

Memorandum

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From Gary Bedford, Director - Environment Quality
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Analysis of air quality-related incidents and complaints

Purpose

The purpose of this memorandum is to present an analysis of causes, types, and degrees of compliance associated with air quality-related incidents in Taranaki since 2011 (the year in which the current *Regional Air Quality Plan for Taranaki* [RAQP] came into effect). The findings of this assessment are intended for reference to inform the review of the existing RAQP during the Council's development of the air quality sections of the *Natural Resources Plan* (NRP) (in preparation).

Summary

The number of complaints/incidents relating to air quality in Taranaki is second only to the complaints and incidents relating to fresh water that the Council deals with. Notwithstanding the excellent quality of the air environment in Taranaki, the importance of appropriate controls and regulatory management to maintain that quality and attendant public expectations is thereby emphasized.

The analysis of incidents shows that there is only a negligible number of incidents related to air quality, that are not covered by either a resource consent or provisions within the RAQP. That is, there is nothing 'slipping through the gaps' that needs to be addressed within the NRP. Having noted that, in any case Section 17 of the RMA enables the Council to take action on any environmental matter even if not explicitly addressed within a regional plan.

The analysis shows that the Council's monitoring, liaison, and if needs be enforcement of consents is very effective, achieving extremely high levels of compliance and low levels of complaint. The average annual rate of non-compliance is barely more than 2%, or 8 events per year. A very small number of consented sites are proving problematic; the Council applies the full suite of enforcement tools in such cases in accordance with the Council's policies. The importance of the Council's commitment to effective, regular, and comprehensive compliance monitoring is underscored.

For consented sites, the main cause of an incident in 2020 was an odour issue.

Likewise, the number of complaints concerning activities for which a consent is not required, demonstrates the importance of both having generic controls within the RAQP, and of adequately resourcing the Council's investigation function and capacity. More than two-thirds of all complaints relate to such activities. Only 25% of the complaints are typically found to be justified upon investigation. Reasons for this are set out below.

The main cause of an incident for permitted activities was smoke- over 60% of all incidents dealt with according to RAQP provisions rather than consent conditions arose from smoke (including the combustion of prohibited materials). More smoke-related incidents were found to be non-compliant, than incidents involving any other effects. The value of having these generic controls in the RAQP, and the continuing need to ensure public implementation of them, is clear.

Recommendation

It is recommended that the findings of this analysis be considered during the development of the air quality content for the Natural Resources Plan.

Background

With the review of the RAQP 2011 now underway, it is useful to analyse the nature of incidents related to air quality in the region, in order to ascertain whether the controls established through the RAQP and consents arising are pitched at an appropriate level and provide sufficient scope across activities of interest or potential concern. If controls are too stringent, then they will impose unnecessary compliance costs upon operators (via requirement for unjustified abatement equipment, additional monitoring points, etc) and also on the Council and community (via the development of unjustified regulatory standards, the processing and reporting of over-elaborate consents, triggering and dealing with complaints without foundation in environmental effects, etc). On the other hand, if controls are too lax or overlook particular emissions or activities altogether, then the community and natural environment will be subject to unacceptable adverse effects- health, amenity, natural character, etc.

Discussion

A record and analysis of all air quality-related incidents and complaints recorded since 1 July 2011 until 30 June 2020 has been generated. The spreadsheet is attached.

Set out below is an interpretation of the data. In terms of the limited information held in the UIR database, and the number of incidents related to air quality that have been recorded over this time (2000 events), a full analysis down to the level of every individual event cannot be provided. A more detailed assessment of events recorded during 2020 has also been undertaken, to provide some further insights. Some of the comments below must therefore of necessity be speculative. Nevertheless some broad themes emerge.

Sources of reports: Complaints from the community about air quality are a significant component of the total number of complaints about the environment received by the Council. It remains important that the Council maintains and publicises its round-the-clock incident reporting and investigation service.

