4 July 2014

Hon Amy Adams

Minister for the Environment

Dear Minister

RE: Application under National Environmental Standards for Air Quality – Regulation 16A Exceptional Circumstances.

Between 4 June and 8 July 2014, 13 exceedances of the National Air Quality Standard for Nitrogen Dioxide (NO_2) (1-hour average) were recorded at the Auckland Council Waterfront ambient air quality monitoring site. Analysis of data from the site and the activities occurring at the time adjacent to the waterfront monitoring site shows that these exceedances were caused by exceptional circumstances which were outside of Auckland Council's control.

Auckland Council is therefore seeking a determination from the minister that these exceedances were caused by exceptional circumstances. The information in support of this application is attached. Should any further information be required, please contact Nick Reid, Scientist, Air Quality in the Research Investigations and Monitoring Unit.

Thank you for your consideration of this matter.

Yours Sincerely,

Regan Solomon

Acting Manager, Research Investigations and Monitoring Unit.

Ministry for the Environment
Manatū Mō Te Taiao

OFFICE USE ONLY
Application no:
Date received:
Date accepted:

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.

Need more help? If you have any questions email air@mfe.govt.nz.

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Alternatively, if attachments are too large to email, please post hard copies of the application form and all attachments, along with a CD containing all files, to:

Air Quality NES Exceptional Circumstances
Ministry for the Environment
PO Box 10362
Wellington 6143

1. Applicant details	
Name of regional council	Auckland Council
Contact person	Nick Reid
Position	Scientist – Air Quality
Email address	nick.reid@aucklandcouncil.govt.nz
Telephone number	09 484 8076
Mobile number	021 626 946
Postal address	Level 4, 1 The Strand, Takapuna
2. Details of exceedance event	
Contaminant	NO_2 µg/m³

Date of exceedance *(must not be >3 months from date this application is received)*	13 exceedances Date Time NO2 µg/m³ 04/06/2014 11:00 287.6 04/06/2014 14:00 231.0 04/06/2014 15:00 249.4 06/06/2014 10:00 234.3 06/06/2014 11:00 207.7 10/06/2014 11:00 221.3 10/06/2014 15:00 277.4 02/07/2014 15:00 283.0 07/07/2014 10:00 259.5 07/07/2014 12:00 201.3 07/07/2014 13:00 211.8 08/07/2014 09:00 206.2 08/07/2014 13:00 259.7				
Relevant airshed	Auckland				
Monitoring station and technical specifications of monitor	Auckland Waterfront Make: Teledyne Advanced Pollution Instrumentation Model : 200E Chemiluminesence NO/NO2/NOX Analyzer Age : 4 years Serial: 3491 Method: Chemilumisesence to AS 3580.5.1:1993 *Site metadata are provided in Appendix A.*				
Summary of monitoring reading showing exceedance event	See attached documentation (section 1)				
Analysis of baseline data	See attached documentation (section 2)				
Source speciation or other analysis	See attached documentation (sections 1 – 5)				
Explanation of any previous exceedance event/s from this monitoring station in the past 5 years	See attached documentation (section 4)				
Monitoring readings covering exceedance event	✓ Attached (section 1)		☐ Not attached		
3. Details of exceptional circumstances					
Exceptional circumstances leading to exceedance	✓ Localised impact on a monitor	☐ Anthropogenic extreme event	☐ Natural disaster or natural extreme event	☐ Other	

Explanation of circumstances leading to exceedance event	See attached documentation (sections 5 and 5.1)	
Reasons why these circumstances were beyond the reasonable control of the regional council	See attached documentation (sections 5 and 5.2)	
Supporting evidence *(eg, meterological report)*	☐ Attached	☐ Not attached

02/09/2014 Regan Solomon

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Dated Signed

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

Application for exceptional circumstances consideration:

Auckland Waterfront Nitrogen Dioxide (1-hour Average) (13 Exceedances)

Executive Summary

The Auckland Council ambient air quality monitoring site Auckland Waterfront recorded 13 exceedances of the National Environmental Standard for Air Quality (NES-AQ) for Nitrogen Dioxide (NO_2) (1-hour average) between 04/06/2014 and 08/07/2014. These high concentrations of NO_2 were not reflected in high concentrations of the other pollutants measured at the Auckland Waterfront site (Carbon Monoxide (CO), Sulphur Dioxide (SO_2), PM_{10} and $PM_{2.5}$).

The Auckland Waterfront site has only recorded exceedances of standards and guidelines for SO_2 in the past, so the three NO_2 exceedances on 04/06/2014 were initially regarded as unusual. Furthermore, the Auckland Airshed has not recorded any NO_2 exceedances since 2012, and has not been in breach of the NES (NO_2) since 2009, so when additional exceedances were recorded the situation was regarded as extremely unusual. After the initial exceedances were confirmed as correct through standard Quality Assurance and calibration procedures, an investigation was launched to determine the cause of these exceedances.

Initial investigations yielded several useful pieces of evidence, which this application to the Minister for the Environment will use to demonstrate what was responsible for the exceedances recorded at the Auckland Waterfront site, and accordingly that these exceedances should be considered for exemption from consideration as exceedances under Regulation 16A of the Resource Management (National Environmental Standards for Air Quality) Regulations 2004.

During the period in which the exceedances were recorded, emergency repair work was being carried out on the seawall underneath the wharf, and the structure of the wharf itself by the Port operator, Ports of Auckland Limited (POAL). There is also concern that the aging seawall may collapse in an earthquake, and hence an emergency repair program is underway, at a cost of $700,000. The overall cost of the repair program is expected to be $40 million. As part of these projects, a large diesel generator was running intermittently approximately 50 meters to the North East of the monitoring site, providing power and compressed air for concreting and associated works. This application demonstrates that the exceedance values were caused by exhaust emissions from the generator operating nearby. 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 NES-AQ.

These exceedances are worthy of 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 Auckland Waterfront Site.

2. There was nothing that Auckland Council could have done to prevent the exceedances. The work being carried out on the seawall was unforeseen and critical to ensure public safety. Investigations revealed that there was no other suitable location for the Diesel generator to operate in a safe manner. The monitor was located on the only suitable site available.

3. The Auckland Airshed has been performing well (for NO_2 exceedances) in recent years, with no unpermitted exceedances in 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. NO_2 exceedances are not typical of the Auckland Airshed.

4. The 5 requirements outlined by the MfE good practice guide (MfE, 2014) are all met by these exceedances.

This application uses monitoring data and investigation results to demonstrate that the 13 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.

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1. Introduction

Auckland Council has carried out ambient air quality monitoring at the Auckland Waterfront since February 2011. The site is located on the wharfs operated by Ports of Auckland Limited. The current site location is shown in figure 1. Site metadata are provided in Appendix A.

The site is classified as urban, and the dominant pollutant sources are traffic and port activities such as shipping emissions, and operation of vehicles. The site monitors $PM_{10,}$ $PM_{2.5}$, oxides of nitrogen (NO_x), carbon monoxide (CO), sulphur dioxide (SO_2) and meteorologic parameters. The site is operated in accordance with the MfE Good Practise Guide (MfE, 2014) and complies with AS/NZS 3580.1.1:2007 (site location). All instrumentation is operated in accordance with relevant AS/NZS standards.

