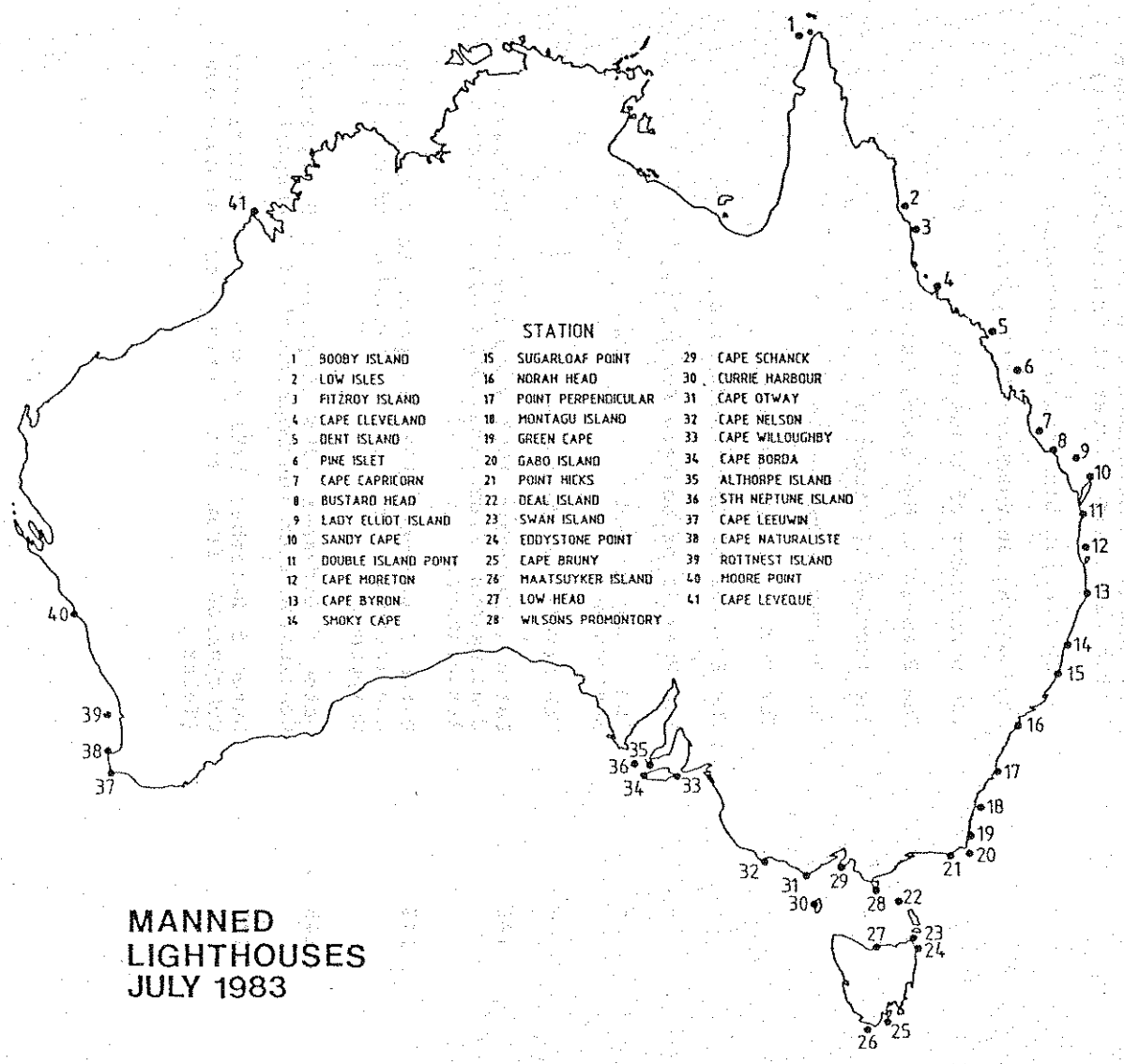

MANNED LIGHTHOUSES JULY 1983

PROFILES OF MANNED LIGHTSTATIONS

INTRODUCTION

1. In his opening address on 12 September 1983 the Chairman said that, for each of the 41 manned lightstations, the Committee would attempt to construct a profile which would contain certain information on that station.

2. These profiles have now been constructed and appear in a separate volume (Vol 2) of the Committee's Report. The profiles have been constructed from the submissions, the oral evidence recorded by Hansard and the exhibits. The profiles are thus an assembly of the detailed information we have received on each lightstation. They do not necessarily reflect Committee endorsement or rejection of the reasons advanced as to why a particular lightstation should continue to be manned or unmanned.

3. The profiles would be useful at minimum in the development of guidelines that could be applied to the question of unmanning of lightstations. It is obvious that a case by case approach is necessary and that each lightstation could exhibit different characteristics in terms of the value of a manned presence. These differences could determine not only whether the stations should continue to be manned but also the existence of alternatives to the Department of Transport lightkeeper. For example, a lightstation with a strong tourist appeal and heritage value can be managed by the local municipality which can recover its costs by charging tourists.

4. The profiles are structured in such a way that they enable the reader, after reaching conclusions on the relevance of the arguments, to make judgements on whether the cost savings of automation and unmanning of a particular lightstation are greater than or less than the benefits of continued manning.

5. Each profile has a general description which gives the history, location and other information on the station. This is followed by information on the costs of unmanning given by or extracted from the Department of Transport submission. The benefits of continued manning, the opposite case, are divided into two parts - (a) sea-based and (b) land-based functions of the keepers. This classification of keepers' functions is useful because it illustrates the changes perceived by people to the traditional role of lightkeepers. Finally in the last section, reasons for continued manning/unmanning the profiles indicates the views, if not already expressed, of various organisations. These views include comments by the Department of Home Affairs and Environment on the likely supervision requirements of the portfolio if the lightstation is unmanned.

6. It should be explained that the 3 components of the sea-based functions of the keeper (coastal surveillance, search and rescue, and weather information) could have overlapping meanings. We have tried to overcome this by including in coastal surveillance only those alleged activities such as sightings and reporting foreign vessels, drug trafficking and so forth. In the SAR component we have included only those claimed instances where the lightkeeper either as a member of a rescue team or individually has played a part in increasing safety at sea. We recognise that the weather information supplied by the lightkeeper either to the Bureau of Meteorology or to individuals, also promotes safety at sea. In these cases the information is used by fishermen and operators of pleasure craft to decide whether to put to sea or if there whether to return to shore.

7. In describing the work of the lightkeeper in respect of the environment each profile indicates whether the tower, other buildings or the lightstation reserve itself is on the Register of the National Estate maintained by the Australian Heritage Commission. We have followed the AHC in distinguishing between the 'cultural environment' and the 'natural environment'.

NEW SOUTH WALES

(Manned Lightstations)

1. Cape Byron

2. Green Cape

3. Montagu Island

4. Norah Head

5. Point Perpendicular

6. Smoky Cape

7. Sugarloaf Point

1. CAPE BYRON

General Description:[1]

8. History, Location: Construction of the lighthouse at Cape Byron located at the most easterly point of the Australian mainland commenced in July 1900 and was completed in the following year. The light was first exhibited on 1 December 1901.

9. The station is located about 5 km from the township of Byron Bay and is situated on a rock headland with a precipitous cliff of about 122 m on the east side. The lighthouse reserve covers about 3.5 ha and access to the station is by road.

10. The Light and Tower: The optical apparatus is of French manufacture from the engineering works of Henri Lapaute, Paris, and consists of a 920 mm focal radius revolving lens on a mercury float pedestal. The light source is a 120 volt lamp. The apparatus has an intensity of one million candelas resulting in a nominal visible range of 26 nautical miles. There is a fixed red auxiliary light which covers the Juan and Julia Rocks. Power is provided by mains electricity and a diesel generator is kept as stand-by capacity.

11. The tower is 23 m high to the top of the lantern. It was constructed from cement rendered concrete blocks.

12. Other Buildings: The quarters for the keepers were built in 1901 and were constructed using concrete blocks. Other buildings include 2 garages, a workshop and a public toilet.

13. Staff: The lightstation is attended by 2 Department of Transport lightkeepers.

Cost Savings of Unmanning:

14. The Department of Transport has supplied indicative costs associated with manned lightstations. This information which covers Cape Byron is at Attachment 1 of this appendix. Transport has calculated the indicative benefits of unmanning Cape Byron at $0.65 m. This gives Cape Byron No.23 ranking in respect of financial savings which would accrue from unmanning. This figure represents the net present value of the difference in costs over the next 20 years between manned and unmanned operations discounted at 10%.[2]

15. At the request of the Committee, the Department of Transport provided additional information on the indicative annual net savings achievable from unmanning for each of the 41 manned lightstations.

16. The indicative annual net saving following unmanning of Cape Byron is calculated at $63 000.

Benefits of Continued Manning

(a) Sea-based functions of keepers

17. Coastal Surveillance: The submission from the Byron Shire Council refers to surveillance on potential drug deliveries by sea.[3]

18. Search and Rescue: The submission also states that boats in distress are constantly assisted because of the presence of the keepers.[4]

19. Weather Reporting: Cape Byron is classified as a key weather reporting station by the Bureau of Meteorology, i.e. one which makes 7 observations a day. Observations from lightstations are a key input into the Bureau's forecasts and although automatic weather stations (AWS) can be installed to compensate for the loss of observations by keepers, the AWS cannot make several important observations which a human observer can - e.g. cloud type present and state of sea. The Bureau classifies Cape Byron as a Category A station - a very important station with no satisfactory alternatives such that closure would cause a serious diminution in service.[5] The submission from the Byron Shire Council adds that the area is subjected to cyclonic disturbances.

20. The Bureau also states that Cape Byron is the only lightstation forming part of the Bureau's weather watch radar network and is the only radar station not manned by Bureau staff. A Marconi shipboard radar has been used there since October 1960.

(b) Land-based functions of keepers

21. Cultural Environment: The lighthouse and lightkeepers' residences have been classified by the National Trust and are included on the Register of the National Estate maintained by the Australian Heritage Commission. The National Trust implies that unmanning will place at risk the historic value of lightstations such as Cape Byron because of damage by vandalism.[6] The Byron Shire Council expresses a similar view.

22. Natural Environment: The Department of Environment and Planning, NSW State Government states in a reference that includes Cape Byron that 'many manned lightstations also serve to protect surrounding natural environments by virtue of a manned presence in isolated areas where vandalism and other illegal activities may threaten important flora, fauna and/or geographical features'.[7]

(c) Other

23. The Byron Shire Council refers to the value of tourism to the local economy and says that because the lightstation is visited by about 240 000 persons a year it is a showpiece of the nation and should not be allowed to deteriorate. The tower is open to the public 2 days a week.

24. The submission adds that in the long term it may be inevitable that a toll system may have to be introduced as well as a revenue producing tourist activity in the vicinity of the lightstation area.[8]

Reasons for Unmanning/Continued Manning

25. The Byron Shire Council argues that the Cape Byron lighthouse should continue to be manned. The Department of Transport includes Cape Byron as one of the 17 lightstations where the 'social and other unquantifiable benefits appear to be significant', so that there appears to be '... a good case for the retention of an authoritative manned presence'.[9] The total rationale for the continued manning of stations such as Cape Byron is that the operations are low cost, the stations are of heritage interest, are popular with tourists and are accessible to the public.[10]

26. Transport considers that most of the 17 lightstations could remain manned by the Commonwealth and that if a Commonwealth presence is to be retained the Department is best placed to provide the required manning. This is because the Department has the experience, expertise and organisation to manage lightstations. For most of the stations where a Commonwealth presence is retained Transport says it should be operationally satisfactory for the manning level to be reduced from 2 to 1 following the automation of the navigational aid.[11]

27. The Department of Home Affairs and Environment says that if the station is unmanned the likely supervision requirements of the portfolio would be for a part-time residential management presence at Cape Byron.[12]

2. GREEN CAPE

General Description[13]

28. History, Location: Design of the lightstation was undertaken by James Barnet the colonial architect who designed at least 15 major lightstations along the coast of New South Wales. Construction commenced in 1881 and finished in 1883. The light was first exhibited on 1 November 1883.

29. The station is situated on a reserve of about 30 hectares, 26 km south south-east of Eden and adjoins the Ben Boyd National Park. Access to the station for maintenance and normal resupply is by road.

30. The Light and Tower: Optical apparatus consists of a Chance Bros 920 mm focal radius revolving lens on a mercury float rotating pedestal driven by an electric motor. The light source is a 120 volt, 1000 watt halogen lamp. The apparatus gives a character of group flashing 2 every 15 seconds with an intensity of a million candelas resulting in a nominal visible range of 26 nautical miles. Power for the station is provided by twin diesel alternator sets, sited in a fibro cement powerhouse.

31. The tower is 20.7 m high and was built of mass concrete using aggregate quarried at the site.

32. Other Buildings: Accommodation consists of a head lighkeeper's quarters and a duplex cottage for assistant keepers, both being of brick construction, cement rendered. other infrastructure include garages, bulk fuel installation and other storerooms associated with the upkeep of the navigational aid, quarters and grounds.

33. Staff: The lightstation is attended by 2 Department of Transport lightkeepers.

Cost Savings of Unmanning

34. The Department of Transport has supplied indicative costs associated with manned lightstations. (For details of that information, see paragraphs 14 and 15 above).[14]

35. For Green Cape the relevant indicative costs are:

(a) costs associated with unmanning - $0.86 m;
(b) ranking in respect to financial savings - No. 17; and
(c) annual savings - $73 000.

Benefits of Continued Manning

(a) Sea-based functions of keepers

36. Coastal Surveillance: Mr Snow, Federal Member for Eden-Monaro, has detailed the need for keepers to be retained at Montagu Island and Green Cape so that they can keep an eye on drug trafficking.[15] The ALA says the station is important as a coastal surveillance point because the coast is deserted for forty miles and access to the land is easy in a number of places, particularly at Disaster Bay.[16]

37. Search and Rescue: Several organisations and persons referred to the SAR work of the lightkeepers. The Royal Volunteer Coastal Patrol, in supporting the manning of Green Cape, says there is evidence of lives being saved because of manning.[17] Mr Snow refers to the log sheet from Green Cape to illustrate the SAR work of the keepers.[18] The ALA states that in the past two years (to July 1982) two trawlers were lost within sight of the lighthouse and in one case all the lives were saved. Radio communication allowed direction of the rescue in this case. Many small boats have been assisted because a radio watch is kept by the wives of the keepers and two policemen almost certainly owe their lives to the keepers' wives.[19]

38. In June 1982 the radio at Green Cape was manned for 24-hour periods to listen for May Day calls in respect of search for the crew of the Imlay which was reported missing. The search was co-ordinated by the Australian Coastal Surveillance Centre.[20]

39. Weather Reporting: Green Cape is not rated as a key weather reporting station by the Bureau of Meteorology but the station does make meteorological observations for the Bureau. The station is classified as a Category C station by the Bureau - the loss of which could be tolerated, or for which acceptable alternatives are available.

40. Submissions also refer to the importance of the personal weather reports from the lightkeepers at Green Cape. The value of these reports for fishermen was given by Mr Snow and his comments apply to both Montagu Island and Green Cape.[21]

(b) Land-based functions of keepers

41. Cultural Environment: The lighthouse, cottages and ancillary buildings are on the Register of the National Estate. The National Trust classified the lighthouse and cottages group in July 1977. The National Trust of Australia implies that unmanning will place at risk damage by vandalism of the historic value of lightstations such as the one at Green Cape.[22]

42. Natural Environment: The ALA states that during the disastrous bushfires of 1972 and 1980 invaluable assistance was given to the NSW Bush Fire Brigade in keeping it informed of the progress of the fire in the inaccessible southern region which the lightstation overlooks.[23] The lightstation adjoins the Ben Boyd National Park which is listed on the Register of the National Estate.

(c) Other

43. The ALA says that reduction of the light intensity from a million to 150 000 candelas will eliminate the loom of the light. This loom is used by professional fishing boats fishing at night, over the horizon, to keep their boats orientated while lifting their trawl.[24]

Reasons for Unmanning/Continued Manning

44. Several submissions including those of Mr Hutton, Mr Snow and the ALA state or argue for the continuation of manned presence at Green Cape.

45. The Department of Transport includes Green Cape as one of the 17 lightstations that appear to require an authoritative manned presence. Transport says that most of the 17 stations should retain a Commonwealth presence which should be provided by the Department and that the manning level should be reduced from 2 to 1 following automation of the navigational aid.[25]

46. The Department of Home Affairs and Environment says that if the station is unmanned the likely supervision requirements on the portfolio would be for a full-time management presence at Green Cape.[26]

3. MONTAGU ISLAND

General Description[27]

47. History, Location: Design of the lightstation was undertaken by James Barnet the colonial architect who designed at least 15 major lightstations along the coast of New South Wales. Construction commenced in 1878 but progress was slow and the work was completed finally in late 1881. The light was first lit officially on 1 November 1881 although a temporary light was in operation about a year earlier.

48. The station is located on Montagu Island, also known as Barunguba Island, some 12 km east of Narooma. The lighthouse reserve consists of the whole of the island, about 113 hectares in area. Access to the island for general stores is by chartered launch and annual fuel resupply is by departmental Cape class vessel.

49. The Light and Tower: The optical apparatus consists of a Chance Bros 920 mm focal radius revolving lens on a mercury float rotating pedestal driven by an electric motor. The light source is a 120 volt, 1000 watt tungsten halogen lamp. The apparatus gives a character of flashing every 5 seconds with an intensity of a million candelas resulting in a nominal visible range of 26 nautical miles. Power for the station is provided by twin diesel alternators sited in a rendered brick powerhouse.

50. The tower is 12.2 m high and is constructed of granite quarried from the island.

51. Other Buildings: Accommodation consists of the head lightkeeper's quarters and a duplex cottage for assistant keepers, both constructed from locally quarried granite. Other buildings/structures include fuel storage, garage, boat shed, jetty and haulage way.

52. Staff: The lightstation is attended by 2 Department of Transport lightkeepers.

Cost Savings of Unmanning

53. The Department of Transport has supplied indicative costs associated with manned lightstations. (For details of that information, see paragraphs 14 and 15 above).[28]

54. For Montagu Island the relevant indicative costs are:

(a) costs associated with unmanning - $1.01 m;
(b) ranking in respect to financial savings - No. 12; and
(c) annual savings - $84 000.

Benefits of Continued Manning

(a) Sea-based functions of keepers

55. Coastal Surveillance: The function of the lightkeeper in coastal surveillance was advanced by Mr J. Snow, Member for Eden-Monaro. He said the keepers at Montagu Island receive two lists from the Port Kembla Customs, one called 'Australian Small Craft and Yachts', the other 'Foreign Small Craft and Yachts'. Customs seeks information on these vessels. There are times when the keeper is asked to keep a constant vigil. Mr Snow quoted from an August 1982 speech from the Minister in the Senate representing the Minister for Transport and Construction that lightkeepers have been asked to observe passing vessels and report any sign of distress or unusual activity to the Australian Coastal Surveillance Centre. Mr Snow also referred to drop points for drug trafficking and said it is most important that the lightkeepers at Green Cape and Montagu be retained so that they can keep a watch on this sort of activity.[29]

56. Search and Rescue: Several organisations and persons referred to the work of the lightkeepers in search and rescue. A private citizen said that because of its elevation and the fact that Montagu Island is an offshore island, a long stretch of coastline is visible and many square miles of open sea are under surveillance.[30] Both the Narooma Police and the Royal Volunteeer Coastal Patrol (Narooma Division) speak of the SAR work of the keeper. The volunteer patrol states that 'assistance by way of observations made and reported by the Montagu lighthouse keepers, to the rescue co-ordinator when required, has helped immensely both in the speed and successful completion of these rescues.[31]

57. The Narooma police submission says something similar in respect of SAR. This submission also cited two specific instances in early 1983 of the work of the Montagu keepers. The submission adds that in respect of one of these instances, without this assistance 'there was a distinct possibility that that vessel might have been lost at sea.[32]

58. Mr J. Hatton, Member for the South Coast in the New South Wales Parliament, says that keepers together with local police and volunteer patrols save enormous amounts of money in search time. Mr Hattons lists 25 observations made between April 1982 and June 1983 by the lightkeepers at Montagu. Many of these observations illustrate the work of keepers in SAR work.[33] The Department of Transport, when responding to a question on Mr Hatton's submission, said it has 'no doubt that the lightkeepers do a most valuable job at Montagu Island in their voluntary capacity, as indeed they do at Green Cape ...'.[34]

59. Weather Reporting: Montagu is not rated as a key weather reporting station by the Bureau of Meteorology but the station does make meteorological observations for the Bureau.

Nevertheless, the Bureau classifies Montagu as Category A - a very important station with no satisfactory alternative such that closure would cause a serious diminution of service.

60. Submissions also refer to the importance of personal weather reports from the lightkeepers at Montagu. Mr Snow states that scallop boats rely on advance weather warnings from Montagu because fishing is done as far away as Bermugui. Without a staffed presence at Montagu, Mr Snow says fishermen may not venture out in marginal weather conditions, with consequential loss of fishing days and job opportunities.[35]

(b) Land-based functions of keepers

61. Cultural Environment: The lighthouse tower, stores and residences were entered on the Register of the National Estate in October 1980. The National Trust of Australia implies that unmanning will place at risk the historic value of lightstations such as the one at Montagu Island because of damage by vandalism.[36]

62. Natural Environment: Submissions also refer to the protection of the natural environment. The Department of Environment and Planning, New South Wales Government, says in a reference that includes Montagu, that 'many manned stations also serve to protect surrounding natural environments by virtue of a manned presence in isolated areas where vandalism and other illegal activities may threaten important flora, fauna and/or geological features'.[37] The lightstation adjoins the Montagu Island flora and fauna reserve which is listed on the Register of the National Estate.

63. Other submissions say or imply that unmanning of the south coast of New South Wales lightstations will adversely affect the tourist industry because of the loss of SAR and weather reporting functions of keepers.[38]

(c) Other

64. The New South Wales State Government submission is cast in terms of the 1979 Commonwealth/State (N.S.W.) Land Exchange Agreement and subsequent developments. In terms of this agreement, the submission states, title over substantial areas of N.S.W. at Holsworthy and Beacroft Peninsula have already been transferred to the Commonwealth. In return, title over 26 smaller parcels throughout the Sydney metropolitan area has been transferred to the State.

65. In 1981 the State Government requested the transfer of an additional six parcels of Commonwealth owned land comprising the lightstation reserves of Point Stephens, South Solidarity Islands (both demanned), Montagu Island, Smoky Cape, Sugarloaf Point and Green Cape (all four manned). On 9 September 1982 the Commonwealth confirmed that action was in hand to transfer this land (all except Green Cape) to N.S.W.

66. The thrust of the submission is that unmanning should be regarded as a separate issue and should not impede or interfere with the agreed land transfers between the two governments. If the Commonwealth decides to transfer the reserves completely unmanned the N.S.W. National Parks and Wildlife Service will consider on an individual merit basis whether or not it will provide a replacement manned presence. If the Commonwealth decides on continued manning, the submission continues, only minimal areas should be retained by the Commonwealth for the navigation aids and associated lightkeeper's accommodation.

67. The N.S.W. State Government submission deals specifically with Montagu Island and the claims that lightkeepers there provide on the spot weather information, assist in SAR and protect the island's wildlife. The submission says in respect of weather information that relevant maritime regulations require sea-going craft to be equipped with radio communication which should be capable of receiving weather information from alternative sources. The submission adds that if Montagu is handed over demanned (as the N.S.W. Government has been informed will be the case) the National Parks and Wildlife Service has already decided that the island's wildlife resources require permanent resident staff provision and that this will in fact be made available. This means that Montagu Island will come 'under the protective surveillance of specially trained staff thoroughly experienced in all aspects of search and rescue and with access to special transport and other necessary facilities required in such cases of emergency'.[39]

Reasons for Unmanning/Continued Manning

68. Several submissions including those from Mr Hatton and Mr Snow state or argue the case for the continuation of a manned presence at Montagu. The former says the presence of a N.S.W. park ranger should not be seen to allow the Commonwealth to abrogate its responsibility to the boating fraternity, south coast residents and tourists.[40] The latter says there could be inconsistencies of approach if lightstations are handed over to the States. If Montagu Island became a nature reserve importance would be given to the natural environment and perhaps little importance to radio information currently provided by the keepers.[41]

69. The Transport submission contains similar information to that in the N.S.W. State Government submission on the transfer of ownership of Montagu back to the State. The Transport submission also states that one of the bases of the transfer is that the navigational aid be automated. However, the Minister for Transport has directed that any further work on the conversion of the light to automatic operation be halted pending Government consideration of the Committee's report.[42]

70. Transport includes Montagu Island as one of 17 lightstations where the 'social and other unquantifiable benefits appear to be significant' so that there 'appears to be a good case for the retention of an authoritative manned presence.'[43] In evidence the Department said it had interpreted the N.S.W. decision to put a national parks officer on Montagu as constituting significant reasons for the retention of the manned presence on the island.[44]

71. The Deparment of Home Affairs and Environment says that if the station is unmanned the likely supervision requirements on the portfolio would be for a full-time management presence at Montagu Island.[45]

4. NORAH HEAD

General Description[46]

72. History, Location: Construction of the lighthouse at Norah Head was completed in 1903 and the light was first exhibited on 15 November 1903.

73. The station is located 1.6 km from Norahville. The lighthouse reserve, most of which is timbered, covers about 16 hectares. Access to the station is by road.

