

## CHAPTER SIX: ANTARCTIC TERRITORIES

---

### Commonwealth Legislative Role

6.1 The statutory basis for Australia's sovereignty over the Australian Antarctic Territories (AAT) is the *Australian Antarctic Territory Acceptance Act 1933* that came into effect in 1936. However, Australia's sovereignty claim to the AAT is recognised by only four countries, namely, New Zealand, France, Norway and Britain.<sup>1</sup>

6.2 The legal regime of the AAT comprises a mix of Commonwealth legislation, ordinances specific to the Territory, applicable laws of the Australian Capital Territory and the Jervis Bay Territory, and obligations arising from the Antarctic Treaty. Many aspects of this legal regime are set out in the *Australian Antarctic Territory Act 1954*. The Legal and Constitutional Affairs Committee report on Antarctica stated that in the opinion of the then Department of the Arts, Sport, the Environment and Territories, some 170 separate Commonwealth Acts extend to the AAT.<sup>2</sup>

6.3 The Minister responsible for the AAT is the Minister for the Environment and Heritage with the Australian Antarctic Division (AAD) of the Department of the Environment managing Australia's Antarctic Program.

6.4 Also impacting on Australia's activities in the AAT is the Antarctic Treaty, which Australia signed on 1 December 1959, as one of the 12 original signatories. Australia implemented the Treaty through the *Antarctic Treaty Act 1960* that came into effect on 22 September 1961. The Treaty applies to the area south of 60 degree south latitude including lands, inlands and sea. Even with this Treaty, questions of sovereignty and jurisdiction in Antarctica remain controversial. Preserving sovereignty over the AAT has always been an important element of Australia's Antarctic policy.<sup>3</sup>

6.5 While Macquarie Island is not part of the AAT and is considered to be part of the State of Tasmania (and therefore part of the Commonwealth of Australia), the Department of the Environment and Heritage reported that '...Macquarie Island is part of Australia for ...[the Telecommunications Act], but for call charging purposes is treated in the same way as sites in the AAT.'<sup>4</sup> That is, staff on Macquarie Island are

---

1 See Table 6.1.

2 House of Representatives Standing Committee on Legal and Constitutional Affairs, 1991, op. cit., p. 5.

3 House of Representatives Standing Committee on Legal and Constitutional Affairs, 1992, op. cit., pp. 11-15.

4 Department of the Environment and Heritage, *Submissions*, p. S145.

charged at full IDD rates for calls to Australia. Consequently, Macquarie Island is discussed in some sections of this inquiry.

6.6 On the other hand, sovereignty over Heard Island and the McDonald Islands, which lie North of the Antarctic region, is not disputed. The Islands were transferred from the United Kingdom to the Australian Government in December 1954 under the *Heard and McDonald Islands Act 1953*. The Act established the islands as a separate territory. The legal regimes of the islands are of similar complexity to that of the AAT and the islands are the responsibility of the Minister for the Environment.

**Table 6.1 Constitutional background to Australian Antarctic Territory**

Date	Constitutional background
1773	Captain James Cook first person known to have sailed into the Antarctic Circle. Recorded his experience of the Bellinghausen Sea in his journals of 1773.
1820	Recorded sightings of Antarctica although no proclamations made on behalf of the respective sovereigns sponsoring those voyages undertaken by Branfield (Britain), Palmer (United States) and Bellingshausen (Russia)
1830-32	Earliest definite sightings of that part of the Antarctic mainland to become the AAT were made by Captain J Biscoe in 1830-32
1901-04	Extensive land exploration by Captain Robert Scott
1911 and 1914	First Australian Antarctic Expedition under command of Sir Douglas Mawson - sighting and chartings formed the foundations of Australia's sovereignty claims in Antarctica
1929-30	Further extensive claims to sovereignty made by the British, Australian and New Zealand Antarctic Research Expedition of 1929-30 led by Mawson
1933	British Government issued an Order in Council asserting British sovereignty rights over the AAT and placed the Territory under the authority of the Commonwealth of Australia.  Transfer of sovereignty implemented by the <i>Australian Antarctic Territory Acceptance Act 1933</i> which came into effect in 1936
1954	<i>Australian Antarctic Territory Act 1954</i> provided for application of Commonwealth legislation to the Territory
1959	Australia signed the Antarctic Treaty as one of 12 original signatories
1960	Implementation of the Antarctic Treaty by Australia through the <i>Antarctic Treaty Act 1960</i> which commenced 22 September 1961