Auckland Waterfront experienced 13 exceedances of the National Environmental Standards for Air Quality (MfE, 2014) (NES-AQ) for NO_2 (1-hour average) between 04/06/2014 and 08/07/2014. The Auckland Airshed has not recorded exceedances of the NES-AQ for NO_2 since 2012, and has not been in breach of the NES-AQ for NO_2 since 2009 (table 1). The unusual nature of these results led to an investigation, which demonstrated that these exceedances were due to an exceptional circumstance. This application uses monitoring data and investigation results to demonstrate that the 13 exceedances were caused by a temporary point source (operation of a diesel generator adjacent to the monitoring site). The circumstances that required the use of the diesel generator (i.e. emergency Wharf repairs) were out of the control of Auckland Council, and accordingly these exceedances should be considered for exceptional circumstances exemption.

Year	NO_2 Exceedances
2007	61 (Queen St)
2008	9 (Queen St 8)
2009	17 (Queen St)
2010	None
2011	None
2012	2 (Queen St)
2013	None
2014	None (excluding those described by this application)

Table 1 Historical NO_2 Exceedances in the Auckland Airshed (2005-2014)

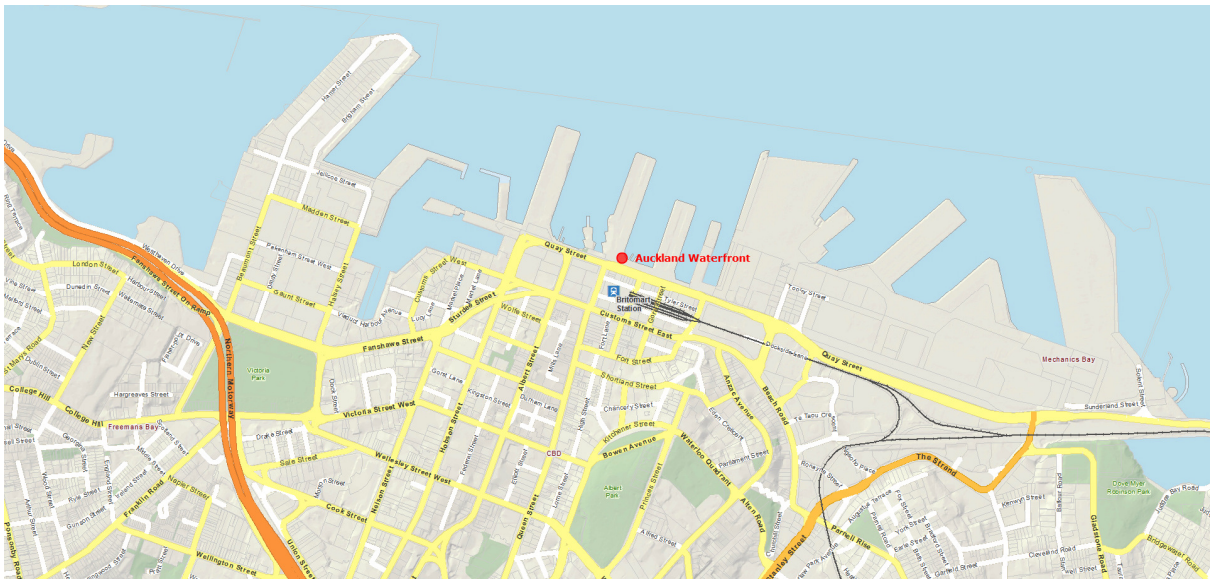

Figure 1 Location of the Auckland Waterfront monitoring site.

2. Summary of monitoring readings showing exceedance event

The Auckland Council ambient air quality monitoring site Auckland Waterfront experienced 13 exceedances of the National Environmental Standards for Air Quality (NES-AQ) for NO_2 (1-hour average) between 04/06/2014 and 08/07/2014. These exceedances are summarised in table 2 and figure 2 below.

Date	Time	NO2 1-hr average (µg/m³)
04/06/2014	11:00	287.6
04/06/2014	14:00	231.0
04/06/2014	15:00	249.4
06/06/2014	10:00	234.3
06/06/2014	11:00	207.7
10/06/2014	11:00	221.3
10/06/2014	15:00	277.4
02/07/2014	15:00	283.0
07/07/2014	10:00	259.5
07/07/2014	12:00	201.3
07/07/2014	13:00	211.8
08/07/2014	09:00	206.2
08/07/2014	13:00	259.7

Table 2 NO_2 Exceedance values at Auckland Waterfront between 04/06/2014 and 02/07/2014

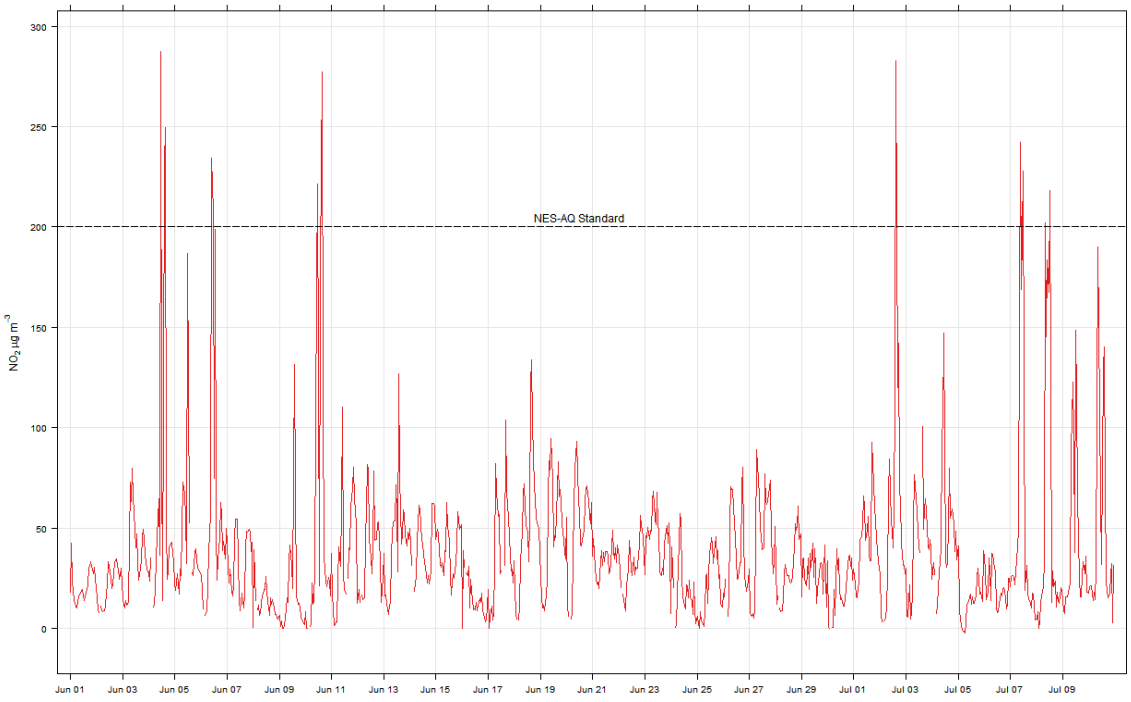

Figure 2 NO_2 data (1-hour average) at Auckland Waterfront (00:00 01/06/2014 - 00:00 10/07/2014)

The monitoring data accordingly shows sharp peaks in NO_2 concentrations, occurring late morning and late afternoon. The exceedance values are roughly twice the highest non-exceeding concentrations for the period of Figure 2. The concentrations between the morning and afternoon peaks are also elevated. The average NO_2 concentration between 01/06/2014 and 08/07/2014 was 37.07 µg m^{-3}. The NO_2 peaks are also replicated in the NO data from the monitoring site, suggesting the dominance of a combustion source (Krivoshto et al. 2007).

