

effects on the environment having regard, amongst other things, to the financial implications, and the effects on the environment, of that option when compared with other options.

Monitoring, per se, has no effect on the level of emission of contaminants. The BPO means limited resources are best used on air pollution control equipment rather than monitoring.

### Auckland Regional Council (ARC)

The ARC use option 4 above. They recently sought expressions of interest for carrying out audit testing.

### Recommendations

Our recommendations to the ARC are to change from option 4 to option 3, or possibly option 5. A cost-benefit analysis should prove that the money saved in monitoring would be better used in research into and purchase of additional air pollution control equipment, or possibly instrumental monitors rather than standard method emission tests carried out by consultants. In connection with this

recommendation we question whether the ARC has compared and contrasted the audit tests carried out by their consultant with the original tests carried out by the permit holder's consultant. If so, what evidence supported the continuation of audit tests?

### Monitoring Plans

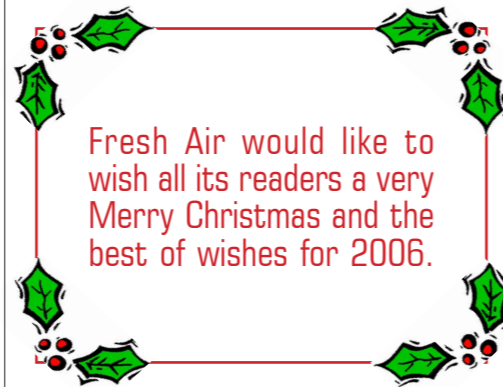
Section 83 of the Resource Management Act (RMA) provides for the issue of Resource Consents. Section 83(e) is a specific Consent; i.e. a discharge permit (in the case of our clients, an air discharge permit). The permit, when issued, contains numerous conditions, amongst which are monitoring conditions, limit conditions and reporting conditions.

It is the nature of industrial processes to be continuously evolving, either through expansion, modernisation, or diversification. When a discharge permit requires modification in each case under section 127 of the RMA the ensuing legal process is costly and cumbersome. A better method of obtaining the same end is through the use of a monitoring plan.

Instead of specific conditions in a discharge permit relating to contaminants and processes there is one general condition, e.g. "The consent holder shall measure the ambient concentration of xxx beyond the boundary of the site. The monitoring shall be undertaken in accordance with the most recent version of the Company's Air Discharge Monitoring Plan using appropriate standard methods." Another condition can provide for stack testing.

When modifications take place there is no requirement to amend the discharge permit; instead only the monitoring plan, by consultation between the permit holder and the permit issuer, is altered to suit the current operations.

The monitoring plan addresses monitoring type (ambient, point-source), methods, frequency, sites, limits, report specifications, and quality assurance.



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# Fresh Air

The Newsletter of Air Resource Management Ltd

November 2005

### IANZ Accreditation

Peter Stacey completed his internal audit during July. Our full reassessment by IANZ staff and technical assessor occurred on 27 July.

### New Shareholder

We welcome Glenn Veart as a minority shareholder and part-time employee to the position as Director and one of the Principals of Air Resource Management.

Glenn expects to become a full-time employee in March 2006.

Richard Hoyle expects to be involved with Air Resource Management for at least another year.

### Feedback

One of our readers has protested about the unrelenting stream of bad news Fresh Air publishes about RMA. We are pleased to include his response.

"Your recent newsletter article titled 'Baghouses and Standard Limits' tells only half the story. I see how, without a proper explanation of the reasons behind the limit, you would think the RMA had not been properly applied. In fact the Consent Authority was using the law properly to protect air quality, and therefore the health of the population.

You raise a concern that limits have been placed on a discharge that reflect the emission control in place and not the effect on the environment. This approach is commonplace and applies both to air and water environments. The reason is that for a number of parameters, in particular particulate, there is no safe limit other than zero.