Data Source: House of Representatives Standing Committee on Legal and Constitutional Affairs, *Australian law in Antarctica: The report of the second phase of an inquiry into the legal regimes of Australia's External Territories and the Jervis Bay Territory*, Canberra, AGPS, 1992, pp. 1-15.

## The Australian Antarctic Bases

6.7 The AAD operates four year round wintering stations in the Antarctic. Casey, Davis and Mawson are on continental Antarctica and the fourth station is at Macquarie Island. They are at distances of 3,400km, 4,800km, 5,400km and 1,500km respectively from Hobart. The populations on the stations fluctuate winter to summer between 17 - 25 and 45 – 85. A large proportion of the staff is scientists and technical staff. Their *raison d'être* is the scientific and meteorological work they do during their period of stay in the Antarctic. Their communications requirements are complex and sophisticated and therefore their needs are met by markedly more sophisticated communications technology than is available to the other External Territories.

6.8 Five major organisations/activities are represented at the bases:

- The Bureau of Meteorology. The Bureau provides regular weather observations and data which are transmitted immediately to Melbourne.
- The Atmospheric and Space Physics Section of the AAD. It collects data from the earth's upper atmosphere and ionosphere using sensitive optical and radio instruments. Long and short-term changes in the earth's magnetic field are recorded.
- The Local Monitoring and Control System. This is a computer-based experiment monitoring the environmental parameters of building and site services and makes comparisons between the stations.
- The Australian Geological Survey Organisation. AGSO gathers seismic and magnetic data used for earthquake recording, nuclear explosion detection and research into the structure of the earth. The data is transmitted on dedicated channels to Kingston and Canberra.
- The Australian Land Information Group. AUSLIG operates the Global Positioning System receivers which provides extremely accurate positioning information for analysis in Canberra on matters related to map control and the monitoring of phenomena such as the continental drift.

## Telecommunications

### *The provision of infrastructure*

6.9 Because of its unique circumstances and extreme isolation the AAD has assumed responsibility for the cost and maintenance of the entire the communications infrastructure in the AAT. The most significant and effective infrastructure as far as the Territory was concerned was the telecommunications infrastructure.

- Each station has an earth station and a dedicated public circuit that cost \$1.2 million.
- The computer network on each station cost \$150,000.

- Phone and call accounting systems cost \$25,000 per station.
- The annual cost for leased circuits and access to the Internet for all stations is \$480,000.
- The annual cost for access to the AAP news service was, until it was discontinued in 1999, \$43,000.

6.10 Dividing this annual cost by five 64 kbps lines equated to about \$96,000 a year per ISDN line, almost twice that quoted by Telstra to the Australian Federal Police for a line from Christmas Island to Canberra. Due to the unusual logistics of sending Telstra staff to the Southern Ocean, the Division performed this task and received a rebate on calls to offset outlays for staff and equipment. The rebate was 15c per minute for incoming calls to Antarctica and 20c per minute for calls from Antarctica. The 20c per minute rebate is passed directly to expeditioners. This compared to IDD charges of 85c to 90c /minute.