During the period in which these NO_2 exceedances at the Auckland Waterfront site were recorded, other pollutants monitored by the Auckland Waterfront site remained at relatively low ambient concentrations, as shown in figure 3. In particular, SO_2 concentrations at the site remain low during the period of NO_2 exceedances, ruling out shipping emissions (Song, 2014). Similarly, PM_{10} and $PM_{2.5}$ concentrations do not appear to spike at the same time as the NO_2 exceedances are recorded. The concentrations of PM_{10} and $PM_{2.5}$ are generally elevated due to the traffic emissions from nearby Quay St often picked up by the monitoring site. Hence, the NO_2 exceedances can be considered as from an (unusual) temporary point source rather than a meaningful change in baseline concentrations.

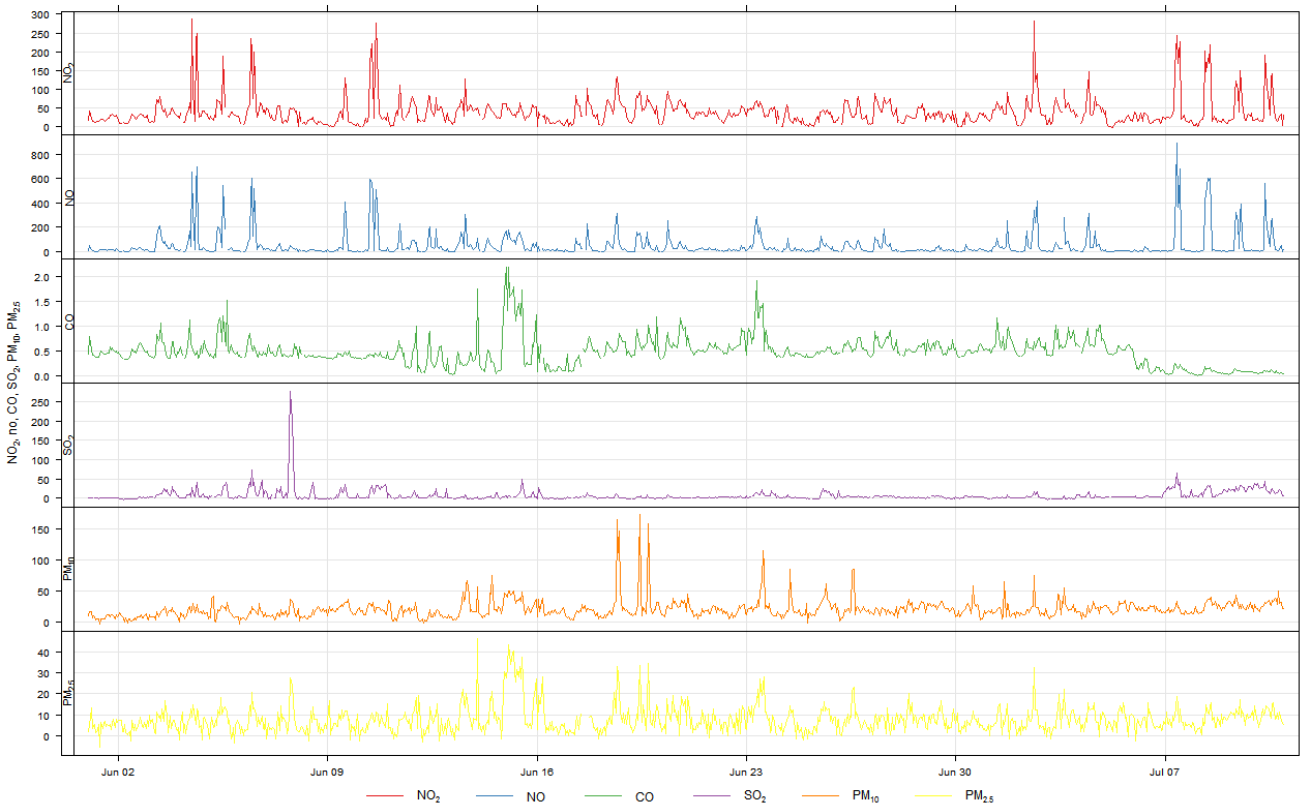

Figure 3 All pollutants monitored at Auckland Waterfront (00:00 01/06/2014 - 00:00 06/07/2014) (1-hour average for all pollutants)

3. Analysis of baseline data

Ambient NO_2 concentrations at Auckland Waterfront are generally low. As shown in Figure 4 and Table 3, ambient concentrations are generally in the 0-50 µg/m³ range. Concentrations are higher through winter. These higher winter concentrations are generally attributed to calmer meteorologic conditions preventing dispersion, and cooler temperatures with lower solar radiation slowing photochemistry and production of ozone (O_3). Even during the winter peak concentrations are well within the NES-AQ guideline at around 100 µg/m³. Accordingly, exceedances of the NES-AQ for NO_2 have not occurred, and neither been close to occurring since monitoring was initiated at the site in 2011.

Year	Average (1-hour) (µg/m³)	Maximum (1-hour) (µg/m³)
2011	26.0	108.7
2012	25	138.7
2013	26.7	117.5
2014*	22.7	84.8

* Data to 30/04/2014

Table 3 Average 1-hour and maximum NO_2 concentrations at Auckland Waterfront 2011 to 2014

