

## The Proposed Works

### Need

- 2.1 The Bureau's meteorological station at Willis Island was established in 1921. Most of the current facilities on the island were constructed in either 1950 or 1968 and are either nearing the end of, or have already exceeded, their useful economic lives.<sup>1</sup>
- 2.2 The Bureau's assessment of Willis Island identified a need for redeveloping the facilities, based on:
- substantial damage to the structural support of existing facilities, with some areas no longer able to be made safe for operational use;
  - health and safety hazards for station staff, visitors and maintenance personnel as a result of the presence of asbestos and ageing services infrastructure, including electrical wiring and plumbing;
  - the considerable cost of maintaining the existing facility, which is expected to increase over time, due to the harsh and remote location; and
  - the need to enhance the station's desirability as a staff posting, noting existing difficulties in attracting suitable staff to the station.<sup>2</sup>

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1 Appendix C, Submission No. 1 from the Bureau of Meteorology, paragraphs 9 - 10

2 Appendix C, Submission No. 1, paragraph 9

## Purpose

- 2.3 The proposed work is intended to replace facilities on Willis Island that enable the Bureau to staff, operate and house its meteorological office. Facilities earmarked for replacement have significantly deteriorated and exceeded their economic lives, and also present potential health and safety hazards.<sup>3</sup>
- 2.4 The proposal includes demolition and removal of existing facilities, and replacement with a new, more appropriate facility that meets current and expected future requirements.<sup>4</sup>

## Scope

- 2.5 The proposal includes the demolition and removal of the following facilities:
- meteorological office, accommodation, messing and recreational structures;
  - power house and paint store;
  - balloon filling and hydrogen storage building;
  - cyclone shelter and flammable storage bunkers;
  - fresh water storage tanks;
  - external paths and paving; and
  - underground services.<sup>5</sup>
- 2.6 The following existing system elements are proposed for reuse:
- desalination plant;
  - fire and salt water pumps;
  - enviro-cycle sewage treatment plant; and
  - fuel storage tanks and refilling pump.<sup>6</sup>

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3 *ibid*, paragraphs 7 and 9 - 10

4 *ibid*, paragraph 20

5 *ibid*, paragraph 21

6 Appendix C, Submission No. 1, paragraph 8

- 2.7 The proposal includes the construction of the following new facilities and services:
- meteorological office, messing area, accommodation, recreational area, powerhouse;
  - hydrogen generator building and gas storage, including associated site works;
  - relocation of fuel storage tanks to new fuel area;
  - new underground services including communications, power distribution, water, sewage and fire hose services;
  - relocation of satellite dishes and radar tower; and
  - refurbishment of the salt water pump building.<sup>7</sup>
- 2.8 The new facility will incorporate a central north-south corridor linking a series of five functional wings:
- meteorological office;
  - living accommodation;
  - personal accommodation;
  - laundry / visiting personnel accommodation; and
  - stores / workshop.<sup>8</sup>
- 2.9 The proposed facility will support a four-person deployment. The proposal allows for a six-monthly resupply and staff changeover period, during which the facilities will be required to accommodate a further 15 persons (incoming crew, Bureau support personnel and maintenance contractors) for about three days.<sup>9</sup>

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7 *ibid*, paragraph 23

8 *ibid*, paragraph 24

9 *ibid*

## Options considered

- 2.10 The Bureau considered a number of options, with the feasibility of each assessed on the basis of its responsiveness to meteorological requirements, capital rebuild and re-equipment costs, maintenance costs and risk.<sup>10</sup> Based on its investigations, the Bureau concluded that the fully-staffed observations program, requiring the proposed redevelopment, was the best option.<sup>11</sup>

## Project delivery

- 2.11 The Bureau initiated a temporary, 18-month de-staffing of Willis Island meteorological office on 2 June 2004 to enable refurbishment of the facilities, with ongoing synoptic observations from Willis Island being provided by an Automatic Weather Station (AWS) system to provide basic monitoring functions until the full operations are restored.
- 2.12 Subject to parliamentary approval, the Bureau proposes to commence construction immediately, with works targeted for completion by the end of 2005, before the commencement of the 2005-06 tropical cyclone season.<sup>12</sup>

## Cost

- 2.13 In its main submission to the Committee, the Bureau identified the estimated cost of construction as \$7 million.<sup>13</sup> This cost was later revised to \$7.691 million due to the inclusion of professional fees.<sup>14</sup>

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10 *ibid*, paragraphs 11 - 12

11 Appendix C, Submission No. 1, paragraph 18

12 *ibid*, paragraphs 5 and 16

13 *ibid*, paragraphs 11 - 12

14 Appendix D, Official Transcript of Evidence, page 13