Research has shown that hospitalisations and deaths increase with every increase in ambient concentrations of fine particulate. There are many arguments about the effect being dependant on the source and size of the particulate etc, but most people would agree with the above.

If a baghouse is designed to achieve 30 mg.m<sup>-3</sup> when operating properly, with good maintenance and allowing for normal variation, it should be held to achieving this. I accept that the limit should not be 30 if the baghouse is designed to achieve 50. The facility should not be allowed to operate at 50 if, with normal operation, it achieves less than 30. Baghouses may not be a good example, as I understand they tend to either meet their design or fail spectacularly.

The RMA is an easy target for criticism, and certainly is not perfect, nor is

*Continued overleaf*

### Staff Changes Welcome to: Simon Oswald



Simon joined ARM in August. He is a recent graduate BA BSc from the University of Auckland.

### Abbey States



Abbey joined ARM in November. She graduated BSc (major in chemistry) from Tufts University in USA.

### Farewell and good luck to:

Peter Stacey, now running the Auckland ambient air monitoring programme through Watercare.

Dale Gould, enjoying his OE in Western Australia.

## NES Workshop - Auckland - 4 November 2005

Some of our staff attended a NES (National Environmental Standards) workshop arranged by the Ministry for the Environment. It drew a large band of interested parties to the Copthorne Hotel in Auckland, from local councils to organisations that have a special interest in emissions.

One of our attendees, Glenn Veart, (new to Air Resource Management), found it to be an interesting workshop and a very good learning experience. Glenn came away with a wider understanding of the problems of air pollution in New Zealand and the following paragraphs are his view and personal opinion.

It was interesting to learn that the highest contributors to air pollution are automobiles and wood burning heaters. In the large cities such as Auckland it is automobiles that contribute up to 80 percent of the air pollution.

Small rural towns such as Tokoroa find their main culprit is the wood burner, and while it is seasonal these heating appliances contribute anywhere from 65 to 75 percent of the air born particulate, PM10.

The point that I found really amazing was that in the drive to reduce the amount of PM10 and other pollutants being released into the clean green air of New Zealand, it was the business sector, industry, that was being asked to do more to try and help reduce the amount of particulate.

Why, I ask? Yes, all industry has a moral obligation to do the best that they can to control and reduce the pollution from their production. Most have taken on board and understand this obligation, allowing in their annual budgets for continual monitoring and upgrades to existing plant as technology improves. But why put more pressure on industry when they are not major contributors to the ever-increasing

pollution statistics?

Why?—because there is controlling legislation in place to be able to bring pressure to bear on these industries. Industries that create employment, bring in export dollars and create a productive market within New Zealand. Unfair? Sure is in my eyes.

Surely the Government must bring in legislation and guidelines that are fitting for the main culprits in this battle against air pollution.

The Ministry of Transport has been very tardy over the past few years getting its act together and making recommendations to Government in regard to vehicle emissions.

The Government itself had the opportunity to pass legislation this year that would have tightened up on vehicular exhaust emissions, but wait—it was election year. The proposals they are saying they will introduce are a watered down version of what is really needed. A 10 second optical watch of exhaust gases when getting a Warrant of Fitness? Every one in the industry knows that to test exhaust emissions accurately the vehicle needs to be tested under working conditions and for a lot longer than 10 seconds.

Wood Burning heaters—at least there is some movement in the right direction here. As of 1 September 2005 all wood burners installed into a house or dwelling on a lot size of less than 2 hectares must meet the new design (emissions) and thermal efficiency standards.

Is this enough? Why does the government not give a subsidy to all those who wish to upgrade their existing non efficient burner to a compliant unit? Why allow those properties with larger than 2 hectares of section get away with substandard heaters? If we are to reach the required lower pollution figures then everyone must contribute.

This brings me back to my point. Why attack industry, a minor contributor to pollution just because there is legislation in place to do so?

Surely the Ministry for the Environment should be putting pressure on Government to legislate so there is law to cover the major offenders of this air pollution crisis. Not attack the ones who are aware of pollution and are already doing their part and their best to control the pollution they create.

