



Australian Government
Bureau of Meteorology

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In reply please quote

Aviation Green Paper
Department of Infrastructure, Transport, Regional Development and Local Government
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RESPONSE TO THE NATIONAL AVIATION POLICY GREEN PAPER

The Bureau of Meteorology wishes to provide a submission to the Aviation Policy Green Paper. Weather and climate considerations are extremely important to aviation operations and we would therefore propose that these considerations be taken into account. The Bureau of Meteorology was unaware of the Green Paper and we were unable make a submission prior to its publication.

Of particular importance to the safe and efficient operation of aviation is the provision of meteorological observations at airports. This has major implications on the infrastructure considerations of the Green Paper. The Chicago Convention sets out Australia's obligations in this regard and the essential standards and practices to which the aviation industry and the Bureau of Meteorology must adhere. The National Aviation Policy Green Paper does not refer to the importance of weather in the effective operation of the aviation industry in Australia and has not considered the consequential potential for higher levels of greenhouse emissions.

We would therefore request that some reference to weather services be included in the White Paper. If you agree, I have outlined below a brief overview of the nature of the services and some particular aspects relating to infrastructure.

Meteorological Services

While weather is a factor in aviation operations everywhere, Australia has particular challenges that flow from its size, the low population density across most of the country, the fact that it has a dense traffic corridor around and east coast to SA ("J-curve") and a vast regional area serviced by a network of small airlines working out of small airports. Both operational types of aviation traffic are heavily weather sensitive. Firstly, "J-curve" operations can be significantly impacted by weather-induced delays that are a key component of air traffic management, both en-route and at airports. Secondly, for regional Australia, the large distance to reliable alternate airports imposes a significant penalty in freight or passengers carried if adequate observed and forecast weather is not available at a relatively small number of aerodromes. In Europe or the USA this factor is mitigated by the fact that if one airport is unavailable due to poor weather, it is usually only a short flight to another suitable airport.

Under Annex 3 to the Chicago Convention the Bureau of Meteorology is the designated Meteorological Authority for Australia and has core supervisory and coordinating functions in relation to the provision of meteorological services for international aviation. These obligations

Australia's National Meteorological Service

are met by operation of section 6 of the *Meteorology Act 1955*, *Civil Aviation Regulation 120*, *Air Services Regulation 5.06* and relevant administrative arrangements.

In accordance with these arrangements the Bureau provides the meteorological services for Australia (the Aviation Meteorological Service), funded through a network-based service charge (the Meteorological Service Charge).

The service comprises weather observations, forecasts, warnings and climate information for both en-route and terminal conditions, including Aerodrome Forecasts (TAFs) for over 250 airports. The Bureau also provides elaborative briefing services to support operators, flight crew, air traffic management and search and rescue operations and operational meteorological message switching of key data and information services both within, and into and out of Australia.

For safety reasons, those services that carry regulatory consequence are produced exclusively by the Bureau of Meteorology. It is critical that there is only one version of each product; that they meet the standards established by the World Meteorological Organization (WMO) and ICAO and that they are not subject to pressure from airline operators to enhance commercial returns. Quality assurance of these products, including routine performance monitoring and reporting, is an integral part of the Bureau's planning, management and monitoring of service quality in line with ICAO and WMO requirements. While the number of TAFs provided by the Bureau is high by world standards, not to provide this level of service would require the carriage of significantly higher fuel reserves, and would impose a significant penalty on the quantity of freight and passengers carried in regional Australia and contribute to greater carbon emissions.

Meteorological Infrastructure

Of particular importance to the safe and efficient operation of aviation is the provision of meteorological observations at airports. Chapter 4 of Annex 3 to the Chicago Convention sets out Australia's obligations in this regard and the standards and practices to which the industry and the Bureau of Meteorology must adhere.

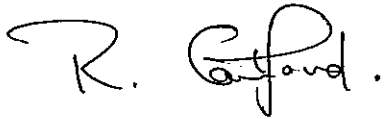
At major international airports, there is a requirement for routine observations and for special observations whenever specified weather changes occur. This requirement is met by both human observers and automated instrumentation including a range of more sophisticated sensors such as multiple wind sensors, weather radar, transmissometers (to establish runway visual range to enable low visibility operations), thunderstorm and lightning detection, wind shear detection and vertical wind profile in the vicinity of the airport. In regional and remote airports the required meteorological instrumentation supports the provision of basic meteorological information to facilitate safe operations. This includes automatic weather stations (AWS) providing wind, temperature and pressure information and, where practical, ceiling, visibility and present weather sensors. The utility of this information is greatly enhanced in some locations by its provision in real time either by telephone or VHF transmitter at the aerodrome (AWIS).

Further, the installation of at least a basic AWS at a regional or remote aerodrome is a necessary condition for the provision of an Aerodrome Forecast (TAF) at that airport.

It is important to note that, in addition to the safety aspects related to the provision of meteorological observations and forecasts, there are also significant economic benefits for airlines.

Access to appropriate meteorological observations can lower landing minima and the availability of TAF for an airport can mean that fuel does not have to be carried to an alternate airport. The additional fuel loadings that these conditions imply can have a major impact on the profitability of regional airlines.

Should you have any queries relating to the service which the Bureau provides for aviation please contact Geoff Moynihan (03 9669 4545, g.moynihan@bom.gov.au).

A handwritten signature in black ink, appearing to read "R. P. Canterford". The signature is written in a cursive style with a large initial "R" and a distinct "P" and "C".

R. P. Canterford
Branch Head (Weather Services)
24 February 2009