74. The Light and Tower: The optical apparatus consists of a Chance Bros 700 mm focal radius revolving lens on a mercury float rotating pedestal. The light source is a 120 volt, 1000 watt halogen lamp. The apparatus completes one revolution in 30 seconds, with an intensity of a million candelas resulting in a nominal visible range of 26 nautical miles. Power is provided by mains electricity and a diesel generator is kept as stand-by capacity.

75. The tower is 27 m high to the top of the lantern. It was built from precast concrete blocks using local aggregate.

76. Other Buildings: The quarters for the keepers were built in 1903. The quarters are of masonry construction. Other buildings include stores and workshops.

77. Staff: The lightstation is attended by 2 Department of Transport lightkeepers.

Cost Savings of Unmanning

78. The Department of Transport has supplied indicative costs associated with manned lightstations. (For details of that information, see paragraphs 14 and 15, above).[47]

79. For Norah Head, the relevant indicative costs are:

(a) costs associated with unmanning - $0.64 m;
(b) ranking in respect to financial savings - No. 25; and
(c) annual savings - $61 000.

Benefits of Continued Manning

(a) Sea-based functions of keepers

80. Coastal Surveillance: Examination of the submissions and transcripts of evidence does not reveal any specific references to coastal surveillance in respect of Norah Head.

81. Search and Rescue: As above.

82. Weather Reporting: Norah Head is not rated as a key weather reporting station by the Bureau of Meteorology but the station does make meteorological observations for the Bureau. The station is classified by the Bureau as Category B - one where the closure would cause a significant diminution in service.

(b) Land-based functions of keepers

83. Cultural Environment: The lighthouse group (tower, stores, workshops, residences) was classified by the National Trust in July 1977. The Group is listed on the Register of the National Estate. The National Trust implies that unmanning will place at risk the historic value of lightstations such as Norah Head because of damage by vandalism.[48]

84. Natural Environment: As for coastal surveillance.

Reasons for Unmanning/Continued Manning

85. The Department of Transport includes Norah Head as one of the 17 lightstations that appear to require an authoritative manned presence. Transport says most of the 17 stations should retain a Commonwealth presence which should be provided by the Department and that the manning level should be reduced from 2 to 1 following automation of the navigational aid.[49]

86. The Department of Home Affairs and Environment says that if the station is unmanned the likely supervision requirements of the portfolio would be for a part-time residential management presence at Norah Head.[50]

5. POINT PERPENDICULAR

General Description[51]

87. History, Location: The light at Point Perpendicular on the north head of Jervis Bay was erected to supersede the light at Cape St George on the south head which was first lit in 1860. The Point Perpendicular light was first exhibited on 1 May 1899.

88. The station which is located in the Beecroft Peninsular-Woolumboola area is adjacent to a precipitous cliff, about 80 metres above sea level on 4.4 ha of land set aside as the lighthouse reserve. Access to the station is by road.

89. The Light and Tower: Optical apparatus consists of a Chance Bros 920 mm focal radius revolving lens on a roller bearing type rotating pedestal driven by an electric motor. The light source is a 120 volt 1000 watt tungsten halogen lamp. The apparatus gives a character of group flashing 3 every 20 seconds with an intensity of a million candelas giving a nominal visible range of 26 nautical miles. Power for the station is provided by twin diesel generators housed in a powerhouse which was the old stables.

90. The tower is 13.7 m high constructed from concrete with locally quarried sandstone aggregate.

91. Other Buildings: Accommodation consists of the head lightkeeper's quarters and a duplex cottage for assistant keepers, both constructed from concrete. Other structures include fuel store, garage and workshop.

92. Staff: The lightstation is attended by 2 Department of Transport lightkeepers.

Cost Savings of Unmanning

93. The Department of Transport has supplied indicative costs associated with manned lightstations. (For details of that information, see paragraphs 14 and 15 above).[52]

94. For Point Perpendicular the relevant indicative costs are:

(a) costs associated with unmanning - $0.67 m;
(b) ranking in respect to financial savings - No. 22; and
(c) annual savings - $67 000.

Benefits of Continued Manning

(a) Land-based functions of keepers

95. Coastal Surveillance: In a reference which includes Point Perpendicular, Mr Hatton says that in some cases the lightkeepers can observe clandestine activity of illegal imports, including drugs.[53]

96. Search and Rescue: The Committee has received information of radio and direct assistance given by the lightkeepers at Green Cape and Point Perpendicular to persons in distress.[54]

97. Weather Reporting: Point Perpendicular is not rated as a key weather reporting station by the Bureau of Meteorology, i.e. one which makes 7 observations a day. Point Perpendicular makes 6 observations a day. The Bureau classifies the station as Category A - a very important station with no satisfactory alternative such that closure would cause a serious diminution of service.[55]

(b) Land-based functions of keepers

98. Cultural Environment: In July 1977 the National Trust classified the lighthouse group. The station, lightkeepers' cottages and ancillary buildings are listed on the Register of the National Estate. The National Trust of Australia implies that unmanning will place at risk the historic value of lightstations such as Point Perpendicular, by damage from vandalism.[56]

99. Natural Environment: The lightstation adjoins the Beecroft Peninsula Area which is listed on the Register of the National Estate.

(c) Other

100. The Royal Volunteer Coastal Patrol (Greenwell Point Division) says the Point Perpendicular light is essential to a large number of small ships as an identification point along a harsh and navigationally difficult coastline. If the light fails it is necessary that someone be there to notice the failure and repair the light without delay.[57]

Reasons for Unmanning/Continued Manning

101. Several submissions, including those from Mr Hatton and Mr Snow, say the station should continue to be manned. The Department of Transport includes Point Perpendicular as one of the 24 lightstations where 'it appears that the financial benefits from unmanning outweigh the social and other unquantifiable benefits, so that the removal of the departmental manned presence would appear to be most justified'.[58]

102. The Department of Home Affairs and Environment says that if the station is unmanned the likely supervision requirements on the portfolio would be for a full-time management presence at Point Perpendicular.[59]

6. SMOKY CAPE

General Description[60]

103. History, Location: The lighthouse at Smoky Cape was one of the at least 15 and the last of the major lightstations along the coast of New South Wales designed by James Barnet, the colonial architect. Construction of the lighthouse was completed in 1891 and the light was first exhibited on 15 April of the same year.

104. The station, which adjoins the Hat Head National Park, is 10 km from South West Rocks. The lighthouse reserve covers about 33 ha. Part of the reserve at the foot of the hill was handed over to the local council as a Captain Cook Memorial Lookout in 1970. Access to the station is by road.

105. The Light and Tower: The optical apparatus consists of a Chance Bros 920 mm focal radius revolving lens on a roller pedestal. The light source is a 120 volt tungsten halogen lamp. The apparatus gives a character of triple flashing repeated at intervals of 20 seconds with an intensity of a million candelas resulting in a nominal visible range of 26 nautical miles. Power is provided by mains electricity and a diesel generator is kept as stand-by capacity.

106. The tower lifts the focal plane of its light to a level of 128 m above high water. The tower itself is 17.4 m high and is built from mass concrete using local granite aggregate.

107. Other Buildings: Skilfully sited on the rocky summit, the buildings are constructed with walls of mass concrete composed from granite aggregate quarried in the vicinity and cast into timber framework. The buildings include the quarters for the lightkeepers, a brick stable/shed, a four-car garage and workshop.

108. Staff: The lightstation is attended by 2 Department of Transport lightkeepers.

Cost Savings of Unmanning

109. The Department of Transport has supplied indicative costs associated with manned lightstations. (For details of that information, see paragraphs 14 and 15 above.)[61]

110. For Smoky Cape the relevant indicative costs are:

(a) costs associated with unmanning - $0.64 m;
(b) ranking in respect to financial savings - No. 24; and
(c) annual savings - $62 200.

Benefits of Continued Manning

(a) Sea-based functions of keepers

111. Coastal Surveillance: Examination of the submissions and transcripts of evidence does not reveal any specific references to coastal surveillance in respect of Smoky Cape.

112. Search and Rescue: Mr Snow's submission and evidence says that in 1976 and 1978 the lightkeepers at Smoky Cape recorded 163 call-outs, 132 of them being received by the keeper when he was off-duty. The keeper listens to call-outs and transmits the information to the Australian Coastal Surveillance Centre. On one occasion Smoky Cape was the only station that picked up a particular may day call and was instrumental in saving a yacht worth thousands of dollars.[62]

113. Weather Information: Smoky Cape is classified as a key weather reporting station by the Bureau of Meteorology, i.e. one which makes 7 observations a day. The Bureau classifies the station as Category A - a very important station with no satisfactory alternative such that closure would cause a serious dimimution of service.[63]

(b) Land-based functions of keepers

114. Cultural Environment: The lighthouse group (lighthouse, generator annexe, two residences, coach house and stables and ancillary structures) was classified by the National Trust in May 1976. The lighthouse group is on the Register of the National Estate. The National Trust implies that unmanning will place at risk the historic value of lightstations such as Smoky Cape because of damage by vandalism.[64]

115. Natural Environment: The Department of Environment and Planning says in a reference that includes Smoky Cape that 'many manned lightstations also serve to protect surrounding natural environments by virtue of a manned presence in isolated areas where vandalism and other illegal activities may threaten important flora, fauna and/or geological features'.[65] The lightstation adjoins the Hat Head National Park which is listed on the Register of the National Estate.

(c) Other

116. The N.S.W. State Government submission states that action is in hand to transfer the lightstation reserve at Smoky Cape from the Commonwealth to the State Government. If the Commonwealth decides to transfer the reserve completely unmanned, the N.S.W. National Parks and Wildlife Service will consider the merits of providing a replacement manned presence at Smoky Cape.[66]

Reasons for Unmanning/Continued Manning

117. The Department of Transport includes Smoky Cape as one of the 17 lightstations that appear to require an authoritative manned presence. Transport says most the 17 stations should retain a Commonwealth presence which should be provided by the Department and that the manning level should be reduced from 2 to 1 following automation of the navigational aid.[67]

118. The Department of Home Affairs and Environment says that if the station is unmanned the likely supervision requirements of the portfolio would be for a part-time non-residential management presence at Smoky Cape.[68]

7. SUGARLOAF POINT

General Description[69]

119. History, Location: The lighthouse at Sugarloaf Point was the first major lighthouse designed by James Barnet, the colonial architect. Construction of the lighthouse was completed in 1875 and the light first exhibited on 1 December 1875.

120. The station which adjoins the Myall Lakes National Park is located 16 km from Bungwahl, close to the village of Seal Rocks. The lighthouse reserve covers over 32 ha. Access to the station is by road.

121. The Light and Tower: The optical apparatus consists of Chance Bros 920 mm focal radius revolving lens on a roller pedestal. The light source is a 120 volt 1000 watt tungsten halogen lamp. The apparatus gives a character of flashing every 7.5 seconds with an intensity of a million candelas resulting in a nominal visible range of 26 miles. Power is provided by mains electricity and a diesel generator is kept as stand-by capacity.

122. In addition to the main white revolving light there is a subsidiary fixed green light which covers Seal Rocks and nearby dangers. The subsidiary light has an intensity of 1300 candelas and a range of 11 miles.

123. The tower is located at the summit of an abrupt headland which rises more than 60 m from the sea, and is made from cement rendered brick. It is the only Commonwealth manned lighthouse that has an external stairway.

124. Other Buildings: The quarters for the keepers are located on a sheltered slope behind the headland. The quarters were built in 1875.

125. Staff: The lightstation is attended by 2 Department of Transport lightkeepers.

Cost Savings of Unmanning

126. The Department of Transport has supplied indicative costs associated with manned lightstations. (For details of that information, see paragraphs 14 and 15 above.)[70]

127. For Sugarloaf Point the relevant indicative costs are:

(a) costs associated with unmanning - $0.67 m;
(b) ranking in respect to financial savings - No. 21; and
(c) annual savings - $63 000.

Benefits of Continued Manning

(a) Sea-based functions of keepers

128. Coastal Surveillance: Examination of the submissions and transcripts of evidence do not reveal any specific references to coastal surveillance in respect of Sugarloaf Point.

129. Search and Rescue: As above

130. Weather Reporting: As above

(b) Land-based functions of keepers

131. Cultural Environment: The lighthouse group (the tower, residences and signal store) were classified by the National Trust in July 1977. The lighthouse group is listed on the Register of the National Estate. The National Trust implies that unmanning will place at risk the historic value of lightstations such as Sugarloaf Point because of damage by vandalism.[71]

132. Natural Environment: The lightstation adjoins the Myall Lakes National Park which is on the Register of the National Estate.

(c) Other

133. State Government submission says that action is in hand to transfer the lightstation reserve of Sugarloaf Point to the N.S.W. State Government. If the Commonwealth decides to transfer the reserve completely unmanned, the N.S.W. National Parks and Wildlife Service will consider the merits of providing a replacement manned presence at Sugarloaf Point.[72]

Reasons for Unmanning/Continued Manning

134. The Department of Transport includes Sugarloaf Point as one of the 17 lightstations that appear to require an authoritative manned presence. Transport says most of the 17 stations should retain a Commonwealth presence which should be provided by the Department and that the manning level should be reduced from 2 to 1 following automation of the navigational aid.[73]

135. The Department of Home Affairs and Environment says that if the station is unmanned, the likely supervision requirements of the portfolio would be for a part-time management presence at Sugarloaf Point.[74]

ENDNOTES: NEW SOUTH WALES LIGHTSTATIONS

1. Compiled from Exhibit 7 and Submissions, Vol.1, pp.27-28
2. Submissions, Vol.2, pp.219-220
3. Submissions, Vol.2, p.300
4. ibid.
5. Submissions, Vol.2, pp. 232-233
6. Submissions, Vol.1, p.18
7. Submissions, Vol.2, p.311
8. Submissions, Vol.2, pp.300-301
9. Submissions, Vol.2, p.201
10. Evidence, p.185
11. Submissions, Vol.2, p.201
12. Submissions, Vol.4, p.602
13. Based mainly on Department of Transport information, Submissions, Vol.5, pp.720-721
14. See also, Submissions, Vol.2, pp.219-220
15. See profile on Montagu Island
16. Submissions, Vol.4, p.568
17. Submissions, Vol.3, p.347
18. Transcript, pp.312-313
19. Submissions, Vol.4, p.568
20. Exhibit 13
21. See profile on Montagu Island
22. Submissions, Vol.1, p.18
23. Submissions, Vol.4, p.568
24. Submissions, Vol.4, p.569
25. Submissions, Vol.2, p.201
26. Submissions, Vol.4, p.602
27. Based mainly on Department of Transport information, Submissions, Vol.5, pp.722-723
28. See also, Submissions, Vol.2, pp.219-220
29. Transcript, pp.313-315, and 324
30. Submissions, Vol.1, p.49
31. Submissions, Vol.1, p.97
32. Submissions, Vol.1, p.41
33. Submissions, Vol.1, pp.34-37
34. Transcript, p.180
35. Submissions, Vol.3, pp.327-328
36. Submissions, Vol.1, p.18
37. Submissions, Vol.3, p.311
38. Submissions, Vol.1, p.67
39. Submissions, Vol.1, pp.156-163
40. Transcript, p.309
41. Transcript, p.309
42. Submissions, Vol.2, pp.193-194
43. Submissions, Vol.2, p.201
44. Transcript, p.184
45. Submissions, Vol.4, p.602

46. Compiled from Exhibit 7 and Submissions, Vol.1, pp.20-21
47. See also, Submissions, Vol.2, pp.219-220
48. Submissions, Vol.1, p.18
49. Submissions, Vol.2, p.201
50. Submissions, Vol.4, p.602
51. Based on Department of Transport information, Submissions, Vol.4, pp.724-725
52. See also, Submissions, Vol.2, pp.219-220
53. Submissions, Vol.1, p.33
54. Exhibit 13
55. Submissions, Vol.2, p.233
56. Submissions, Vol.1, p.18
57. *Submissions*, Vol.3, p.355
58. Submissions, Vol.2, p.200
59. Submissions, Vol.4, p.602
60. Compiled from Exhibit 7 and Submissions, Vol.1, p.24
61. See also, Submissions, Vol.2, pp.219-220
62. Submissions, Vol.3, p.327
63. Submissions, Vol.2, p.323-233
64. Submissions, Vol.1, p.18
65. Submissions, Vol.2, p.311
66. Submissions, Vol.1, pp.158-161
67. Submissions, Vol.2, p.201
68. Submissions, Vol.4, p.602
69. Compiled from Exhibit 7 and Submissions, Vol.1, pp.20-21
70. See also, Submissions, Vol.2, pp.219-220
71. Submissions, Vol.1, p.18
72. *Submissions*, Vol.1, pp.156-158
73. Submissions, Vol.2, p.201
74. Submissions, Vol.4, p.602

VICTORIA

(Manned Lightstations)

8. Cape Nelson

9. Cape Otway

10. Cape Schanck

11. Gabo Island

12. Point Hicks

13. Wilsons Promontory

8. CAPE NELSON

General Description[1]

136. History, Location: The initial move for the establishment of a lightstation at Cape Nelson was aided by Peter Lalor, the miners' leader at the Eureka Stockade, after he became a member of the Victorian Parliament.

137. Cape Nelson lightstation is a mainland station 13 km from Portland in Victoria. The lightstation reserve is 21.8 ha in size. The tower was built of stone in 1884. Access to Cape Nelson lightstation is by road. The lightstation is readily accessible to the general public and is open for inspection two days a week.

138. The Light and Tower: The light is a 120 volt tungsten halogen lamp with a Chance Bros 250 mm focal radius rotating lens. The lantern is a Chance Bros (12'). The power source is mains electricity with a diesel generator as stand-by.

139. The tower is 24 m high and is constructed of stone (basalt). The tower is circular and is painted white.

140. Other Buildings: There are two keepers' quarters constructed of stone (basalt) in 1882. In addition there is a stone storeroom (formerly a stable) and a timber lookout (formerly a telegraph and signal station). In 1960, a timber and asbestos cement room was added as an engine room. There are also some metal garages.

141. Staff: The lightstation is attended by 2 Department of Transport lightkeepers.

Cost Savings of Unmanning

142. The Department of Transport has supplied indicative costs associated with manned lightstations. This information which covers Cape Nelson is an Attachment 1 of this appendix. Transport has calculated the indicative benefits of unmanning Cape Nelson at $0.61 m. This gives Cape Nelson No. 26 ranking in respect of financial savings which would accrue from unmanning. The figure represents the net present value of the difference in total costs over the next 20 years between manned and unmanned operations discounted at 10%.[2]

143. At the request of the Committee, the Department of Transport provided additional information on the indicative annual net savings achievable from unmanning for each of the 41 lightstations.

144. The indicative annual saving following unmanning of Cape Nelson is calculated at $63 200.

Benefits of Continued Manning

(a) Sea-based function of keepers

145. Coastal Surveillance: The Victorian Government Submission states that consideration should be given to the 'surveillance value of lightstations' when lightstations are assessed as to whether there should be a retention of a manned presence.[3] The submission from the Victoria Police makes a general statement on the monitoring by lightstation keepers of activities 'such as suspected narcotics trafficking, poaching and to some extent (in the north) of illegal immigration'.[4] There does not appear to be any other evidence to link Cape Nelson with specific surveillance activities.

146. Search and Rescue: The Victorian Government Submission makes a general statement on the value of a manned presence at lightstations for search and rescue.[5] The Victoria Police submission makes similar statements.[6]

147. Weather Reporting: The Bureau of Meteorology classifies Cape Nelson as Category C. This classification means that in term of the service provided by human observation for the Bureau, unmanning '...could be tolerated, or acceptable alternatives are available'.[7]

148. The Victorian Government Submission also notes the advantage of a manned presence for local weather reporting and for ship-shore radio communication.[8]

(b) Land-based functions of keepers

149. Cultural Environment: Cape Nelson lightstation, lightkeepers' cottages and ancillary buildings are listed in the Register of the National Estate.[9] The National Trust of Australia (Victoria) has certified the tower and keepers' stone quarters.[10] The tower and lightstation reserve are popular tourist attractions and are open for public inspection. The National Parks Service (Victoria) in its submission noted that a manned presence at lightstations acts as a deterrent to would-be vandals.[11]

150. Natural Environment: Cape Nelson lightstation adjoins the Cape Nelson State Park which is listed on the Register of the National Estate. The Department of Home Affairs and environment advises that it requires more data to comment on the biological significance of the Cape Nelson lightstation and reserve.[12] The National Parks Service (Victoria) also notes the deterrent value of a manned presence at lightstations for the protection of flora and fauna.[13]

(c) Other

151. Bushfire Warning: The National Parks Service includes a reference to assistance in the form of observation and communication on the early detection of bushfires.[14]

Reasons for Unmanning/Continued Manning

152. The Department of Transport includes Cape Nelson in a group of 17 lightstations where the 'social and other uquantifiable benefits appear to be significant', so that there appears to be '.... a good case for the retention of an authoritative manned presence'.[15] The total rationale for the continued manning of stations such as Cape Nelson is that the operations are low cost, the stations are of heritage interest, are popular with tourists and are accessible to the public.

153. The Australian Lighthouse Association, while preferring to see the retention of a manned presence at Cape Nelson, notes in its submission that if the unmanning policy is to be applied it would be 'logical and far more reasonable ... to deman ... [Cape Nelson]...' than some of the more remote lightstations. The Association considers that, if necessary, some community supervision could possibly be arranged for less remote stations like Cape Nelson.[16]

154. The National Parks Service (Victoria) considers that because of their primary maritime safety role as well as the various other social benefits it is in the best interest of the public that lightstations remain manned. The Service indicates that it is interested in providing rangers at some lightstations but advises that because of park duties the rangers would be absent from the lightstation reserves most of their working hours. The Service also advises that it has limited funds and would require assistance from the Department of Transport for maintenance of the lightstation and surrounds.[17]

155. The Department of Home Affairs and Environment states that the likely supervision requirement of its portfolio, if the lightstation at Cape Nelson were demanned, is for a full-time residential management presence.[18]

9. CAPE OTWAY

General Description:[19]

156. History, Location: Cape Otway lightstation in Victoria was the second lightstation to be established on the Australian mainland, the first lightstation on the mainland being Macquarie Light built in 1817 at Sydney. The initial importance of the Cape Otway light was that it assisted vessels coming from Europe to run through Bass Strait to Sydney in lieu of the slower route around the south of Tasmania.

157. The lightstation site was selected by Latrobe (later Governor Latrobe) in 1846. Construction of the lightstation (completed in 1848) was difficult due to the hazardous nature of landings at Cape Otway. An alternative approach by land was eventually achieved, through the dense forests of the Otway Ranges. Eventually a railway line was constructed to the Otway area (Lavers Hill). From the railway station stores were transported 28 km to the lightstation by waggon. In about 1937 the road was improved allowing greater ease of access for motorised traffic.

158. Cape Otway is located 24 km from Apollo Bay on the south-west coast of Victoria. The lightstation reserve is 98 ha in size and is surrounded by the Otway National Park. As noted above, access to Cape Otway lightstation is by road.

159. The Light and Tower: The original light was a catoptric type consisting of 21 separate parabolic reflectors each with a wick lamp. The whole rotated on a clockwork mechanism giving a single 3 second flash every 53 seconds.

160. The light source is now a 120 volt tungsten halogen lamp with a Chance Bros 920 mm focal radius rotating lens with a group character of 3 flashes every 18 seconds. The lantern is a Chance Bros 1st Order. This electric conversion gives a light intensity of 1 000 000 candelas resulting in a nominal visible range of 26 nautical miles. The original clockwork rotating pedestal has been replaced with the "mercury float" type. The power source is mains electricity with a diesel stand-by generator.

161. The tower is constructed of sandstone blocks from the Parker River and is 18 m high. The tower is circular and is painted white. The spiral staircase is stone around a stone central column. The lightstation complex also included a telegraph station constructed in 1859, from Parker River sandstone.

162. Other Buildings: Three keepers' quarters were constructed of sandstone blocks between 1857-58. The telegraph station and a fourth keepers' quarters were constructed of sandstone in 1859.

163. The Melbourne "Argus" of 2 November 1847 noted that 40 stonemasons and other workmen were engaged by the Government in 1847 to assist in the erection of the lightstation at Cape Otway.

164. Staff: The lightstation is attended by 2 Department of Transport lightkeepers.

Cost Saving of Unmanning

165. For Cape Otway the relevant details are:

(a) DOT indicative benefits of unmanning - $0.79 m;
(b) ranking in respect of financial savings - No. 19; and
(c) annual savings - $77 000.

Benefits of Continued Manning

(a) Sea-based functions of keepers

166. Coastal Surveillance: As for Cape Nelson.

167. Search and Rescue: As for Cape Nelson.

168. Weather Reporting: The Bureau of Meteorology classifies Cape Otway as Category A. This classification means that the Bureau considers that the value of human observations at Cape Otway accord it the following description "... very important station, with no satisfactory alternative, such that closure would cause a serious diminution in service."[20] The Bureau classifies Cape Otway as a 'key station'. This classification means that Cape Otway makes 7 observations per day throughout the year. The Victorian Government's comments on local weather reports are the same as for Cape Nelson.

