

HOUSE COMMITTEE ON COMMUNICATIONS
TRANSPORT AND THE ARTS
INQUIRY INTO

THE ADEQUACY OF RADIO SERVICES IN
REGIONAL AND RURAL AUSTRALIA

SUBMISSION BY
DIRECTOR OF METEOROLOGY
(October 2000)

Introduction

The receipt of accurate and timely warning of dangerous meteorological events is widely seen as a basic community necessity and right, and the provision of such essential meteorological services has long been accepted as a fundamental responsibility of government of all countries. The Bureau of Meteorology operates under the authority of the Meteorology Act 1955 (Attachment A). Section 6 (1) of the Act requires the Bureau to undertake the functions, inter alia, of:

- (b) the forecasting of weather and state of the atmosphere;
- (c) the issue of warnings of gales, storms and other weather conditions likely to endanger life or property, including weather conditions likely to give rise to floods or bushfires;
- (d) the supply of meteorological information; and
- (f) the promotion of the use of meteorological information.

2. Furthermore, the Section 6 (2) states that the "Bureau shall perform its functions under this Act in the public interest generally and in particular:

- (c) for the purposes of and of civil aviation;
- (d) for the purpose of assisting persons and authorities engaged in primary production, industry, trade and commerce."

Background

3. One of the four basic objectives of the Bureau of Meteorology (Attachment B) is:

- *Community welfare*. To contribute effectively to:
 - reduction of the social and economic impact of natural disasters;
 - economic development and prosperity of primary, secondary and tertiary industry;
 - safety of life and property;
 - national security;
 - preservation and enhancement of the quality of the environment;
 - community health, recreation and quality of life; and
 - efficient planning, management and operation of Government and community affairs;through the development and provision of meteorological and related services.

4. The Bureau provides a Basic Service (Attachment C) which comprises the output weather, climate and advisory services made available free of charge to the Australian community in the public interest. The Basic Service comprises the Bureau's Severe Weather Warning, Public Weather and Marine Weather programs and the public interest components of the Climate Services and Hydrological

Services (including Flood Warning Services) programs. These are underpinned by the Scientific Development and International Activities programs which also operate in the public interest.

5. A sub-set of the Basic Service, the Basic Product Set, relies on wide and/or rapid dissemination to realise its full public interest potential. These products are made available free-of-charge to the public through the mass media and the Internet, and to not-for-profit emergency services. The media (free-to-air television and radio and printed media) and Internet are seen as the most effective and equitable means of disseminating the information to the general public as required under the Meteorology Act. Apart from accepted guidelines relating to the broadcast of meteorological information, no other formal agreements exist between the Bureau and the mass media or not-for-profit emergency services in relation to the Basic Product Set.

6. The present organisational structure of the Bureau is provided at Attachment D. This structure includes:

- A Melbourne Head Office which serves as both the administrative and operational headquarters of the Bureau;
- Seven State/Territory based Regions, each consisting of:
 - a Regional Office for the integrated operation and provision of all of the Bureau's activities and outputs within the Region;
 - a number of Field Meteorological Offices with observing, forecasting and service functions.

7. This structure is designed in response to Commonwealth-State understandings, established at the time of its origin, that the Bureau would operate as a single integrated national meteorological science and service organisation serving equally and concurrently the meteorologically and related needs and responsibilities of both the Commonwealth and the States.

8. In the past, the relationship between the media and the Bureau has been seen as a highly effective, but not formalised, partnership in the provision of meteorological information to the general public. The Bureau has provided the information and the media has provided the communication mechanism, especially for public good warning services, such as severe weather and flood warnings. Recent changes in how the media provides services, especially in terms of centralisation of programming functions, have resulted in the media not being as receptive and pro-active in meeting the dissemination requirements of the Bureau.

9. To be fully effective any information dissemination system must be robust and efficient in all of its elements. The radio media are an essential component of the delivery and dissemination system of Bureau services and products in the public interest. The Bureau sees this relationship with the media as a partnership serving the Australian community as a whole. It is essential that the Bureau and media work closely together under agreed protocols to provide both early warning of potential meteorology and related events and provide the basic weather and climate information necessary for future growth and development in a sustainable manner.

