

Issues and Conclusions

Procedural Issues

- 3.1 According to its submission, the Bureau started preparing for the project on 2 June 2004 by initiating a temporary, 18-month de-staffing of the Willis Island meteorological office.¹ Members noted that the work was not referred to the Committee until 12 months later, on 2 June 2005, and sought an explanation for this delay. The Bureau assured Members that its intention was not to bypass the Committee, but that, in error, it had referred the work to the Committee too late in the process. The Bureau added that, once it was aware of the oversight, it had ensured that no further work was carried out prior to the conclusion of the Committee's inquiry into the proposal.²
- 3.2 The Committee expressed concern that the Bureau had contravened the Act by undertaking documentation and design work prior to parliamentary approval of the work. The Bureau explained that it was necessary to undertake some design work in order to determine the feasibility of pursuing the project, and that detailed costings had been required before a decision could be taken by its executive as to whether or not the proposal should proceed.³

1 Appendix C, Submission No. 1, paragraph 4

2 Appendix D, Official Transcript of Evidence, page 3

3 Appendix D, Official Transcript of Evidence, page 3

- 3.3 While the Committee accepted the Bureau's argument that some funds needed to be expended to determine the viability of the project, it did not feel that the Bureau was justified in proceeding to tender before referring the work to the Committee. The Bureau explained that this had been the result of an oversight and a misunderstanding of how early in the process the work needed to be referred to the Committee. The Committee maintained, however, that the Act was very clear on this point and emphasised the problems caused by agencies failing to refer relevant works to the Committee in a timely manner.⁴

Alternatives Considered

- 3.4 The Bureau considered a number of options for the redevelopment of Willis Island, including:
- restoration of year-round, fully staffed observations and monitoring program;
 - restoration of a manual program, but only staffed during the tropical wet season; and
 - termination of the manual program but retention of an automated program.⁵
- 3.5 The feasibility of each option was assessed on the basis of its responsiveness to meteorological requirements, capital rebuild and re-equipment costs, maintenance costs and risk.⁶ Based on these assessments, the Bureau concluded that the resumption of a full observations program, with accompanying full redevelopment of the Willis Island meteorological office, was the preferred option.⁷
- 3.6 The Committee noted that the meteorological office had been established in 1921 and was operated initially by two people, and asked why this had expanded over time to require four people. The Bureau explained that the nature of the observations program had expanded to include upper air monitoring as well as surface observations, thus requiring additional staff members.⁸
- 3.7 The Committee questioned why the Bureau had not pursued the option of staffing the meteorological office only during the wet season. The Bureau
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4 *ibid*, page 4

5 Appendix C, Submission No. 1, paragraph 17

6 *ibid*, table on page 9

7 *ibid*, paragraph 18 and table on page 9

8 Appendix D, Official Transcript of Evidence, pages 6 - 7

explained that this option would not meet all meteorological requirements as it would result in the cessation of the upper air program and would also cause gap in the climate record. Additionally, this option would result in only a marginally lower refurbishment cost and would also present security risks for the facilities and equipment on the island.⁹

3.8 The Committee was interested to learn whether the Bureau had considered using new technologies to provide information presently generated by the Willis Island meteorological office. The Bureau explained that it had undertaken a rigorous evaluation of the office's contribution to meteorological outcomes and had concluded that, whilst the data provided through Willis Island was not as unique as it once had been, the office was still valuable. The Bureau's presence at Willis Island was particularly valuable due to its capacity to provide early detection of tropical cyclones approaching the Queensland coast, and this was a function that could not be replaced at this stage by other technologies, such as satellite.¹⁰

3.9 The Committee inquired whether the Willis Island radar could be monitored remotely, and was informed that establishing a remote radar on the island would not be appropriate due to the absence of grid power. The Bureau explained that, on Willis Island, the radar would need to be powered by renewable energy, the reliability of which could not be guaranteed.¹¹

