

Attachment 1

1. Permit Holder

Water and Waste Division
Wellington City Council
PO Box 2199
WELLINGTON

2. Existing Resource Consent

WGN910096 [20847]. A discharge permit to allow the continuous discharge of deodorised air from the Moa Point Treatment Plant stack.

3. Condition to be Varied

Wellington City Council has applied under section 127 (1)(b) of the RMA 1991 for a change of a Resource Consent Condition on the grounds that a change in circumstances has caused the condition to become inappropriate or unnecessary.

The applicant states that, “*Condition 6 was originally imposed to monitor the levels of aerosols of water containing microbes from the waste water treatment plant. The report and Decision of the Hearings Committee of the Wellington Regional Council dated the 28th of April 1992 (the Decision)*” states that the Committee intended to “*ensure that aerosols do not cause any threat to facilities at the airport or residents (p.24)*”. The monitoring programme was to “*ensure that the controls are effective and that any discharge beyond the boundary is negligible.*” (p.24)”

Wellington International Airport Limited appealed the original consent Condition 6. It was concerned that the original condition did not give any indication of upper limits for faecal coliforms and salmonella, or what would happen if their pathogens were found to be excessive. The appeal was resolved by way of a consent order and condition 6 requires that monitoring confirm an absence of faecal coliforms or salmonella originating from the wastewater treatment plant.

The change is not proposed to alter this requirement but to reduce the frequency in monitoring to confirm the absence of faecal coliforms and salmonella.

4. Reasons for Variation

The applicant has stated that “*it is considered unnecessary to continue to monitor the air quality in the vicinity of the plant every month. Air quality in the vicinity of the wastewater treatment plant will continue to be dealt with by a number of other conditions imposed on the resource consent. Condition 7 dealing specifically with levels of hydrogen sulphide discharged from the stack, Condition 2 requiring no*

discernible odour beyond the boundary and Condition 3 requiring no adverse effect at or beyond the boundary from an air discharge from the waste water treatment plant. These conditions are appropriate and adequate to deal with air quality in the vicinity of the wastewater treatment plant ”

5. **Scope of the Variation**

The holder of a resource consent may apply to the consent authority for the change or cancellation of any condition of that consent (other than any condition as to the duration of the consent).

6. **Notification**

The notice of review was publicly notified in the *Evening Post* on Saturday 11 November 2000 in accordance with Section 130 of the RMA. The review was notified because the Regional Council was not satisfied that the requirements of Section 130 (3) RMA could be fulfilled.

7. **Submissions**

Two submissions were received by the close of the submission period on Friday 8 December 2000. One submission was in support and one was neutral on the change (The Public Health Service replied that they did not wish to comment on the application).

The principal reason for support was due to the continued absence of faecal coliforms and salmonella from monitoring since the plant was commissioned. Sign off from the neutral submitter is not required as the submitter stated that they did not wish to be heard.

Wellington International Airport Limited have given signoff to the condition change based on the amendment to condition 6 being; *“that in the event an exceedance is measured, that there follows a period of monthly monitoring for 6 months, thereafter returning to the six month cycle”*. I have addressed this concern in the varied condition. A copy of the letter is attached.

8. **Matters Outlined in Section 131**

Section 131 RMA outlines what matters the Regional Council shall consider when reviewing the conditions of a resource consent. These aspects include:

- the matters in Section 104; and
- whether the activity allowed by a resource consent will continue to be viable after the change.

Section 104 of the RMA, includes those matters that the Regional Council should have regard to when considering an application for resource consent, i.e., a review of

consent conditions. When considering an application for a discharge permit the Regional Council should have regard to:

- the actual and potential effects on the environment of the activity;
- the nature of the discharge and the sensitivity of the proposed receiving environment to adverse effects; and
- any possible alternative methods of discharge (not relevant to a review of consent conditions).

Appendix 3 outlines the matters the Environment Committee must have regard to under Sections 104 and 131 RMA when considering the review of consent conditions.

9. Location

The location of the land to which the resource consent condition review relates is the Moa Point Wastewater Treatment Plant, Andrew Baxter Drive, Miramar, Wellington, at or about map reference NZMS 260 R27; 615.841.

