



## AWN – Who Are We?

A.W.N. (Air Water Noise) Consultants was established in 1982, specialising in air quality monitoring, modelling and management issues associated with industrial premises.

During the subsequent twenty year period, the environmental monitoring equipment available, and the associated range of services offered, has increased dramatically. Staff air quality monitoring expertise now totals over fifty years, making A.W.N. a leader in the market.

A.W.N. has always aimed to provide the most professional and cost effective service to our clients. This commitment will continue into the next twenty years.

The quality of consulting services can be judged, in part, by the length of client relationships. A significant number of clients have been with A.W.N. since 1982, and we thank them for their loyalty. Something we have noted is, when dealing with a client on a specific issue, they are often not aware of the other services available through A.W.N. An issue we tend to address through a series of newsletters!

If there are any enquiries concerning particular environmental sectors, they can be addressed to the following section leaders:

Frank Fleer:	Environmental auditing and odour
Mark Tulau:	Ambient air quality monitoring and modelling
Seamus Butcher:	Source emission testing and NPI
Jacinda Houston:	Indoor air quality

More information, including a range of case studies, can be found on the A.W.N. website, [www.awn.com.au](http://www.awn.com.au)

## New Zealand CASANZ Conference

A.W.N. Consultants staff actively participated in the Clean Air Society of Australia and New Zealand's (CASANZ) 16th International Clean Air and Environment Conference, Odour Workshop and Fine Particles (PM2.5) Workshop in Christchurch, New Zealand (19th - 22nd August, 2002).

### Presentations/papers by A.W.N. staff included:

- PM2.5 Measurement;
- Area Source Measurement (Odour);
- Odour Neutralising Agents - Fact or Fallacy?

Any clients interested in obtaining copies of the presentations can contact Sue Hicks by email at [awn@awn.com.au](mailto:awn@awn.com.au) or by telephone on (03) 9758-7299.

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## CASANZ Award

Frank Fleer, Managing Director of A.W.N. Consultants, was presented with the Clean Air Medal at the CASANZ 16th International Clean Air and Environment



Len Ferrari (left) CASANZ President presenting the Clean Air Medal to Frank Fleer (right)

Conference in Christchurch in August 2002. The Clean Air Medal, the highest honour awarded in the air quality field in Australia and New Zealand, is presented for significant contribution to the prevention of atmospheric pollution. Previous recipients have included Dr. Brian Robinson, Len Ferrari, Robert Dal Sasso and Dr. Werner Strauss.

*"The highest honour awarded in the air quality field"*

Frank received the award based on his efforts in raising standards within the environmental consulting industry, in particular his work in the odour field.

## NATA Accreditation

A.W.N. has held NATA (National Association of Testing Authorities) accreditation in the various fields of air quality testing (workplace, stack and ambient) since 1985.

Since 1988, A.W.N. staff have been appointed NATA assessors in the fields of stack emission and ambient air quality monitoring, auditing laboratories seeking accreditation. A.W.N. is currently the only consulting

air quality laboratory represented on the NATA Environmental Working Group and the only laboratory with two NATA assessors.

In 2002, A.W.N. was invited by IANZ (International Accreditation New Zealand) to conduct the first New Zealand assessments in the fields of both stack emission and ambient air quality monitoring.

Why use a NATA accredited laboratory? The obvious answer in both Victoria and South Australia is that the EPA requires any data reported to the Authority to be on NATA endorsed test documents, however, there are other reasons.

*"Conducted the first New Zealand assessments in the fields of both stack emission and ambient air quality monitoring."*

NATA reviews all aspects of a laboratory's quality system management including staff, test methods, data management and reporting. While this does not mean that all laboratories achieve the same level of performance, NATA accreditation does provide increased confidence in the quality of data produced. As an example, a review of proficiency testing programmes during the period 1995 - 1999, shows a substantial difference in performance between NATA and non-NATA laboratories.

### Non-NATA laboratories had an incredible

44% statistical outliers

**compared with**

14% for NATA laboratories

**AWN**  
means  
environmental  
engineering  
excellence

## Odour Measurement

Since 1993, A.W.N. has conducted thousands of source odour emission tests, and dynamic dilution olfactometry analyses.

*“Thousands of source odour emission tests”*

A.W.N. played a pivotal role in changing the direction of odour measurement and management strategies in Australia and New Zealand, through organisation of the 2nd and 3rd CASANZ National Odour Workshops in Cape Schank and Melbourne, preparation of the pre-publication draft of AS/NZS 4323.3, “Dynamic Dilution Olfactometry” and preparation of draft AS 4323.4, “Area Source Sampling” (see other article).