Future Requirement

3.10 Noting that the life of the proposed facility was intended to be 50 years, the Committee was interested to learn whether there was any potential for future technologies to provide the same services without requiring a physical human presence. The Bureau explained that, although satellite technology was constantly improving, weather balloons were still the most accurate means of detecting atmospheric conditions and that a physical human presence was therefore necessary. While the Bureau accepted that this would need to be reassessed when the proposed facility's expected life had expired, it assured the Committee that the office would continue to be necessary over the next 20 to 30 years.¹²

9 *ibid*, page 8

10 *ibid*, page 5

11 *ibid*, page 7

12 Appendix D, Official Transcript of Evidence, pages 7 - 8

Hazardous Materials

- 3.11 In its main submission, the Bureau had stated that
- ... some of the Island facilities ... experienced significant deterioration. The presence of asbestos in the buildings presents a potential health hazard.¹³
- 3.12 The Committee sought advice as to what analyses had been undertaken to determine the presence of hazardous materials in the buildings being demolished, and what the strategies were for managing the storage and disposal of hazardous materials. The Bureau confirmed that asbestos products were present on the island, mainly in the form of roof sheeting, and that whilst it believed that other asbestos products were present in concealed spaces, destructive testing had not been carried out to locate these.¹⁴
- 3.13 The Bureau noted that asbestos would need to be removed from the island in accordance with the workplace safety and health act (*Occupational Health and Safety Regulation 2001*). In response to the Committee's queries, the Bureau expressed confidence that the tenders, including shipping costs, would cover the asbestos-related costs in a worst-case scenario.¹⁵

Environmental Issues

Environmental Management Plan (EMP)

- 3.14 In response to questions regarding the environmental impact of the proposed work, the Bureau stated that it had submitted a referral to the Department of Environment and Heritage (DEH) under the terms of the *Environment Protection and Biodiversity Conservation Act 1999*, and that the DEH had determined that the work was not a controlled action. The Bureau explained that the successful construction contractor would be required to prepare and implement an EMP for the works. The EMP is a requirement of the DEH and stipulates, among other things, provisions for the protection of the resident green turtle population and other fauna and flora.¹⁶ The Bureau undertook to provide the Committee with a copy of

13 Appendix C, Submission No. 1, paragraph 7

14 Appendix D, Official Transcript of Evidence, page 11

15 *ibid*, page 12

16 Appendix D, Official Transcript of Evidence, page 11

the EMP following the hearing, and this document was provided on 5 September 2005, to the Committee's satisfaction.

Hybrid Power Generation

- 3.15 The Committee sought details of the hybrid power generation system proposed for the facility. The Bureau explained that power generation would involve two systems – the first consisting of a wind turbine, solar panels and diesel generator; and the second consisting of a larger diesel generator that would provide sufficient power to the meteorological facility in the event that the first system was not operational. The Committee was pleased to learn that the design was such that the renewable energy component of the first system could be increased without requiring any changes to the infrastructure.¹⁷

Desalination Plants

- 3.16 The Committee was interested to hear about the desalination plants operating on the island. The Bureau confirmed that the plants could generate up to 3,000 litres of water per day, which was sufficient to ensure an ongoing supply of fresh water. Following the hearing, at the Committee's request, the Bureau advised that the operating cost of the desalination plant equated to \$7.15 per kilolitre.¹⁸

Project Schedule

- 3.17 The Bureau expressed an expectation that the project would be completed in six months, subject to Parliamentary approval.¹⁹ Noting that the outcome of the parliamentary inquiry was not expected to be known until September 2005, the Committee sought further information on the Bureau's schedule for the project, particularly with reference to the approaching tropical wet season. While the Bureau could not be certain of the cyclone season's impact on the construction program, it suggested that surface observations and the radar program would likely be operational by the end of 2005, with the completion of works and resumption of the upper air program expected to take place by March-April 2006.²⁰

17 *ibid*, page 8

18 *ibid*, page 10

19 *ibid*, page 6

20 Appendix D, Official Transcript of Evidence, page 9

- 3.18 Noting the revised projected completion date, the Committee inquired whether this delay would significantly impact on the project cost. The Bureau advised that some of the costs associated with the extended timeframe would be absorbed by the contingencies budget, but noted that this depended on the severity of the wet season and could not be confident in predicting the cost impact.²¹ The Bureau did, however, inform the Committee during the confidential briefing that the tenders were not based on there being a break in construction over the wet season.