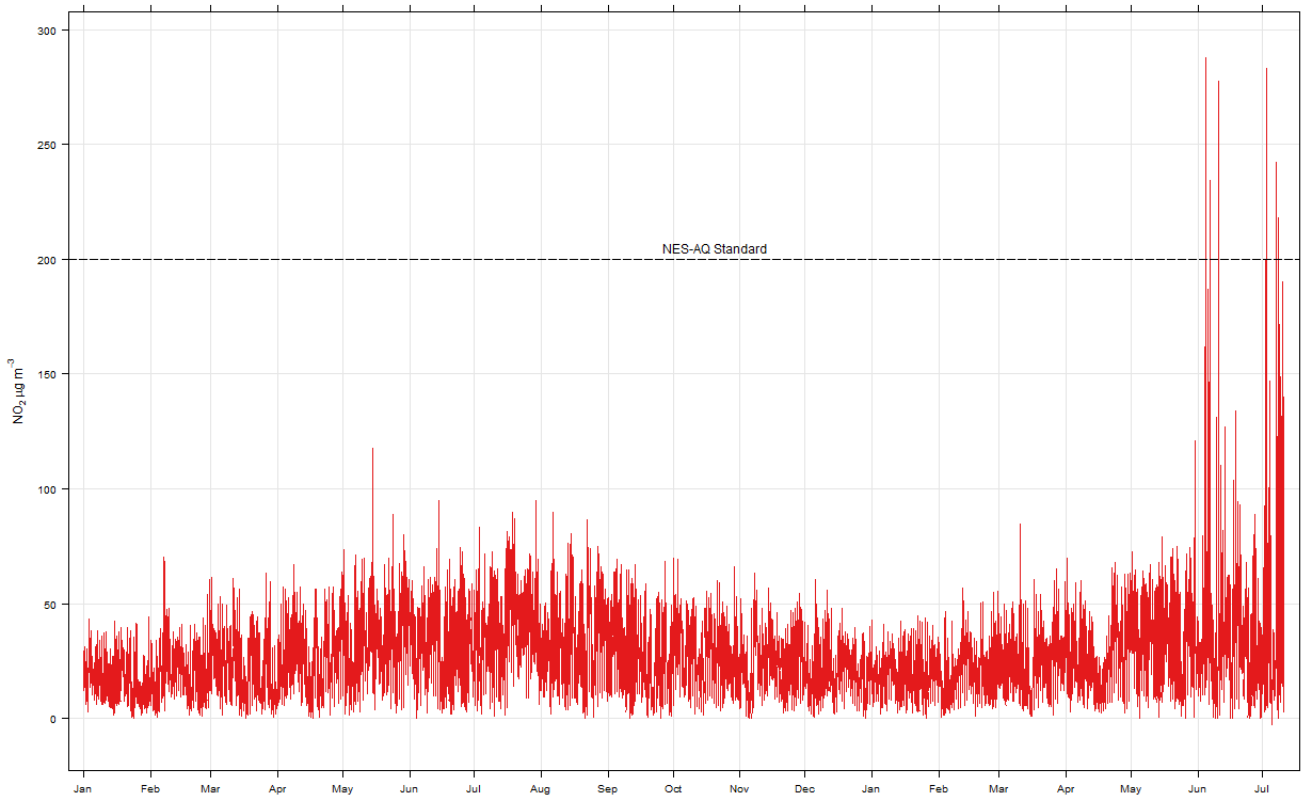

Figure 4 NO_2 data (1-hour average) at Auckland Waterfront (00:00 01/01/2013 - 00:00 10/07/2014)

Ambient NO_2 concentrations at Auckland Waterfront are generally similar to those at the nearby monitoring site on Queen St. In Figure 5, similar patterns in concentrations are seen at both sites. The seasonal pattern seen at Auckland Waterfront is also evident at Queen St. Importantly, the exceedances measured at Auckland Waterfront are not accompanied by elevated ambient concentrations at Queen St, indicating the likely presence of a point source at the Waterfront site.

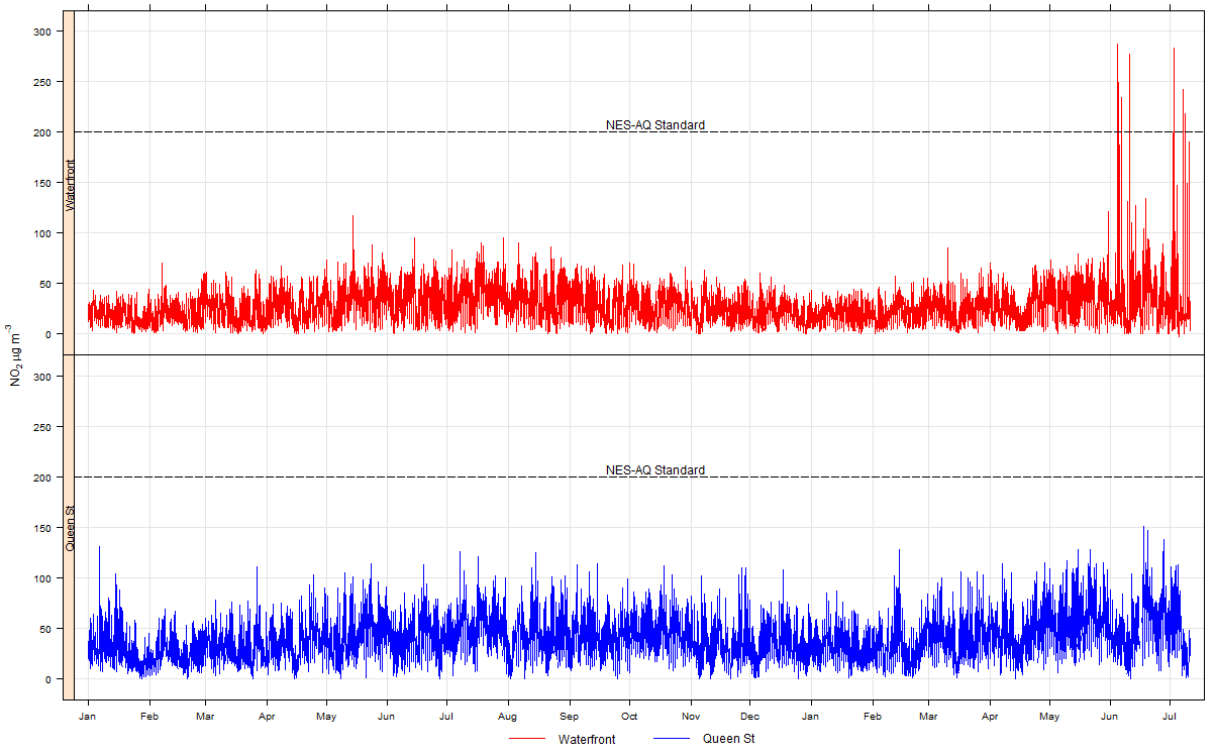

Figure 5 NO_2 data (1-hour average) at Auckland Waterfront and Queen St (00:00 01/01/2013 - 00:00 10/07/2014)

4. Previous Exceedances at Auckland Waterfront

Exceedances of the NES-AQ have only been recorded by the Auckland Waterfront site for SO_2. Table 4 below summarises these exceedances. It should be noted that Auckland Waterfront has never recorded exceedances for any other monitored air quality parameter.

Date	Time	SO_2 concentration ($\mu g/m^3$)	Relevant standard or guideline
14/10/2011	11:00	398.7	NES-AQ 1 Hour SO_2 Standard ($350\ \mu g/m^3$)
14/10/2011	14:00	423.2	
14/10/2011	18:00	445.9	
15/10/2011	14:00	370.4	
15/10/2011	16:00	386.4	
15/10/2011	17:00	461.8	
15/10/2011	18:00	389.3	
15/10/2011	19:00	451.1	
16/10/2011	14:00	386.3	
14/10/2011	-	177.4	NES 24 – hour Guideline ($120\ \mu g/m^3$)
15/10/2011	-	183.1	
16/10/2011	-	152.8	

Table 4 Summary of historical exceedances at Auckland Waterfront

5. Exceptional circumstances

The Auckland Waterfront site has only recorded exceedances of standards and guidelines for SO_2 in the past, so the three NO_2 exceedances on 04/06/2014 were initially regarded as unusual. Furthermore, the last recorded NO_2 exceedances in the Auckland Airshed were in 2012 at Queen St (2 exceedances), so when additional exceedances were recorded the situation was regarded as extremely unusual. Once the initial exceedances were confirmed as correct through standard Quality Assurance and calibration procedures, an investigation was launched to determine their cause.

This application demonstrates that the exceedance values were caused by exhaust emissions from the generator operating nearby. The operation of the generator represents a temporary point source, over which Auckland Council has no ability to control.

These exceedances are worthy of 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 Auckland Waterfront Site.

2. There was nothing that Auckland Council could have done to prevent the exceedances. The work being carried out on the seawall was unforeseen and critical to ensure public safety. Investigations revealed that there was no other suitable location for the Diesel generator to operate in a safe manner. The monitor was located on the only suitable site available.