6.11 Telstra advised that it regularly reviewed the network infrastructure requirements to the Antarctic Territories and had plans to upgrade the satellite equipment by 2000.<sup>5</sup>

#### *Current arrangements for expeditioners*

6.12 Special telecommunications arrangements have prevailed between Telstra and the AAT to ensure the continued important links required between the mainland and isolated expeditioners. The AAD contracts the use of the Intelsat satellite system to provide 5 voice circuits and an ISDN line with each Antarctic Station.<sup>6</sup> Expeditioners paid IDD rates for voice calls but received free access to facsimiles, email, telex and Internet services. Inmarsat ground or ship terminals provided backup service at about \$10 per minute of usage. A wide range of communications services was utilised, given the specialised needs of expeditioners. The ISDN lines also provided inter-station service at no extra charge to expeditioners. A VHF radio communications system provided for air traffic control in the region.<sup>7</sup> The Antarctic Division provided a diagram of the communications network, reproduced at Appendix 4, that shows its connections with Telstra by satellite. Without satellites, the AAD can only utilise high frequency radio to maintain contact.

### **Postal Services**

6.13 A volunteer postal officer serves at each station to handle sales of stamps and simpler postal matters such as mail distribution and preparation of mailbags.<sup>8</sup> Mail incoming to, and outgoing from stations, is only possible during visits of the resupply vessel and tourist ships. These occur some one to five times per year typically per

---

5 Telstra, *Submissions*, p. S103.

6 Department of the Environment and Heritage, *Submissions*, p. S151. See also paragraph 6.9.

7 Australian Antarctic Division, *Transcripts*, p. 178.

8 Australian Antarctic Division, *Submissions*, p. S153.

station. Under Australia Post regulations, the AAT is part of Tasmania (code 7150) and standard letter rates apply.

### **Broadcasting**

6.14 There are no public broadcasting facilities in Antarctica for either television or radio. Even though the Intelsat and Inmarsat satellite systems served the Territory, the Antarctic Division claimed the reception of broadcast programming to be beyond its means.<sup>9</sup> By contrast, the ABC believed that satellites could not reach the region due to their geostationary orbit above the equator.<sup>10</sup> Ground stations sometimes acquired video or sound materials for possible local re-transmission, but the Antarctic Division expressed concerns about copyright issues.<sup>11</sup> There was no easy solution apparent although, in time, satellite advances may provide media feeds.

6.15 According to the Antarctic Division, at \$43,000 per year, the AAP Reuters news feed provided a relatively expensive news service.<sup>12</sup> The AAD has cancelled this service and is currently negotiating with several WEB news sites in order to produce their own newspaper for distribution to the stations. The expected cost is \$5,000 a year.<sup>13</sup> Expeditioners can get a news service via the Internet. However, the Committee was told that 'not all expeditioners have a computer ... and not all expeditioners are as comfortable with computer technology as we might wish them to be.'<sup>14</sup>

6.16 The Committee noted that Macquarie Island, as part of Tasmania, received no broadcasting services. It would be up to the Division or some other body to provide a re-transmission facility and, if desired, to provide television and radio on the Island. The ABA commented that it had not yet reached spectrum planning for Tasmania.<sup>15</sup> The Committee noted that the ABA does not now keep a listing of every broadcasting service in Australia, as there was no legislative requirement for it to do so.<sup>16</sup> Nonetheless, the Committee thought it very odd that no listing existed.

### **Issues of concern**

6.17 Both Macquarie Island and the AAT are excluded from the USO and pay IDD rates for calls. The issue is both legislative and technical. The AAT are

---

9 Australian Antarctic Division, *Transcripts*, p. 179.

10 ABC, *Transcripts*, p. 219.

11 Australian Antarctic Division, *Submissions*, p. S152.

12 Australian Antarctic Division, *Submissions*, p. S153.

13 Department of the Environment and Heritage, *Submissions*, pp. S275-276.

14 Department of the Environment and Heritage, *Transcripts*, pp. 179-180.

15 ABA, *Transcripts*, p. 237.

16 ABA, *Transcripts*, p. 245.

excluded from the definition of Australian under the Telecommunications Act.<sup>17</sup> However, the Committee noted that Macquarie Island with its station was actually part of Tasmania so that, strictly speaking, calls to and from it with the mainland should be at STD rates, not IDD.<sup>18</sup> To include the AAT as part of Australia under the Telecommunications Act was to make them part of Universal Service Obligations of the nominated carrier. The Department of Communications, Information Technology and the Arts warned that this had costs and benefits.<sup>19</sup> These were not specified at the hearing nor clarified at a later date.