The legal description of the property is Part Certificate of Title 460/309

10. Beneficial Effects of the Moa Point Wastewater Treatment Plant

Wellington's wastewater used to be discharged with very little treatment through a short outfall at Moa Point on the southern coast. This activity polluted some the City's most beautiful coastline. The creation of the new treatment plant has enabled the old outfall area to gradually restore itself to its former state.

Moa Point Wastewater Treatment Plant was officially opened on 21 September 1998. Moa Point treats 65 millions litres per day of Wellington's Wastewater before being discharged to sea through a new 1.8km pipeline. Sludge from the treatment plant at Moa Point is piped 8.8km to the dewatering plant at Carey's Gully. Liquid is then removed from the sludge and sent back to Moa Point for recycling through the treatment system. The sludge at the dewatering plant is then transferred to the Living Earth Plant also at Carey's Gully where it is mixed with shredded garden waste into high quality compost.

11. Assessment of Environmental Effects

The permit holder considers that there has been a change in circumstances since the consent condition was imposed which now makes the condition 6 inappropriate. The applicant has stated that *"the final design solution of the plant has significantly reduced the sources of aerosols that were anticipated by the original application. The clarifiers have since been covered and this prevents the generation of aerosols from the clarifier ponds"*.

A new venturi device is to be fitted to the stack and this is anticipated to improve odour dilution and dispersion of aerosols at the source. This will create an extension to the

stack that dilutes the discharge and forces the air further up into the atmosphere. The Wellington City Council is currently processing the application.

In addition to faecal coliforms and presumptive salmonella, a range of other bacteria and fungi are monitored by Healthy Environments Limited. Presumptive streptococci, actinomycetes, total fungi (including candida) and total bacteria are also monitored as these species have a relatively long survival time in aerosols and are useful indicators of wastewater aerosol pollution.

The applicant also states that, *“Monitoring undertaken in accordance with condition 6 has consistently shown that bioaerosol release from the wastewater treatment plant is “minimal and within agreed limits” from the time the plant began operating in October 1998”*. Currently, as agreed and approved by the Wellington Regional Council, monitoring under condition 6 is undertaken every month. Wellington City Council seeks to reduce the frequency of monitoring from once every month to once every six months. The monitoring methodology and location of the sampling points will remain unchanged.

I have assessed the variation of condition 6 and consider that there are no adverse effects over and above those already assessed in the original application WGN910096.

11.1 Source of Bioaerosols

Bioaerosols are airborne particles, large molecules or volatile compounds that are living or contain living organisms or were released from living organisms. Bioaerosols vary in size from 100 microns to 0.01 micron.

The air can be full of transient populations of micro-organisms but none actually live in the air. Most microbes that die off in the outdoor are as a result of sunlight, temperature extremes, dehydration, oxygen and pollution. Spores and some environmental bacteria are naturally more resistant and can occur outdoors seasonally in high concentrations.

11.2 Impact of bioareosols

Bioaerosols are good indicators of wastewater aerosol contamination. For the purposes of monitoring aerosol emissions from wastewater at The Moa Point Treatment Plant the following group of “target” organisms have been selected.

These target organisms are:

- Faecal Coliforms
- Salmonella
- Faecal streptococci
- Actinomytes \ candida yeast; and
- Fungi (general)

Survival times of the organisms in wastewater and ambient air vary. Faecal coliforms and salmonella have a short survival time in the aerosol. Faecal coliforms are plentiful in domestic wastewater and spread through poor hygiene. Salmonella is essentially

transmitted through the food chain. There is limited risk through respiratory pathways, but it has the potential to infect if the residence time in the air is very short.

12. Summary

The applicant states that “A broad range of organisms have been monitored at Moa Point since October 1997. During this period, no grouping of “target” organisms of faecal pollution in wastewater sources have been detected downwind. The clarifiers at the plant have now been covered. Therefore, the adverse effects from the Moa Point Treatment Plant are considered negligible.

On the basis of the information and monitoring results provided to date, I consider it reasonable to relax the monitoring frequency from at least once a month to once every six months and consider that there are no adverse effects over and above those already assessed in the original application WGN910096. If faecal coliforms or salmonella are present during the monitoring intervals at any stage in the future, we may direct the resumption of monthly intervals or more intensive sampling.

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