Number of incidents: Typically over the course of a year, complaints related to air quality vary between 20-35% of the total number of complaints, and are second in number to complaints related to fresh water. This suggests we continue to need provisions relating to air quality management in the region, via a regional plan, and that capability and capacity to provide air quality management remains a core priority for this Council.

Compliance and non-compliance at consented sites: while over the course of the last 10 years, the Council has dealt with 447 complaints from external parties about activities on consented sites, only a very small percentage (15%) have been found to be justified. Another way of expressing this is that the Council finds an average of less than 8 complaints per year in respect of sites and activities holding resource consents, to be justified. With about 320 air discharge consents active in the region, the average annual rate of non-compliance is barely more than 2%, and furthermore has reduced in recent years [and see paragraph g) below].

The number of complaints annually about consented sites has varied significantly- an almost 3-fold variation- and has reduced in recent years in parallel with the reduction in proven non-compliance. The proportion of complaints about consented sites represents around one-quarter of all air quality complaints received by the Council- that is, most of the complaints the Council has to deal with are generated in connection with sites or activities other than on sites holding an air consent.

The total number of incidents associated with consented sites (whether compliant or non-compliant) during the last nine years peaked very early on (2012-13) in the last decade, and over the last 3 years has held at a level about one-third of that previous number. The total number of recorded incidents peaked in 2013-2014, then fell rapidly to its lowest number in 2016-17, but has since risen somewhat to a level typical of the first five years since the current RAQP came into effect. As a proportion of all incidents dealt with by the Council, incidents associated with consented sites are reducing.

It is noted that consents are granted with conditions that are aligned with the provisions in the RAQP. That is, they represent the consensus of the community at the time of development of the RAQP in terms of expectations around air quality. There was no significant mood at the time of preparation of the current RAQP, for widespread change in conditions and considerations related to consented activities.

There are several possible interpretations for the continuing number of complaints associated with consented sites.

- (a) there are some complainants, whose views around acceptable air quality are out of alignment with the community at large. This encompasses the fact that for the most common causes of complaint re consented sites, the most common cause of complaint is 'odour'¹, and the relevant standard re consent compliance is usually that of whether the discharge is 'objectionable or offensive' (rather than clear failure to provide best practice controls). While there are objective tests that can be (and are) applied to the interpretation and application of this standard, the reality is that any given individual can be over-sensitive or sensitized to an effect, to a degree greater than that of the reasonable ordinary person. The Council can thus expect to always be receiving complaints that cannot be upheld in enforcement proceedings, even if justified in the view of the complainant. The factors that must be evaluated when assessing exposure include the frequency, intensity, duration, characteristics (inherent offensiveness or pleasantness), sensitivity of the location, and timing (eg exposure during working hours vs exposure during a weekend). These are known as the FIDOLT factors.
- (b) Council officers are called upon to respond to many more incidents that are found to be unproven, than are found to be having unacceptable effects as defined in the

¹ In 2020, 73% of all incidents and 69% of all proven non-compliances relating to consented sites, arose because of odour. Dust caused 17% of incidents (a higher proportion than usual), and smoke 8%.

current RAQP. The definition of what is 'offensive or objectionable' relates to how a reasonable and ordinary person would react; as community expectations around environmental quality rise, the community will become less tolerant and this standard will become more stringent in its application.