Responses to Terms of Reference

(a) *The social benefits and influence on the general public of radio broadcasting in non-metropolitan Australia in comparison to other media sectors*

10. Radio is generally the most appropriate media for the broadcasting/dissemination of meteorological and related information (severe weather warnings, general forecasts, flood warnings,

river heights, etc.) provided by the Bureau's forecasting and warning services. This is because people listen to the radio during the daytime when driving, working around the home, even while "surfing" the Internet and sometimes at the office or while shopping. While television enables greater amounts of information to be broadcast, at the present time it is not as quick as radio to respond to the Bureau's information. Also, with the possible exception of the early evening hours, radio reaches more people at risk to meteorological events. Radio is the only mass dissemination medium possible for warnings with short lead times (such as severe thunderstorm warnings). Furthermore, radios can be cheap, portable, readily available and run by batteries which can be stored for emergency situations. This makes it potentially, the only communication mechanism available in times when the power is out and telephones are crowded. Radio plays a critically important role during severe events (cyclones, floods, thunderstorms etc), not only in terms of dissemination, but also in community education through recorded interviews and live-crosses with/to Bureau staff. Radio time is much easier to access during such events when compared to television. This is considered to provide significant social benefit (public safety etc).

11. The current Bureau structure (described above) means that Bureau's forecasting and warning centres are able to provide local detail, interpretation & respond to concerns and issues raised by local media groups. While these interactions are often linked to the radio news services they can occur at any time. This is very well received by the public "at risk".

12. The use of both the Internet and Pay-for-use Television as media for dissemination of meteorological information is indeed growing. However, while the Internet is of benefit for non-real time information dissemination, such as climate statistics and other climate related information, it is not at this stage a good medium for the dissemination of warnings. This is primarily because it is recipient initiated rather than the dissemination being controlled by the sender of the information. Also, it should be noted that while Internet and Pay-for-use Television access is expanding, they are not necessarily available in all rural and remote areas of Australia. Pay-for-use Television, while an expanding medium, again requires the user to be tuned in at all times for warning information and this may not necessarily be the case. Also, Pay-for-use Television is very centrally controlled and may not be able to meet the needs for all threatened communities.

(b) *Future trends in radio broadcasting, including employment and career opportunities, in non-metropolitan Australia*

13. No comment.

(c) *The effect on individuals, families and small business in non-metropolitan Australia of networking of radio programming, particularly in relation to local news services, sport, community service announcements and other forms of local content*

14. The Bureau has noticed that both its Regional Offices and State Emergency Services often experience difficulties at the local level in breaking into late transmissions on local stations because they are networked from a remote location. If this trend continues then this particular problem will only get worse and so greatly reduce the effectiveness of radio when used for forecasting and warning dissemination directly to the local community at risk. At this stage, there is no obvious replacement for radio-based warning dissemination. The main possibilities tend to be high technology and still in the development stage (for example, Internet access via mobile telephones). This potential new technology is not necessarily cheap, nor will it necessarily cater for mass communications.

15. Reduced broadcasting of warnings/critical information when networked, will also result in less flexibility, less local emphasis and thus a less informed community. An informed community is able to respond to warnings and undertake activities that will minimise the damage associated with meteorological and related events. For example, the Bureau received complaints during a flood at Ingham when there was no information on the local radio, after it was networked back through Townsville after hours. The Bureau updated the Herbert River warnings but the information did not get to the threatened community in Ingham. The flooding that occurred in Townsville at the same time was well covered but didn't help the Ingham residents. Some stations however do have the capability to "stay local" in some regions in significant cyclone/flood events. This capability should be maintained and agreed protocols put in place to enable the smooth transition of essential warning information to the Australian community. Currently, there is a high public expectation, based on a long history, that such critical information will be made available on the radio, however there is no formal obligation for the radio station to make it so.

16. The Bureau has noted increasing difficulty in dealing with some broadcasters who, as a result of networking, have little/no local knowledge of the areas which the broadcasts cover. This can have implications for the quality of the presentation and thus valuable and timely information can be lost. A further problem with networking is that where a warning is broadcast on a networked service, listeners unlikely to be affected hear the warning. In time, the frequent hearing of irrelevant warnings will reduce the impact of hearing a warning that is relevant for a user in an affected geographic locality.