(b) Land-based functions of keepers

169. Cultural Environment: Cape Otway lightstation and associated buildings are listed in the Register of The National Estate.[21] The National Trust of Australia (Victoria) has certified the tower, headkeeper's quarters, assistant keepers' quarters, storerooms and former telegraph station.[22] The lightstation is very popular with tourists. It is the first lightstation established in Victoria. The National Parks Service (Victoria) sees a manned presence as a deterrent to would-be vandals.[23]

170. Natural Environment: Cape Otway adjoins the Parker River Catchment Area which is on the Register of the National Estate. The National Parks Service (Victoria) in its submission commented on the value of a manned presence for protection of flora and fauna.[24]

(c) Other

171. Bushfire warning: As for Cape Nelson.

Reasons for Unmanning/Continued Manning

172. The Department of Transport includes Cape Otway in a group of 17 lightstations that appear to require an authoritative manned presence. Transport says most of the 17 stations should retain a Commonwealth presence which should be provided by the Department and that the manning level should be reduced from 2 to 1 following automation of the navigational aid.[25]

173. The National Parks Service (Victoria) comments are the same as for Cape Nelson, i.e. that it is in the best interests of the public that lightstations remain manned. The Department of Home Affairs and Environment states that the likely supervision requirements of its portfolio if the lightstation at Cape Otway were unmanned is for a part-time non-residential management presence.[26]

10. CAPE SCHANCK

General Description[27]

174. History, Location: Cape Schanck lightstation was established in 1859. Cape Schanck is a mainland station 12 km west of Flinders on the Mornington Peninsula in Victoria. Cape Schanck lightstation is north of the Cape Schanck Coastal Park which is a public purpose reserve administered by Flinders Shire. Further north of the lightstation is an area managed by the National Parks Service. The area as a whole is close to the centre of population along the Mornington Peninsula. Access to Cape Schanck is by road.

175. The Light and Tower: The light source is a 120 volt tungsten halogen lamp with a Chance Bros 920 mm focal radius lens. The lantern is Chance Bros (12'). The power source is mains electricity with a diesel generator for stand-by.

176. The tower is limestone and is 21 m high. The tower was constructed in 1859. It is circular and is painted white.

177. Other Buildings: There are three cottages. Two keepers' cottages were constructed of limestone in 1857. One remains as a keeper's cottage but the other has been converted to a store/powerhouse/radio room. The third cottage built of brick in 1938 is now the head keeper's cottage.

178. Staff: The lightstation is attended by 2 Department of Transport lightkeepers.

Cost Savings of Unmanning

179. For Cape Schanck the relevant details are:

(a) DOT indicative benefits of unmanning - $0.70 m;
(b) ranking in respect of financial savings - No. 20; and
(c) annual savings - $74 000.

Benefits of Continued Manning

(a) Sea-based functions of keepers

180. Coastal Surveillance: As for Cape Nelson.

181. Search and Rescue: As for Cape Nelson.

182. Weather Reporting: Bureau of Meteorology classification is Category C. This classification means that in terms of the service provided by human observations for the Bureau, unmanning could be tolerated, or acceptable alternatives are available.[28]

(b) Land-based functions of keepers

183. Cultural Environment: The Cape Schanck tower and the two limestone cottages are listed in the Register of the National Estate.[29] These buildings have also been certified by the National Trust of Australia (Victoria).[30] The National Parks Service (Victoria) sees a manned presence as a deterrent to would-be vandals.[31]

184. Natural Environment: The Cape Schanck lightstation reserve adjoins the Cape Schanck Coastal Park which is on the Register of the National Estate. The National Parks Service (Victoria) sees a manned presence as protection for flora and fauna.[32]

(c) Other

185. Bushfire warning: As for Cape Nelson.

Reasons for Unmanning/Continued Manning

186. The Department of Transport includes Cape Schanck in a group of 17 lightstations where the 'social and other unquantifiable benefits appear to be significant', so that there appears to be '.... a good case for the retention of an authoritative manned presence'.[33] The total rationale for the continued manning of stations such as Cape Schanck is that the operations are low cost, the stations are of heritage interest, are popular with tourists and are accessible to the public.

187. The National Parks Service (Victoria) comments on the value of a continued manned presence are the same as for Cape Nelson.

188. The Australian Lighthouse Association in its submission stated that while it would prefer to see Cape Schanck remain manned it would be logical, in a comparative sense, to deman Cape Schanck before demanning a more remote station.[34]

189. The Department of Home Affairs and Environment assessment of its likely portfolio supervision requirements is for a full-time residential management presence.[35]

11. GABO ISLAND

General Description[36]

190. History, Location: A select Committee of the Legislative Council of New South Wales recommended, in 1845, the erection of a light at either Cape Howe or Gabo Island. A temporary light was erected on Gabo Island. In 1862 a permanent light was established.

191. Gabo Island is located 16 km from Mallacoota near the Victorian and New South Wales border on the east coast. The lightstation reserve encompasses the entire island which is 154.2 ha in size. Access to Gabo Island is by light aircraft or ship.

192. The Light and Tower: The light source is a 120 volt tungsten halogen lamp with a Chance Bros 250 mm focal radius rotating lens. The lantern is a Chance Bros 1st Order. The auxiliary light is a fixed red sector light. The power source is a diesel generator.

193. The tower is dressed red granite and is 46.9 m high. It is circular and unpainted. It was constructed in 1862. The tower contains a cast iron spiral staircase.

194. Other Buildings: There are three keepers' quarters, two are built of granite constructed in 1860, and one of concrete built in 1888.

195. Staff: The lightstation is attended by two Department of Transport lightkeepers.

Cost Savings of Unmanning

196. For Gabo Island the relevant details are:

(a) DOT indicative benefits of unmanning - $1.16 m;
(b) ranking in respect of financial savings - No. 7; and
(c) annual savings - $119 000.

Benefits of Continued Manning

(a) Sea-based functions of keepers

197. Coastal Surveillance: As for Cape Nelson.

198. Search and Rescue: The Victorian Government submission comments on SAR are the same as for Cape Nelson. The Australian lighthouse Association advised that Gabo Island and Point

Perpendicular were the only stations to receive distress calls from the yacht 'Penando' which capsized in Bass Strait at the end of 1977. The yacht later carried out repairs at Gabo Island.[37]

199. In evidence before a public hearing of the Expenditure Committee on 12 September 1983, Dr Farfor of the Australian Lighthouse Association recounted the assistance given to the lone yachtsman on the 'Gypsy Moth' which ran aground on Gabo Island. In addition, Dr Farfor mentioned that four people were rescued at Gabo Island in 1982.[38]

200. Weather: Bureau of Meteorology classification is Category A. This classification means that the Bureau considers that the value of human observations at Cape Otway are very important with no satisfactory alternative such that closure would cause a serious diminution in service.[39]

(b) Land-based functions of keepers

201. Cultural Environment: Gabo Island light tower is listed in the Register of the National Estate. Also listed are the historic shipwrecks in the vicinity of the island.[40] The National Trust of Australia (Victoria) has certified the tower and the two granite keepers' quarters.[41] The National Parks Service (Victoria) in its submission noted that a manned presence at lightstations acts as a deterrent to would-be vandals.[42]

202. Natural Environment: The significance of the natural environment of Gabo Island is that it lies off the Croajingalong National Park. The island is also inhabited by penguins, shearwaters and 40 species of migratory birds.[43] The National Parks Service (Victoria) noted that a manned presence affords protection for flora and fauna.[44]

(c) Other

203. Bushfire Warning: A representative of the Australian Lighthouse Association gave evidence to a public hearing of the Committee on 12 September 1983 of assistance by the keepers ' ... in the year of the big bushfires of Lara [which resulted] in the saving of life'.[45] (See also general comments on bushfire warnings made by the National Parks Service (Victoria) in the Cape Nelson profile.)

Reasons for Unmanning/Continued Manning

204. The Department of Transport includes Gabo Island in a category of 24 stations in respect of which it says that '... removal of the departmental manned presence would appear to be most justified'. The Department considers that the financial benefits from unmanning appear to outweigh the social and unquantified benefits.[46]

205. The National Parks Service (Victoria) comments on the value of a continued manned presence are the same as for Cape Nelson.

206. The Department of Home Affairs and Environment assessment of likely supervision requirement is the same as Cape Nelson, i.e. a full-time residential management presence.[47]

12. POINT HICKS

General Description[48]

207. History, Location: Point Hicks was the first point of the Australian mainland sighted by Captain James Cook and named by him in 1770. A plaque commemorating the landing of Captain Cook is located within the lightstation reserve. The lightstation complex was built between 1887 and 1888 and was officially opened on 15 May 1890. Point Hicks lightstation is located at Cape Everard some 43 km from Cann River on the south-east coast of Victoria.

208. The lightstation reserve abuts the Croajingolong National Park. The reserve is 132 ha in size. Access to Point Hicks is by unsealed road.

209. The Light and Tower: The original light was vaporised kerosene but this has been replaced with a 120 volt tungsten halogen lamp with a Chance Bros 920 mm focal radius rotating lens. The lantern is a Chance Bros (12'). The power source is a diesel generator.

210. The tower is 30 m high and was constructed in 1890 from rubble filled with cement render. The tower is circular and is painted white. The tower contains a fine cast iron spiral staircase which is cantilevered from the tower walls with no central column.

211. Other Buildings: There are two lightkeepers' quarters of timber-framed construction.

212. Staff: The lightstation is attended by 2 Department of Transport lightkeepers.

Cost Savings of Unmanning

213. For Point Hicks the relevant details are:

(a) DOT indicative benefits of unmanning - $0.90 m;
(b) ranking in respect of financial savings - No. 15; and
(c) annual savings - $81 000.

Benefits of Continued Manning

(a) Sea-based functions of keepers

214. Coastal Surveillance: As for Cape Nelson.

215. Search and Rescue: As for Cape Nelson.

216. Weather Reporting: The Bureau of Meteorology classification for Point Hicks is Category C. This classification means that in terms of the service provided by human observation for the Bureau, unmanning could be tolerated, or acceptable alternatives are available.[49]

(b) Land-based functions of keepers

217. Cultural Environment: Point Hicks lightstation and lightkeepers' cottages are listed in the Register of the National Estate.[50] The National Trust of Australia (Victoria) has certified the tower and keepers' quarters.[51] The connection of Point Hicks with the first landing on the Australian mainland by Captain Cook, is of great cultural significance. The National Parks Service (Victoria) in its submission noted that a manned presence at lightstations acts as a deterrent to would-be vandals.[52]

218. Natural Environment: Point Hicks adjoins the Captain Cook National Park and the Croajingalong National Park which is listed on the Register of the National Estate. The National Parks Service (Victoria) in its submission commented on the value of a manned presence for protection of flora and fauna.[53]

(c) Other

219. Bushfire Warning: A witness for the Australian Lighthouse Association (Dr Farfor) stated at a public hearing before the Expenditure Committee that the lightkeeper at Point Hicks '... was able to give considerable assistance to the fire fighting [during the recent bushfires]'.[54] (See same comments made by National Parks Service (Victoria) in the Cape Nelson profile.)

Reasons for Unmanning/Continued Manning:

220. The Department of Transport includes Point Hicks as one of the 17 lightstations where the 'social and other unquantifiable benefits appear to be significant', so that there appears to be '....a good case for the retention of an authoritative manned presence'.[55] The total rationale for the continued manning of stations such as Point Hicks is that the operations are low cost, the stations are of heritage interest, are popular with tourists and are accessible to the public.

221. The Department of Home Affairs and Environment's assessment of its portfolio's likely supervision requirements is the same as for Cape Otway, i.e. part-time non-residential management presence.

13. WILSONS PROMONTORY

General Description[56]

222. History, Location: Wilsons Promontory lighthouse in Victoria is the southernmost light on the Australian mainland. Wilsons Promontory was originally named Furneaux Land by Bass and Flinders in 1798 but the name was later changed to Wilson's Promontory by Governor Hunter. The Promontory is named after Thomas Wilson, a friend of Flinders.

223. The establishment of the light at Wilsons Promontory followed an inquiry by an Intercolonial committee appointed to determine lighting priorities on the south-east coast. Construction commenced in 1853 and was completed in 1859. The original light source was an array of oil burning lamps with parabolic reflectors.

224. The lightstation reserve is 29.6 ha in size and adjoins the Wilsons Promontory National Park. Access to the lightstation is by helicopter, road or by Department of Transport Cape Class vessel.

225. The Light and Tower: The light is an electric lamp array on a Department of Transport designed rotating pedestal. The rotating drive is powered by an electric motor. The light array comprises four vertical panels each with 12 x 30 volt 200 watt sealed beam lamps. The main light intensity is 850 000 candelas with a nominal visible range of 25 nautical miles through an arc of 220 degrees. The light flashes 4 times every 15 seconds. The stand-by apparatus comprises 2 6 volt 28.5 watt lamps per panel. The stand-by light has an intensity of 69 000 candelas with a nominal visible range of 19 nautical miles. The power source for the main light is a diesel generator with batteries as stand-by.

226. The tower is 19.5 m high and is constructed of rough faced basalt blocks of granite and bluestone. The tower is circular and is painted white.

227. Other Buildings: Only one of the original keepers' quarters with exterior built of stone (basalt) in 1859 remains intact. Two other quarters were destroyed by fire in 1951. These two quarters were rebuilt of stone and brick. In addition there is a cluster of ancillary buildings comprising a garage, explosives store, storeroom and engine house.

228. Staff: The lightstation is attended by 2 Department of Transport lightkeepers.

Cost Savings of Unmanning

229. For Wilsons Promontory the relevant details are:

(a) DOT indicative benefits of unmanning - $1.24 m;
(b) ranking in respect of financial savings - No. 6; and
(c) annual savings - $127 000.

Benefits of Continued Manning

(a) Sea-Based functions of keepers

230. Coastal Surveillance: As for Cape Nelson.

231. Search and Rescue: The Australian Lighthouse Association, in additional evidence to the Committee, advised that there were 88 responses to the automatic distress monitor during the period 1 January 1978 to 14 June 1978.[57]

232. Weather Reporting: The Bureau of Meteorology classifies Wilsons Promontory Lighthouse as Category A. This classification means that the Bureau considers that the value of human observations at Wilsons Promontory are very important, with no satisfactory alternative, such that closure would cause a serious diminution in service.[58]

(b) Land-based functions of keepers

233. Cultural Environment: Wilsons Promontory lightstation is not listed in the Register of the National Estate.[59] The National Trust of Australia (Victoria) has certified the tower and lightstation group of buildings, noting in particular the unusual nature of the original stonework.[60] The National Parks Service (Victoria) in its submission noted that a manned presence at lightstations acts as a deterrent to would-be vandals.[61]

234. Natural Environment: Wilsons Promontory lightstation reserve adjoins the Wilsons Promontory National Park which is on the Register of the National Estate. The biological significance of the reserve and its surrounds is the presence of seal colonies and a diverse marine life.[62] The National Parks Service (Victoria) sees a manned presence as a protection for flora and fauna.[63]

(c) Other

235. Bushfire Warning: As for Cape Nelson.

Reasons for Unmanning/Continued Manning

236. The Department of Transport includes Wilsons Promontory as one of the 24 lightstations where 'it appears that the financial benefits from unmanning outweigh the social and other unquantifiable benefits', so that the removal of the departmental manned presence would appear to be most justified.[64]

237. The National Parks Service (Victoria) comments on the value of a continued manned presence are the same as for Cape Nelson.

238. The Department of Home Affairs and Environment says that if the station is unmanned the likely supervision requirements of the portfolio would be for a full-time residential management presence.[65]

ENDNOTES: VICTORIA LIGHTSTATIONS

1. Compiled from Exhibit 7
2. Submissions, Vol.2, p.219
3. Submissions, Vol.3, p.534
4. Submissions, Vol.1, p.117
5. op. cit.
6. Submissions, Vol.1, pp.115-117
7. Submissions, Vol.5, p.675
8. Submissions, Vol.3, p.534
9. Submissions, Vol.4, p.600
10. Submissions, Vol.2, p.296
11. Submissions, Vol.2, p.298
12. Submissions, Vol.3, p.515
13. op. cit.
14. Submissions, Vol.2, p.298
15. Submissions, Vol.2, p.201
16. Submissions, Vol.2, p.264
17. Submissions, Vol.2, p.298
18. Submissions, Vol.4, p.602
19. Compiled from Exhibit 7
20. Submissions, Vol.5, p.674
21. Submissions, Vol.4, p.600
22. Submissions, Vol.2, p.296
23. Submissions, Vol.2, p.298
24. ibid.
25. Submissions, Vol.2, p.201
26. Submissions, Vol.4, p.602
27. Compiled from Exhibit 7
28. Submissions, Vol.5, p.675
29. Submissions, Vol.4, p.600
30. Submissions, Vol.2, p.295
31. Submissions, Vol.2, p.298
32. ibid.
33. Submissions, Vol.2, p.201
34. Submissions, Vol.2, p.264
35. Submissions, Vol.4, p.602
36. Compiled from Exhibit 7
37. Submissions, Vol.5, p.690
38. Evidence, p.116
39. Submissions, Vol.5, p.674
40. Submissions, Vol.4, p.600

41. Submissions, Vol.2, p.295
42. Submissions, Vol.2, p.298
43. Submissions, Vol.3, p.515
44. op. cit.
45. Evidence, p.122
46. Submissions, Vol.2, p.200
47. Submissions, Vol.4, p.602
48. Compiled from Exhibit 7
49. Submissions, Vol.5, p.675
50. Submissions, Vol.4, p.600
51. Submissions, Vol.2, p.296
52. Submissions, Vol.2, p.298
53. ibid.
54. Evidence, p.90
55. Submissions, Vol.2, p.201
56. Compiled from Exhibit 7
57. Submissions, Vol.5, p.690
58. Submissions, Vol.5, p.674
59. Submissions, Vol.4, p.601
60. Submissions, Vol.2, p.295
61. Submissions, Vol.2, p.298
62. Submissions, Vol.3, p.515
63. Submissions, Vol.2, p.298
64. Submissions, Vol.2, p.200
65. Submissions, Vol.4, p.602

QUEENSLAND

(Manned Lightstations)

14. Booby Island

15. Bustard Head

16. Cape Capricorn

17. Cape Cleveland

18. Cape Moreton

19. Dent Island

20. Double Island Point

21. Fitzroy Island

22. Lady Elliott Island

23. Low Isles

24. Pine Islet

25. Sandy Cape

14. BOOBY ISLAND

General Description[1]

243. History, Location: Captain James Cook and the botanist Banks landed on the island on 23 August 1770 and named it Booby Island after the boobies (birds) that nest on the island. In a remarkable coincidence it was 'renamed' Booby Island by Captain Bligh who also landed on the island on 3 June 1789 during his epic voyage, after the mutiny on the 'Bounty'. In 1890 a manned lighthouse was established by the Queensland Government on Booby Island.

244. Booby Island is located at the western approach to Torres Strait. It is 6.07 ha in size and is near the tip of Cape York Peninsula in Queensland. Access to the island is by launch.

245. The Light and Tower: The light source is a 120 volt tungsten halogen lamp with a 800 mm focal radius rotating lens. The power source is a diesel generator. The light was converted to electric operation in 1963. The lantern is a Chance Bros (10'1"). The light flashes once every four seconds and has a power of 1 000 000 candelas. In 1970 a tide guage was installed and tide heights are broadcast over the marine radio beacon at Booby Island.

246. The tower has a timber frame, 18 m high, with iron sheet cladding. The tower was constructed in 1890. The tower is conical and is painted white with a red dome.

247. Other Buildings: There are 4 timber framed, fibro-clad quarters each with corrugated fibro roof on Booby Island. Utility buildings include a powerhouse, radio beacon room, store, tide guage hut, workshop and office.

248. Staff: The lightstation is attended by 3 Department of Transport lightkeepers.

Cost Savings of Unmanning

249. The Department of Transport has supplied indicative costs associated with manned lightstations. This information which covers Booby Island is at Attachment 1 of this appendix. Transport has calculated the indicative benefits of unmanning Booby Island at $0.9 m. This gives Booby Island No. 16 ranking in respect of financial savings which would accrue from unmanning. This figure represents the new present value of the difference in costs over the next 20 years between manned and unmanned operations discounted at 10%.[2]

250. At the request of the Committee, the Department of Transport provided additional information on the indicative annual net savings achievable from unmanning for each of the 41 lightstations.

251. The indicative annual saving following unmanning of Booby Island is calculated at $83 000.

Benefits of Continued Manning

(a) Sea-based functions of keepers

252. Coastal Surveillance: There appears to be no specific evidence in the submissions on surveillance activities by the lightkeepers at Booby Island.

253. Search and Rescue: The Queensland Small Craft Council in its submission included Booby Island in a group of lightstations which the Council considered should continue to be manned in recognition of the acts of 'rescue and mercy performed by lightkeepers'.[3] There appears to be no specific mention of Booby Island staff being involved in search and rescue.

254. Weather Reporting: The Bureau of Meteorology classifies Booby Island as Category C. This classification means that if the manned presence is removed and there are no human weather observations "... the loss could be tolerated, or acceptable alternatives are available."[4] The Bureau does not classify Booby Island as a 'key station'.[5]

(b) Land-based functions of keepers

255. Cultural Environment: Booby Island is not listed in the Register of the National Estate.[6] In relation to cultural heritage, however, Booby Island is significant in that it was listed in the 'Australian Directory' Vol II of 1889 (Sailing Directions) as a mail drop, and food depot for shipwrecked or distressed mariners. The historical nature of 'Postmans Cave' on Booby Island is mentioned by Lieutenant P A Spencer (RAN) in his submission to the Committee.[7] The Queensland Government's submission makes a general statement about the need to preserve certain lightstations, to prevent them falling into disrepair and decay. This statement implies that a manned presence is a deterrent to disrepair and decay of lightstations'.[8]

256. Natural Environment: Apart from mention of the presence of boobies (birds), the submissions do not contain any specific evidence on unique flora or fauna on Booby Island.The Department of Home Affairs and Environment notes, however, that the island is a nesting site for over 50 species of migratory seabirds.[9]

(c) Other

257. In evidence before a public hearing of the Expenditure Committee in Brisbane on 22 July 1983, a Mr Max Strohfeldt (retired officer of the Department of Transport) stressed the importance of retaining a manned presence on Booby Island. Mr Strohfeldt's concern was to ensure human monitoring of the tide guage at the entrance to Torres Strait.[10]

Reasons for Unmanning/Continued Manning

258. The Department of Transport includes Booby Island in a group of 24 lightstations where 'it appears that the financial benefits from unmanning outweigh the social and other unquantifiable benefits', so that the '....removal of the *departmental manned presence would appear to be most* justified'.[11] The Department of Home Affairs and Environment says that if the lightstation is unmanned the likely supervision requirements of the portfolio would be for a full-time residential management presence for Booby Island.[12]

259. The Queensland Government in its submission stated that *because of the importance of continued manning from a community* viewpoint, '.... any proposal for the conversion of a manned lightstation to an automatic function should be subject to a detailed study of the implications of demanning'.[13]

15. BUSTARD HEAD

General Description:[14]

260. History, Location: The Bustard Head light was established in 1868 following a recommendation of a Queensland parliamentary report of 1864.

261. Bustard Head is a mainland station some 50 km from Gladstone on the central Queensland coast. The lightstation reserve is 445.2 ha in size. Bustard Head is adjacent to, but not within the Great Barrier Reef Marine Park region. Access to Bustard Head is by launch, or helicopter.

262. The Light and Tower: The light source is a 120 volt lamp with an AGA 250 mm focal radius rotating lens. The power source is a diesel generator. The lantern is a Chance Bros (9'6"). The original light was a kerosene light.

263. The tower is constructed of cast iron imported in segment form from the UK. The tower is 18 m high and is set on a stone base. It does not have a timber frame. Construction of the tower was completed in 1868. Subsequently, the stairway to the light platform was relocated from the outside to the inside of the tower and the original doorway sealed. A new entrance was provided. The tower is conical and is painted white with a red dome.

264. Other Buildings: There are 2 residences of timber-framed and fibro-clad construction. There is also a workshop and brick powerhouse. A disused stable remains on the lightstation reserve.

265. Staff: The lightstation is attended by 2 Department of Transport lightkeepers.

Cost Savings of Unmanning

266. For Bustard Head the relevant details are:

(a) DOT calculation of indicative benefits of unmanning - $1.03 m;
(b) ranking in respect of financial savings - No. 11; and
(c) annual savings - $111 000.

Benefits of Continued Manning

(a) Sea-based functions of keepers

267. Coastal Surveillance: As for Booby Island.

268. Search and Rescue: Bustard Head lightstation is mentioned in one submission (Mr S.M. Roche) as being involved in a radio relay between Dent Island and Coastal Surveillance in the report of an abandoned dinghy seen floating upside down near Dent Island.[15]

269. The use of Bustard Head in the radio relay from Dent Island lightstation is because Dent Island, unlike Bustard Head, has no public telephone connection and communications are by radio transceiver to Bustard Head lightstation.[16]

270. Weather Reporting: The Bureau of Meteorology classifies Bustard Head lightstation as Category B. This classification means that if the manned presence is removed and there are no human weather observations '...[the] closure would cause a significant diminution in service'.[17] Bustard Head is not classified by the Bureau as a 'key station'.[18]

(b) Land-based functions of keepers

271. Cultural Environment: Bustard Head lightstation, lightkeepers' cottages and ancillary buildings are listed in the *Register of the National Estate*.[19] *The Queensland Government's* submission implies that a manned presence is a deterrent to disrepair and decay of certain historic lightstations.[20]

272. Natural Environment: The Department of Home Affairs and Environment advises that there is insufficient data on the biological significance of Bustard Head lightstation.[21] The lightstation reserve adjoins the Bustard Bay-Deepwater Holding Area which is listed on the Register of the National Estate. The lightstation also adjoins the Eurimbula National Park.

273. The Great Barrier Reef Marine Park Authority assesses the management value of Bustard Head to the Authority as 'low'.[22].