- (c) From time to time Council officers identify a small number of serial complainants, who for their own reasons will lodge a complaint or multiple complaints that cannot be upheld upon investigation. For example, the underlying cause may be a grievance against the activity or against the Council.
- (d) In somewhat similar vein, Council officers have recognised that when a consent is coming up for renewal, then if it is somewhat contentious there can be a burst of complaints about the site, thereby putting pressure on the consent applicant and Council to impose more stringent controls and limitations. In such situations the Council remains duty-bound to investigate the complaints diligently and impartially- the local community may be implicitly alerting the Council to an issue of some local significance but which hitherto was ignored or tolerated even if intolerable.
- (e) Many air emission events are transitory in nature, such as a small rubbish fire, an odour-causing event arising from a process upset or poor operational control that is quickly corrected, or an odour impact that disappears as the wind direction and speed change. While the Council operates an on-site response capacity around the clock, there is inevitably some elapsed time before arrival of an investigating officer at the place of complaint. Therefore, even if a complaint was valid at the moment of lodging a complaint, it may remain unproven upon subsequent on-site investigation. In some cases, complainants do not register a complaint until some hours or days afterwards, so that investigation to a definitive conclusion is further hindered.
- (f) The data shows that the number of non-compliance events discovered by Council staff during the course of inspections of consented activities, is smaller than the number reported by the community at large. This is not surprising. Even at the most intensively monitored sites, Council staff will be on site for much less than 1% of the year, whereas members of the public will be passing by or living in close proximity to each site for essentially 100% of the time.
- (g) It should also be remembered that the Council's approach to compliance monitoring is that it is proactive, focused on identifying and eliminating or minimising potential causes of a non-compliance event by continually reviewing site equipment and controls, process management, and staff awareness. There can therefore be any number of interventions, instructions, and guidances provided by the Council (whilst not acting as consultants) that are not recorded on the Council's incident register. These are however highlighted in the annual compliance reports provided by the Council to the consent holder and public each year, for the sake of transparency. Such interventions will be recorded on the incident register only if the likelihood of or need for formal enforcement proceedings arises, because of a significant issue.
- (h) Finally, the reality is that at a very small number of consented sites, process controls and operational management fail to provide adequate protection of air quality in the locality. Just 3 sites (a composting operation and two subdivision developments) were responsible for more than half all non-compliant incidents at consented sites in 2020, and the same 3 sites together with a fertiliser/soil conditioning storage company and a small number of broiler poultry farms, gave rise to two-thirds of all incidents involving consented sites dealt with by the Council during the year.

This analysis proves a very high rate of compliance and environmental performance across almost all consented sites, as well as the effectiveness of the Council's educational, monitoring, and enforcement programmes.

Natural events: it is noteworthy that the Council receives several complaints every year about phenomena that turn out to be natural in origin. The usual cause is the release of pollen from trees in spring, mistaken by complainants as being some sort of chemical dust.

Compliance and non-compliance with the RAQP: by far the biggest majority of complaints (69%, or over two-thirds) are in connection with a possible breach of the RAQP, rather than a breach of a consent or of another of the Council's plans. The Council typically receives almost 3 times as many complaints about non-consented activities as it does about sites for which an air discharge permit is held, and in addition, 5 times as many complaints about non-consented activities are upheld upon investigation than is the case when investigating consented activities. However, still only 25% of the complaints are typically found to be justified upon investigation.

The proportion of complaints that were upheld, compared with the total number of complaints received, was at its highest in the first two years after the current RAQP came into force; it has been relatively steady since then. This suggests an early period of having to educate people in the new rules of the RAQP. Half of all justified complaints occurred within the first three years of the RAQP coming into effect, and two-thirds of all complaints that upon investigation were not upheld, occurred within the first 5 years of the RAQP coming into effect. This likewise suggests a 'settling-in' time, as people adjusted to the new provisions (especially those relating to backyard rubbish fires).

Complaints relating to either an unproven or actual breach of the RAQP fell to their lowest in the 2016/2017 year; since then, numbers in both categories have slowly but steadily increased, reflecting an increasing number of incidents involving dust or smoke effects, or no proven effect. The reasons for these increases are unclear, although anecdotally staff related the peak numbers in the latest year to the indirect consequences of the covid pandemic, which meant more people stayed in their homes, were more exposed to and more inclined to complain about air quality impacts affecting them, and undertook more property maintenance activities (alongside a shut-down on waste disposal options).

