary Industries website (mpi.govt.nz/fishing-aquaculture/maori-customary-fishing) or by contacting the local Ministry for Primary Industries office.

Te Kāwanatanga o Aotearoa
New Zealand Government

MPI 4500

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Public notices

D. C. Freight Distribution Limited (949202) (in liquidation)
NZ Premium Construction Limited (1930193) (in liquidation)

Notice of Intention to Remove Companies from the Register

I, Damien Grant, liquidator of the above-named companies, whose registered office is situated at Unit 1, 16 Piermark Drive, Rosedale, Auckland, hereby give notice that, pursuant to section 318(1) (e) of the Companies Act 1993 and having filed with the Registrar my final report on these liquidations, it is intended to remove the Companies from the New Zealand Register.

Any objection to the removal, pursuant to section 321 of the Companies Act 1993, must be delivered to the Registrar of Companies no later than 10 August 2022.

Dated this 7th day of July 2022.

Damien Grant,
Liquidator.

Address for Service:
Waterstone Insolvency, PO Box 352, Auckland
Freephone: 0800 CLOSED
Website: www.waterstone.co.nz