(c) Other

274. Nil.

Reasons for Unmanning/Continued Manning

275. The Department of Transport includes Bustard Head in a group of 24 lightstations where 'it appears that the financial benefits from unmanning outweigh the social and other unquantifiable benefits', so that the '....removal of the departmental manned presence would appear to be most justified'.[23]

276. The Department of Home Affairs and Environment advises that there is insufficient information available in respect of Bustard Head for any assessment to be made of the portfolio's likely supervision requirements.[24]

16. CAPE CAPRICORN

General Description:[25]

277. History, Location: A Queensland parliamentary report of 1864 recommended the establishment of a lightstation at Cape Capricorn on Curtis Island.

278. Cape Capricorn is at the north-east tip of Curtis Island which lies 24 km north of Gladstone on the central coast of Queensland. Cape Capricorn is regarded as the entrance to Keppel Bay which is popular with professional and amateur fishermen. Cape Capricorn is adjacent to, but is not within the Great Barrier Reef Marine Park region. Curtis Island is used by holiday-makers and as an anchorage for fishermen and larger cruising vessels. Access to Curtis Island (and Cape Capricorn) is by launch or light aircraft (beach landing).

279. The Light and Tower: The light is electric with a power source from diesel generators. The optical apparatus consists of a Pintsch 250 mm focal radius lens mounted on a pedestal. An electric motor provides the drive for rotation of the light. The light source is a 120 volt tungsten halogen lamp. The original oil wick burner was replaced by a 55 mm incandescent kerosene mantle in 1923. In 1938 the light was converted to electric operation.

280. The tower is located at the tip of the island and is 94 m above sea level on a sand dune. The existing tower was built in 1964. It is the third tower to be erected on the site. It is of concrete and supports a 7'3" diameter lantern.

281. Other Buildings: There are 2 houses, a store-house, workshop, winch-shed and leadlight building. All buildings are of fibro. The diesel powerhouse is constructed of concrete blocks.

282. Staff: The lightstation is attended by 2 Department of Transport lightkeepers.

Cost Savings of Unmanning

283. For Cape Capricorn the relevant details are:

(a) DOT calculation of indicative benefits of unmanning- $0.49 m;
(b) ranking in respect of financial savings - No. 34; and
(c) annual savings - $39 000.

Benefits of Continued Manning

(a) Sea-based functions of keepers

284. Coastal Surveillance: Same comments as for Booby Island.

285. Search and Rescue: The Capricornia Cruising Yacht Club in its submission on search and rescue said '... the importance ... of the weather reports from Cape Capricorn for one hundred miles of wild coast to the north, is the concern of our Club and we feel strongly that the demanning of the Cape Capricorn light would be detrimental ...'. The club gave an example of the loss of a yacht (no loss of life) during the Yeppoon to Mackay yacht race which the club attributes in part to the failure of the unmanned light on High Peak Island.[26]. The Australian Lighthouse Association states that is has received a petition and other representations from concerned residents of Rockhampton, professional and amateur fishermen and others over the proposed demanning of Cape Capricorn. The representations from these interested parties emphasised the importance of a manned presence at the Cape Capricorn for marine safety.[27] A statement in the submission of the Department of Transport suggests that the Queensland Police see no need for the retention of a manned presence at Cape Capricorn for search and rescue.[28]

286. Weather Reporting: The Bureau of Meteorology classifies Cape Capricorn as Category C. This classification means that if the manned presence is removed and there are no human weather observations the loss could be tolerated, or acceptable alternatives are available.

287. The Bureau does not classify Cape Capricorn as a 'key station'.[29]

(b) Land-based functions of keepers

288. Cultural Environment: Cape Capricorn is not listed in the Register of the National Estate.[30] The Department of Home Affairs and Environment assesses the structures as '... not of National Estate significance...'.[31]

289. Natural Environment: There appears to be little evidence in the submissions on the significance of the natural environment at Cape Capricorn lightstation.

290. The Great Barrier Reef Marine Park Authority rates the management value of Cape Capricorn to the Authority as 'low'.[32]

(c) Other

291. Nil.

Reasons for Unmanning/Continued Manning

292. The Department of Transport includes Cape Capricorn in a group of 24 lightstations where 'it appears that the financial benefits from unmanning outweigh the social and other unquantifiable benefits', so that the 'removal of the departmental manned presence would appear to be most justified'.[33]

293. The Department of Home Affairs and Environment advises that there is insufficient information available in respect of Cape Capricorn for any assessment to be made of the portfolio's likely supervision requirements.[34]

294. The Australian Lighthouse Association submitted that Cape Capricorn should remain manned pending an adequate survey of [its] social and community significance.[35]

17. CAPE CLEVELAND

General Description:[36]

295. History, Location: The Cape Cleveland lightstation was constructed in 1879. Cape Cleveland is a mainland lightstation located some 21 km from Townsville in North Queensland. The lightstation reserve covers 20.23 ha. The reserve is surrounded by the Cape Cleveland National Park. Regular access to Cape Cleveland is by boat.

296. The Light and Tower: The main light source (rear lead) is an electric 120 volt tungsten halogen lamp with a Pintsch 250 mm focal radius rotating lens. The power source is diesel. The front lead light is an AGA acetylene self-contained beacon on a 3 m high cabinet. The power of the main light is 990 000 candelas.

297. The tower is 11 m high and was constructed in 1879. It has a timber frame and is iron clad set on a stone base. The tower is conical.

298. Other Buildings: There are 2 timber-framed weatherboard clad, fibro roofed houses which were constructed in 1954.

299. Staff: The lightstation is attended by 2 Department of Transport lightkeepers.

Cost Savings of Unmanning

300. For Cape Cleveland the relevant details are:

(a) DOT calculation of indicative benefits of unmanning - $0.53 m;
(b) ranking in respect of financial savings - No. 31; and
(c) annual savings - $46 000.

Benefits of Continued Manning

(a) Sea-based functions of keepers

301. Coastal Surveillance: As for Booby Island.

302. Search and Rescue: There appears to be no evidence in the submissions to specifically connect Cape Celeveland with search and rescue.

303. Weather Reporting: The Bureau of Meteorology classifies Cape Cleveland lightstation as Category C. This classification means that if the manned presence is removed and there are no human weather observations the loss could be tolerated, or acceptable alternatives are available.[37]

304. The Bureau does not classify Cape Cleveland as a 'key station.'[38]

(b) Land-based functions of keepers

305. Cultural Environment: Cape Cleveland is not listed in the Register of the National Estate but the tower, constructed in 1879 from components imported from the UK, is considered to be of cultural significance.[39] The Queensland Government's submission implies that a manned presence is a deterrent to disrepair and decay of certain historic lightstations.[40]

306. Natural Environment: The environmental significance of Cape Cleveland is based on its location adjoining the Cape Cleveland National Park. The Department of Home Affairs and Environment notes that the lightstation reserve has some fringing coral growth and sand banks.[41]

(c) Other

307. Nil.

Reasons for Unmanning/Continued Manning

308. The Department of Transport includes Cape Cleveland in a group of 24 lightstations where 'it appears that the financial benefits from unmanning outweigh the social and other unquantifiable benefits', so that the '....removal of the departmental manned presence would appear to be most justified'.[42]

309. The Department of Home Affairs and Environment advises that if unmanning occurs, its assessment of the likely supervision requirements of its portfolio would require a part-time non-residential management presence.[43]

18. CAPE MORETON

General Description[44]

310. History, Location: The Cape Moreton lightstation was established in 1857 by the N.S.W. Colonial government before the formation of Queensland as a state. It is the oldest Queensland lighthouse still in existence.

311. Cape Moreton lightstation is located on Moreton Island which lies off the Queensland coast near Brisbane. Moreton Island is a holiday resort. The lightstation reserve is 182.1 ha in size. Access to the island (and lightstation) is by air and unsealed road on the island.

312. The Light and Tower: The light source is a 120 volt lamp with an AGA 375 mm focal radius rotating lens. The lantern is a Chance Bros (7'1"). The power source is a diesel generator. The original light was a kerosene powered apparatus.

313. The tower was constructed in 1857 from local sandstone. It is 23 m high. The stone is biscuit colour and the tower is conical in shape. Two red bands are painted on the tower together with a red cupola.

314. Other Buildings: There are 3 houses built with timber frame, fibro-clad and corrugated iron roofs.

315. Staff: The lightstation is attended by 2 Department of Transport lightkeepers.

Cost Savings of Unmanning

316. For Cape Moreton the relevant details are:

(a) DOT calculation of indicative benefits of unmanning - $0.55 m;
(b) ranking in respect of financial savings - No. 29; and
(c) annual savings - $49 000.

Benefits of Continued Manning

(a) Sea-based functions of keepers

317. Coastal Surveillance: As for Booby Island.

318. Search and Rescue: Queensland Small Craft Council comments are the same as for Booby Island.

319. Weather Reporting: Bureau of Meteorology classifies Cape Moreton as Category A. This classification means that the Bureau's requirement for human observations makes Cape Moreton '...a very important station, with no satisfactory alternative, such that closure would cause a serious diminution in service'.[45]

320. The Bureau classifies Cape Moreton as a 'key station'. This classification means that Cape Moreton makes 7 observations per day throughout the year.[46]

(b) Land-based functions of keepers

321. Cultural Environment: Cape Moreton lightstation, lightkeepers' cottages and ancillary buildings are listed in the Register of the National Estate.[47] The tower constructed in 1857 from local sandstone is of cultural significance. The tower attracts many visitors. The Queensland Government's submission implies that a manned presence is a deterrent to disrepair and decay of certain historic lightstations.[48]

322. Natural Environment: The environmental significance of the Cape Moreton lightstation reserve is that it is constructed on the only rock outcrop on Moreton Island. The Department of Home Affairs and Environment advises that Cape Moreton is popular with tourists and its statement implies that its requirement for a full-time residential presence would provide protection for the natural environment. The Department notes however, that more data is needed to support its assessment.[49] The lightstation is on Moreton Island which is listed on the Register of the National Estate.

(c) Other

323. Nil.

Reasons for Unmanning/Continued Manning

324. The Department of Transport includes Cape Moreton in a group of 24 lightstations where 'it appears that the financial benefits from unmanning outweigh the social and other unquantifiable benefits', so that the '....removal of the departmental manned presence would appear to be most justified'.[50]

325. The Department of Home Affairs and Environment advises that if unmanning occurs, its assessment for likely supervision requirement is for a full-time residential management presence.[51]

19. DENT ISLAND

General Description:[52]

326. History, Location: Dent Island lies within the Great Barrier Reef region. It lies to the south of Whitsunday Island and helps mark the Whitsunday Passage, named by Captain Cook who sailed through the passage in the 'Endeavour' on Whitsunday 1770.

327. The island is 160 ha in size and contains the lightstation reserve, a grazing lease and a Coral Arts museum. The Whitsunday Passage and its islands are popular tourist attractions and access to the area is by launch from the Mackay/Proserpine area of North Queensland.

328. The Light and Tower: In 1982 the original kerosene light and glass lens was replaced with a flashing electric light set in a fixed cylindrical plastic lens. The power source is a solar panel which charges a bank of 12 volt batteries. A separate 240 volt generator provides electricity for the residences and workshop.

329. The tower is 10 m high and was constructed in 1879 from components imported from the UK. It is a timber-framed iron-clad structure.

330. Other Buildings: There are two residences, a winch house, a storage shed, engine room and combined workshop/radio room. The ancillary buildings are constructed of weatherboard and fibro with galvanised iron roofs. The buildings have no National Estate significance.

331. Staff: Dent Island has an automated light but there are 2 Department of Transport lightkeepers in attendance.

Cost Savings of Unmanning

332. For Dent Island the relevant details are:

(a) DOT indicative costs associated with unmanning - $1.09m ;
(b) ranking in respect of financial savings - No. 9; and
(c) annual savings - $108 200.

Benefits of Continued Manning

(a) Sea-based functions of keepers

333. Coastal Surveillance: As for Booby Island.

334. Search and Rescue: The Mackay Sea Rescue Squad in its submission lists Dent Island in a group of four lightstations which the Rescue Squad considers should continue to be manned. The Rescue Squad says '... our concern is the loss of on-the-spot weather reports, and more importantly, the contact with these stations for rescue work ...'.[53]

335. Mr S.M. Roche recounted in his submission to the Committee an incident reported by his brother, who is a relief lightkeeper, of a radio signal from Dent Island to Bustard Head reporting an abandoned dinghy seen floating upside down near Dent Island.[54] In a submission received from the Australian Heritage Commission ('Gott Report'), the limited radio traffic and lack of meteorological reports from Dent Island was assessed as '....greatly limit[ing] any value the lightstation might have to small boat operators, air sea rescue organisations and other groups....'[55]

336. A radio transceiver is installed at Dent Island to provide communications. The station is not connected to the public telephone network. The transceiver is used in a radio relay link with Bustard Head lightstation.

337. The Queensland Small Craft Council comments on search and rescue are the same as for Booby Island.

338. Weather Reporting: Dent Island does not provide weather reports.

(b) Land-based functions of keepers

339. Cultural Environment: Dent Island lightstation, lightkeepers' cottages and ancillary buildings are listed in the Register of the National Estate.[56] Only the tower, constructed in 1879 from components imported from the UK, is considered to be of cultural significance.[57] The Queensland Government's submission implies that a manned presence is a deterrent to disrepair and decay of certain historic lightstations.[58]

340. Natural Environment: The environmental significance of Dent Island is based on its location within the Great Barrier Reef Region which is on the Register of the National Estate.[59] The Great Barrier Reef Marine Park Authority assesses the management value of Dent Island to the Authority as 'low'.[60]

341. The Australian Conservation Foundation (ACF) lists Dent Island at No 9 out of a list of 12 in decreasing importance of lighthouse reserves where protection to landforms and vegetation is of concern to the Foundation. ACF considers that the threat to Dent Island if unmanned stems from tourist pressure.[61]

(c) Other

342. Nil.

Reasons for Unmanning/Continued Manning

343. The Department of Transport includes Dent Island in a group of 24 lightstations where 'it appears that the financial benefits from unmanning outweigh the social and other unquantifiable benefits', so that the '....removal of the departmental manned presence would appear to be most justified'.[62]

344. The Department of Home Affairs and Environment assessment of the likely supervision requirements for its portfolio, if unmanning occurs, is for an occasional management presence.[63]

345. The Department of Transport in its submission said of the duties of the Dent Island keeper '....the lightkeeper's only responsibility in relation to the operation of this light is to keep the solar panels clean'.[64]

20. DOUBLE ISLAND POINT

General Description[65]

346. History, Location: Double Island Point was named by Captain Cook in 1770. Double Island Point is a mainland lightstation 50 km north of Noosa on the southern Queensland coast. Nearby are Tin Can Bay and Wide Bay both of which are highly popular with professional and amateur fishermen. Double Island Point adjoins the Cooloola National Park. The beach area on the edge of the Park is popular with campers and fishermen. Aground on this beach is one of the largest wrecks of its kind on the Australian coast, the vessel 'Cherry Venture'. The 'Gott Report'[66] comments that Double Island Point lightstation is superbly maintained. The lightstation reserve is 57 ha in size. Access to Double Island Point is by road through the Cooloola National Park or via the beach at low tide. A helicopter can also land in the grounds of the lightstation reserve.

347. The Light and Tower: The original light was a kerosene system. The light has been converted to an electric source but the lens apparatus is the original. The original rotation mechanism is in working order, although it is now no longer used.

348. The tower was constructed in 1884. It is an iron-clad timber-framed tower.

349. Other Buildings: There are two houses, a watch hut, radio hut, garage and engine room. The buildings are timber-framed with fibro walls.

350. Staff: The lightstation is attended by 2 Department of Transport lightkeepers.

Cost Savings of Unmanning

351. For Double Island Point the relevant details are:

(a) DOT indicative costs associated with unmanning-$0.34 m;
(b) ranking in respect to financial savings - No. 40; and
(c) annual savings - $26 000.

Benefits of Continued Manning

(a) Sea based functions of keepers

352. Coastal Surveillance: The 'Gott Report' notes that the keepers have a marine radio link with the Coast Guard unit at Tin Can Bay and provide information on shipping movements.[67]

353. Search and Rescue: The radio and telephone link with Double Island Point is considered important to vessels approaching or leaving ports in the region. This information is used by a variety of marine vessels as well as the Hervey Bay Sea Rescue unit.[68]

354. The 'Gott Report' stated that ' ... the two keepers each have a boat which can be put to sea in cases of emergency. Neither had personally participated in any dramatic rescues ... although the usual assistance to small boats out of fuel, with flat batteries, etc., has been provided'.[69]

355. The Queensland Small Craft Council in its submission included Double Island Point in a group of lightstations which the Council considered should continue to be manned in recognition of the acts of 'rescue and mercy performed by lightkeepers'.[70] The Mackay Sea Rescue Squad comments are the same as for Dent Island.

356. Keepers have assisted, by a radio link, in the rescue of three multi-hulled yachts in distress in the 1982 Gladstone Yacht Race.[71]

357. Weather Reporting:The Bureau of Meteorology classifies Double Island Point as Category A. This classification means that the Bureau's requirement for human observations makes Double Island Point a very important station, with no satisfactory alternative, such that closure would cause a serious diminution in service.[72] The keepers provide local weather reports on their marine band transceivers and by telephone. These local weather reports are considered to be of importance to vessels attempting a crossing of the Wide Bay Bar. Double Island Point provides hourly reports in the cyclone season.[73]

(b) Land-based functions of keepers

358. Cultural Environment: Double Island Point lightstation, lightkeepers' cottages and ancillary buildings are listed in the Register of the National Estate.[74] The Queensland Government's submission implies that a manned presence is a deterrent to disrepair and decay of certain historic lightstations.[75]

359. Natural Environment: The environmental significance of Double Island Point is that it adjoins the Cooloola National Park which is listed on the Register of the National Estate. The Fraser Island Defence Organisation in its submission to the Committee commented on the tourist pressure at Double Island Point. The Organisation suggested that unmanning may leave the station and surrounds vulnerable to vandalism.[76]

360. The Australian Conservation Foundation listed Double Island Point at No. 6 out of 12, in a list of decreasing importance of lightstations for which staffing is considered desirable for protection of the natural environment.[77]

(c) Other

361. Nil.

Reasons for Unmanning/Continued Manning

362. The Department of Transport includes Double Island Point in a group of 17 lightstations where the 'social and other unquantifiable benefits appear to be significant', so that there appears to be '....a good case for the retention of an authoritative manned presence'.[78] The total rationale for the continued manning of stations such as Double Island Point is that the operations are low cost, the stations are of heritage interest, are popular with tourists and are accessible to the public.[79]

363. The Department of Home Affairs and Environment says that there is insufficient information available for any assessment of the likely supervision requirements for Double Island Point.[80]

364. The Australian Lighthouse Association included Double Island Point in a category of lightstations which should remain manned pending an adequate survey of its social and community significance.[81]

21. FITZROY ISLAND

General Description[82]

365. History, Location: Fitzroy Island is 10.9 ha in size and lies 32 km to the south-east of Cairns in North Queensland. It is within the Great Barrier Reef and is popular with tourists. Access to the island is by launch.

366. The light source consists of an array of sealed beam lamps mounted on a revolving hexagonal column. The main bank comprises 3 panels each of five 30 volt 200 watt lamps. The remaining panels each contain 2 x 6 volt 28.5 watt lamps for emergency use in the event of failure of the main bank. The pedestal revolves at six revolutions per minute giving a character of group flashing 3 every 10 seconds. The main (white) light has an intensity of 270 000 candelas and has a nominal visible range of a 22 nautical mile range. The red and green sector lights have a lesser intensity and range. The power source is diesel with a 24 volt battery bank for the emergency system.

367. The tower is a 12 m high concrete structure surmounted by a 2.4 m diameter fibreglass lantern (Department of Transport design). Lights were first established on Little Fitzroy and Fitzroy Islands in 1929 and 1943, respectively. The present high intensity beacon was constructed in 1973.

368. Other Buildings: There are 2 timber-framed weatherboard cottages built in the early 1960s. In addition there is a brick powerhouse, timber-framed fibro garage, pump shed and assorted store sheds.

369. Staff: The lightstation is attended by 2 Department of Transport lightkeepers.

Cost Savings of Unmanning

370. For Fitzroy Island the relevant details are:

(a) DOT indicative costs associated with unmanning - $0.43 m;
(b) ranking in respect to financial savings - No. 38; and
(c) annual savings - $34 000.

Benefits of Continued Manning

(a) Sea-based functions of keepers

371. Coastal Surveillance: As for Booby Island.

372. Search and Rescue: The Queensland Small Craft Council's comments are the same as for Booby Island.

373. Weather Reporting: The Bureau of Meteorology classifies Fitzroy Island as Category B. This classification means that the removal of a manned presence whereby human observations would be made on behalf of the Bureau would cause a significant diminution in service.[83]

(b) Land-based functions of keepers

374. Cultural Environment: Fitzroy Island lightstation, lightkeepers' cottages and ancillary buildings are listed in the Register of the National Estate but the listing is a recognition of the lightstation's proximity to the Great Barrier Reef. The lightstation group itself is not considered to have cultural significance.[84]

375. Natural Environment: Fitzroy Island is part of the Great Barrier Reef which is listed on the Register of the National Estate; the lightstation reserve does not fall within the boundaries of the Great Barrier Reef Marine Park. The island itself has a fringing reef. The Great Barrier Reef Marine Park Authority assesses the management value of Fitzroy Island as 'low' and advises that the Green Island management base is close by.[85]

376. The Department of Home Affairs and Environment assesses the island as having '.....little heritage or biological significance'.[86]

(c) Other

377. Nil.

Reasons for Unmanning/Continued Manning

378. The Department of Transport includes Fitzroy Island in a group of 24 lightstations where 'it appears that the financial benefits from unmanning outweigh the social and other unquantifiable benefits', so that the '....removal of the departmental manned presence would appear to be most justified'.[87]

379. The Department of Home Affairs and Environment assessment for likely supervision requirements is an occasional management presence.[88]

22. LADY ELLIOTT ISLAND

General Description[89]

380. History, Location: Although unverified, it appears that a lightstation was established on Lady Elliott Island in 1866 and replaced in 1873.

381. Originally the island was tree-covered, but the entire tree and vegetation cover was removed during guano mining in the 1860s. The mining operation disrupted turtle and bird life on the island. Restoration of vegetation on the island has been an interest of and a commendable achievement by the owner of the tourist lease on the island. The island is named after the vessel 'Lady Elliott' the crew of which sighted the island in 1816.

382. Lady Elliott Island is at the southernmost tip of the Great Barrier Reef. It is some 100 km east of the southern Queensland coast. The island is 6.07 ha in size. The island contains a tourist complex which is serviced by commercial airline flights from Brisbane and Bundaberg. Lady Elliott Island *is a classic reef-fringed coral island, including remnants of* wrecks. Access to the island (and the lightstation) is by aircraft or launch. The lightstation reserve comprises the whole island.

383. The Light and Tower: The original light source was an oil wick burner. It was replaced by vaporised kerosene in 1923 with a Chance Bros 250 mm focal radius rotating lens and a Chance Bros lantern (6'7 3/4").

384. In 1981 an automated acetylene gas light was installed. The light is fitted with a sun-valve which switches the light on and off according to the level of ambient light.

385. The 'Gott Report' states ' ... *in the event of a light* failure the two keepers are neither trained (nor authorised) to fix it, but must summon help from the mainland ...'[90]

386. The tower is a timber frame with iron-cladding and is 18 m high. The cast-iron cladding was imported from the UK and the tower constructed in 1873. Unlike many iron-clad light towers in Queensland, the tower at Lady Elliott contains a timber stairway in lieu of an iron set of stairs. The tower is conical in shape and is painted white.

387. Other Buildings: There are 3 timber-framed fibro-clad residences. There is also an engine house, a workshop and a fuel/paint store. A one-time boat shed has been condemned and is to be demolished.

388. Staff: The lightstation is an automated light but is attended by 2 Department of Transport lightkeepers.

Cost Savings of Unmanning

389. For Lady Elliott Island the relevant details are:

(a) DOT indicative costs associated with unmanning - $0.60 m;
(b) ranking in respect to financial savings - No. 27; and
(c) annual savings - $65 000.