3. The Auckland Airshed has been performing well (for NO_2 exceedances) in recent years, with no unpermitted exceedances in 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. NO_2 exceedances are not typical of the Auckland Airshed.

4. The 5 requirements outlined by the MfE good practice guide (MfE, 2014) are all met by these exceedances.

5.1 Cause of exceptional circumstances

The Auckland Waterfront monitoring site is located on the Wharf belonging to and operated by POAL. POAL are undertaking an emergency program of rehabilitation on their wharf infrastructure, repair works are underway, defective concrete is being removed (by hydrodemolition) then being replaced with new concrete (by way of shotcreting)(See appendix C for a letter from POAL outlining this).

The seawall beneath the wharf is constructed of boulders and concrete, and is currently below minimum specification for earthquake. There is a chance in a moderate earthquake that this may collapse, which poses a significant risk to people, property and infrastructure. This essential initial work is expected to cost around $700,000, with an overall project cost for the entire seawall repair of around $40 million. This was detailed in a New Zealand Herald story, on 19/08/2014 (Appendix B). This work and that also being carried out by POAL are essential for protecting infrastructure, ensuring safety and allowing operations to continue.

The project uses a range of construction techniques, an as part of this a diesel generator was positioned 54m East of the monitoring site, to provide power to the operation, and providing power and compressed air for shotcreting and associated works. The positioning of the generator here was unavoidable as POAL needed to maintain access around the site for construction activities and port operations, whilst ensuring health and safety was not compromised (see Appendix C). The location of the generator is shown in figure 6, and pictures of the generator showing its proximity to the monitoring site are provided in figure 10.

Emissions from Diesel engines are significant sources of NO_2 (WHO, 2006; Krivoshto et al. 2007, USEPA, 2011; Kurtenbach et al. 2012; MfE, 2014; Fiebig et al. 2014). Other Auckland Council monitoring sites (Queen St and Khyber Pass) near heavily trafficked roads record high concentrations of NO_2 due to high emissions from vehicles. The elevated concentrations recorded at the site, were concurrent with the operation of the diesel generator.

The location of the generator in relation to the monitor resulted in the emission plume from the diesel generator travelling directly towards the monitoring site in a North East wind. Furthermore, under these wind conditions the emissions from the generator would be prevented from dispersing efficiently by the buildings on Quay St (visible behind the monitoring site in the figure 10). In figure 7, the effect of these wind conditions is shown. In the left – hand pollution rose, concentrations from all quarters are roughly equal. During the period of exceedances, easterly winds resulted in not only higher concentrations, but concentrations over the NES-AQ. Under ‘normal’

conditions (i.e. the left hand pollution rose) easterly winds do not normally result in elevated concentrations or exceeding concentrations. The impact of the generator, as an additional point source, directly upwind in easterly conditions is clear. The influence of eddying off the buildings on Quay St is also clear, with elevated and exceeding concentrations from the southeast.

The strong influence of the additional NO_2 source (the diesel generator) is also shown in figure 8. Classifying the NO_2 data by wind direction, shows that in wind directions apart from East and South east, concentrations remain low, at under half the NES-AQ. With the wind from the east, the monitoring site is directly downwind of the generator, and concentrations are either elevated or exceeding the NES-AQ.

Figure 6 Location of the Auckland Waterfront site and the diesel generator

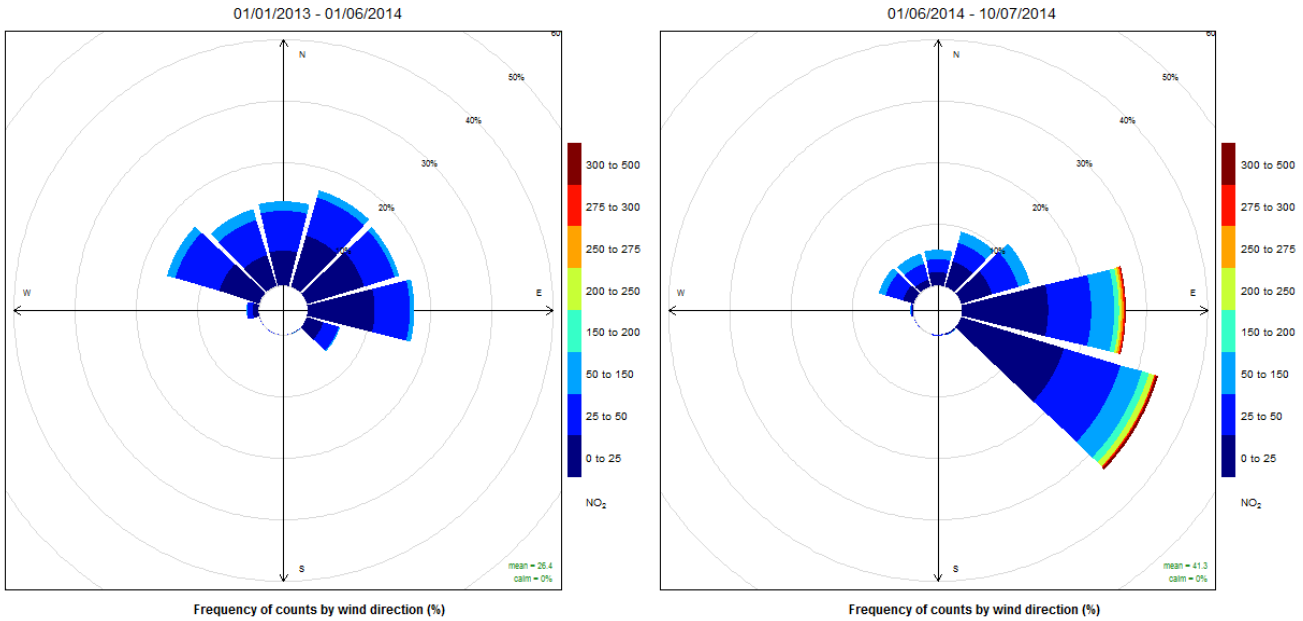

Figure 7 Pollution roses (1-hour averages) (NO_2) for Auckland Waterfront 01/01/2013 - 01/06/2014 (left) and 01/06/2014 - 10/07/2014 (right)