6.18 Technically and perhaps primarily, the satellite systems established by Telstra link directly into Telstra's international gateway exchange and therefore Telstra charges all calls from Antarctica at international rates. It also limits the options for dialing particular numbers such as phone banking.<sup>20</sup> It is unclear whether this can be easily modified.

6.19 Public Switched Telephone Network Services available in Antarctica included voice, data, facsimile, operator, telex and private leased services. Antarctic staff and their families believed that as the Antarctic stations were on Australian Territories, telephone calls should be at STD rates and that the USO should apply to the stations. Similarly, the Division would like to see a reduction in Inmarsat usage charges and the USO extended to supply ships.<sup>21</sup> The Division highlighted another anomaly, in that it was slightly cheaper to telephone New Zealand from the AAT, than it was to phone Australia.

### **Multi-media and the Internet**

6.20 According to the AAD, expeditioners were able to access the Internet and other on-line services.<sup>22</sup> Access to the World Wide Web had become a popular after-hour pastime at stations. The traffic bandwidth limitation on the satellite was 19.2 kbps, somewhat higher than that available to the residents on the other External Territories. The AAD negotiated with Telstra for equipment to allow dynamic allocation of bandwidth between voice and data. The result of these negotiations has been an increase in the speed and response time for Internet access to rates approaching 60kbps. This should allow remote learning via the Internet and low speed video conferencing.<sup>23</sup>

---

17 Department of the Environment and Heritage, *Submissions*, p. S146.

18 Exhibit No. 5, Department of the Parliamentary Library, *Order in Council separating Van Diemen's Land from New South Wales*, volume 6, May 1998, p. 871.

19 Department of Communications, Information Technology and the Arts, *Transcripts*, pp. 211-212.

20 Department of Environment and Heritage, *Submissions*, p. S154.

21 Department of the Environment and Heritage, *Submissions*, p. S153, S154.

22 Department of the Environment and Heritage, *Submissions*, p. S153.

23 Department of the Environment and Heritage, *Submissions*, p. S153.

6.21 There were concerns about the costs of future bandwidth requirements. The AAD claimed that the inability to access the additional bandwidth at reasonable rates might limit future service.<sup>24</sup> It wished to have any extra bandwidth available at reasonable cost to expeditioners and at rates to allow cost-effective continuation of science programs. This matter also directly related to Island Territory satellite access, as previously discussed, assuming that sufficient satellite bandwidth existed.

**Recommendation (11)**

**The Committee recommends that Telstra and OPTUS investigate the feasibility of providing dynamic allocation of bandwidth between voice and data services via satellite to allow a significant increase in Internet speed and response times to the Australian Antarctic Territories. (6.21)**

**Recommendation (12)**

**The Committee recommends that any additional bandwidth for Internet and on-line services be made available at reasonable rates that will allow for cost-effective continuation of the science programs in the Antarctic Territories. (6.21)**

**Recommendation (13)**

**The Committee recommends that the Department of Transport and Regional Services establish a task force of the relevant departments and agencies to investigate the feasibility of providing facilities such as phone banking, free call facilities and operator access to the Antarctic stations. (6.18)**

**Recommendation (14)**

**The Committee recommends that the Australian Antarctic Division facilitate the provision of Internet equipment and training to all expeditioners to provide for wider information dissemination and exchange of news and media material. (6.15)**

**Recommendation (15)**

**The Committee recommends that, mindful of current service inconsistencies, the Department of Communications, Information Technology and the Arts review the matter of the extension of the Universal Service Obligation (USO) to the Australian Antarctic Territories, and the Government give consideration to including the Antarctic Territories within the USO so that call rates might be set at STD rates. (6.19)**

---

24 Department of the Environment and Heritage, *Submissions*, p. S153.