

**ANNUAL COMPLIANCE REPORT FOR THE NORTHERN TERRITORY**  
**1 JANUARY – 31 DECEMBER 2005**

**AMBIENT AIR NEPM**  
**REPORT TO THE NATIONAL ENVIRONMENT PROTECTION COUNCIL**  
**(NEPC)**

**BACKGROUND**

Clause 18 of the National Environment Protection (Ambient Air Quality) Measure (Ambient Air NEPM) requires jurisdictions to submit a report of their compliance with the Measure for each calendar year. The content of the jurisdictional report is prescribed in clause 17 of the Ambient Air NEPM.

This NT report covers the performance evaluation and assessment under the NEPM for the 2005 reporting year (1 January to 31 December 2005). The report is based on Technical Paper No. 8 (Annual Reports) which details the format and data requirements of the Annual Report. It is a technical report to the NEPC and supplements the annual summary report provided each year by each jurisdiction under the NEPC Act on the overall implementation process.

**SECTION A – MONITORING SUMMARY**

The results of campaign monitoring in 2000-2001 were used to assess the monitoring requirements for the Northern Territory using the screening criteria outlined in Technical Paper 4 (Screening Procedures) (CSIRO 2001, 2002). This monitoring identified particulate matter from landscape fires affecting the Darwin region as the primary air pollutant of concern in the Northern Territory. Screening of the 2000-2001 data indicated that nitrogen oxides, sulfur dioxide, carbon monoxide, ozone and lead aerosols were not a cause for concern in the Darwin region when assessed against the Ambient Air NEPM national standards. Subsequent campaign monitoring as recent as 2005 associated with the environmental assessment of large industry confirm that levels of these pollutants remain very low.

Based on a population of 109 248, the Darwin region requires a performance monitoring station (threshold population >25,000) (ABS 2003). As Alice Springs has now reached the threshold for a monitoring station, consideration is being given to establishing a station. In 2005 there were two monitoring stations for the purpose of collecting data for the Ambient Air NEPM for the Darwin Region located in Palmerston and Casuarina in the Darwin Region.

NATA accreditation for the monitoring network involves significant costs and is beyond current local capacity.

## SECTION B – ASSESSMENT OF COMPLIANCE WITH STANDARDS AND GOALS

### 2005 Annual Compliance Summary for 24 hr PM<sub>10</sub>

NEPM Standard 50µg/m<sup>3</sup> (Averaging period 1 day)

NEPM Goal within 10 years – No greater than 5 exceedences

Region/ Performance monitoring station	Data Availability Rates (% of Days)					Number of exceedences (days)	Performance against the standard and goal
	Q1	Q2	Q3	Q4	Annual		
Palmerston*	100	100	94.6	98	98	2	Met
Casuarina**	91	100	100	100	98	1	Met

\* TEOM (adjusted)

\*\* Partisol Dichotomous Sampler

There were exceedences at Casuarina and Palmerston on 1 July 2005 which coincided with Territory Day fireworks. The additional exceedence at Palmerston on 25 July was most likely due to a local bushfire as the Casuarina PM<sub>10</sub> for that date was 19 µg/m<sup>3</sup>.

### 2005 Annual Compliance Summary for 24 hr PM<sub>2.5</sub>

NEPM Standard 24hour - 25µg/m<sup>3</sup>, Yearly average 8 µg/m<sup>3</sup>

NEPM Goal – To gather data

Region/ Performance monitoring station	Data Availability Rates (% of Days)					Annual mean concentration (ppm)	Number of exceedences (days)
	Q1	Q2	Q3	Q4	Annual		
Casuarina*	91	100	100	100	98	8.21	5

\* Partisol Dichotomous Sampler

There were five exceedences: on 28 and 29 January and 8 February, these do not correspond to bushfires and may be attributable to sea salt (analyses of these samples is being undertaken); on 1 July 2005 due to Territory Day fireworks; and there was an exceedence on 13 November resulting from bushfire smoke.

## **SECTION C – ANALYSIS OF AIR QUALITY MONITORING**

The elevated levels of particulate matter in Darwin during the dry season are generally due to bushfire smoke and one exceedence of  $PM_{10}$  and  $PM_{2.5}$  is directly attributable to bushfires. However, in 2005 there were exceedences of  $PM_{10}$  and  $PM_{2.5}$  that coincided with Territory Day fire works and some exceedences of  $PM_{2.5}$  in the wet season which may be associated with sea salt. Aside from bushfires there is no other consistent significant source of particulate matter affecting the region.

The Department of Natural Resources, the Environment and the Arts (DNRETA) is continuing to discuss fire management in the region with the Northern Territory Bushfires Council in an ongoing process to minimise the impacts of particulate matter from smoke on the Darwin region.

Monitoring activities are being complemented by studies of the health impacts from particulate matter by the Charles Darwin University and the Menzies School of Tropical Health. These studies will be completed in 2006.

## **References**

A Pilot Study of Air Quality in Darwin, NT for the Northern Territory Government, Department of Lands Planning and Environment, Final Report CSIRO Atmospheric Research Aspendale, Victoria Australia, 15 March 2001

A Screening Procedure for Monitoring Ozone and Nitrogen Dioxide in “Small-to Medium-sized” Cities: Phase II – application of the procedure, Report CSIRO Atmospheric Research Aspendale, Victoria Australia, October 2002.

Australian Bureau of Statistics, Publication Number 1362.7 Regional Statistics, Northern Territory, 6 August 2003.