

## **AMBIENT AIR NEPM**

### **Report to the National Environment Protection Council**

#### **Annual Compliance Report for the Northern Territory 1 January – 31 December 2002**

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## **BACKGROUND**

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

This report covers the performance evaluation and assessment under the NEPM for the 2002 reporting year (1 January to 31 December 2002). The report is based on Technical Paper No. 8 (*Annual Reports*). It is a technical report to the NEPC and supplements the annual summary report provided each year under the NEPC Act on the overall implementation process.

## **SECTION A – MONITORING SUMMARY**

### **A.1 Monitoring Requirements**

The results of campaign monitoring in 2000-2001<sup>1</sup> were used to assess the monitoring requirements for the Northern Territory using the screening criteria in Technical Paper 4 (*Screening Procedures*). 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 and lead did not require monitoring. Although the campaign monitoring for ozone did not provide a full year of data, the Monitoring Plan for the Northern Territory 2000 did not require monitoring of ozone because available information including characteristics of topography and meteorology suggests that ozone is not a problem in the Darwin region.

Under the Monitoring Plan for the Northern Territory, performance monitoring for PM<sub>10</sub> in Darwin was to commence from February 2003 with NATA accreditation of this station by December 2004.

### **A.2 Current Monitoring Stations**

Monitoring for PM<sub>10</sub> and PM<sub>2.5</sub> is scheduled to commence in the Darwin Region in April/May 2004.

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<sup>1</sup> *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.3 Determination of Exposed Population for Each Performance Monitoring Station**

The Darwin region is the only area in the Northern Territory requiring a performance monitoring station. As noted in the Monitoring Plan for the Northern Territory 2000, the population in this region is 93,798.

### **A.4 Monitoring during the Reporting Period**

No monitoring data for PM<sub>10</sub> were obtained in the reporting period.

### **A.5 Changes to the Approved Monitoring Plan**

The only change to the Monitoring Plan for the Northern Territory 2000 was the delay in establishing the performance monitoring station for PM<sub>10</sub> in the Darwin region. Establishment of this station was not initiated in the reporting period due to unforeseen budgetary constraints and the development of several potential research initiatives focusing on ambient air quality and specifically particulate matter pollution from bushfire smoke. Establishment of the PM<sub>10</sub> performance monitoring station was delayed until the most appropriate, productive and cost-effective monitoring option could be identified. Plans to establish this station are proceeding. The station is expected to be operational by April 2004 for monitoring PM<sub>10</sub> and PM<sub>2.5</sub>. Because of this delay, NATA accreditation of the Darwin region performance monitoring station for PM<sub>10</sub> is not expected until July 2005.

### **A.6 Unresolved Issues**

As noted above, the major unresolved issue is the delayed establishment and NATA accreditation of the PM<sub>10</sub> monitoring station for the Darwin region. There were no other unresolved issues in the reporting period.

### **A.7 Status of NATA Accreditation**

As noted above, the NATA accreditation of the planned PM<sub>10</sub> monitoring station is expected by July 2005. This will allow adequate time to assess the operation of the station over 12 months and to refine and document procedures.

### **A.8 Methods Other than Physical Monitoring**

No other methods were used in the reporting period.

### **A.9 Approved Screening**

Screening of the 2000-2001 data indicated that nitrogen oxides, sulfur dioxide, carbon monoxide and lead did not require monitoring. As the results of the 2000-2001 monitoring of ozone did not provide a full year of data, ozone is to be further assessed against the screening criteria, to identify monitoring requirements. This was not undertaken during the reporting period.

## **A.10 Additional Data**

No additional data (such as quality assured campaign monitoring) were obtained in the reporting period.

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

### **B.1 Evaluation of Monitoring Data**

As noted in Section A, no monitoring data for PM<sub>10</sub> were obtained for the Darwin region in the reporting period. No other monitoring is required under the Monitoring Plan.

### **B.2 Evaluation of Performance against the Standards and Goal**

As indicated in the monitoring plan, nitrogen oxides, sulfur dioxide, carbon monoxide and lead were screened out, and performance for these parameters was **met**. The monitoring requirements for ozone were to be further assessed using previous campaign monitoring data or other screening procedures as appropriate, however this assessment was not carried out in the reporting period. The performance for ozone was **not demonstrated**. Performance against the standards and goal of the measure for PM<sub>10</sub> was **not demonstrated** due to the lack of monitoring data. For this reason, the number of exceedences for PM<sub>10</sub>, if any, could not be determined.

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

### **C.1 Analysis of Air Quality Monitoring Data**

No air quality data were collected during the reporting period, and the details of exceedences could not be determined.

Previous studies have indicated that elevated levels of particulate matter in Darwin during the dry season are predominantly due to bushfire smoke. There is no other significant source of particulate matter affecting the region and levels of PM<sub>10</sub> above the NEPM standard are almost certainly from the interaction of smoke from landscape fires in the region and the prevailing wind conditions.

### **C.2 Progress Made Towards Achieving the Goal**

The following steps have been taken to move towards achieving the goal of the Air Quality NEPM.

- ?? The Northern Territory is developing an Environment Protection Objective for Ambient Air Quality under to the *Waste Management and Pollution Control Act* 1998. This will provide the legislative basis for implementing the NEPM and be used to further develop the policy frameworks for managing ambient air quality in the Northern Territory.

- ?? Performance monitoring of PM<sub>10</sub> will commence in the Darwin region by April 2004, and a full data set is expected to be available for the annual compliance report for the 2005 reporting period. A full data set will be available for the annual summary report under the NEPC Act for 2004-2005. At this stage, the monitoring station is expected to include monitoring of PM<sub>2.5</sub> to NEPM standards.
- ?? Campaign monitoring of particulate matter is planned for Katherine and Jabiru for the 2005 Dry season.
- ?? The monitoring program will contribute to a collaborative research project assessing the seasonal patterns of landscape fires and bushfire smoke plumes across the Top End, and their impacts on public health and landscape condition. The project will provide information on processes generating the particulate matter affecting the Darwin region and will contribute to the development of appropriate and effective management strategies aimed at meeting the NEPM standards and goal in the future.
- ?? The Department of Infrastructure Planning and Environment 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 will be complemented by studies of the health impacts from particulate matter by the Northern Territory University and the Menzies School of Tropical Health. These studies will be carried out over the next three years.

## **SECTION D – DATA ANALYSIS**

No air quality data were collected during the reporting period.