17. Another networking related problem is the trend towards rural radio stations that have their programming packaged several weeks ahead, with little scope for intervention to include meteorological warnings or other emergency services advices. Some radio stations utilise pre-programmed content for most, if not all the 168 hours in each week, making it very difficult, if not impossible to provide warnings to the public. One further concern in this regard is that, if announcements are not updated, incorrect and thus confusing information could be being distributed.

18. The House Committee may wish to consider recommending that obligation to broadcast community service announcements (such as severe weather and flood warnings) be included as one of the conditions on having a broadcast license.

(d) *The potential for new technologies such as digital radio to provide enhanced and more localised radio services in metropolitan, regional and rural areas*

19. With increasing sophistication of the modeling and forecasting of weather and the introduction of new technology, such as weather watch radars, the ability of the Bureau to provide higher quality and more informative local meteorological information and warnings is expanding. Also, the recipients of these services are increasing expectations by developing their level of sophistication and the extent of their use of the improving services. There is also an increasing demand for more specific information of direct relevance to the user. There is a general expectation that Bureau services will become more widespread and reach more communities in the future and so more localised radio services will be a vital link in getting Bureau information to the public, particularly in regional and rural areas.

20. The Bureau strongly believes that any new technologies will need to provides a robust and responsive environment if the full value of the warning and forecasting services is to be realised to the benefit of the Australian community.

21. In the context of commercial and other considerations leading to the closure of local stations, the networked stations should endeavor to adapt or pursue new technologies that would enable local

broadcast of significant weather notifications.

Conclusion

22. The Bureau strongly believes that the radio media play an essential and vital role in the dissemination of important and beneficial meteorological and related information to the Australian community at large, but more particularly in the rural and remote communities. It appears, from a Bureau perspective, that the usefulness of radio in this regard is under extreme threat and that the related issues are worthy of detailed consideration in the context of this inquiry.

THE METEOROLOGY ACT 1955
METEOROLOGY
No. 6 of 1955.¹

An Act relating to the Commonwealth Bureau of Meteorology.

[Assented to 23rd May, 1955]

[Date of Commencement, 20th June, 1955]

Be it enacted by the Queen's Most Excellent Majesty, the Senate, and the House of Representatives of the Commonwealth of Australia, as follows:

1. This Act may be cited as the *Meteorology Act 1955*.
Short Title
2. The *Meteorology Act 1906* is repealed.
Repeal
3. In this Act, unless the contrary intention appears-"
Definitions
the Bureau" means the Commonwealth Bureau of Meteorology
established by this Act;
"the Director" means the Director of Meteorology.
- 4.¹ This Act extends to all Territories of the Commonwealth.
Extension to
Territories
5. (1) For the purposes of this Act, there shall be a Commonwealth The
Common- Bureau of Meteorology and a Director of Meteorology. Wealth
Bureau of
(2) The Bureau shall be under the charge of the Director, who
Meteorology
shall, subject to the directions of the Minister, have the
general administration of this Act.
6. (1) The functions of the Bureau are-
Functions of the
(a) the taking and recording of meteorological
Bureau
observations and other observations required for the
purposes of meteorology;
(b) the forecasting of weather and of the state of the
atmosphere;
(c) the issue of warnings of gales, storms and other
weather conditions likely to endanger life or property,
including weather conditions likely to give rise to
floods or bush fires;
(d) the supply of meteorological information;
(e) the publication of meteorological reports and
bulletins;
(f) the promotion of the use of meteorological

1 Amended by No. 123 of 1973

- information;
 - (g) the promotion of the advancement of meteorological science, by means of meteorological research and investigation or otherwise;
 - (h) the furnishing of advice on meteorological matters; and
 - (i) ¹ co-operation with the authority administering the meteorological service of any other country in relation to any of the matters specified in the preceding paragraphs of this sub-section.
 - (2) The Bureau shall perform its functions under this Act in the public interest generally and in particular-
 - (a) for the purposes of the Defence Force;
 - (b) for the purposes of navigation and shipping and of civil aviation; and
 - (c) for the purpose of assisting persons and authorities engaged in primary production, industry, trade and commerce.
- 7. (1) The Director has such powers as are necessary to enable the Powers of the Bureau to perform its functions under the last preceding Director section, and, in particular, may-
 - (a) establish meteorological offices and observing stations;
 - (b) arrange with any Department, authority or person to take and record meteorological observations and transmit meteorological reports and information;
 - (c) arrange means of communication for the transmission and reception of meteorological reports and information; and
 - (d) arrange for the training of persons in meteorology.