As noted above, for consented sites, the main cause of an incident in 2020 was an odour issue; by contrast, the main cause of an incident for other activities was smoke- over 60% of all incidents dealt with according to RAQP provisions arose from smoke (including the combustion of prohibited materials). The value of having these generic controls in the RAQP, and the continuing need to ensure public awareness of them, is clear.

As with incidents arising at consented sites, the number of incidents reported by Council staff is considerably lower than the number reported by the public at large; reasons for this variation are discussed above. However, the relative numbers indicate that Council staff are much more likely to report an incident than members of the community; and incidents reported by Council staff are much more likely to be found to be non-compliant- while only 25% of complaints from the public about activities on non-consented sites are upheld, almost 75% of reports from Council staff are upheld. As should be the case, this indicates a high awareness of RAQP permissions and restrictions by Council staff.

Self-notification by consent-holders: the Council seeks to encourage a pro-active relationship between consent holders and its staff, whereby consent holders proactively contact the Council if there is a potential or emerging issue, so that it can be resolved in a timely and effective manner. The record of these formal notifications is over and above all matters raised during site inspections or other communications between consent holders and the Council, and a register entry is generally made only when there is likely to be a significant issue and it is important as a matter of record to document the time and nature of contact between the two parties.

Effects of discharges to air: In 36% of cases over the past decade, no effects could be found or proven upon investigation. This category was the largest single category of effects. As discussed above, this does not necessarily mean that there was no effect at all; the effect may have been transitory (diminishing or disappearing by the time of investigation), or may have been below the RAQP threshold of being offensive and objectionable in the case of amenity-related effects. The second most common category of effect was odour. This was the cause of a report in 30% of all recorded incidents, and was the underlying effect in 48% of all situations where an effect was detected. However, in the last couple of years odour has become less significant, with other categories (no effect determined; dust; smoke) becoming more common. Smoke is the cause of complaints in 24% of events where a cause can be identified, and has become increasingly more common over the last 4 years. Likewise, dust complaints have increased more than 5-fold over the last 4 years, from their lowest number ever in 2016-17 to close to their highest ever in 2019-20.

For whatever reason, 2013-14 gave rise to the highest number of incidents for dust and odour, and the highest total annual number of complaints.

While in 2020 odour gave rise to about one-third more incidents than did smoke, the number of smoke-related incidents that were found to be non-compliant was almost double the number of non-compliant odour incidents. In other words, a smoke incident is far more likely to be found to be non-compliant than an odour episode. In large part this is due to the means by which compliance is determined: for smoke, this relates in part to the nature of materials that are being burnt- these are prescribed in the RAQP- and in part to the locality- burning in defined urban areas is prohibited. Thus in the case of a fire, it is usually clear when there is non-compliance, quite separately from having to determine the nature and scale of effects. The difficulties with determining non-compliance in the case of an odour event are described above in (a) to (d).

Summary: the overall impression generated from the analysis is that there is good environmental management and effective monitoring of air discharges from consented activities, but for diffuse sources (those activities not managed through a consenting and monitoring regime), community performance is more variable. The provisions in the RAQP relating to activities that are general in nature and amenable to generic controls rather than specific consenting appear to be very effective in providing a regulatory framework, as almost no air quality incidents have been identified that are not addressed by provisions within the RAQP. It should also be noted that it is not necessary for an activity and its effects to be controlled via consent or a RAQP, in order for the Council to be able to address it- Section 17 of the RMA provides a general power for enforcement intervention.

Effects	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	Total
Dust	17	19	43	25	28	7	30	32	37	238
No Effect	119	100	108	113	87	50	55	48	69	749
Odour	50	75	132	84	78	48	43	58	57	625
Other	20	21	24	12	14	8	15	6	9	129
Smoke	46	46	35	42	22	18	29	38	43	319
										<u>2060</u>

Consent Related	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	Total
Consented Activity	71	94	79	91	79	50	37	32	42	575
No Consent	155	147	253	180	147	81	133	149	172	1417
										<u>1992</u>