



International Civil Aviation Organization

**Seventh Meeting of CNS/MET Sub-Group of APANPIRG
Tenth Meeting of CNS/ATM Sub-Group of APANPIRG**

Bangkok, Thailand, 15 – 21 July 2003

Agenda Item 19: Consider environmental issues related to CNS/ATM systems

**ENVIRONMENTAL ISSUES RELATED TO IMPLEMENTATION
OF CNS/ATM SYSTEM**

(Presented by Australia)

SUMMARY

The Airservices Australia experience demonstrates an ISO 14001 aligned Environmental Management System (EMS) can be an effective tool to facilitate the management of CNS/ATM environmental issues.

By adopting this systematic and due diligent approach to environmental management Airservices Australia has been able to improve its environmental performance, reduce its business risk, demonstrate its improved environmental performance to stakeholders and demonstrate that it has provided significant fuel savings to the aviation industry.

1. INTRODUCTION

Airservices Australia operates an International Standards Organisation (ISO 14001:1996 'Environment management systems – Specification with guidance for use') aligned Environment Management System (EMS).

The ISO 14001 approach has enabled Airservices Australia, to

- Achieve a sound, systematic and due diligent approach to environmental management,
- Improved its environment performance and reduce its business risks (eg potential liabilities and insurance)
- Demonstrate these achievements and that it is providing significant fuel savings to the aviation industry.

Consequently the EMS has provided opportunities for improved public and stakeholder relations.

2. ENVIRONMENT MANAGEMENT SYSTEM

Airservices Australia's EMS incorporates all elements of Airservices Australia's environmental management including:

- environmental risk assessment and management of its current
 - Air Traffic Management activities

- On –ground activities (eg fuel storage at towers and radar facilities or rescue and fire fighting training facilities)
- Pre –implementation environmental assessment (to ensure environmental impacts are minimised and are not significant) for changes to both
 - Air Traffic Management procedures (eg change to airspace management and air routes) and
 - On –ground activities (eg development of new radar facilities)

The EMS helps Airservices Australia too effectively:

- identify and assess its environmental issues and risk in each of these areas,
- develop and implement appropriate management for these risks (risk treatment, operational control, emergency planning, incident reporting and associated corrective and preventative actions etc), and
- document the risk identification, assessment and management so they can be demonstrated

3. **ARMS (an advance risk management system)**

Airservices Australia has developed and operates “ARMS”, a computerised application that:

- assists staff identify, assess and manage their environmental risks / issues (including providing real time operations data records to report current status of environment risk and incidents Airservices wide)
- tracks and reports on environmental performance and
- automates the management of its environmental record and provide a comprehensive historic audit logs

ARMS has become central to Airservices Australia’s EMS increasing the efficiency, effectiveness due diligence of Airservices environmental management.

4. **AIR TRAFFIC MANAGEMENT - ENVIRONMENT MANAGEMENT INITIATIVES**

Airservices Australia’s EMS ensures all changes to ATM practices that could impact on aircraft operations are assessed prior to implementation, to ensure that their potential impacts have been minimised and are not significant. All environmental assessments are recorded in ARMS and are thus readily available, a record is maintained and there is regular monitoring and reporting.

Air Traffic Management initiatives introduced that benefit the environment through reduced fuel usage and lower carbon emissions include;

- Improved air route design
- Reduced Vertical Separation Minima (RVSM);
- User Preferred Routes;
- The use of Global Navigation Satellite System (GNSS) navigation;
- Central Traffic Management System (CTMS) and MAESTRO (tactical sequencing);
- TSAD – a situational awareness display used in non radar towers

It is estimated current initiatives are saving the industry in the order of \$130 million per years in fuel savings. RVSM alone has been assessed as achieving an annual reduction in carbon dioxide emissions of around 250,000 tonnes.

For communities around the major airports aircraft noise is an issue. Airservices Australia operates a Noise and Flight Path Monitoring Systems (NFPMS) at most major airports, with

the system being expanded last year include the Canberra region. The NFPMS provides accurate information on aircraft flight paths and aircraft noise which is used to more effectively address aircraft noise issues.

Airservices also implements Noise Abatement Procedures at many airports, operates noise enquiry/ complaint services to help address community concern, has established restricted airspace to protect wildlife (eg on the Great Barrier Reef) and works with the community and industry on noise abatement consultative committees at all major airports and to develop fly neighbourly arrangements usually at national parks and.

5. ON-GROUND ENVIRONMENT MANAGEMENT

The environmental risk associated with Airservices Australia on – ground operations for example:

- fuel spill from back up power facilities at a navigation and communications facilities,
- potential soil pollution and air pollution from rescue and fire fighting training operations
- endangered species and biodiversity conservation on Airservices Australia land:

have been identified and assessed using ARMS, and risk treatment strategies and emergency plans implemented for all significant risks.

Appropriate corrective and preventative actions are implemented should an incident occur (eg fuel spills) and a record of incidents is kept in ARMS.

Airservices Australia is also neutralising the greenhouse gas emissions from our car fleet. Airservices Australia recently joined “Greenfleet” a non-profit organisations which will plant 4500 trees each year on our behalf to neutralise carbon dioxide emissions from our vehicle fleet.

6. BENEFITS

In addition to the direct environmental benefits of improved environmental performance the implementation of this ISO 14001 approach has:

- Improved Airservices Australia’s legislative compliance and assurance of continued compliance
- Improved its ability to demonstrate is has adopting a sound and due diligence approach to environmental management
- Reduced insurance premiums
- Increase fuel savings for the industry and the ability to demonstrate these savings.

The EMS has consequently helped to reduced Airservices Australia business risks and improve relations with stakeholders, the aviation industry, the public and regulators. With the efficiencies incorporated in the EMS and in particular the efficiencies offered by ARMS, the implementation of the EMS is seen has having a very positive return on investment.

7. THE FUTURE

Continuous improvement is a key element of Airservices Australia EMS. In the next 12 months the focus will include

- ISO certification of its EMS at its Canberra Tower site.
- Increase auditing to improve assurance of sound environmental management

- Improved documentation of the EMS
- Integration of the risk management systems within Airservices Australia with ARMS being adopted for OH&S and security risk management.

8. ACTION BY THE MEETING

The meeting is invited to note

- Airservices Australia's implementation of an ISO aligned EMS and the benefits that it has accrued from the EMS.
- An ISO 14001 can be an effective means to improved environmental management of CNS/ ATM and
- Airservices Australia experience and approach is likely to be relevant to many other jurisdictions

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