Benefits of Continued Manning

(a) Sea-based functions of keepers

390. Coastal Surveillance: As for Booby Island, i.e. no specific evidence of coastal surveillance.

391. Search and Rescue The Queensland Cruising Yacht Club cited Lady Elliott Island as one of three lightstations which plays an important SAR role during the Brisbane to Gladstone Yacht race.[91]

392. The Queensland Small Craft Council in its submission included Lady Elliott Island in a group of lightstations which the Council considered should continue to be manned in recognition of the acts of 'rescue and mercy performed by lightkeepers'.[92] The Mackay Sea Rescue Squad in its submission makes a similar statement.[93]

393. The Australian Lighthouse Association gave evidence in a public hearing of the Expenditure Committee on 12 September 1983 of direct action by the lightkeeper in 1980 in putting to sea to assist in saving the crew of the yacht 'Appollo' which had run aground.[94] The ALA also gave three other examples of SAR activities in relation to Lady Elliott Island. The incidents referred to were the grounding of the sailing vessel, Thisby, some months earlier, which involved the keepers taking a line out to the stricken vessel, the rescue by the keepers in 1975 of the vessel 'Tahoona' and the securing of a steel fishing boat which had broken its anchor-line.[95]

394. The Department of Transport has installed a radio transceiver at Lady Elliott Island lightstation for communications. The lightstation has no public telephone link to the mainland.[96]

395. Weather Reporting: The Bureau of Meteorology classifies Lady Elliott Island as Category A. The human observations by station staff are regarded by the Bureau as very important.[97] The Bureau has a contingency plan to identify and arrange an alternative observer if unmanning of the lightstation is carried out.[98]

396. The Bureau classified Lady Elliott Island as a 'key station'. This classification means that Lady Elliott Island makes 7 observations per day throughout the year. In addition, Lady Elliott Island is accepted by the World Meteorological Organisation as a component of the World Weather Watch Basic Synoptic Network for international exchange.[99] The keepers on Lady Elliott Island maintain their own transceiver with which they pass on local weather reports and descriptions of the state of the sea.[100]

(b) Land-based functions of keepers

397. Cultural Environment: Lady Elliott Island is in the Register of the National Estate.[101] The tower, constructed in 1873, is considered to be of cultural importance. The same assessment applies to the historic wrecks in the area.[102] The Queensland Government's submission implies that a manned presence at the lightstation acts as a deterrent to disrepair and decay of historic lightstations.[103] Similar statements on the deterrent value of a manned presence for the prevention of vandalism, and in particular in relation to Lady Elliott Island, were made by the Department of Home Affairs and Environment.[104]

398. Natural Environment: Lady Elliott Island lies within the Capricornia Section of the Great Barrier Reef which is listed on the Register of the National Estate.[105]. The Great Barrier Reef Marine Park Authority assesses Lady Elliott Island as having 'high' value to the Authority. It has a high quality reef and is used for educational purposes. It is also valuable as a general management base for the southern part of the reef.[106]

399. The island is considered to be vulnerable due to tourist traffic.[107] In public hearings on 13 September 1983, the Chairman of the Great Barrier Reef Marine Park Authority advised the Expenditure Committee that the lightkeeper ' ... has been helpful to both my Authority and to the Department of Administrative Services in providing information about activities of that tourist agency that might not be in accordance with the lease condition or the zoning plan'.[108] The Australian Conservation Foundation has provided a grouping of 12 lightstations in decreasing order of importance in terms of environmental factors to assess when consideration is given to demanning. The foundation rates Lady Elliott Island at No. 7 and cites its location within the Great Barrier Reef and the bird breeding colonies as factors to consider.[109]

(c) Other

400. Nil.

Reasons for Unmanning/Continued Manning

401. The Department of Transport includes Lady Elliott Island in a group of 24 lightstations where 'it appears that the financial benefits from unmanning outweigh the social and other unquantifiable benefits', so that the '....removal of the departmental manned presence would appear to be most justified'.[110]

402. The Australian Lighthouse Association (ALA) included Lady Elliott Island in a category of lightstations which should be '... totally removed from any demanning list ...' The ALA bases its claim on its assessment of the 'social and community importance' of having a manned lightstation at Lady Elliott Island.[111]

403. The Department of Home Affairs and Environment's assessment of the likely supervision requirements for Lady Elliott Island is for a full-time residential management presence.[112]

404. The Department of Transport in its submission said of the duties of the Lady Elliott Island keeper 'the lightkeepers have no duties associated with the operation of the light at this station'.[113]

23. LOW ISLES

General Description[114]

405. History, Location: The lightstation at Low Isles was established in 1878.

406. Low Isles comprises a group of Barrier Reef sand cay islets covering 20.23 ha and is 13 km from Port Douglas in North Queensland. The lighthouse is on the Western Islet of the group. Access to Low Isles is by charter launch or tourist ferry. Low Isles is a popular tourist attraction.

407. The Light and Tower: The light source is a 120 volt tungsten lamp with a 500 mm focal radius rotating lens. The power source is diesel. The light was converted to an electric source in 1963. The lantern is a Chance Bros (8'1 1/2"). The light has a power of one million candelas.

408. The tower is timber-framed, 18 m high with iron sheet cladding. The lightstation was established in 1878. The tower is conical in shape, painted white, with a red dome.

409. Other Buildings: There are 3 timber-framed, fibro-clad quarters each with a corrugated fibro roof, and several utility buildings including brick powerhouse and bulk fuel installation.

410. Staff: The lightstation is attended by 2 Department of Transport staff.

Cost Savings of Unmanning

411. For Low Isles the relevant details are:

(a) DOT indicative costs associated with unmanning - $0.51 m;
(b) ranking in respect to financial savings - No. 32; and
(c) annual savings - $46 000.

Benefits of Continued Manning

(a) Sea-based functions of keepers

412. Coastal Surveillance: As for Booby Island.

413. Search and Rescue: There appears to be no evidence in the submissions to specifically connect Low Isles with search and rescue.

414. Weather Reporting: The Bureau of Meteorology classification for Low Isles is Category A.

415. This classification means that in terms of the Bureau's requirement for human observation the lightstation is very important with no satisfactory alternative, such that closure would cause a serious diminution of service.[115]

(b) **Land-based functions of keepers**

416. Cultural Environment: Low Isles lightstation, lightkeepers' cottages and ancillary buildings are listed in the Register of the National Estate.[116] Only the tower frame (constructed in 1878) is considered to have any cultural significance.[117] The Queensland Government's submission implies that a manned presence is a deterrent to disrepair and decay of certain historic lightstations.[118]

417. Natural Environment: Low Isles is a tourist attraction and falls within the Cairns section of the Great Barrier Reef Marine Park Authority. Because of its tourist appeal and high quality reef, Low Isles and nearby reefs are assessed by the Department of Home Affairs and Environment as environmentally 'vulnerable'.[119] Apart from its obvious importance as part of the Great Barrier Reef, there appears to be no specific evidence in the submissions of any unique flora or fauna on Low Isles. The Great Barrier Reef is listed in the Register of the National Estate. The Great Barrier Reef Marine Park Authority assesses the management value of Low Isles as 'high' and its assessment implies that a manned presence is required to protect the area from tourist pressure.[120]

(c) **Other**

418. Nil.

Reasons for Unmanning/Continued Manning

419. The Department of Transport includes Lowe Isles in a group of 24 lightstations where 'it appears that the financial benefits from unmanning outweigh the social and other unquantifiable benefits', so that the '....removal of the departmental manned presence would appear to be most justified'.[121]

420. The Department of Home Affairs and Environment Assessment for likely supervision requirements is for a full-time residential management presence.[122]

24. PINE ISLET

General Description[123]:

421. History, Location: The lightstation at Pine Islet was established in 1885. The lightstation is the only remaining kerosene fuelled lightstation in Australia.

422. Pine Islet lies within the Great Barrier Reef region. The Islet is in the Mackay region of North Queensland. Access to the Islet is by launch and helicopter. Major resupply is undertaken by a Department of Transport Cape class vessel.

423. The Light and Tower: As noted above, Pine Islet light is the only remaining kerosene lightstation in Australia. The light is a silk mantle illuminated by a vaporised kerosene flame. A lightkeeper is on duty throughout the night to tend the light pressuring system and clockwork light mechanism which must be periodically wound.

424. The tower was constructed in 1885 and is iron clad.

425. Other Buildings: There are 3 timber-framed fibro-clad cottages built in 1927 and several utility buildings including a boat shed and workshop/winch shed/store.

426. Staff: The lightstation is attended by 3 Department of Transport lightkeepers.

Cost Savings of Unmanning

427. For Pine Islet the relevant details are:

(a) DOT indicative costs associated with unmanning - $1.25m;
(b) ranking in respect to financial savings - No. 5; and
(c) annual savings - $136 000.

Benefits of Continued Manning

(a) Sea-based functions of keepers

428. Coastal Surveillance: As for Booby Island.

429. Search and Rescue: There appears to be no evidence to specifically connect Pine Islet with acts of search and rescue. Pine Islet has a radio transceiver to provide communications as there is no public telephone link on Pine Islet.

430. Weather Reporting: The Bureau of Meteorology classification of Pine Islet is Category C. This classification means that if the manned presence is removed the loss, in terms of human observations for the Bureau, could be tolerated, or acceptable alternatives are available.[124]

431. Pine Islet lightstation staff make 7 observations per day throughout the year. Pine Islet is accepted by the World Meteorological Organisation as a component of the World Weather Watch Basic Synoptic Network for international exchange.[125]

(b) Land-based functions of keepers

432. Cultural Environment: Pine Islet lightstation, lightkeepers' cottages and ancillary buildings are listed in the Register of the National Estate.[126] Only the tower, constructed in 1885, has any cultural significance.[127] The Queensland Government's submission implies that a manned presence acts as a deterrent to disrepair and decay of certain historic lightstations.[128]

433. Natural Environment: Pine Islet is within the boundaries Great Barrier Reef Region. The Great Barrier Reef is listed on the Register of the National Estate and on the World Heritage Register. The Great Barrier Reef Marine Park Authority says that the Islet is remote from current tourist or populated areas and its value for management purposes is 'low'.[129]

Reasons for Unmanning/Continued Manning

434. The Department of Transport includes Pine Islet in a group of 24 lightstations where 'it appears that the financial benefits from unmanning outweigh the social and other unquantifiable benefits', so that the '....removal of the departmental manned presence would appear to be most justified.[130]

435. The Department of Home Affairs and Environment assessment for likely supervision requirements is for an occasional management presence.[131]

25. SANDY CAPE

General Description[132]

436. History, Location: The lightstation at Sandy Cape was prefabricated in England by Hennet and Spinks, shipped to Fraser Island and erected on its present site in 1870.

437. The Sandy Cape light is located at the northern end of Fraser Island which lies off the Queensland coast, adjacent to the Bundaberg/Maryborough region.

438. Sandy Cape marks the entrance to Hervey Bay which is a high density boating and fishing area. Fraser Island is part of the National Estate and the island is a National Park. The island is a popular tourist attraction. The lightstation reserve is 259 ha in size. Access to Sandy Cape is by island ferry or light aircraft. Four-wheel drive vehicles are used on the island.

439. The Light and Tower: The light source is a 120 volt lamp with a Chance Bros 250 mm focal radius rotating lens. The lantern is a Chance Bros 1st Order. The original light source was provided by a kerosene light.

440. The tower was constructed in 1870 from cast iron segments set on a concrete base. The tower is 26 m high. The prefabricated components in the tower were imported from the UK. The tower is conical in shape and is painted white with a red dome.

441. Other Buildings: There are 2 keepers' residences constructed of timber frame, fibro-clad with a corrugated fibro roof. In addition, there is a power house, a workshop/storehouse and a garage (formerly a stable).

442. Staff: The lightstation is attended by 2 Department of Transport lightkeepers.

Cost Savings of Unmanning

443. For Sandy Cape the relevant details are:

(a) DOT indicative costs associated with unmanning - $0.49m;
(b) ranking in respect to financial savings - No. 35; and
(c) annual savings - $40 000.

Benefits of Continued Manning

(a) Sea-based functions of keepers

444. Coastal Surveillance: As for Booby Island.

445. Search and Rescue: The Queensland Small Craft Council's comments are the same as for Booby Island.

446. The Mackay Sea Rescue Squad in its submission lists Sandy Cape (as Fraser Island), in a group of four lightstations which the Rescue Squad considers should continue to be manned.

447. The Rescue Squad says '.... our concern is the loss of on-the-spot weather reports, and more importantly, the contact with these stations for rescue work ...'[133] The Australian Lighthouse Association (ALA) stated that the Air Sea Rescue Association of Queensland has registered strong concern with the ALA over the proposed demanning of Sandy Cape. The Air Sea Rescue Association's concern stems from its view of Sandy Cape lightstation as an integral part of the safety network along the coast.[134]

448. Weather Reporting: The Bureau of Meteorology classifies Sandy Cape lightstation as Category B. This classification means that the removal of a manned presence from Sandy Cape would cause a significant diminution in service in terms of the loss of human observations for the Bureau.[135]

449. The Bureau does not classify Sandy Cape as a 'key station'.[136] The keepers handle an estimated 300 radio and telephone calls per annum for local weather reports.[137] The ALA advised the Committee that the Queensland Commercial Fishermen's Organisation rely upon Sandy Cape lightstation for 'state of the sea' and local weather information.[138]

(b) Land-based functions of keepers

450. Cultural Environment: Sandy Cape (as Fraser Island) is listed in the Register of the National Estate.[139] The island is a National Park. Only the tower at Sandy Cape, constructed in 1869 from components imported from the UK, is considered to be of cultural significance.[140] The listing in the Register of the National Estate includes the lightstation, lightkeepers' cottages and ancillary buildings, i.e. as a lightstation group. The Fraser Island Defence Organisation (FIDO) in its submission, pointed out that the site of the Sandy Cape lightstation is of great historical significance in that Captain Cook visited there in 1770.[141] The Queensland Government's submission implies that manned presence is a deterrent to disrepair and decay at certain historic lightstations.[142]

451. Natural Environment: The environmental significance of Fraser Island is based on its renown as a National Park. Fraser Island is listed in the Register of the National Estate. The

Australian Conservation Foundation identifies the lightstation with the National Park. The Foundation rates Sandy Cape at No. 3 out of 12 in a list of stations (in decreasing importance) where environmental factors should be considered in any assessment for unmanning.[143]

(c) Other

452. Nil.

Reasons for Unmanning/Continued Manning

453. The Department of Transport includes Sandy Cape lightstation in a group of 17 lightstations where the 'social and other unquantifiable benefits appear to be significant' so that there appears to be '....a good case for the retention of an authoritative manned presence'.[144] The total rationale for the continued manning of stations such as Sandy Cape is that the operations are low cost, the stations are of heritage interest, are popular with tourists and are accessible to the public.

454. The Department of Home Affairs and Environment's assessment of likely supervision requirements are the same as for Booby Island i.e. a full-time residential management presence.[145]

455. The Australian Lighthouse Association submitted that because of its social and community importance, Sandy Cape lightstation should be "totally removed from any demanning list...".[146]

ENDNOTES: QUEENSLAND LIGHTSTATIONS

1. Compiled from Exhibit 7
2. Submissions, Vol.2, pp.219-220
3. Submissions, Vol.2, p.318
4. Submissions, Vol.5, p.675
5. Submissions, Vol.2, p.232
6. Submissions, Vol.4, p.601
7. Submissions, Vol.1, p.14
8. Submissions, Vol.5, pp.712-715
9. Submissions, Vol.3, p.517
10. Evidence, p.24
11. Submissions, Vol.2, p.200
12. Submissions, Vol.4, p.602
13. Submissions, Vol.5, p.712
14. Compiled from Exhibit 7 and Submissions, Vol.4, pp.643-649
15. Submissions, Vol.1. p.149
16. Submissions, Vol.2, p.178
17. Submissions, Vol.5, p.674
18. Submissions, Vol.2, p.232

19. Submissions, Vol.4, p.600
20. Submissions, Vol.5, pp.712-715
21. Submissions, Vol.3, p.517
22. Submissions, Vol.3, p.522
23. Submissions, Vol.2, p.200
24. Submissions, Vol.4, p.603
25. Compiled from Submissions, Vol.4, pp.650-653, (Gott Report) K.D. Gott, St Kilda, Victoria and from supplementary information provided by the DOT, Canberra
26. Submissions, Vol.2, p.310
27. Submissions, Vol.4, p.575
28. Submissions, Vol.2, p.226
29. Submissions, Vol.2, p.232 and Vol.5, p.675
30. Submissions, Vol.2, pp.600-601
31. Submissions, Vol.3, p.521
32. Submissions, Vol.3, p.522
33. Submissions, Vol.2, p.200
34. Submissions, Vol.4, p.603
35. Submissions, Vol.2, p.284
36. Compiled from Exhibit 7
37. Submissions, Vol.5, p.675
38. Submissions, Vol.2, p.232
39. Submissions, Vol.3, p.520; and Vol.4, p.601
40. Submissions, Vol.5, pp.712-715
41. Submissions, Vol.3, p.517
42. Submissions, Vol.2, p.200
43. Submissions, Vol.4, p.602
44. Compiled from Exhibit 7
45. Submissions, Vol.5, p.674
46. Submissions, Vol.2, pp.232-233
47. Submissions, Vol.4, p.600
48. Submissions, Vol.5, pp.712-715
49. Submissions, Vol.3, p.516
50. Submissions, Vol.2, p.200
51. Submissions, Vol.4, p.602
52. Compiled from Submissions, Vol.4, pp.636-642 (Gott Report)
53. Submissions, Vol.3, p.346
54. Submissions, Vol.1, p.149
55. Submissions, Vol.4, pp.640-641
56. Submissions, Vol.4, p.601
57. Submissions, Vol.3, pp.517 and 520
58. Submissions, Vol.5, pp.712-715
59. Submissions, Vol.4, p.601
60. Submissions, Vol.3, p.522
61. Submissions, Vol.3, p.489
62. Submissions, Vol.2, p.200
63. Submissions, Vol.4, p.602
64. Submissions, Vol.2, p.180
65. Compiled from Submissions, Vol.4, pp.661-670 ('Gott Report') and from information provided by the Department of Transport
66. ibid. p.663
67. ibid. p.663
68. ibid. p.664
69. ibid. p.664
70. Submissions, Vol.3, p.318

71. Submissions, Vol.4, p.578
72. Submissions, Vol.5, p.674
73. Submissions, Vol.4, p.664
74. Submissions, Vol.4, p.601
75. Submissions, Vol.5, pp.712-715
76. Submissions, Vol.1, p.123
77. Submissions, Vol.3, p.489
78. Submissions, Vol.2, p.201
79. ibid.
80. Submissions, Vol.4, p.603
81. Submissions, Vol.2, p.284
82. Compiled from Submissions, Vol.5, p.517
83. Submissions, Vol.5, p.674
84. Submissions, Vol.3, p.517 and Vol.4, p.601
85. Submissions, Vol.3, p.522
86. Submissions, Vol.3, p.517
87. Submissions, Vol.2, p.200
88. Submissions, Vol.4, p.602
89. Compiled from Exhibit 7 and Submissions, Vol.4, pp.620-635 ('Gott Report')
90. Submissions, Vol.4, p.624
91. Submissions, Vol.2, p.307
92. Submissions, Vol.2, p.318
93. Submissions, Vol.3, p.346
94. Evidence, pp.99, 118 and 119
95. See also, Submissions, Vol.4, p.572
96. Submissions, Vol.2, p.178
97. Submissions, Vol.5, p.674
98. Submissions, Vol.2, p.235, and Evidence, p.205
99. Submissions, Vol.2, pp.232-233
100. Submissions, Vol.4, pp.627-628
101. Submissions, Vol.4, p.601
102. Submissions, Vol.3, p.517
103. Submissions, Vol.5, pp.712-715
104. Evidence, pp.227, 231 and 232
105. Submissions, Vol.4, p.601
106. Submissions, Vol.3, p.522
107. Submissions, Vol.3, p.517
108. Evidence, p.228
109. Submissions, Vol.3, p.489.
110. Submissions, Vol.2, p.200.
111. Submissions, Vol.2, p.284.
112. Submissions, Vol.4, p.602.
113. Submissions, Vol.2, p.180.
114. Compiled from Exhibit 7 and from Submissions, Vol.5, p.718
115. Submissions, Vol.5, p.674.
116. Submissions, Vol.4, p.600.
117. Submissions, Vol.3, p.516
118. Submissions, Vol.5, pp.712-715
119. Submissions, Vol.3, pp.516 and 523
120. Submissions, Vol.3, p.522
121. Submissions, Vol.2, p.200
122. Submissions, Vol.4, p.602
123. Compiled from the Department of Transport submission, Vol.2, pp.164-227

124. Submissions, Vol.5, p.675
125. Submissions, Vol.2, pp.232-233
126. Submissions, Vol.4, p.601
127. Submissions, Vol.3, p.517
128. Submissions, Vol.5, pp.712-715
129. Submissions, Vol.3, p.522
130. Submissions, Vol.2, p.200
131. Submissions, Vol.4, p.602
132. Compiled from Exhibit 7 and Submissions, Vol.4, pp.654-660
133. Submissions, Vol.3, p.346
134. Submissions, Vol.4, p.570
135. Submissions, Vol.5, p.674
136. Submissions, Vol.2, p.232
137. Submissions, Vol.4, p.657
138. Submissions, Vol.4, p.570
139. Submissions, Vol.4, p.601
140. Submissions, Vol.3, p.517
141. Submissions, Vol.1, p.124
142. Submissions, Vol.5, pp.712-715
143. Submissions, Vol.3, p.489
144. Submissions, Vol.2, p.201
145. Submissions, Vol.4, p.602
146. Submissions, Vol.2, p.284

SOUTH AUSTRALIA

(Manned Lightstations)

26. Althorpe Island

27. Cape Borda

28. Cape Willoughby

29. South Neptune Island

26. ALTHORPE ISLAND

General Description[1]

456. History, Location: Althorpe Island lightstation was established in 1879. Two small white crosses on the island mark the graves of mariners drowned in the wrecks of the 'S.S. Pareora' (1919) and the cutter 'Rapid' (1936).

457. Althorpe Island is located off the south west of Yorke Peninsula in South Australia. The island adjoins the Althorpe Islands Conservation Park. The lightstation reserve is 91.5 ha in size. Access to Althorpe Island is by ship or light aircraft.

458. The Light and Tower: The light source is a 120 volt tungsten halogen lamp with a Chance Bros 920 mm focal radius rotating lens. The lantern is a Chance Bros (12' dia). The front leadlight is a 120 volt tungsten halogen lamp with a Chance Bros 250 mm focal radius drum lens segment. The lantern for the front leadlight is a Butler and Co (5'8") lantern.

459. The tower was constructed in 1879 of limestone. It is 13 m high with slate stairs and landing. The tower is circular and is painted white.

460. Other Buildings: There are three keepers' quarters built of limestone in 1880. A timber jetty was built prior to the construction of the lightstation. The jetty is used in conjunction with an aerial haulageway for annual resupply from a Department of Transport Cape class vessel.

461. Staff: The lightstation is attended by 2 Department of Transport lightkeepers.

Cost Savings of Unmanning

462. The Department of Transport has supplied indicative costs associated with manned lightstations. This information which covers Althorpe Island is at Attachment I of this appendix. Transport has calculated the indicative benefits of unmanning Althorpe Island at $1.12 m. This gives Althorpe Island No. 8 ranking in respect of financial savings which would accrue from unmanning. This figure represents the net present value of the difference in costs over the next 20 years between manned and unmanned operations discounted at 10%.[2]

463. At the request of the Committee, the Department of Transport provided additional information on the indicative annual net savings achievable from unmanning for each of the 41 manned lightstations.

464. The indicative annual saving following unmanning of Althorpe Island is calculated at $92 000.

Benefits of Continued Manning

(a) Sea-based functions of keepers

465. Coastal Surveillance: The submission from the South Australian Government advises that the four manned lightstations in South Australia provide the State Department of Fisheries with information on the positioning of foreign fishing vessels. This information assists the Department in monitoring ship movements and fish stocks.[3]

466. Search and Rescue: The submission from the South Australian Government makes the general comment that with improved marine navigational technology ' ... the likelihood of lightstation keepers taking part in the rescue of persons is extremely remote' (an exception to this general statement is the Cape Borda lightstation).[4]

467. A submission from the City of Port Lincoln advises that the staff at Althorpe Island lightstation ' ... has only recently been of assistance in a sea rescue'.[5]

468. Weather Reporting: Althorpe Island lightstation does not provide any observations for the Bureau of Meteorology. The lightstation does, however, provide local weather reports and sea strata data for the South Australian Department of Fisheries.[6]

(b) Land-based functions of keepers

469. Cultural Environment: Althorpe Island lightstation and lightkeepers' cottages are listed in the Register of the National Estate.[7] The lightstation group is also listed in the South Australian Register of State Heritage items.[8] The South Australian Government submission states that ' ... demanning of lightstations has been a significant factor in accelerating acts of vandalism and natural decay, with the subsequent escalation of maintenance costs'.[9]

470. Natural Environment: Althorpe Island lightstation is within the Althorpe Islands Conservation Reserve. The Reserve is a major breeding colony of the short-tailed shearwater and at least 7 other breeding bird species. The Reserve is also inhabited by penguins. The Department of Home Affairs and Environment assesses the area as environmentally vulnerable and considers that the danger of feral pests is a factor to take into consideration.[10]

(c) Other

471. Nil.

Reasons for Unmanning/Continued Manning

472. The Department of Transport includes Althorpe Island in a group of 24 lightstations where 'it appears that the financial benefits from unmanning outweigh the social and other unquantifiable benefits', so that the '....removal of the departmental manned presence would appear to be most justified'.[11]

473. The general thrust of the submission from the City of Port Lincoln is to oppose demanning but the City states ' ... it is conceded by the Council that Althorpe Island lighthouse has debatable value as a manned station'.[12] The City was making a comparison between Althorpe Island lightstation and the station on South Neptune Island. The latter station is considered by the City to play a significant role in search and rescue.

474. The Department of Home Affairs and Environment says that if the station is unmanned the likely supervision requirements of the portfolio would be a full-time residential management presence at Althorpe Island.[13]

27. CAPE BORDA

General Description:[14]

475. History, Location: Cape Borda lighthouse was built by the Trinity Board (London). It was first exhibited on 5 July 1858. The lighthouse is one of the few square masonry towers in Australia. In 1859 a cable haulageway was laid up the cliff near the lightstation. Stores were hauled up by a horse capstan.

476. Cape Borda lightstation is at the western end of Kangaroo Island in South Australia. The lightstation reserve is 202 ha in size. Access to Cape Borda lightstation is by road on Kangaroo Island. The station has high tourist appeal and is visited by 3 000 persons annually.

477. The Light and Tower: The light source is a 120 volt tungsten halogen lamp with a Chance Bros 250 mm focal radius rotating lens. The lantern is a Deville and Co (10'). The power source is mains electricity with a stand-by diesel generator. The tower is a square structure of random rubble with limestone and weak lime mortar. The tower is painted white and is 10 m high.