The A.W.N. designed, constructed and calibrated Model 1000 Olfactometer, complies with the rigorous performance specification requirements contained within AS/NZS 4323.3.

A.W.N. was subsequently one of the first two consulting laboratories to be accredited by NATA for this test method, both laboratories receiving accreditation in September 2002. We don't just claim compliance with AS4323.3 we can prove it.

Odour measurement, audits/management plans, modelling assessments, pilot scale control equipment studies and odour control equipment specification projects have been conducted for industry sectors which include:

- Abattoirs;
- Alumina refining/aluminium smelting;
- Animal by-products manufacture;
- Bulk chemical storage facilities.
- Chemical/petrochemical manufacture;
- Fertiliser manufacture;
- Food processing;
- Foundries;
- Green waste composting;
- Hazardous waste/municipal waste landfills;
- Meal manufacture (poultry/fish);
- Mushroom growing;
- Oil seed processing;
- Paper manufacture;

- Pet food manufacture;
- Printing;
- Rendering;
- Textile manufacture/dyeworks;
- Tobacco processing;
- Tyre manufacture/rubber processing;
- Wastewater treatment;

For more information contact Frank Fleer on 03 9758 7299 or email [f.fleer@awn.com.au](mailto:f.fleer@awn.com.au)

## Area Source Measurement

Agricultural industries, municipal waste/hazardous waste disposal sites, green waste/biosolids/manure composting operations and sewage treatment facilities collectively represent a significant proportion of odour complaints received by regulatory authorities throughout Australia and New Zealand. Area sources of odour can be major causes of off-site impacts in these and other industries.



Flux chamber sampling odour from secondary clarifier collection trough

Area sources include:

- Landfill surfaces (working face; soil/compost/synthetic cover; clay capped; revegetated) of various ages;
- Sewage treatment plant surfaces (inlet channel; primary sedimentation tanks; aeration tanks; activated sludge tanks; clarifiers; sludge lagoons; sludge drying beds; facultative lagoons; anaerobic lagoons; dissolved air flotation tanks)
- Composting surfaces (raw material stockpiles; compost windrows; final product stockpiles);;

- Sub-surface contaminated groundwater sources (floating petroleum layer affecting surface emissions);
- Industrial sources (waste storage/disposal; sumps; surface spills; wastewater treatment plant surfaces; effluent disposal areas);
- Agricultural sources (feed lots; animal waste containments; crop preparation; residual crop treatment);
- Contaminated/remediation sites.

established preliminary guidelines for the sampling of various source types (Fleer, A.W.N. Consultants, 1998). Subsequently, A.W.N. was requested by Standards Australia to develop Australian/New Zealand Standard AS/NZS 4323.4, "Area Source Sampling". A.W.N. Consultants is the recognised leader in area source sampling in Australia.

Resources available include an exclusive technology transfer arrangement with Dr. Charles Schmidt, U.S.A. Charles was Field Task Co-ordinator on the USEPA

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*"Exclusive technology transfer arrangement with Dr. Charles Schmidt, U.S.A."*

*"The equipment used has undergone extensive international validation studies, as distinct from the majority of equipment currently in use in Australia."*



Flux chamber sampling air toxics from hazardous waste disposal site

These sources have traditionally been difficult to quantify for atmospheric contaminant impact assessments, making the task of establishing a suitable control regime difficult, in comparison with industrial point source assessments. This has been principally due to the variability in methods used for determining the area source emission rate. Techniques have included emission isolation flux chambers, wind tunnels, "witches hats", source enclosures and downwind sampling/modelling techniques

A.W.N. has extensive experience in the use of flux chambers for area source sampling. The equipment used has undergone extensive international validation studies, as distinct from the majority of equipment currently in use in Australia. A number of flux chamber designs are used, including the U.S. Environmental Protection Agency (USEPA) chamber, and the University of Central Florida (UCF) chamber.

CASANZ Odour Special Interest Group, recognising the importance of the area source sampling test method,

Office of Solid Waste programme for the testing and evaluation of area source emission assessment techniques, including: emission isolation flux chamber technology, vent sampling, in-situ soil gas testing, transect testing, concentration profile testing, upwind/downwind testing and mass balance. This research led to the development of the current USEPA guidelines on the emission isolation flux chamber assessment technology.

Since 1989, Charles has specialised in the measurement of air emissions from area and fugitive emission sources.

## MORE INFO

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