(2) ¹ The Departments and authorities with which, and the persons with whom, arrangements may be made under the last preceding sub-section include Departments and authorities of a State or Territory of the Commonwealth and persons in the service of such a State or Territory or of such a Department or authority.
- 8. The Director may, subject to any directions of the Minister, make Charges charges for forecasts, information, advice, publications and other matter supplied in pursuance of this Act.
- 9. The Governor-General may make regulations, not inconsistent with Regulations this Act, prescribing all matters which by this Act are required or permitted to be prescribed, or which are necessary or convenient to be prescribed for carrying out or giving effect to this Act.

ATTACHMENT B

BUREAU OF METEOROLOGY PROGRAMS

THE BUREAU'S BASIC SERVICES

Chapter 6 of the Bureau's Charging Manual describes those products included in the Basic Service. In that chapter the Basic Service is decomposed into its components; the Basic Weather Service, the Basic Climate Service and the Basic Hydrological Service.

The Basic Weather Service includes (Para. 6.4):

1. Warnings issued in respect of tropical cyclones; floods, storms, gales and strong winds for coastal and ocean waters; gales, squalls, severe thunderstorms and dust storms for land areas; frost which may damage fruit and vines; weather which may lead to diseases in crops; weather which may lead to losses of new-born lambs and newly shorn sheep; seismic sea waves; and, weather conditions with the potential for air pollution.
2. Forecasts on a State (and Territory), district, capital and major provincial city basis of basic weather conditions (precipitation, temperature, humidity, pressure).
3. Forecasts of wind and sea state for oceans and coastal waters and for some bays, harbours and inland waters.
4. Forecasts for activities undertaken by major sectional community groups (eg for cane firing, haymaking) and for situations of significant community concern (eg air pollution potential).
5. Current weather information issued on a routine basis (generally up to 4 times per day), standard bulletins, charts and photocopies of satellite imagery.

The Basic Climate Service includes (Para. 6.10):

1. Provision of access to original records, books, charts, etc.
2. A standard array of climatological publications, pamphlets and brochures (made available at the cost of publication) including: Climatic averages of Australia, Rainfall statistics of Australia, Temperature and humidity data for use in building and other industries, 30 year climate normals for Australia, Climate surveys (in conjunction with Regional Offices), Catalogue of climate data available, Catalogue of standard data analysis and output formats available, Brochure providing information on climate data services, Microfiche catalogue, Various educational pamphlets.
3. Provision of climatological advice of a brief nature which does not require research or investigation.
4. Periodic issue of climate monitoring statements (e.g. monthly statement on drought, Seasonal Outlook Statement).
5. Contributions to publications issued by other Commonwealth agencies in joint fulfilment of shared missions e.g. The Australian Bureau of Statistics Year Book.
6. Basic climate data via the WMO's Global Telecommunications System to other national meteorological services and WMO agencies in accordance with the International Convention of Free and Unrestricted Exchange between Nations.
7. Data sets required for research projects where: the data are for projects undertaken as a joint venture with the Bureau and the agreement covering the joint venture specifically refers to the provision of climate data.

The Basic Hydrological Service includes (Para. 6.21):

1. Water resources assessment (in support of national requirements for rainfall and evaporation data related to the development and management of Australia's surface water resources).
2. Flood warning services.
3. Hydro-meteorological advisory services (in support of broad national requirements for information relevant to land use planning and management, bridge, dam and hydraulic structure design). The main components of this Basic Service are:
 - i) Provision of a number of standard publications (made available at the cost of publication) including maps of mean monthly and annual evaporation and variability, rainfall intensity, frequency and duration data, design storm temporal patterns and short duration probable maximum precipitation estimates.
 - ii) Development of standard techniques and methodology for probable maximum precipitation studies.
 - iii) Development of design statistics on short period rainfall intensities (relevant to soil erosion, freeway design, etc.).
 - iv) Development of techniques and methodology for consistency and realistic estimates of probable maximum precipitation.

**BUREAU OF METEOROLOGY
ORGANISATION**