478. Other Buildings: There are three keepers' cottages; one of stone built in 1890, another of stone built in 1915 and a timber relieving quarters built in 1971.

479. Staff: The lightstation is attended by 2 Department of Transport lightkeepers.

Cost Savings of Unmanning

480. *For Cape Borda the relevant details are:*

(a) DOT indicative benefits of unmanning - $0.57 m;
(b) ranking in respect of financial savings - No. 28; and
(c) annual savings - $61 000.

Benefits of Continued Manning

(a) Sea-based functions of keepers

481. Coastal Surveillance: As for Althorpe Island.

482. Search and Rescue: The South Australian Government's submission states that while '....the likelihood of lightstation keepers taking part in the rescue of persons ....is extremely remote' it is desirable to maintain a manned presence at Cape Borda because of the hazardous nature of the coastline in the Investigator Strait region.[15]

483. Weather Reporting: The Bureau of Meteorology classifies Cape Borda lightstation in Category A. This classification means that in terms of the service provided by human observation for the Bureau, Cape Borda is a very important station with no satisfactory alternative if unmanning were to occur.[16]

484. Cape Borda lightstation is a 'key' station in The Bureau of Meteorology's network. There are seven observations made per day throughout the year.[17]

485. Weather reporting from lightstations is also used for fire-warning and to assist the fishing industry (see comments under 'Other', infra).

(b) Land-based functions of keepers

486. Cultural Environment: Cape Borda lightstation is listed on the Register of the National Estate. The lightkeepers' cottages and other buildings have been nominated for inclusion on the Register.[18] The lightstation is also listed in the South Australian Register of State Heritage items.[19]

487. Protection from Vandalism: The South Australian Government states that demanning of lightstations has been a significant factor in accelerating acts of vandalism and natural decay with the subsequent escalation of maintenance costs.[20]

488. Natural Environment: Cape Borda is associated with the Flinders Chase National Park on Kangaroo Island. The Department of Home Affairs and Environment notes that there is insufficient data on the biological significance of Cape Borda lightstation.[21]

(c) Other

489. Tourism: A submission from Transcontinental Safaris Pty Ltd of Kangaroo Island commented on the value of a manned lightstation at Cape Borda to search and rescue and environmental protection. The submission also stated that the '...Cape Borda light is particularly important to the tourist industry'.[22] A similar view on tourism was stated by the Kangaroo Island Tourist Association Inc.[23]

490. Bush fire Warning: The Country Fire Services Board of South Australia advised in its submission that the lightstations at Cape Borda, Cape Willoughby and Neptune Island had provided weather information during the tragic fires of 16 February 1983 which was "...of extreme importance to [the] Service's fire operations."[24]

491. Fishing Industry: A representative from the Professional Fishermens Association of Tasmania, gave evidence before a public hearing of the Expenditure Committee to say that

the Tasmanian fishermen depend on the South Australian lightstations at Cape Borda and South Neptune Island for weather reports to assist the fishing industry in Tasmania.[25]

Reasons for Unmanning/Continued Manning

491. The Department of Transport includes Cape Borda in a group of 24 lightstations where 'it appears that the financial benefits from unmanning outweigh the social and other unquantifiable benefits', so that the '....removal of the departmental manned presence would appear to be most justified'.[26]

492. The Department of Home Affairs and Environment says that if the station is unmanned the likely supervision requirements of the portfolio would be for a part-time residential management presence at Cape Borda.[27]

28. CAPE WILLOUGHBY

General Description:[28]

493. History, Location: Cape Willoughby was the first lighthouse constructed in South Australia. The tower was built in 1852. The original lantern has been re-erected beside the museum at Kingscote (1975/76). Cape Willoughby was named by Matthew Flinders in 1802 after a village in his native Lincolnshire.

494. The lightstation is located on Kangaroo Island in South Australia. The lightstation reserve is 17 ha in size. Access is by road on Kangaroo Island. The lightstation has considerable tourist appeal.

495. The Light and Tower: The light source is a lamp array with a fibreglass NAL 1 lantern. The pedestal is an RP1 driven by an electric motor. The power source is mains electricity with both diesel generator and battery stand-by. The light intensity is 410 000 candelas and gives a range of 37 km. The character of the light is of 3 flashes every 30 seconds.

496. The tower is constructed of locally quarried stone and is 25 m high. The tower is circular and is painted white.

497. Other Buildings: There are three fibro cottages built in 1923, and several utility buildings including a garage and oil store.

Cost Savings of Unmanning

498. For Cape Willoughby the relevant details are:

(a) DOT indicative benefits of unmanning - $0.55 m;
(b) ranking in respect of financial savings - No. 30; and
(c) annual savings - $60 000.

Benefits of Continued Manning

(a) Sea-based functions of keepers

499. Coastal Surveillance: As for Althorpe Island.

500. Search and Rescue: See paragraph 466 above.

501. Weather Reporting: Bureau of Meteorology classification: Category A. This classification means that in terms of the service provided by human observation for the Bureau, Cape Willoughby is a very important station with no satisfactory alternative if unmanning were to occur.[29]

502. Cape Willoughby also performs the same function as Cape Borda in assistance to the local fire services in respect of bushfire warnings (see comments for Cape Borda). Local weather reports from Cape Willoughby also assist the fishing industry (see comments under 'Other', infra).

(b) Land-based functions of keepers

503. Cultural Environment: Cape Willoughby lightstation is listed in the Register of the National Estate. The lightkeepers' cottages have been nominated for inclusion in the Register.[30] The lightstation is also listed in the South Australian Register of State Heritage items.[31]

504. The South Australian Government's submission states that 'demanning of lightstations has been a significant factor in accelerating acts of vandalism and natural decay, with the subsequent escalation of maintenance costs'.[32]

505. Natural Environment: As for Cape Borda.

(c) Other

506. Fire Warnings: As for Cape Borda.

507. Fishing Industry: The lightstation provides local weather reports and sea strata data for the South Australian Department of Fisheries.[33]

508. Tourism: Same comments, made by the Kangaroo Island Tourist Association Inc., as for Cape Borda.

Reasons for Unmanning/Continued Manning

509. The Department of Transport includes Cape Willoughby in a group of 24 lightstations where 'it appears that the financial benefits from unmanning outweigh the social and other unquantifiable benefits', so that the '....removal of the departmental manned presence would appear to be most justified'.[34]

510. The Department of Home Affairs and Environment's assessment for a manned presence at Cape Willoughby is for a part-time residential management presence.[35]

29. SOUTH NEPTUNE ISLAND

General Description[36]

511. History, Location: The lightstation tower at South Neptune Island originally stood at Port Adelaide. It was built about 1866. In 1901 it was relocated to South Neptune Island.

512. South Neptune Island lies at the mouth of Spencer Gulf in South Australia. The lightstation reserve comprises the whole island which is 80.9 ha is size. Access to South Neptune Island is by light aircraft or ship. The lightstation is not readily accessible to the general public.

513. The Light and Tower: The light source is a 120 volt tungsten halogen lamp with a Chance Bros 700 mm focal radius rotating lens. The lantern is a Chance Bros (10' 1 1/2" dia). The power source is diesel generator.

514. The tower is wrought-iron lattice with a central tube. There is a service room at the base. The tower is hexagonal, 15 m high and is painted red.

515. Other Buildings: The keepers' quarters are constructed of granite with a fibro slate roof which was re-covered with galvanised iron in 1923. The buildings were constructed in 1901.

516. Staff: The lightstation is attended by 2 Department of transport lightkeepers.

Cost Saving of Unmanning

517. For South Neptune Island the relevant details are:

(a) DOT indicative benefits of unmanning - $1.06 m;
(b) ranking in respect of financial savings - No. 10; and
(c) annual savings - $91 000.

Benefits of Continued Manning

(a) Sea-based functions of keepers

518. Coastal Surveillance: As for Althorpe Island.

519. Search and Rescue: The Council of the City of Port Lincoln submitted, to the Committee, copies of several of its letters to the Minister for Transport concerning the importance of a manned presence on South Neptune Island for assistance in

local search and rescue.The Council points out that the manning of South Neptune Island lighstation has been instrumental in the saving of lives on more than one occasion.[37] The Australian Lighthouse Association makes a similar statement and cites the examples of lives saved from the 'Roma Star' in 1975 and the 'Yandra' in 1959.[38] Port Lincoln is a major fishing port in South Australia.

520. Weather Reporting: The Bureau of Meteorology classifies South Neptune Island lightstation as Category B. This classification means that in terms of the service provided by human observation for the Bureau, unmanning would cause a significant diminution in service.[39]

521. The station is accepted by the World Meteorological Organization as a component of the World Weather Watch Basic Synoptic Network for international exchange.[40]

522. In evidence before a public hearing of the Committee the representative of the Bureau of Meteorology informed the Committee that the Bureau has an automatic weather-station in reserve to place on South Neptune Island if unmanning occurs.[41]

523. The lightstation also provides a similar level of assistance to the local fishing industry, as well as the Tasmanian fishing industry, i.e. in terms of weather reporting and advice on sea conditions.[42]

(b) Land-based functions of keepers

524. Cultural Environment: The lightstation, lightkeepers' cottages and ancillary buildings are listed in the Register of the National Estate.[43] The lightstation is also listed in the South Australian Register of State Heritage items.[44] The Council of the City of Port Lincoln has requested the Minister for Transport to consider the city's "claim" on the tower if the lightstation is to be demanned. The Council wishes to re-locate the tower to a suitable site at Port Lincoln.[45]

525. The South Australian Government's submission states that demanning of lightstations has been a significant factor in accelerating acts of vandalism and natural decay, with the subsequent escalation of maintenance costs.[46]

526. Natural Environment: South Neptune Island is part of the Neptune Island State Conservation Park which is listed on the Register of the National Estate.[47] The island contains abundant mutton bird rookeries, fairy penguins, crested terns, rock parrots, sooty oyster-catchers, Pacific and silver gulls, Cape Barron geese and white-breasted sea eagles. The island is also inhabited by fur seals and sea lions. The natural environment of the island is assessed by the Department of Home Affairs and Environment as "vulnerable".[48]

(c) Other

527. Comments on bushfire warnings and weather reports for the fishing industry are the same as for paragraphs 490 and 491, above.

Reasons for Unmanning/Continued Manning

528. The Department of Transport includes South Neptune Island as one of the 24 lightstations where 'it appears that the financial benefits from unmanning outweigh the social and other unquantifiable benefits', so that 'the removal of the departmental manned presence would appear to be most justified'.[49]

529. The Department of Home Affairs and Environment portfolio assessment for a manned presence on South Neptune Island is for full-time residential management presence.[50]

ENDNOTES : SOUTH AUSTRALIA LIGHTSTATIONS

1. Compiled from Exhibit 7
2. Submissions, Vol 2, pp.219,220
3. Submissions, Vol 2, p.332
4. ibid.
5. Submissions, Vol 3, p.361
6. Submissions, Vol 2, p.332
7. Submissions, Vol 4, p.600 and Vol 6, p.749
8. Submissions, Vol 2, p.333
9. ibid.
10. Submissions, Vol 3, p.515
11. Submissions, Vol 2, p.200
12. Submissions, Vol 3, p.368
13. Submissions, Vol 4, p.602
14. Compiled from Exhibit 7
15. Submissions, Vol 2, p.333
16. Submissions, Vol 5. p.674
17. Submissions, Vol 2, p.234
18. Submissions, Vol 4, p.600 and Vol 6, p.749
19. Submissions, Vol 2, p.333
20. Submissions, Vol 2, p.333
21. Submissions, Vol 3, p.516
22. Submissions, Vol 1, p.1
23. Submissions, Vol 1, p.96
24. Submissions, Vol 1, p.101
25. Evidence, p.293
26. Submissions, Vol 2, p.200
27. Submissions, Vol 4, p.602
28. Compiled from Exhibit 7
29. Submissions, Vol 5, p.674
30. Submissions, Vol 4, p.600 and Vol 6, p.749
31. Submissions, Vol 2, p.333

32. ibid.
33. Submissions, Vol 3, p.332
34. Submissions, Vol 2, p.200
35. Submissions, Vol 4, p.602
36. Compiled from Exhibit 7
37. Submissions, Vol 3, pp.359-371
38. Submissions, Vol 4, p.579
39. Submissions, Vol 5, p.674
40. Submissions, Vol 2, p.233
41. Evidence, p.205
42. Submissions, Vol 2, p.332
43. Submissions, Vol 4, p.600 and Vol 6, p.749
44. Submissions, Vol 2, p.333
45. Submissions, Vol 3, p.366
46. Submissions, Vol 2, p.332
47. Submissions, Vol 6, p.749
48. Submissions, Vol 3, p.516
49. Submissions, Vol 2, p.200
50. Submissions, Vol 4, p.602

WESTERN AUSTRALIA

(Manned Lightstations)

30. Cape Leeuwin

31. Cape Leveque

32. Cape Naturaliste

33. Moore Point

34. Rottnest Island

30. CAPE LEEUWIN

General Description[1]

530. *History, Location*: The establishment of a lightstation at Cape Leeuwin was first proposed by the Colonial Secretary's office in April 1881. A site was selected and approval for the construction of the lightstation was granted by the West Australian Parliament. The Foundation Stone was laid by Sir John Forrest in December 1895.

531. Cape Leeuwin lightstation is a mainland station located on the extremity of the Cape, which is 9.6 km from Augusta in Western Australia. Cape Leeuwin ('the lioness') was named by Flinders in 1801 after the 'Leeuwin', a vessel which had sailed in the vicinity in 1622. Access to Cape Leeuwin lightstation is by road. The lightstation has high tourist appeal and conducted tours of the lightstation tower are carried out two days a week. Up to 400 visitors per day are given conducted tours in the peak tourist period.

532. The lightstation reserve is 15.5 ha in size.

533. The Light and Tower: The present light is a recent conversion to electric tungsten halogen lamps with rotation by a Department of Transport designed RP1 electric drive unit. The lens is the original, being a Chance Bros 920 mm focal radius lens. The light is now classified as an automated light.

534. The light replaced was a vaporised kerosene apparatus with the same Chance Bros 920 mm focal radius rotating lens. The original rotating pedestal has been retained.

535. The tower was constructed in 1896 of locally quarried stone (volitic ironstone rock). It is 35 m high, painted mushroom grey and is circular. The tower foundations extend to a depth of 7 m and the walls at the base are over 2 m thick.

536. Other Buildings: The three original keepers' cottages, built of stone in 1896, are in good condition and occupied. The original verandahs have been enclosed.

537. Staff: The lightstation is attended by three Department of Transport lightkeepers.

Cost Savings of Unmanning

538. The Department of Transport has supplied indicative costs associated with manned lightstations. This information, which covers Cape Leeuwin, is at Attachment I of this appendix.

Transport has calculated the indicative benefits of unmanning Cape Leeuwin at $1.00 m. This gives Cape Leeuwin No. 13 ranking in respect of financial savings which would accrue from unmanning. This figure represents the net present value of the difference in costs over the next 20 years between manned and unmanned operations discounted at 10%.[2]

539. At the request of the Committee, the Department of Transport provided additional information on the indicative annual net savings achievable from unmanning for each of the 41 lightstations.

540. The indicative annual saving following unmanning of Cape Leeuwin is calculated at $100 000.

Benefits of Continued Manning

(a) Sea-based functions of keepers

541. Coastal Surveillance: There appears to be no evidence in the submissions on a coastal surveillance function performed by lightkeepers at Cape Leeuwin.

542. Search and Rescue: As for Coastal Surveillance.

543. Weather Reporting: The Bureau of Meteorology classifies Cape Leeuwin lightstation as Category A. This classification means that in terms of the service provided by human observation for the Bureau, Cape Leeuwin is a very important station with no satisfactory alternative if unmanning were to occur.[4]

544. Cape Leeuwin lightstation is a 'key' station in the Bureau of Meteorology's network. There are seven observations made per day throughout the year[5].

545. The station is accepted by the World Meteorological Organisation as a component of the World Weather Watch Basic Synoptic Network for international exchange.[6]

(b) Land-based functions of keepers

546. Cultural Environment: Cape Leeuwin lightstation is not listed in the Register of the National Estate.[7] The tower, associated buildings and a nearby waterwheel which once served the lightstation have been classified by the National Trust (WA).[8]

547. Natural Environment: The lightstation is associated with the Leeuwin Naturaliste Ridge but the Department of Home Affairs and Environment notes that there is insufficient data on the biological significance of the lightstation reserve and surrounds.[9]

(c) Other

548. Tourism: As noted above, the Cape Leeuwin lightstation is readily accessible to the public and has a high tourist appeal.

Reasons for Unmanning/Continued Manning

549. The Department of Transport includes Cape Leeuwin in a group of 17 lightstations where the 'social and other unquantifiable benefits appear to be significant' so that there appears to be '... a good case for the retention of an authoritative manned presence'.[10] The total rationale for the continued manning of stations such as Cape Leeuwin is that the operations are low cost, the stations are of heritage interest, are popular with tourists and are accessible to the public.[11]

550. The Department of Home Affairs and Environment says that if the station is unmanned the likely supervision requirements of the portfolio would be for a part-time non-residential management presence for Cape Leeuwin.[12]

551. The Western Australian Government has provided the Committee with its comments on unmanning. The comments are:
'The Western Australian Government considers that the unmanning of the remaining lighthouses in this State could be achieved without major disadvantages.'[13]

31. CAPE LEVEQUE

General Description[14]

552. History, Location: Cape Leveque is a mainland lightstation and was established in 1911. It is assessed as 'not old' compared to some other manned lightstations in Western Australia. The lightstation is in a remote area, being 288 km from Broome. Access to Cape Leveque lightstation is by light aircraft or by road (with difficulty). The lightstation reserve is 83.5 ha in size. Annual resupply of the station is undertaken by Department of Transport Cape class vessel.

553. The Light and Tower: The light source is a 120 volt tungsten halogen lamp with a 375 mm focal radius rotating lens. The lantern is a Chance Bros (8' 9 3/4" dia). The power source is a diesel generator.

554. The tower is cast iron constructed in 1911. It is 13.3 m high and is painted white.

555. Other Buildings: There are two keepers' houses, built in 1968, of fibro construction.

556. Staff: The lightstation is attended by two Department of Transport lightkeepers.

Cost Savings of Unmanning

557. For Cape Leveque the relevant details are:

(a) DOT indicative benefits of unmanning - $1.41m;
(b) ranking in respect of financial savings - No. 2; and
(c) annual savings - $116 000.[15]

Benefits of Continued Manning

(a) Sea-based functions of keepers

558. Coastal Surveillance: As for Cape Leeuwin.

559. Search and Rescue: As for Cape Leeuwin.

560. Weather Reporting: The Bureau of Meteorology classified Cape Leveque as Category B. This classification means that if the manned presence was removed, the loss of human observation would cause a significant diminution in the weather reporting service for the area.[16] Lightstation staff also provide assistance in the form of weather and state of the sea reports to the local fishing industry.[17]

(b) Land-based functions of keepers

561. Cultural Environment: Cape Leveque lightstation is not listed in the Register of The National Estate.[18] The fact that it is cast iron and in original form (1911) complete with original light apparatus is worthy of note. The associated buildings of fibro construction have no significance.[19]

562. Natural Environment: The Department of Home Affairs and Environment notes that there is insufficient data on the biological significance of the lightstation reserve and surrounds.[20]

(c) Other

563. Assistance to Oil Exploration: The Australian Lighthouse Association, in giving evidence at a public hearing, informed the Committee that Cape Leveque was used in 1974 as a staging depot for drillers en route to oil platforms off the north-west coast of Western Australia.[21]

564. Fishing Industry: The Australian Lighthouse Association, at the same public hearing, also pointed out the assistance (weather and sea reports) given by lightstation staff to the local fishing industry.[22]

Reasons for Unmanning/Continued Manning

565. The Department of Transport includes Cape Leveque as one of the 24 lightstations where 'it appears that the financial benefits from unmanning outweigh the social and other unquantifiable benefits', so that 'the removal of the departmental manned presence would appear to be most justified'.[23]

566. In evidence before a public hearing of the Committee, the departmental representatives pointed out that the remoteness of Cape Leveque contributes to higher costs in the form of additional salary allowances for the keepers and the expense of servicing/supply to the station.[24]

567. The Department of Home Affairs and Environment advised that there is insufficient information on Cape Leveque for it to make an assessment of its portfolio supervision requirements if demanning were to occur.[25]

568. The comments from the Western Australian Government on unmanning is that unmanning could be achieved without major disadvantages.[26]

32. CAPE NATURALISTE

General Description[27]

569. History, Location: The lightstation at Cape Naturaliste was erected in 1903. The Foundation Stone was laid by the Hon. Walter James, K.C., M.L.A., Premier of Western Australia, and Mr C.S.R. Palmer, the Engineer-in-Chief.

570. The lightstation is located at Cape Naturaliste and is a mainland station on the south-west coast of Western Australia. It is positioned on a 100 m high bluff overlooking Geographe Bay. Access to the station is by road. The lightstation reserve is 8 ha in size. There is considerable tourist interest in the station.

571. The Light and Tower: The light source is a 120 volt tungsten halogen lamp with a Chance Bros 920 mm focal radius rotating lens. The lantern is a Chance Bros (14' dia). The power source is mains electricity with a diesel generator as stand-by.

572. The tower was constructed in 1903 from locally quarried limestone. The circular tower is 20 m high and is painted with a special acrylic to match the original stone.

573. Other Buildings: There are three keepers' quarters of stone construction built in 1904.

574. Staff: The lightstation is attended by one Department of Transport lightkeeper.

Cost Savings of Unmanning

575. (Same method of financial analysis as used for Cape Leeuwin.) For Cape Naturaliste the relevant details are:

(a) DOT indicative benefits of unmanning - $0.47m;
(b) ranking in respect of financial savings - No. 37; and
(b) annual savings - $41 600.[28]

Benefits of Continued Manning

(a) Sea-based functions of keeper

576. Coastal Surveillance: As for Cape Leeuwin.

577. Search and Rescue: There appears to be no evidence of a specific search and rescue function performed by staff at Cape Naturaliste lightstation.

578. Weather Reporting: Bureau of Meteorology classification as Category B. This classification means that if unmanning were to occur, the loss of human observation would cause a significant diminution in the weather reporting service for the area.[29]

(b) Land-based functions of keeper

579. Cultural Environment: Cape Naturaliste lightstation is not listed in the Register of The National Estate.[30]

580. Natural Environment: Cape Naturaliste is associated with the Leeuwin Naturaliste Ridge. The Department of Home Affairs and Environment says there is insufficient data on biological significance of the area.[31]

(c) Other

581. Nil.

Reasons for Unmanning/Continued Manning

582. The Department of Transport includes Cape Naturaliste in a group of 17 lightstations where the 'social and other unquantifiable benefits appear to be significant' so that there appears to be '....a good case for the retention of an authoritative manned presence'.[32] The total rationale for the continued manning of stations such as Cape Naturaliste is that the operations are low cost, the stations are of heritage interest, are popular with tourists and are accessible to the public.[33]

583. The Department of Home Affairs' assessment and comments on a manned presence for Cape Naturaliste are the same as for Cape Leeuwin, i.e. part-time non-residential management presence would be required if unmanning were to occur.[34]

584. The comment from the Western Australian Government on unmanning is that unmanning could be achieved without major disadvantages.[35]

33. MOORE POINT

General Description[36]

585. History, Location: The foundations for the lightstation were laid in August 1877, but on the wrong orientation. The tower was eventually constructed in 1878. Moore Point tower is the oldest light tower on the west coast of Australia.

586. Moore Point lightstation is located in Geraldton (Western Australia). The lightstation reserve is 1.5 ha in size. Access to the lightstation is by road. The station is readily accessible to the general public.

587. The Light and Tower: The light source is a 120 volt tungsten halogen lamp with a Chance Bros 700 mm focal radius rotating lens. The lantern is a Chance Bros (10' 2 5/8"). The power source is mains electricity with a diesel generator as stand-by.

588. The tower was constructed in 1878 and is a bolted segmented cast-iron structure. The tower is circular, painted in red and white bands. It is 35.7 m high. The tower contains an iron spiral staircase.

589. Other Buildings: There is a keeper's house constructed in about 1926 of asbestos cement.

590. Staff: The lightstation is attended by one Department of Transport lightkeeper.

Cost Savings of Unmanning

591. For Moore Point the relevant details are:

(a) DOT indicative benefits of unmanning - $0.26m.
(b) ranking in respect of financial savings - No. 41; and
(c) annual savings - $20 200.[37]

Benefits of Continued Manning

(a) Sea-based functions of keeper

592. Coastal Surveillance: As for Cape Leeuwin.

593. Search and Rescue: There appears to be no evidence in the submissions to specifically connect Moore Point with search and rescue.

594. Weather Reporting: Moore Point lightstation does not provide weather reports to the Bureau of Meteorology.

(b) Land-based functions of keeper

595. Cultural Environment: Moore Point lightstation is not listed in The Register of The National Estate.[38] Moore Point tower is the oldest light tower in Western Australia.[39]

596. Natural Environment: The Department of Home Affairs and Environment advises that there is insufficient information on the biological significance of Moore Point.[40]

(c) Other

597. Nil.

Reasons for Unmanning/Continued Manning

598. The Department of Transport includes Moore Point as one of the 24 lightstations where 'it appears that the financial benefits from unmanning outweigh the social and other unquantifiable benefits', so that 'the removal of the departmental manned presence would appear to be most justified'.[41]

599. The Department of Home Affairs and Environment assessment for a management presence is for a part-time non-residential management presence.[42]

600. The comment from the Western Australian Government on unmanning is that unmanning could be achieved without major disadvantages.[43]

34. ROTTNEST ISLAND

General Description[44]

601. History, Location: The foundations for the first lightstation were established on Rottnest Island in 1842; however, the light was not exhibited until 1 June 1851. A new site was surveyed in 1891. On April 25, 1895 a foundation stone was laid by Sir John Forrest. The 'new' light was first exhibited on 17 March 1896. The old tower was partially demolished. In 1936 the original keeper's quarters were demolished. Replacement quarters had previously been constructed in 1928.