Impact on Operations

- 3.19 The Committee was concerned to learn about the impact of the construction process on the meteorological office's operations. The Bureau advised that the office had been de-staffed in June 2004 to expedite construction and that it had, in the meantime, maintained a surface observation program on the island through an automatic weather station. While there were risks associated with the temporary cessation of the upper air and radar programs, the Bureau was confident that additional information gathered through other Queensland offices and satellite imagery could be synthesised to provide adequate forewarning of cyclone approaches. The Bureau gave the Committee its undertaking to ensure that as many elements of the meteorological office were operational as soon as was possible, and was confident that, subject to Parliamentary approval, the Willis Island radar would be operating by the commencement of the cyclone season.²²
- 3.20 The Committee heard that the construction team will be accommodated on the island during construction in temporary buildings that will be constructed by the building contractor.²³

21 *ibid*, page 10

22 *ibid*, pages 6 and 9

23 *ibid*, page 12

Recommendation 1

The Committee recommends that the Bureau of Meteorology provide the Committee with updates of the project schedule and costs as the works progress.

Costs

- 3.21 At the public hearing, the Bureau informed the Committee that the total construction cost estimate for the project was \$7.691 million, rather than the \$7 million stated in the main submission. The Bureau explained that the initial \$7 million figure²⁴ did not incorporate professional fees or land costs.²⁵
- 3.22 The Bureau added that the \$1.662 million re-equipment cost referred to in its submission²⁶ was not considered part of the project cost as the replacement of radars and other meteorological equipment would be achieved through the Bureau's operational budget.²⁷

Shipping and Logistics

- 3.23 During a confidential briefing on project costs, the Committee was informed that there was roughly a 75 per cent loading on the construction costs as a result of the island's remote location, and that this premium was in addition to the high logistical expenses that would be incurred for the same reason.
- 3.24 Noting the remote location of Willis Island, the Committee sought information from the Bureau regarding shipping and logistics, and whether there was a competitive market for the provision of these services. The Bureau explained that there were a limited number of companies that would service Willis Island, but that the tenders received had included shipping costs. The Bureau added that the tenders incorporated various logistical combinations for different materials. At the Committee's request, subsequent to the hearing, the Bureau provided details of the expected volume of materials to be transported to and from the island, as well as a summary of each tender. In each case, the Committee was satisfied with the information it received.

24 Appendix C, Submission No. 1, paragraphs 11 and 12

25 Appendix D, Official Transcript of Evidence, page 13

26 Appendix C, Submission No. 1, paragraphs 11 and 12

27 Appendix D, Official Transcript of Evidence, page 13

Costs Unknown at the Time of Estimate

- 3.25 The Committee observed that the detailed commercial-in-confidence cost estimate provided by the Bureau omitted a number of items which might be expected to impact significantly upon project costs. The Bureau explained that these were items that the quantity surveyor had not been able to quantify, but assured the Committee that they would be provided for in the tender documentation and allowances. The Committee requested that the Bureau supply details of these costs and the provision made for them, when the information became available.
- 3.26 Subsequent to the hearing the Bureau advised that some items excluded from the cost estimate (for example, TV dish, relocation of meteorological equipment, insurance and relocation of Satweb) had been provided for in the tenders received. The Bureau also supplied information on the cost of communications hardware, and undertook to provide further details as they became available. The Committee was satisfied with the information it had received this far.

Recommendation 2

The Committee recommends that the Bureau of Meteorology supply the Committee with budgetary details of items omitted from the commercial-in-confidence quantity surveyor estimate for the project when such information becomes available.

Recommendation 3

The Committee recommends that the proposed redevelopment of Willis Island Meteorological Office, Coral Sea, proceed at the estimated cost of \$7.691 million.

Hon Judi Moylan MP

Chair

14 September 2005