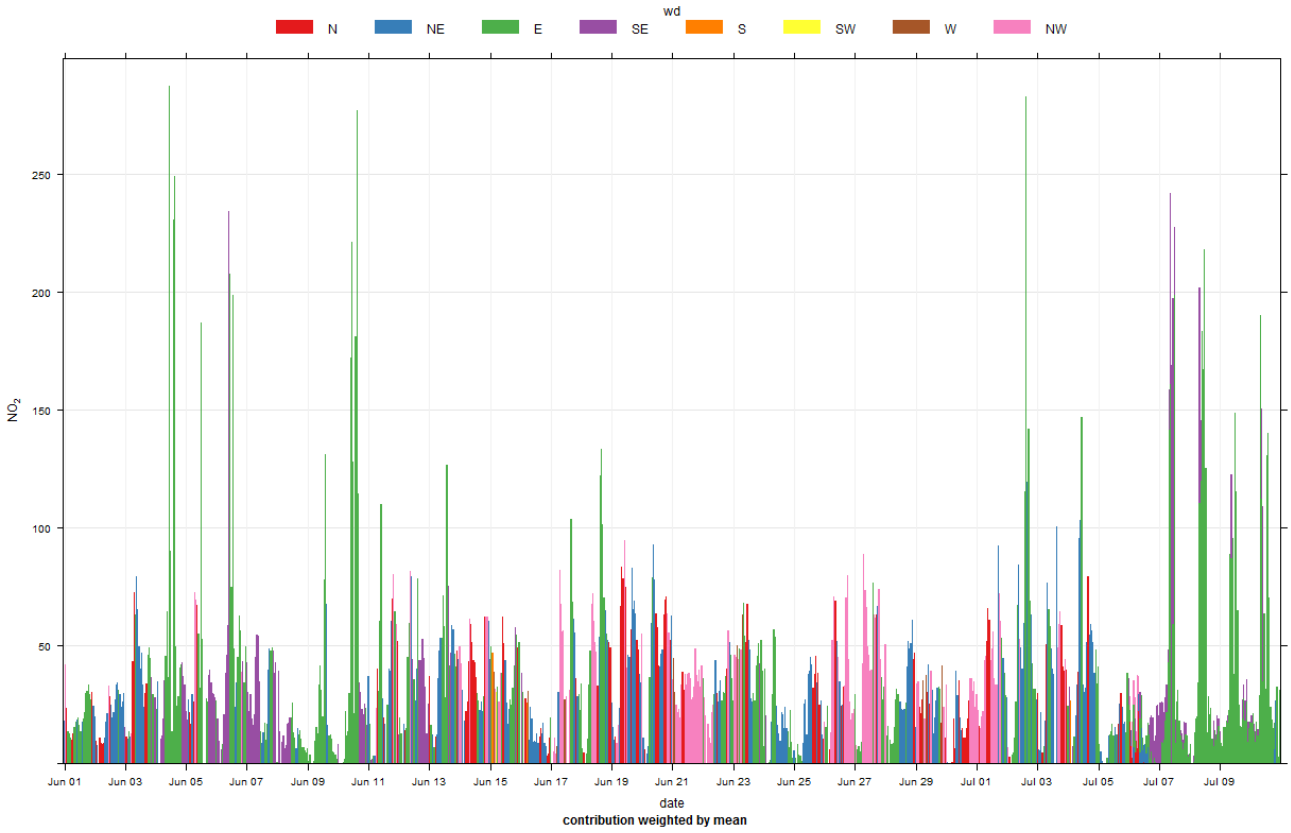

Figure 8 Auckland Waterfront NO_2 data, classified by wind direction, 01/06/2014 - 10/07/2014

There is a strong relationship at lower ambient concentrations between Auckland Waterfront and Queen St (figure 9). Generally, concentrations at the two sites are very similar. Between 01/01/2013 and 03/06/2014, most NO_2 values recorded are closely related to each other, with large numbers of values concentrated around less than 50 µg/m³. There are some bins with only one count at slightly higher concentrations (100 – 150 µg/m³), which correspond with the maximum concentrations in figures 4 and 5. When the same data are plotted with the period of exceedances included (right hand plot), it is clear that the high concentrations recorded at Auckland Waterfront are not replicated at Queen St, in that there are a large number of outliers from the cluster of high counts at the lower concentrations. The influence of the temporary point source which this application contends has caused these exceedances is clear, in the large number of elevated and exceeding values seen in the right hand graph.

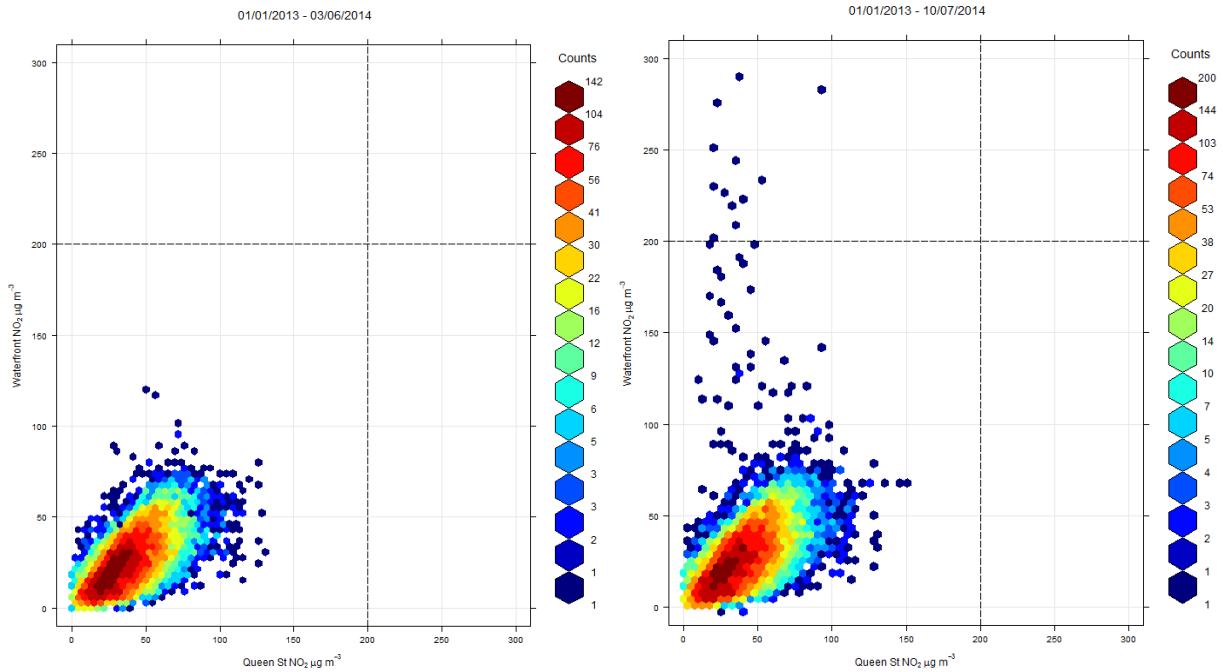

Figure 9 Scatter plot with hexagonal binning for Auckland Waterfront and Queen St NO_2 data (1-hour average) 01/01/2013 - 03/06/2014 (left) and 01/01/2013 - 10/07/2014 (right). The dotted lines are the NES-AQ for each axis

Top left and Top Right: Views of the diesel generator on the Wharf at the Auckland Waterfront monitoring site. Note the exhaust mounted on the roof of the truck which houses the generator.
Bottom Left: View from the generator to the monitoring site (obscured by white shipping container, indicated by arrow) looking West.
Bottom Right: View from adjacent monitoring site to generator (indicated by arrow) looking East.

Figure 10 Photographs of the diesel generator located near the monitoring site

5.2 Justification of exceptional events

The operation of the diesel generator was beyond the reasonable control of Auckland Council. As a landowner, POAL is entitled to carry out works on their infrastructure. These works are essential to ensure the continued safe operations of the port. The wharf structures have deteriorated to the point where they require urgent work to prevent health and safety being compromised, and to prevent disruption to POAL operations.

These works required the use of a diesel generator, to provide power for the operation. The location of the works, and the operational requirements of POAL, meant that the generator could only be located near the monitoring site. The area is an operational area for POAL, and accordingly the generator needed to be located in a manner which would not compromise access or health and safety.

The Users' Guide to the revised NES-AQ (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.