602. Rottnest Island lies 18 km from the mainland near Perth in Western Australia. The island is a holiday and tourist area. The lightstation reserve is 0.91 ha in size. Access to Rottnest Island is by ferry. Access to the lightstation is by cycle or by foot.

603. The Light and Tower: The light source is a 120 volt lamp with a Chance Bros 920 mm focal radius rotating lens. The lantern is a Chance Bros (12'). The power source is mains electricity with diesel stand-by.

604. The tower was completed in 1896 and is constructed of limestone blocks. The tower is 38.7 m high and is circular (unpainted).

605. Other Buildings: There is a stone keeper's quarters built in 1928. Only the foundations of the original two quarters (1897) remain.

606. Staff: The lightstation is attended by one Department of Transport lightkeeper.

Cost Savings of Unmanning

607. For Rottnest Island lightstation the relevant details are:

(a) DOT indicative benefits of unmanning - $0.41m;
(b) ranking in respect of financial savings - No. 39; and
(c) annual savings - $39 000.[45]

Benefits of Continued Manning

(a) Sea-based functions of keeper

608. Coastal Surveillance: In evidence before a public hearing of the Expenditure Committee, Mr J.M. Snow, M.P. advised

that the lightkeepers at selected stations '...are often specifically requested to stay up all night ... to maintain constant vigil (for illegal boating activity)'. Mr Snow specifically referred to certain stations which included Rottnest Island.[46]

609. Search and Rescue: There appears to be no evidence of specific involvement of the lightstation staff at Rottnest Island in search and resue.

610. Weather Reporting: The Bureau of Meteorology classifies Rottnest Island lightstation as Category C. This classification means that in terms of the removal of the lightkeeper '...the loss could be tolerated or acceptable alternatives are available'.[47]

611. Rottnest Island lightstation is not classified by the Bureau of Meteorology as a 'key' station.[48]

(b) Land-based functions of keeper

612. Cultural Environment: The Rottnest Island lightstation is not listed in the Register of The National Estate.[49]

613. The old light tower (now partly demolished) was constructed by native prisoners in 1842.[50]

614. Natural Environment: The Department of Home Affairs and Environment assesses the natural environment of Rottnest Island as 'vulnerable'. The island contains quokkas, stingrays and lobsters. There is a research station on the island.[51]

(c) Other

615. Role of Lightkeepers: The present headkeeper of Rottnest Island (Mr Ian White) provided a summary of the role of lightkeepers.[52] The headkeeper did not confine his comments to Rottnest Island station and for that reason his comments on activities such as surveillance, search and rescue and environmental protection were not cited in the preceding paragraphs.

Reasons for Unmanning/Continued Manning

616. The Department of Transport includes Rottnest Island in a group of 17 lightstations where the 'social and other unquantifiable benefits appear to be significant' so that there appears to be '....a good case for the retention of an authoritative manned presence'.[53] The total rationale for the continued manning of stations such as Rottnest Island is that the operations are low cost, the stations are of heritage interest, are popular with tourists and are accessible to the public.[54]

617. The Department of Home Affairs and Environment says that if the station is unmanned the likely supervision requirements of the portfolio would be a full-time residential management presence at Rottnest Island.[55]

618. The comment from the Western Australian Government on unmanning is that unmanning could be achieved without major disadvantages.[56]

ENDNOTES: WESTERN AUSTRALIA LIGHTSTATIONS

1. Compiled from Exhibit 7
2. Submissions, Vol.2, pp.219-220
3. Submissions, Vol.5, p.705
4. Submissions, Vol.5, p.674
5. Submissions, Vol.2, pp.232-233
6. ibid.
7. Submissions, Vol.6, p.750
8. Compiled from Exhibit 7
9. Submissions, Vol.3, p.517
10. Submissions, Vol.2, p.201
11. ibid.
12. Submissions, Vol.4, p.602
13. Submissions, Vol.5, p.711
14. Compiled from Exhibit 7
15. Submissions, Vol.5, p.705
16. Submissions, Vol.4, p.674
17. Evidence, p.102
18. Submissions, Vol.6, p.750
19. ibid.
20. Submissions, Vol.3, p.517
21. Evidence, p.102
22. ibid.
23. Submissions, Vol.2, p.200
24. Evidence, pp.158-161
25. Submissions, Vol.4, p.603
26. Submissions, Vol.5, p.711
27. Compiled from Exhibit 7
28. Submissions, Vol.5, p.705
29. Submissions, Vol.5, p.674
30. Submissions, Vol.6, p.750
31. Submissions, Vol.3, p.517
32. Submissions Vol.2, p.201
33. ibid.
34. Submissions, Vol.4, p.602
35. Submissions, Vol.5, p.711
36. Compiled from Exhibit 7
37. Submissions, Vol.5, p.705
38. Submissions, Vol.6, p.750
39. Compiled from Exhibit 7
40. Submissions, Vol.3, p.517

41. Submissions, Vol.2, p.200
42. Submissions, Vol.4, p.602
43. Submissions, Vol.5, p.711
44. Compiled from Exhibit 7
45. Submissions, Vol.5, p.705
46. Evidence, p.318
47. Submissions, Vol.5, p.675
48. Submissions, Vol.2, p.232
49. Submissions, Vol.4, p.601 and Vol.6, p.750
50. Compiled from Exhibit 7
51. Submissions, Vol.3, p.517
52. Submissions, Vol.1, pp.87-93
53. Submissions, Vol.2, p.201
54. ibid.
55. Submissions, Vol.4, p.602
56. Submissions, Vol.5, p.711

TASMANIA

(Manned Lightstations)

35. Cape Bruny

36. Currie Harbour

37. Deal Island

38. Eddystone Point

39. Low Head

40. Maatsuyker Island

41. Swan Island

35. CAPE BRUNY

General Description[1]

619. History, Location: Bruny Island is situated at the southern entrance to the D'Entrecasteaux Channel which leads to the Derwent estuary. Established 1838, the Cape Bruny lighthouse is the oldest existing tower under Commonwealth control. The tower was built by convict labour and in 1903 a cast-iron staircase was added.

620. The station is located on the south-western edge of the cape on South Bruny Island. The lighthouse reserve is approximately 75 ha in area and abuts the National Parks and Wildlife Service Labillardiere State Reserve. Access to the station is by ferry from the mainland and thence by road.

621. The Light and Tower: The optical apparatus consists of a second order 700 mm focal radius revolving lens built by Chance Bros. of Birmingham, England, and driven by an electric motor. The light source is a 110 volt, 500 watt tungsten halogen lamp. The apparatus gives a character of Group Flashing 2 every 13 seconds with an intensity of one million candelas resulting in a nominal visible range of 26 nautical miles. The present power (direct current) to the station is provided by diesel generators located in a timber-fibro engine room adjacent to the tower. A new powerhouse is under construction and new generators will provide power (alternating current) for the residences and lighthouse.

622. The white circular tower is 13 m high and has been made from masonry rubble.

623. Other Buildings: Accommodation consists of three keepers' quarters. Other infrastructure includes a double garage and fuel store.

624. Staff: The Cape Bruny lightstation is attended by 2 Department of Transport lightkeepers.

Cost Savings of Unmanning

625. The Department of Transport has supplied the indicative costs associated with manned lightstations. This information which covers Cape Bruny is at Attachment I of this Appendix. Transport has calculated the indicative financial benefits of unmanning Cape Bruny at $0.92 m. This gives Cape Bruny the No. 14 ranking in respect of financial benefits that would accrue from unmanning. The figure represents the net present value of the difference in total costs over the next 20 years between manned and unmanned operations discounted at 10% p.a.[2]

626. At the request of the Committee, the Department of Transport provided additional information on the indicative annual savings achievable from unmanning for each of the 41 lightstations.

627. The indicative annual saving following unmanning of Cape Bruny is calculated at $66 000.

Benefits of Continued Manning

(a) Sea-based functions of keepers

628. Coastal Surveillance: Although there are no specific references to Cape Bruny in the submissions the surveillance role of lightkeepers is mentioned in the Tasmanian State Government submission.[3] The table at page 15 of the submission rates the significance of the coastal surveillance function of the Cape Bruny lightkeepers as extremely important.[4]

629. Search and Rescue: There are no specific references to Cape Bruny in the submissions other than the Tasmanian Government submission which rates the significance of the preservation of life function as of moderate importance.[5]

630. Weather Reporting: The Bureau of Meteorology classifies Cape Bruny as a key weather reporting station, i.e. one which makes 7 observations a day throughout the year. The Bureau states that automatic weather stations (AWS) can be installed to compensate, to a certain extent, for the loss of observations by lightkeepers. But currently available AWS cannot make several important measurements or estimations which a human observer can, e.g. cloud type, amount and height, present weather, visibility and sea state.[6] The Bureau classifies Cape Bruny as a Category B station - the closure of which would cause a significant diminution of service.[7]

631. The other aspect of weather reporting is the on-the-spot information given by lightkeepers. The Municipality of Bruny says that fishermen, abalone divers and yachtsmen make use of the personnel of the lighthouse to check on weather conditions in the area and have the added safeguard of knowing that if they were to get into difficulty the appropriate authorities could be notified by the lightkeepers.[8]

(b) Land-based functions of keepers

632. Cultural Environment: The Department of Transport says that the tower has recently been nominated for inclusion on the Register of the National Estate and that both the tower and the quarters are classified by the National Trust.[9]

633. The Tasmanian State Government submission rates the historic preservation (of the lightstation) as extremely important. Both this submission and that from the Municipality of Bruny refer to the problem of vandalism if the station were unmanned.[10]

634. Natural Environment: Examination of the submissions and transcripts of evidence does not reveal any specific references to the significance of the natural environment of Cape Bruny.

(c) Other

635. The Muncipality of Cape Bruny says the lightstation is the second oldest in Australia and the oldest manned light in Australia, and is an attraction that draws many tourists to Bruny Island. In 1982 about 2 000 people visited the tower and this tourist business contributed to the prosperity of the area.[11]

Reasons for Unmanning/Continued Manning

636. The Department of Transport includes Cape Bruny as one of the 17 lightstations where the 'social and other unquantifiable benefits appear to be significant' so that there appears to be 'a good case for the retention of an authoritative manned presence'.[12] The total rationale for the continued manning of stations such as Cape Bruny is that the operations are low cost, the stations are of heritage interest, are popular with tourists and are accessible to the public.[13]

637. Transport considers that most of the 17 lightstations could remain manned by the Commonwealth and that if a Commonwealth presence is to be retained the Department is best placed to provide the required manning. This is because the Department has the experience, expertise and organisation to manage lightstations. For most of the stations where a Commonwealth presence is retained Transport says it should be operationally satisfactory for the manning level to be reduced from 2 to 1 following the automation of the navigational aid.[14]

638. The Tasmanian State Government submission makes the suggestion that even though the Cape Bruny light may well be converted to automatic operation the station should remain manned for the purpose of Meteorological observations and a security against vandalism. This could be arranged following discussions with the Tasmanian State Government.[15]

639. The Department of Home Affairs and Environment states that if the station is unmanned the likely supervision requirements of the portfolio would be for a full-time residential management presence at Cape Bruny.[16]

36. CURRIE HARBOUR

General Description[17]

640. History, Location: In the 19th century, King Island had claimed over 800 lives through shipwreck. The lighthouse was established in 1880.

641. The station is located on the west coast of King Island in Bass Strait, and is about half a mile from the centre of the township of Currie, the main town and only port of King Island. The lighthouse reserve covers over 17 ha and access to the station is by road.

642. The Light and Tower: Optical apparatus consists of a Chance Bros 250 mm focal radius revolving lens on a mercury float pedestal driven by an electric motor. The light source is a 120 volt tungsten halogen lamp. The light is fully automated. Power for the station is provided by mains electricity and a diesel generator is kept as stand-by capacity.

643. The tower is 21.3 m high and is of wrought iron construction on a steel base.

644. Other Buildings: The old quarters built of rendered brick are now unused and have been declared surplus to requirements. The new quarters were built in 1964.

645. Staff: The lightstation is attended by one Department of Transport lightkeeper.

Cost Savings of Unmanning

646. The Department of Transport has supplied the indicative costs associated with manned lightstations. This information is at Attachment I of this Appendix.

647. For Currie Harbour the relevant indicative costs are:

(a) costs associated with unmanning $0.48m;
(b) ranking in respect to financial savings - No. 36; and
(c) annual savings - $46 000.[18]

Benefits of Continued Manning

(a) Sea-based functions of keeper

648. Coastal Surveillance: Examination of the submissions and transcripts of evidence does not reveal any specific references to coastal surveillance in respect of Currie Harbour.

649. Search and Rescue: As above.

650. Weather Reporting: The Tasmanian State Government submission rates the need for accurate weather reports as extremely important.[19]

(b) Land-based functions of keeper

651. Cultural Environment: The tower and old quarters have been classified by the National Trust. These structures are not listed in the Register of the National Estate.[20]

652. Natural Environment: As for coastal surveillance.

Reasons for Unmanning/Continued Manning

653. The Department of Transport includes Currie Harbour as one of the 24 stations where 'it appears that the financial benefits from unmanning outweigh the social and other unquantifiable benefits' so that the 'removal of the departmental manned presence would appear to be most justified'.[21]

654. The Department of Home Affairs and Environment says that if the station is unmanned, the likely supervision requirements of the portfolio would be for a full-time residential management presence at Currie Harbour.[22]

37. DEAL ISLAND

General Description:[23]

655. History, Location: Deal Island is the largest island of the Kent Group of islands, lying midway between the Victorian coast (at Wilsons Promontory) and Flinders Island. The construction of the light was undertaken as a joint project by the Victorian, New South Wales and Tasmanian governments in 1846.

656. The lighthouse reserve comprises the entire island which is approximately 1600 ha in area. Access to the station for stores supply and inspection is by helicopter. Major resupply is by Cape class vessel.

657. The Light and Tower: The optical apparatus consists of a Chance Bros first order 920 mm focal radius revolving lens mounted on a rotating pedestal. The apparatus gives a character of group flashing 3 every 20 seconds with an intensity of a million candelas resulting in a nominal visible range of 26 nautical miles.

658. The first order lens currently in service was installed in 1892. Since then oil, acetylene and electricity have been used successively as the source of light illumination. Domestic power and power for the light is provided by twin diesel alternators housed in a timber/fibro, powerhouse located adjacent to the keepers' quarters.

659. The tower, constructed from cement-rendered granite rubble, is 13 m high. The tower stands at an elevation of 305 m at the southern tip of the island and is the highest light in Australia. On clear nights the light may be visible from Wilsons Promontory, which is 75 km away from Deal. Due to the elevation of the light, however, it is obscured frequently by low cloud or mist.

660. Other Buildings: These include 4 keepers' quarters one of which now houses a museum.

661. Staff: The Deal Island light is attended by 2 Department of Transport lightkeepers.

Cost Savings of Unmanning:

662. The Department of Transport has supplied the indicative costs associated with manned lightstations. This information is at Attachment I of this Appendix.

663. For Deal Island the relevant indicative costs are:

(a) costs associated with unmanning $1.34m;
(b) ranking in respect to financial savings - No. 4; and
(c) annual savings - $136 000.

Benefits of Continued Manning

(a) Sea-based functions of keepers

664. Coastal Surveillance: The Tasmanian State Government submission says that Deal Island is in an ideal position for coast watching, intrusion of foreign vessels and so forth.[25] The table at page 15 of the submission rates the significance of coastal surveillance from Deal Island as extremely important. This view is probably based on the point that Deal commands an area of about 2 500 sq km in which there is other human presence other than the lightkeepers. The ALA concludes that as a result of its position the lightkeeper traditionally performs a number of services which range from assistance to weather reporting, emergency supplies and response to coast-watching enquiries.

665. The ALA notes that should an administrative presence be removed from the Kent group of islands, the area could serve as an ideal centre for unauthorised intrusions into Australian waters. It was in this way in the early 19th century that the Kent group first entered Australian history books.[26]

666. Search and Rescue: The Tasmanian State Government submission refers to the preservation of life function of lightkeepers. The table at page 15 of the submission rates the significance of the function for Deal Island as extremely important. The submission also refers to Department of Transport figures which instance 8 occasions in the 5 year period 1977-81 on which the Deal Island lightkeepers assisted in marine emergencies.[27] The ALA adds that in these instances lives have been saved and cases of severe injury handled, and ships and property in serious peril have been safeguarded.[28]

667. Weather Reporting: Deal Island is not rated as a key weather reporting station by the Bureau of Meteorology but the station does make meteorological observations for the Bureau. The Bureau classifies Deal Island as a Category B station - the closure of which would cause a significant diminution of service.[29]

668. The Tasmanian Government submission considers Deal to be an important weather reporting station, particularly because the weather in central Bass Strait is often different from that on the Victorian or Tasmanian coasts. The keepers also provide early warning of severe weather such as east coast lows which can cause floods or storms in eastern and north eastern Tasmania. Unmanning of Deal will result in the loss of the only weather station between the Tasmanian and Victorian coasts apart from Currie on the west coast of King Island.[30]

669. Submissions from the Professional Fishermen's Association of Tasmania, the ALA and the State Government referred to the importance of personal weather reports from the lightkeepers at Deal. The ALA says that small ships have traditionally relied on Deal for immediate and accurate reporting on weather safety parameters in central Bass Strait and on the communications links with Deal. The association adds that fisheries and yachting organisations are quite unambiguous about the value of personal weather reports because automated weather stations cannot provide information on state of the sea, height of swell and so forth.[31]

(b) Land-based functions of keepers

670. Cultural Environment: The island which is within the State of Tasmania is included on the Register of the National Estate. The lightstation, lightkeepers' cottages and ancillary buildings are listed in the Register of the National Estate, as a consequence of their association with Deal Island itself.[32] The Tasmananian State Government says the old buildings will deteriorate quickly without the presence of resident keepers.[33]

671. Both the State Government and ALA submissions refer to the heritage value of Deal. The former states that the leading authority on Australian constitutional history of the period, Professor J.M. Ward has pointed out in his work, Earl Grey and the Australian Colonies, that the building of the Deal Island lighthouse was the first example of intercolonial responsibility in the history of the Australian colonies, and thus has a special niche in the history of the movement towards the federation of those colonies and the evolution of the Australian Government of today.[34] The ALA says that archaeologically, the islands are of special interest and are subject to current research into Aboriginal prehistory being undertaken by the Australian National University. The waters of the Kent Group contain a number of wrecks, some of great interest such as the 'Bulli', said to be the best preserved wreck in Australian waters. The ALA submission concludes that the presence of an authority on Deal Island has mitigated the looting and maltreatment of these important remains.[35]

672. Physical Environment: The Tasmanian Government submission says that Deal Island is an extremely rich area for submarine flora and fauna.[36] Both this submission and that from Munro Aviation refer to endemic plants, Pratia Irigua, which are not found anywhere else in the world and which could be subject to burning if the island were uninhabited.[37] The ALA adds that the area is subject to vandalism.

(c) Other

673. Munro Aviation said that both Swan and Deal had airstrips for emergency landings. A manned presence provides maintenance of the airstrip, physical assistance, comfort and communication facilities.[38]

674. The Tasmanian Government submission also bases the case for continued manning of Deal on the characteristics of manned and automated lights. The submission says that if the range of the light were reduced because of automation, the safety situation in the area around Deal would be worsened.[39]

Reasons for Unmanning/Continued Manning

675. Both the Tasmanian State Government and the ALA support strongly the continued manning of Deal Island. The Department of Transport includes Deal Island as one of the 24 stations where 'it appears that the financial benefits from unmanning outweigh the social and other unquantifiable benefits' so that the 'removal of the departmental presence would appear to be most justified'.[40]

676. The Department of Home Affairs and Environment says that if Deal Island were unmanned the likely supervisory requirements of the portfolio would be for a full-time residential management presence at Deal.[41]

38. EDDYSTONE POINT

General Description[42]

677. History, Location: Eddystone Point is the turning point for shipping on the Tasmanian east coast entering or leaving Banks Strait. The station is located at the northern end of the Bay of Fires, 32 km south-east of Swan Island. It is set in a 10.4 ha reserve. Access is by road.

678. The light was converted from vaporised kerosene to electric operation during the 1930s. The station is connected to mains electricity. A single diesel generator is retained for emergency use.

679. The Light and Tower: The optical apparatus consists of a Chance Bros. first order 920 mm focal radius revolving lens on a mercury float rotating pedestal driven by an electric motor. The light source is a 1000 watt tungsten halogen lamp. The apparatus gives a character of group flashing 2 every 15 seconds with an intensity of a million candelas resulting in a nominal visible range of 26 nautical miles.

680. The circular tower is 36.6 m high and is constructed of pink granite. The three original quarters, constructed of locally quarried granite, are still used to house the present keepers.

681. Staff: The station is attended by 2 Department of Transport lightkeepers.

Cost Savings of Unmanning

682. The Department of Transport has supplied the indicative costs associated with manned lightstations. This information is at Attachment I of this Appendix.

683. For Eddystone Point the relevant indicative costs are :

(a) costs associated with unmanning - $0.82m;
(b) ranking in respect to financial savings - No. 18.

684. The annual net savings for Eddystone Point are calculated at $82 000.

Benefits of Continued Manning

(a) Sea-based functions of keepers

685. Coastal Surveillance: Other than a reference in the Tasmanian State Government submission, there are no specific references to this function as it relates to Eddystone Point in other submissions. The table at page 15 of the State Government submission rates the significance of coastal surveillance as being extremely important for Eddystone Point.[44]

686. Search and Rescue: The Tasmanian State Government submission refers to the preservation of life function of keepers. The table at page 15 of the submission rates the significance of the function for Eddystone Point as extremely important. The submission also refers to Department of Transport figures which instance 4 occasions in the 5-year period 1977-81 on which the Eddystone Point lightkeepers assisted in marine emergencies.[45]

687. Weather Reporting: The Bureau of Meteorology classifies Eddystone Point as a key weather reporting station, i.e. one which makes 7 observations a day throughout the year, and also as a Category A station - a very important station with no satisfactory alternative such that closure would cause a serious diminution of service. Eddystone Point and Swan Island are both in this category, but the Bureau indicated that it is necessary only for one of them to be included in Category A.[46]

688. The other aspect of weather reporting is the on-the-spot information given by lightkeepers. The ALA says the Eddystone Point lighthouse is of significance to the St Helens fishing fleet and also the traffic along the east coast of Tasmania. In winter the keepers provide two calls a day for personal weather information which ALA relates to the safety of small ships in the vicinity.[47] The State Government submissions rate the significance of accurate weather reporting as of moderate importance for Eddystone Point.[48]

(b) Land-based functions of keepers

689. Cultural Environment: Eddystone Point lightstation, lightkeepers' cottages and ancillary buildings are on the Register of the National Estate.[49] The State Government submission rates the significance of historic conservation as extremely important for Eddystone Point.[50] The ALA say the lighthouse is noted for its beauty and for the interest of the associated pair of stone lighthouse cottages which are of architectural and historical importance and should be preserved whatever the decision on continued manning. A manned presence is required as a security against vandalism.[51]

690. Natural Environment: The ALA says the heathland surrounding and adjacent to the station is of specific significance because land clearing has destroyed similar systems elsewhere in north-eastern Tasmania. There are native plants that are very rare which include the annual species of Stylidium, Cuscuta and Sowerba juncea. The area is easily accessible by road

and sea and highly sensitive to damage.[52] The State Government submission rates the significance of nature conservation as extremely important to Eddystone Point. The lightstation adjoins the Mt William National Park which is listed on the Register of the National Estate.[53]

Reasons for Unmanning/Continued Manning

691. The St Helens Branch of the Professional Fishermen's Association of Tasmania supports the continued manning of the Eddystone Point lightstation.[54] The ALA says it is in the interests of the community that Eddystone Point should remain a manned station and also suggests the possibility of manning by the Tasmanian National Parks and Wildlife Service.[55] The Tasmanian State Government submission says that even though the light itself could be converted to automatic operation, the station should remain manned for the purpose of meteorological observations and a security against vandalism. This could be arranged after discussions with the State Government.[56]

692. The Department of Transport includes Eddystone Point as one of the 24 stations where 'it appears that the financial benefits from unmanning outweigh the social and other unquantified benefits' so that the 'removal of the departmental presence would appear to be most justified'.[57]

693. The Department of Home Affairs and Environment says that if the station were unmanned, the likely supervision requirements of the portfolio would be for a full-time management presence at Eddystone Point.[58]

39. LOW HEAD

General Description[59]

694. History, Location: The Low Head lightstation is located on the eastern side of the entrance to the Tamar River, 6 km north of Georgetown and 59 km from Launceston.

695. The station is situated with a 14 ha reserve. Access to the station is by road.

696. The light was installed in 1833 and became the third light after Macquarie (1817) and Iron Pot Islet (1832) to be established in the colonies. By 1888 the original 50' tower had fallen into disrepair and was replaced by the existing 68' tower. The white tower acquired its distinctive red band in 1926 to make it more readily identifiable during the daytime.