*Continued from front page*

it perfectly applied. The RMA has however achieved a great deal and this should be celebrated more. It has increased expectations. Gone are the days when the driers and boilers at Xxxxx regularly spread dust onto their neighbours, and the river discharge intermittently killed fish. Long-standing odour issues are also finally starting to get sorted, thanks to the participatory nature of the RMA. I would hate us to go back to the 'behind -closed-door' deals that occurred under the Clean Air Act.

Like you, a number of us working in Regional Councils have serious concerns about aspects of the National Environmental Standards (NES). However, we and a number of industry players also see it as a significant step forwards in addressing air issues”.

We invite further responses (*Ed.*)

## Air Discharge Consent Compliance Monitoring

### Introduction

The Resource Management Act (RMA) provides, inter alia, for the issue of air discharge permits. These contain conditions for the operation of a process in such a way that the discharge of contaminants is kept to a minimum.

Some of the conditions state emission limits and rules for monitoring including frequency, methods and process operation.

### Air Discharge Permits

After an assessment of environmental effects has been carried out and a Resource Consent has been applied for, an air discharge permit is issued in draft form with provision for an appeal against the conditions within 14 days. The permits have common themes, viz.

- Introductory/standard/general, e.g. The operation of the plant shall be in accordance with the application; no alteration shall be made to the plant or processes

that do not, or are not likely to, comply with the provisions of this consent, a regional rule, or regulations under RMA.

- Limit conditions set concentration limits, mass emission limits and general limits such as “no visible, toxic or offensive discharges”.
- Process conditions specify typically that the process shall be operating at full capacity. For afterburners there is typically a specification that the oxygen content of the flue gas is in the range 6 to 10% and the afterburner exit temperature is at least 760°C.
- Monitoring conditions specify methods, test frequencies and recording of relevant parameters. May also specify that the tests be performed by a competent operator.
- Reporting conditions, specify what type of reports shall be available and when.
- Review conditions, apply when complaints are made or process alterations are contemplated.

### Enforcement of Conditions

Regional Councils responsible for the issue and policing of air discharge permits carry out their responsibilities in various ways, viz:

They employ resource quality officers who write the permits, then check that the conditions are being carried out.

1. They perform the tests to satisfy the monitoring conditions; or
2. They issue a contract to a consultant for all the testing in their area; or
3. Require the permit holder to perform the tests and then supply the results to the Council. Most permit holders employ consultants to perform the tests on their behalf; or
4. A combination of the last two, where the Council also employs a consultant to audit the permit holder's tests; or
5. They allow the permit holder to

design a monitoring plan, then audit the plan.

The requirements of the RMA mean that the permit holder pays for the tests no matter which option is chosen. The term “audit” is used by at least one council but is not correct since comparative testing between the auditing team and the permit holder's team is seldom carried out. Every test report should be accompanied by a clarifying clause which states that the report relates only to the processing conditions when the samples were taken.

Option 3 or 5 is the preferred option because:

- The permit holders are permitted a choice of consultant and retain a degree of ownership of the test. There is also often an element of value-added information resulting from the test.
- The consultant is either IANZ-registered or is more experienced in emission testing than Council employees.

There is no unnecessary duplication and waste of resources (see BPO below).

### Testing Requirements

The Air Quality Working Group, comprised of resource quality officers from all over NZ, has discussed the requirements on several occasions. Their conclusions resulted in the issue by some councils of minimum standards for testing, and will lead in future to a requirement that all testing consultants be accredited by International Accreditation NZ (IANZ).

IANZ registration provides the quality assurance which Councils seek. Further detail such as minimum test requirements is no longer required since the IANZ assessment process is comprehensive for the methods accredited.

### Best Practicable Option (BPO)

The BPO is defined in Clause 2 of the RMA. Clause 2 (b) ..... preventing or minimising the adverse