5.2.1 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 NO_2 in the area. In contrast, the monitoring site typically records NO_2 concentrations at roughly half the NES-AQ. The additional point source temporarily elevated concentrations and is not representative of ambient concentrations. Furthermore, exceedances were only recorded when the generator was running (i.e. during the week), and at similar times (between 0900 and 1500 in all cases). The exceedances were also dependent on wind direction, only being recorded when the wind was from the North Eastern sector.

The operation of this generator, combined with wind from the East meant that the monitoring site was directly exposed to the emission plume from the diesel generator. Concentrations at the monitoring site are generally low and record values similar to the nearby Queen St site. In light of this, and the analysis in the preceding section, it is considered that the cause of the exceedances is clearly the diesel generator.

5.2.2 Control

The circumstances which lead to these exceedances were beyond the reasonable control of Auckland Council. Firstly, the work carried out on the seawall and wharves are critical – this is emergency work, as identified by the letter from POAL given in Appendix C. 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. Restricting the use of the diesel generator would prolong the construction project, and increase operational and health and safety risk for POAL. Auckland Council has little ability to restrict this kind of activity, as it is not restricted, and does not require consent.

5.2.3 Foreseeability

There was little that Auckland Council could have done to foresee these events. The work carried out on the wharf and seawall was essential to ensure the on-going integrity of the seawall, and to prevent danger to people and infrastructure. As identified in the New Zealand Herald Article (Appendix B), and the letter from POAL (Appendix C) this repair work was unforeseen. In the event that these events were foreseen, it is unclear of whether this would have had an impact in terms of preventing these exceedances from occurring, given that the location of the Diesel 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.

5.2.4 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 NES-AQ for NO_2 since 2009 and the last exceedances were recorded in 2012, so the exceedances themselves are very unusual. The cause of the exceedances is even more unusual, in that they were caused by a temporary additional point source. Given that this point source is temporary (around 6 months is the expected duration), there is little likelihood that the exceedances will be repeated, in that after the work is completed the source will be removed.

5.2.5 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 in order to allow use of the resource in a practicable and safe manner. Furthermore, the regulations (NES-AQ) are designed to manage poor air quality from representative sites and emissions profiles. As this application has demonstrated, the exceedances recorded at the Auckland Waterfront 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

As this application has demonstrated, the 13 exceedances recorded at the Auckland Waterfront between 04/06/2014 and 08/07/2014 are worthy of exception circumstances consideration, for the four reasons below:

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 Auckland Waterfront Site.

2. There was nothing that Auckland Council could have done to prevent the exceedances. The work being carried out on the seawall was unforeseen and critical to ensure public safety. Investigations revealed that there was no other suitable location for the Diesel generator to operate in a safe manner. The monitor was located on the only suitable site available.

3. The Auckland Airshed has been performing well (for NO_2 exceedances) in recent years, with no unpermitted exceedances in 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. NO_2 exceedances are not typical of the Auckland Airshed.

4. The 5 requirements outlined by the MfE good practice guide (MfE, 2014) are all met by these exceedances.

Furthermore, as demonstrated in section 5 of this application, the 13 exceedances fulfil all 5 requirements for exceptional circumstances consideration under the NES, as outlined in MfE (2014). Auckland Council looks forward to receiving the Minister's decision regarding the exceptional status of these exceedances.

7. References

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Appendix A. Site metadata (overleaf)

Site name

Auckland Waterfront (Mobile Trailer)

Address

Ports of Auckland Limited
88-89 Quay Street
Auckland City

Easting Northing Elevation (m)

These vary – see table on next page

General site characteristics

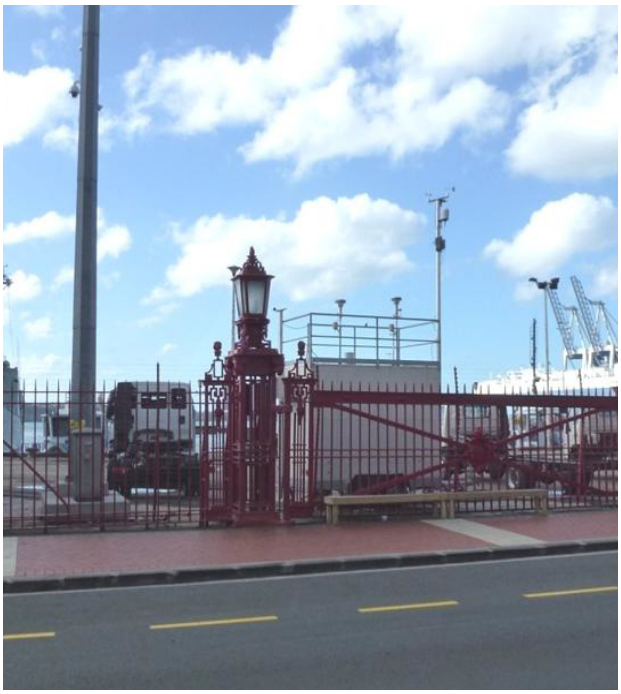
Urban

Topography

The site is located between Queens and Captain Cooks wharves, on a flat area.

Micro met characteristics

Well exposed to winds from all directions; slight sheltering from houses, fence and trees to the north.



Site - view from the south west.

Site description and area characteristics

This relocated site is located between Queens and Captain Cooks wharves inside Ports of Auckland grounds. It is located beside Queens Wharf on the city/south end. This is a flat area 8m north from Quay Street, 73m east from the Queen and Quay Street intersection, and 30m northwest from the Quay and Commerce Street intersection. High rise buildings are located 28m south from the shed

Air Quality Management Area

Urban

Predominant sources

Vehicles and port activities

Distance from road and other major sources

Approximately 4m from nearest road, 8m north from Quay Street, 73m east from the Queen and Quay Street intersection, and 30m northwest from the Quay and Commerce Street intersection.

Vehicle counts

N/a

Any nearby features that could affect measurements?

Nearest vertical supporting structure is ~5m west of the shed, and the nearest tree is 16m south from the shed. High rise buildings are located 28m south from the shed.

AS/NZS 3580.1.1:2007 compliant?

Yes

Monitoring commenced

21.02.11

Monitoring ceased

On-going

Pollutants monitored (current)

CO: 21.02.11 to date
NO_x: 21.02.11 to date
PM_{10} (Beta Gauge): 21.02.11 to date
$PM_{2.5}$ (Beta Gauge): 21.02.11 to date
SO_2: 22.02.11 to date

Pollutants monitored (past)

Nil

Inlet height (m)

4

Meteorological parameters measured on site

Wind speed, wind direction, ambient temperature, relative humidity, solar radiation, rainfall.