697. The Light and Tower: The optical apparatus consists of a Chance Bros 3rd order 375 mm focal radius revolving lens on a mercury float rotating pedestal driven by an electric motor. The light source is a 120 volt, 1000 watt tungsten halogen lamp. The apparatus gives a character of group flashing 3 every 30 seconds with an intensity of a million candelas resulting in a nominal visual range of 26 nautical miles. A red auxiliary light shown from 20' below the main light marks the danger of Hebe Reef westward from the entrance to the estuary.

698. The station is connected to mains electricity. A diesel alternator and associated control equipment are installed for emergency use. The original weight driven clockwork mechanism is also retained as an emergency drive should the electric power fail.

699. Other Buildings: Accommodation consists of four keepers' quarters, only two of which are at present occupied. Part of the reserve encompassing No 3 quarters, has been declared to the Department of Administrative Services as surplus to Transport requirements.

700. Staff: The station is attended by one Department of Transport lightkeeper who is assisted on occasions by a relief keeper.

Cost Savings of Unmanning

701. The Department of Transport has supplied the indicative costs associated with manned lightstations. This information is at Attachment I of this Appendix.

702. For Low Head the relevant indicative costs are:

(a) costs associated with unmanning $0.50m;
(b) ranking in respect to financial savings - No. 33; and
(c) annual savings - $42 000.[60]

Benefits of Continued Manning

(a) Sea-based functions of keeper

703. Coastal Surveillance: Other than a reference in the Tasmanian State Government submission there are no specific references to this function as it relates to Low Head in other submissions. The table at page 15 of the State Government submission questions the significance of coastal surveillance from Low Head.[61]

704. Search and Rescue: A similar situation exists for the SAR function. The table in the State Government submission does not have a rating for this function.[62]

705. Weather Reporting: The Bureau of Meteorology classifies Low Head as a key weather reporting station, i.e. one which makes 7 observations a day throughout the year. Observations from lightstations are a key input into the Bureau's forecasts. The Bureau classifies Low Head as a Category B station - the closure of which would cause a serious diminution of service.[63] The State Government rates the need for accurate weather information from Low Head as being of moderate importance.[64]

(b) Land-based functions of keeper

706. Cultural Environment: The lighthouse, lightkeepers' quarters and ancillary buildings have been entered on the Register of the National Estate.[65] The table at page 15 of the Tasmananian State Government submission rates the significance of historic conservation as being moderately important.[66]

707. Natural Environment: The State Government rates the significance of nature conservation as being of slight importance for Low Head.[67]

Reasons for Unmanning/Continued Manning

708. The Tasmanian State Government submission says there is no justification for the continued manning of the Low Head light which should be automated.[68]

709. The Department of Transport includes Low Head as one of 17 stations that appear to require an authoritative manned presence. Transport says that most of the 17 stations should retain a Commonwealth presence which should be provided by the Department and that the manning level should be reduced from 2 to 1 following automation of the navigational aid.[69]

710. The Department of Home Affairs and Environment says that if the station is unmanned the likely supervision requirements of the portfolio would be for a part-time residential management presence at Low Head.[70]

40. MAATSUYKER ISLAND

General Description[71]

711. History, Location: Maatsuyker Island lies 10 km off Tasmania's rugged south coast between South West Cape and South Cape. Maatsuyker, Australia's southernmost light, was established in 1891 and commands one of the world's most southerly landfalls from an elevation roughly 110 m above high water.

712. The lighthouse reserve consists of the whole of the island, about 182 hectares in area. The station is located at the southern end of the island. Until 1975 supplies were transported by sea, thence by rope haulage to the island. In 1981 the jetty was declared unsafe. Supplies are currently brought in by helicopter from Hobart.

713. The Light and Tower: The optical apparatus consists of a Chance Bros 1st Order 920 mm focal radius revolving lens on a mercury float rotating pedestal driven by an electric motor. The original clockwork mechanism is retained as an emergency drive. The light source is a 120 volt, 1000 watt tungsten halogen lamp. The apparatus gives a character of group flashing 2 every 30 seconds with an intensity of a million candelas resulting in a nominal visible range of 26 nautical miles.

714. The original light source, a wick burner lamp, was replaced in 1921 by a mantle lamp burning vaporised kerosene. The station has since been converted to electric operation with power being provided by 3 diesel driven generators sited in a power house adjacent to the tower.

715. Staff: The Maatsuyker Island light is attended by 2 Department of Transport lightkeepers.

Cost Savings of Unmanning

716. The Department of Transport supplied indicative costs associated with manned lightstations. This information is at Attachment I of this Appendix.

717. For Maatsuyker Island the relevant indicative costs are:

(a) costs associated with unmanning $2.02m;
(b) ranking in respect to financial savings - No. 1; and
(c) annual savings - $202 000.[72]

Benefits of Continued Manning

(a) Sea-based functions of keepers

718. Coastal Surveillance: The Tasmanian Government submissions says the Australian Coastal Surveillance Centre is assisted in isolated outposts by observations by naval coastwatchers and lightkeepers and these observations enable ships and aircraft to be used more efficiently in these remote areas. The lightkeeper is also expected to report on foreign fishing vessels, unusual aircraft activity and unauthorised landings. The table at page 15 of the submission rates the significance of the coastal surveillance function of the lightkeeper as extremely important.[73]

719. Search and Rescue: The Tasmanian State Government submission refers to the preservation of life role which includes reliable communications, weather information, information for search and rescue and a base for rescue operations. The table at page 15 of the submission rates the significance of the preservation of life function as extremely important. The submission also refers to Department of Transport figures which instance 11 occasions on which the Maatsuyker lightkeepers assisted in marine emergencies in the 5 year period 1977-81.[74]

720. Weather Reporting: The Bureau of Meteorology classifies Maatsuyker as a key weather reporting station, i.e. one which makes 7 observations a day throughout the year. The Bureau states that automatic weather stations (AWS) can be installed to compensate, to a certain extent, for the loss of observations by lightkeepers: but currently available AWS cannot make several important measurements or estimations which a human observer can - e.g. cloud type, amount and height, present weather, visibility and sea state. The Bureau classifies Maatsuyker Island as a Category A station - a very important station such that closure would cause a serious diminution of service.[75]

721. The other aspect of weather reporting is the on-the-spot information given by the lightkeepers to fishermen. The Tasmanian State Government submission says that 20% of the State's abalone catch and 10% of the rock lobster catch are taken within sight of Maatsuyker Island. Fishing vessels require the visual monitoring and surveillance that can be provided by a manned lightstation. The table at page 15 of the submission rates the significance of accurate weather information for Maatsuyker as extremely important.[76]

722. Cultural Environment: The island was entered on the Register of the National Estate in 1980. The lightstation, lightkeepers' cottages and ancillary buildings are also listed in the Register of the National Estate.[77]

(b) Land-based functions of keepers

723. Natural Environment: The submissions from both the Tasmanian Conservation Trust (TCT) and the Tasmanian State Government refer to or imply the value of the keeper in respect of the South West National Park. The latter states that Maatsuyker being freehold Commonwealth land is the only part of South West Tasmania not included in the listing under the World Heritage Properties Conservation Act 1983 but is, nevertheless, a key element in the maintenance of its World Heritage values.[78] The TCT submission refers to the good location of Maatsuyker Island as an observation post and says the island is a possible location for a ranger station for the South West National Park.[79]

724. The TCT submission also makes the point that the presence of lightkeepers for almost a century has ensured that the flora and fauna of Maatsuyker, unlike those of most other islands on the south-west coast, have not been subject to damage from deliberately lit fires, the introduction of alien land animals or vandalism. The isolation and relatively undisturbed condition make Maatsuyker an excellent place for the study of relationships between island size, remoteness and the biology.[80]

725. The TCT says that adjacent to the island and within view from the keeper's quarters is the largest colony of Tasmanian fur seals in southern Tasmania. The elephant seals, exterminated in Tasmanian waters by about 1810, have now reappeared and a small colony of elephant seals and their pups live in an inlet of Maatsuyker Island.[81] The State Government says that the keepers by their oversight provide some protection against seal slaughter by some fishermen and that the keepers have informed the Tasmanian authorities of the killing of seals.[82]

(c) Other

726. The State Government also refers to the problem of reliability of an automated light at Maatsuyker. Access to the island is by helicopter and the submission says that mainly because of strong winds it is not possible to reach the island about 30% of the time. It follows that demanning will result in substantial delays in remedying faults and this in turn will pose grave risks for the reliable operation of the light.[83]

Reasons for Unmanning/Continued Manning

727. Both the TCT and the State Government support strongly the continued manning of Maatsuyker Island. The Department of Transport includes Maatsuyker Island as one of the 24 stations where 'it appears that the financial benefits from unmanning outweigh the social and other unquantifiable benefits' so that the 'removal of the departmental manned presence would appear to be most justified'.[84] In evidence, Transport said detailed

consideration was given to the implications of unmanning, including the arguments raised by the TCT. The Department of Home Affairs and Environment did not support the need for a manned presence at Maatsuyker in discussions with Transport.[85]

728. The Department of Home Affairs and Environment says that if Maatsuyker is unmanned the likely supervision requirement of the portfolio is for a full-time management presence at Maatsuyker Island.[86] In evidence, HA&E 'definitely endorsed' the TCT's views on continued manning and said, in the context of the preparation of management plans for the South West National Park, that 'it would be a shame ... if Maatsuyker were demanned in the process, thereby perhaps foreclosing options for a continued manned presence at that station'.[87]

41 : SWAN ISLAND

General Description[88]

729. History, Location: Swan Island lies off the north-eastern tip of the Tasmanian mainland. A lighthouse was established on Swan Island in 1845. It was the first light established in the vicinity of Bass Strait and provides a landfall mark for ships bound for Melbourne and northern Tasmanian ports from the South Tasman sea.

730. The lighthouse tower on Swan is the second oldest existing tower under Commonwealth control [Cape Bruny tower predates Swan by 7 years].

731. The station is located at the north-eastern end of Swan Island. The lighthouse reserve consists of the whole of the island - about 202 ha in area. Access to the island is by Cape class vessel, helicopter and light aircraft.

732. The Light and Tower: The optical apparatus consists of a Chance Bros 5th order 187.5 mm focal radius revolving lens on a mercury float rotating pedestal driven by an electric motor. The light source is a 120 volt, 1000 watt tungsten halogen lamp. The apparatus gives a character of flashing every 7.5 seconds with an intensity of 780 000 candelas resulting in a nominal visible range of 25 nautical miles.

733. An oil wick lamp provided the light source until 1923 when an incandescent kerosene mantle burner was installed. This apparatus remained in service until 1938 when the service was converted to electric operation. Power is provided by twin diesel generators housed in a fibro power shed adjacent to the tower.

734. Staff: The Swan Island light is attended by 2 Department of Transport lightkeepers.

Cost Savings of Unmanning

735. The Department of Transport supplied indicative costs associated with manned lightstations. This information is at Attachment I of this Appendix.

736. For Swan Island the relevant indicative costs are:

(a) costs associated with unmanning $1.37m;
(b) ranking in respect to financial savings - No. 3; and
(c) annual savings - $85 000.[89]

Benefits of Continued Manning

(a) Sea-based functions of keepers

737. Coastal Surveillance: The ALA states that on Swan the lightkeepers perform a number of ancillary functions such as naval coast-watchers and coastal surveillance rapporteurs.[90] The Tasmanian State Government submission says keepers have been known to report the presence of foreign naval vessels and cites a 1980 reporting of a United States naval vessel. The table at page 15 of the submission rates the significance of the coastal surveillance function as extremely important.[91]

738. Search and Rescue: The ALA says that while keepers at Swan have not been involved in marine emergencies in recent years, a number of incidents and untoward sightings have been transmitted from Swan Island.[92] The Tasmanian State Government submission refers to the preservation of life role which includes information on search and rescue. The table at page 15 of the submission rates the significance of the preservation of life function as moderately important. The submission also refers to Transport figures which instance 2 occasions on which the Swan Island lightkeepers assisted in marine emergencies in the 5 year period 1977-81.[93]

739. Weather Reporting: Swan Island is not rated as a key weather reporting station by the Bureau of Meteorology but the station does make meteorological observations for the Bureau. The Bureau classifies Swan Island as a Category A station - a very important station, the closure of which would cause a serious diminution in service. Eddystone Point and Swan are considered as alternatives for Category A classification.[94] Several organisations including The Professional Fishermen's Association of Tasmania referred to the first-hand visual information on the state of the sea, e.g. the swell, which fishermen and other users require and which cannot be obtained from mechanical instruments.[95] The Tasmanian Government submission also referred to the importance for fishermen of weather information from Swan Island and added that almost 11% of the Tasmanian rock lobster catch is taken in the waters between Flinders Island and the north-east mainland.[96]

(b) Land-based Functions of keepers

740. Cultural Environment: The lighthouse tower is listed in the Register of the National Estate. Both the tower and the quarters are classified by the National Trust.[97] The ALA also refers to the presence of a number of Aboriginal middens which have not been investigated scientifically. The ALA is convinced the removal of the human presence will make the island and its installations vulnerable to vandalism.[98]

741. Natural Environment: Both Munro Aviation and the ALA refer to the function of the keepers in protecting the physical environment. The former says the mutton bird rookeries on Swan

Island are subject to poaching and would be under threat if the restraining influence of the keepers were to be removed.[99] The ALA says the island is sensitive to fires and that the immediate result of the removal of the lightkeepers is the destruction of the natural environment by fire over the whole of the island.[100]

(c) Other

742. The other arguments for continued manning or against demanning relate to the characteristics of manned and automated lights. The Tasmanian Government submission, after referring to loss of craft in the area of Swan, goes on to say that if the range of the light were reduced from its present range of 23 miles to say 11 miles, the safety situation in this most dangerous area would be accordingly worsened.[101] The ALA states there is convincing evidence that the present intensity of the light should be retained and that if the automated light became inoperative because of vandalism or other incidents it would take very much longer to repair than the manned light.[102]

Reasons for Unmanning/Continued Manning

743. Both the Tasmanian State Government and the ALA support the continued manning of Swan Island. The Department of Transport includes Swan Island as one of the 24 stations where 'it appears that the financial benefits from unmanning outweigh the social and other unquantifiable benefits' so that the 'removal of the departmental manned presence would appear to be most justified'.[103]

744. The Department of Home Affairs and Environment says that if Swan is unmanned the likely supervision requirement of the portfolio is for a part-time management presence at Swan Island.[104]

ENDNOTES : TASMANIAN LIGHTSTATIONS

1. Based on Transport information, Submissions Vol.54, pp.728-729
2. Submissions, Vol.2, pp.219-220 and Vol.5, p.704
3. Submissions, Vol.3, pp.385-386
4. ibid. p.389
5. ibid. p.389
6. Submissions, Vol.2, pp.232-233
7. Submissions, Vol.5, p.674
8. Submissions, Vol.1, p.113
9. Submissions, Vol.5, p.728-729
10. Submissions, Vol.3, pp.379-389 and Vol.1, p.113
11. Submissions, Vol.1, pp.112-113
12. Submissions, Vol.2, p.201
13. Evidence, p.185

14. Submissions, Vol.2, p.201
15. Submissions, Vol.3, p.379
16. Submissions, Vol.4, p.602
17. Compiled from Exhibit 7
18. Submissions, Vol.2, p.220 and Vol.5, p.704
19. Submissions, Vol.3, p.389
20. Exhibit 17 and Submissions, Vol.6, p.749
21. Submissions, Vol.2, p.200
22. Submissions, Vol.4, p.602
23. Based on Transport information, Submissions, Vol.5, pp.729A-729B
24. Submissions, Vol.2, pp.219-220
25. Submissions, Vol.3, p.378
26. Submissions, Vol.4, pp.565-566
27. Submissions, Vol.3, pp.383, 390
28. Submissions, Vol.4, p.566
29. Submissions, Vol.5, p.674
30. Submissions, Vol.3, p.444
31. Submissions, Vol.1, pp.57-58 and Vol.4, p.565
32. Submissions, Vol.5, pp.749-750. N.B. The Australian Heritage Commission advised that it inadvertently omitted the inclusion of Deal Island in information provided to the Committee. The Commission confirmed that both the structures and the lightstation reserve are in the Register of the National Estate.
33. Submissions, Vol.3, p.446
34. ibid.
35. Submissions, Vol.4, p.567
36. Submissions, Vol.3, p.445
37. Submissions, Vol.1, p.65
38. Submissions, Vol.1, p.64
39. Submissions, Vol.3, p.378
40. Submissions, Vol.2, p.200
41. Submissions, Vol.4, p.602
42. Based on Transport information, Submissions, Vol.5, p.730
43. Submissions, Vol.2, pp.219-220 and Vol.5, p.704
44. Submissions, Vol.3, p.389
45. Submissions, Vol.3, pp.383-389
46. Submissions, Vol.5, p.674
47. Submissions, Vol.4, p.576
48. Submissions, Vol.3, p.389
49. Submissions, Vol.4, p.600 and Vol.5, p.748
50. Submissions, Vol.3, p.389
51. Submissions, Vol.4, p.576
52. ibid.
53. Submissions, Vol.3, p.389
54. Submissions, Vol.1, p.119
55. Submissions, Vol.4, p.557
56. Submissions, Vol.3, p.379
57. Submissions, Vol.2, p.200
58. Submissions, Vol.4, p.602
59. Based on Transport information, Submissions, Vol.5, pp.731-732
60. Submissions, Vol.2, pp.219-220
61. Submissions, Vol.3, p.389

62. ibid.
63. Submissions, Vol.4, p.674
64. Submissions, Vol.3, p.389
65. Submissions, Vol.6, p.749
66. Submissions, Vol.3, p.389
67. ibid.
68. Submissions, Vol.3, p.379
69. Submissions, Vol.2. p.201
70. Submissions, Vol.4, p.602
71. Based on Transport information, Submissions, Vol.5, pp.733-734
72. Submissions, Vol.2, pp.219-220
73. Submissions, Vol.3, pp.385, 389 and 407
74. Submissions, Vol.3, pp.383-389
75. Submissions, Vol.2, pp.232-233 & Vol.5, p.674
76. Submissions, Vol.4, pp.389-428
77. Submissions, Vol.6, p.748
78. Submissions, Vol.3, p.382
79. Submissions, Vol.2, p.292
80. Submissions, Vol.2, p.289-290
81. ibid.
82. Submissions, Vol.3, p.428
83. Submissions, Vol.3, pp.376-378
84. Submissions, Vol.2, p.200
85. Evidence, p.183
86. Submissions, Vol.4, p.602
87. Evidence, p.233
88. Based on Transport information, Submissions, Vol.5, pp.735-736
89. Submissions, Vol.2, pp.219-220
90. Submissions, Vol.4, p.573
91. Submissions, Vol.3, pp.389-449
92. Submissions, Vol.4, p.573
93. Submissions, Vol.3, pp.383-389
94. Submissions, Vol.5, p.674
95. Submissions, Vol.1, p.57
96. Submissions, Vol.3, p.449
97. Submissions, Vol.6, p.749
98. Submissions, Vol.4, p.574
99. Submissions, Vol.1, p.65
100. Submissions, Vol.4, p.574
101. Submissions, Vol.3, p.378
102. Submissions, Vol.4, p.574
103. Submissions, Vol.2, p.200
104. Submissions, Vol.4, p.602

INDICATIVE COSTS ASSOCIATED WITH MANNED LIGHTSTATIONS

Lightstation	Number of Lightkeepers	Annual operating cost as manned station	Annual operating cost as unmanned station	Cost of conversion to unmanned operation (a)	Capital and major repair and maintenance expenditure over next 5 years which would be avoided if station unmanned
		$	$	$	$
Booby Island	3	164,000	45,000	180,000	81,000
Low Isles	2	118,000	40,000	160,000	12,000
Fitzroy Island	2	107,000	42,000	155,000	34,000
Cape Cleveland	2	118,000	40,000	160,000	23,000
Dent Island	2	128,000	11,000	44,000 (b)	100,000
Pine Islet	3	166,000	12,000 (c)	90,000 (c)	34,000
Cape Capricorn	2	111,000	40,000	160,000	40,000
Bustard Head	2	139,000	14,000	70,000	31,000
Lady Elliott Island	2	105,000	40,000	(b)	46,000
Sandy Cape	2	112,000	40,000	160,000	32,000
Double Island Point	2	98,000	40,000	160,000	8,000
Cape Moreton	2	121,000	40,000	160,000	23,000
Cape Byron	2	80,000	9,000	40,000	72,000
Smoky Cape	2	80,000	9,000	44,000	71,000
Sugarloaf Point	2	81,000	9,000	44,000	92,000
Norah Head	2	78,000	9,000	40,000	78,000

* *This table was revised at the request of the Committee. The revised table appears at Submissions, Vol 5, pp702-705.*

INDICATIVE COSTS ASSOCIATED WITH MANNED LIGHTSTATIONS

Lightstation	Number of Lightkeepers	Annual operating cost as manned station	Annual operating cost as unmanned station	Cost of conversion to unmanned operation (a)	Capital and major repair and maintenance expenditure over next 5 years which would be avoided if station unmanned
		$	$	$	$
Point Perpendicular	2	95,000	14,000	70,000	30,000
Montagu Island	2	137,000	13,000	200,000	135,000
Green Cape	2	101,000	14,000	70,000	161,000
Gabo Island	2	196,000	45,000	160,000	41,000
Point Hicks	2	109,000	14,000	70,000	122,000
Deal Island	2	177,000	10,000(d)	155,000(d)	75,000
Swan Island	2	138,000	13,000	200,000	520,000
Eddystone Point	2	95,000	9,000	20,000(b)	81,000
Cape Bruny	2	94,000	14,000	70,000	294,000
Maatsuyker Island	2	267,000	30,000	175,000	142,000
Low Head	1	74,000	9,000	115,000(b)	41,000
Wilsons Promontory	2	195,000	35,000	165,000	40,000
Cape Schanck	2	92,000	11,000	35,000	38,000
Currie Harbour	1	74,000	11,000	85,000(b)(e)	21,000
Cape Otway	2	95,000	11,000	35,000	90,000
Cape Nelson	2	81,000	9,000	44,000	34,000
Cape Willoughby	2	74,000	10,000	20,000	20,000
Cape Borda	2	79,000	11,000	35,000	26,000
Althorpe Island	2	130,000	14,000	120,000	231,000

INDICATIVE COSTS ASSOCIATED WITH MANNED LIGHTSTATIONS

Lightstation	Number of Lightkeepers	Annual operating cost as manned station	Annual operating cost as unmanned station	Cost of conversion to unmanned operation (a)	Capital and major repair and maintenance expenditure over next 5 years which would be avoided if station unmanned
		$	$	$	$
South Neptune Island	2	149,000	17,000	205,000	124,000
Cape Leeuwin	3	115,000	11,000	20,000 (b)	85,000
Cape Naturaliste	1	55,000	9,000	22,000 (b)	60,000
Rottnest Island	1	55,000	8,000	40,000	30,000
Moore Point	1	38,000	9,000	44,000	35,000
Cape Leveque	2	188,000	23,000	245,000	150,000

NOTES

(a) These indicative costs relate to specific automation equipment at each lightstation, although for some locations there are various equipment options which may be examined.

(b) Lightstation already converted to automatic operation.

(c) It is planned to convert Pine Islet light (presently kerosene powered) to automatic operation irrespective of whether it is to be unmanned or not.

(d) Deal Island conversion costs are those required to remove the optical apparatus from Deal Island lightstation, and establish minor solar powered lights on North East Island and South West Island. Annual operating cost as an unmanned station is the combined annual operating costs of both North East and South West Islands lights.

(e) Currie Harbour conversion cost includes cost to convert Cape Wickham light to fully automatic operation.

Source: Extract from Department of Transport's submission : Submissions, Vol 2, pp. 216-220

INDICATIVE LISTING OF LIGHTSTATION UNMANNING
RANKED ACCORDING TO FINANCIAL SAVINGS

RANK NUMBER	LIGHTSTATION	INDICATIVE FINANCIAL BENEFIT OF UNMANNING
		$M
1	Maatsuyker Island	2.02
2	Cape Leveque	1.41
3	Swan Island	1.37
4	Deal Island	1.34
5	Pine Islet	1.25
6	Wilsons Promontory	1.24
7	Gabo Island	1.16
8	Althorpe Island	1.12
9	Dent Island	1.09
10	South Neptune Island	1.06
11	Bustard Head	1.03
12	Montagu Island	1.01
13	Cape Leeuwin	1.00
14	Cape Bruny	0.92
15	Point Hicks	0.90
16	Booby Island	0.90
17	Green Cape	0.86
18	Eddystone Point	0.82
19	Cape Otway	0.79
20	Cape Schanck	0.70
21	Sugarloaf Point	0.67
22	Point Perpendicular	0.67
23	Cape Byron	0.65
24	Smoky Cape	0.64
25	Norah Head	0.64
26	Cape Nelson	0.61
27	Lady Elliott Island	0.60

RANK NUMBER	LIGHTSTATION	INDICATIVE FINANCIAL BENEFIT OF UNMANNING
		$M
28	Cape Borda	0.57
29	Cape Moreton	0.55
30	Cape Willoughby	0.55
31	Cape Cleveland	0.53
32	Low Isles	0.51
33	Low Head	0.50
34	Cape Capricorn	0.49
35	Sandy Cape	0.49
36	Currie Harbour	0.48
37	Cape Naturaliste	0.47
38	Fitzroy Island	0.43
39	Rottnest Island	0.41
40	Double Island Point	0.34
41	Moore Point	0.26

The indicative financial benefit of unmanning, shown above, is derived from the information provided in Attachment 1 (a) It represents, for each light station, the net present value of the difference in total costs over the next 20 years between manned and unmanned operation discounted at 10% p.a.

MANNED LIGHTHOUSES JULY 1983