Mast height (m)

6

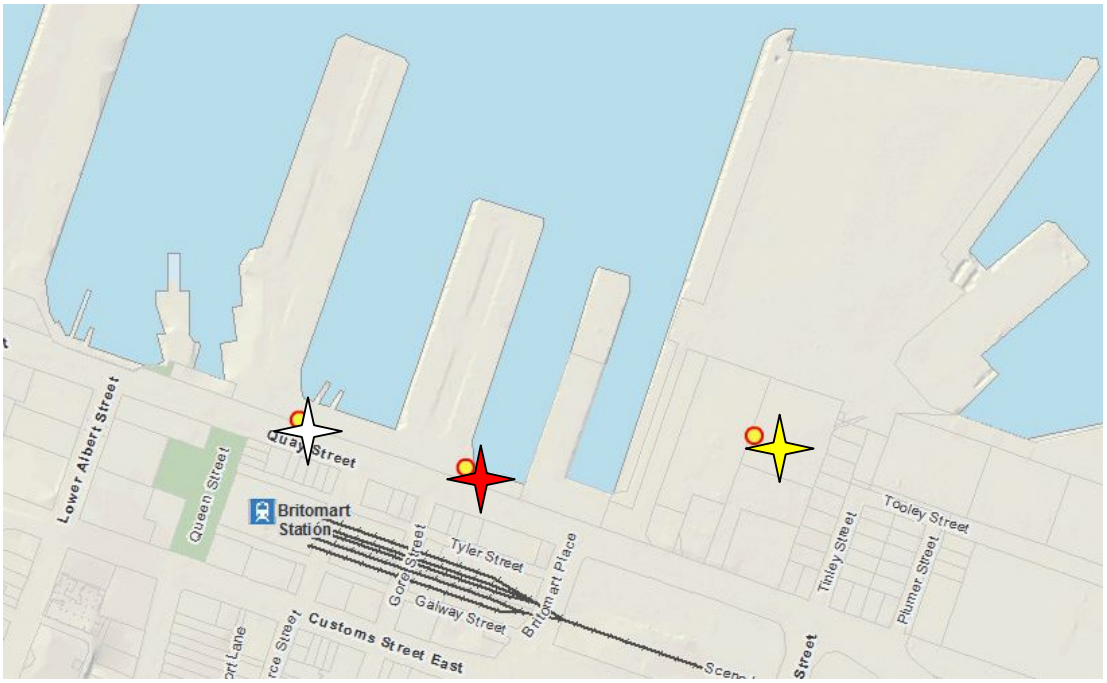
Data owner

Auckland Council

Aerial view of site.

Source: Auckland Council GIS Viewer (extracted April 2013).

Site	NZMG		NZTM		Elevation (m)	Distance from road (m)	Start	Finish
	Easting	Northing	Easting	Northing				
A	2668244	6482698	1757808	5921001	2	20	21.02.11	17.08.11
B	2668523	6482735	1758086	5921039	2	150	19.08.11	25.04.12
C	2668075	6482737	1757638	5921040	2	8	26.04.12	on-going



Location map: location 1 – red star; location 2 yellow star; location 3 (current location) - white star.

Source: Auckland Council GIS Viewer, extracted May 2013

Appendix B. New Zealand Herald article, 19/08/2014.

Preliminary work on fixing the seawall between Princes and Queens wharves has cost the Auckland Council $700,000. Picture / Greg Bowker

$40m to fix seawall danger

Extra bill adds to council's problems as it battles to keep costs down and upgrade city

Bernard Orsman Super City
bernard.orsman@nzherald.co.nz

Auckland ratepayers face a bill of about $40 million to prevent part of the downtown seawall between Princes and Marsden wharves failing in a moderate earthquake.

The risk of failure is considered low, but the council has patched a section between Princes and Queens wharves at a cost of $700,000, pending permanent repairs next year.

"There is no immediate risk to limb or life and nothing physically threatening at the moment," said Rick Walden, who heads a council group co-ordinating several downtown projects.

"What we are really doing is taking account of what the impacts of a shake might be."

He said the seawall, parts of which were 100 years old, contained boulders cemented in place. The main risk was that the concrete would fail in a quake and the boulders would fall.

The unbudgeted $40 million repair bill comes as the council faces cuts of hundreds of millions of dollars a year in running costs and capital investment in a 10-year budget being prepared by Mayor Len Brown.

Herald graphic

Pricetag

$40m
repair bill for the downtown seawall between Princes and Marsden wharves. Parts of the seawall are 100 years old

$700k
is being spent patching up a section between Princes and Queens wharves

It also follows concerns expressed by many ratepayers about a focus on spending in the central city at the expense of outlying suburbs and rural areas.

Mr Walden said the council was looking at a contract for a significant upgrade to the seawall to start about the middle of next year. The work would take about a year.

Repairing the seawall is one of several downtown projects, including the upgrade of Quay St, the possible privatisation of Queen Elizabeth Square in association with a major redevelopment of the Downtown Shopping Centre, a new bus terminal in lower Albert St and improved ferry services and public spaces.

The "downtown framework", as the work is called, is to go to a council committee next month.

Waitemata councillor Mike Lee said the seawall repair was a great opportunity to put a section of Quay St underground and provide extra harbourside space.

A mid-1990s plan by former Auckland City Mayor Les Mills for Britomart included plans to put part of Quay St underground, but this was dropped for cost reasons.

Call to keep cruise costs competitive

Sophie Ryan

New Zealand needs to be competitive to continue attracting cruise ship seasons worth more than $365 million, according to the national voice in the sector.

Cruise New Zealand manager Raewyn Tan said New Zealand port and fuel fees were some of the highest in the world.

The cruise industry was the fastest growing tourism sector in the world and New Zealand had its largest season ever in terms of visitors in 2012-13, with more than 211,000 visitors, and its largest in economic value in 2013-14 with $365.3 million spent, Ms Tan said.

Levies and port costs could be offputting for cruise lines as the sector grew, she said.

Revenue rolling in

- 211,430 passengers visited New Zealand on cruise ships in the 2012-13 season.
- $365.3m was brought into New Zealand through cruise ships in 2013-14 season.
- 27 cruise ships will arrive here in December and January.

Maritime New Zealand, some regional councils and the ports all charge for the cruises.

"That has the potential of disincentivising cruise lines adding New Zealand ports to an itinerary because the more ports you add the more costs you incur."

The cost of fuel in New Zealand could also be a barrier, she said.

Most cruises come from Australia. The two days it takes to cross the Tasman and come to New Zealand uses up a lot of fuel, and Ms Tan said that could be costly for the cruise lines.

However, the 2015-16 cruise season looked like it could be the biggest season yet, she said.

"We're at a tipping point now where the cruises are getting bigger."

At present the Dawn Princess, with a 1900 passenger capacity, is the most frequent visitor and most passengers do a half-day tour ashore. – APNZ

Appendix C. Letter from POAL, 02/09/2014.

PORTS OF AUCKLAND
TĀMAKI HERENGA WAKA

2nd September 2014

Nick Reid
Auckland Council
The Strand
Takapuna

Dear Nick

Ports of Auckland – Wharf Repair Works

Ports of Auckland is currently carrying out repair works to the Queens / Captain Cook Wharf / Breastwork structures close to where Auckland Council'a Air Quality Testing instrumentation has been located.

The works are essential works which are required to be undertaken to ensure the safety and integrity of the wharf / breastwork structure.

The works being undertaken consists of; removal and capture of deteriorated concrete by high-powered waterblasting, replacement of reinforcing steel, reinstatement of concrete by spraying on shotcrete. All of these operations are powered by truck-mounted diesel generators which are situated alongside the Air Quality Testing instrumentation. It is not possible to relocate the repair equipment, as it must be located within close proximity to the work site.

The repair works commenced in April 2014 and are expected to be complete by January 2015. Works are being carried out Monday to Saturday 07:00 – 17:00.

Yours faithfully

A.G.K.

Alistair Kirk
General Manager – Infrastructure & Property

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