23 VISUAL AMENITY

23.1 DESALINATION PLANT

Issue:

It was suggested that there would be a negative visual impact from the buildings and settling ponds of the proposed desalination plant. Specifics regarding the proposed landscaping of the site were also requested.

Submissions: 2, 26, 68, 90, 130, 193 and 219

Response:

The assessment of the visual effects of the desalination plant presented in Section 20.5.2 of the Draft EIS, which included consideration of the landscaping of the site, found the proposed desalination plant is consistent with the area's industrial character and categorised the visual impact as moderate (refer Appendix R of the Draft EIS for details).The detailed design of landscape plantings would occur in the future as the planning for the development project progressed. Plants utilised in this area would be native species.

The findings of a visual amenity assessment of project infrastructure, including the proposed desalination plant, from sensitive viewing locations such as roads and residences, were presented in Section 20.3.5 and Appendix R of the Draft EIS. The visual impacts associated with the desalination plant were established by superimposing digital models of the proposed facilities onto high-resolution photographs taken from a number of viewing points (photographs were taken with a 35 mm reflex camera with a 50 mm lens, as this closely resembles the perspective of the human eye: refer Appendix R of the Draft EIS for details).

As discussed in Section 20.5.2 of the Draft EIS, views of the desalination plant from the recreational sites at the lighthouse and coastal homes on Point Lowly would be screened to some extent by the topography (as shown in Plate 20.12 of the Draft EIS, reproduced here as Plate 23.1). The large white petroleum tanks of the Santos facility (see Plate 23.2 of the Supplementary EIS) would continue to dominate the visual character of Point Lowly, and would screen views of the desalination plant from the sea and across Upper Spencer Gulf.

The visual impact of the desalination plant and settling ponds would be minimised by its location adjacent to the existing Santos facility. Impacts would be further minimised by selecting colours for the desalination plant buildings that suit the surrounding landscape, and landscaping appropriately to screen the desalination plant and associated infrastructure. The detailed design of landscape plantings would occur in the future as the planning for the development project progressed. Plants utilised in this area would be native species.

Plate 23.1 Viewpoint 33 showing the proposed desalination plant from the road to Point Lowly – *50 mm lens photomontage (human field of view)*

Plate 23.2 Point Lowly – with residential housing in the foreground and Santos facilities in the background

23.2 LANDING FACILITY AND ACCESS CORRIDOR

Issue:

It was suggested that the access corridor and landing facility would reduce the visual amenity of the region. Confirmation was also sought on the proposed hours of operation and any associated light spill from night-time operations. It was also asked whether the viewpoints investigated for the visual assessment were consistent with the most immediate receptors.

Submissions: 2, 68, 121, 211, 263 and 354

Response:

The impact of the access corridor and landing facility on the visual amenity of the local area has been assessed as being from 'slight' to 'substantial', depending on the proximity of residences to the facilities (refer Chapter 20 and Appendix R of the Draft EIS for details). It is proposed that shipping to the landing facility and operation of the associated quarantine laydown area (as shown on Plate 23.3) would occur during daylight hours only. Lighting at these facilities would be installed for security purposes only, and would be low-intensity directional lighting. This has no anticipated significant impact on the area. Visual assessments were conducted from sensitive viewing locations including roads and residences nearest to the proposed facilities. In order to minimise this impact, tree planting would be used to screen the access road, using native species common to the Upper Spencer Gulf area.

Ships and barges were not included in the visual assessment of the landing facility as they were considered to be too transient to significantly influence the assessment outcomes (i.e. on average, one vessel visiting the facility every 11 days).

As presented in Section 19.5.6 of the Draft EIS, landholders residing near the proposed landing facility, access corridor and pre-assembly yard in Port Augusta may experience some loss of amenity, disturbance and inconvenience associated with the construction and operation of the proposed facilities. Impacts on recreational, boating or other marine activities would be minimal. The potential effects of the proposed landing facility and access corridor on the characteristics and attractiveness of the area as a tourist destination as it relates to visual amenity, traffic, access and disturbance, and recreation, marine and leisure activities are outlined in Section 21.4 of this Supplementary EIS.

BHP Billiton has been in contact with the 13 affected coastal home owners immediately south of the landing facility and will continue to work with them to address concerns associated with the construction or operation of the facility.

BHP Billiton has agreed to a realignment of the northern end of the access corridor (see Figure 5.18 of the Supplementary EIS), thus reducing potential amenity impacts on nearby residents. The details of this realignment are discussed in Sections 5.7.3, 21.4 and 22.3 of the Supplementary EIS.

As discussed in the Draft EIS, the access corridor would be screened by tree planting at appropriate locations. Environmental management plans for the construction and operation of the access corridor and landing facility would also be prepared. Section 24.4.6 of the Draft EIS outlined how environmental management documents would be developed.

BHP Billiton would also develop a comprehensive and coordinated community communication and engagement program to provide detailed information on short-, medium- and long-term activities associated with construction and operation of the landing facility and access corridor.

Plate 23.3 Landing facility site with the Northern Power Station

23.3 OTHER COMPONENTS OF THE PROPOSED EXPANSION

Issue:

It was suggested that BHP Billiton incorporate landscaping and sound buffers into the design of the proposed intermodal facility at Pimba.

Submission: 2

Response:

The potential requirement for and inclusion of noise mitigation measures is discussed in Section 15.6 of the Supplementary EIS, and includes the consideration of a noise barrier at the southern boundary of the facility. The detailed design of landscape plantings for screening purposes (both on or around and separate to any noise barriers) would occur in the future as the planning for the development project progressed. Plants utilised in this area would be native species.

Issue:

BHP Billiton was asked to provide a discussion comparing the visual impact of the proposed landforms of the rock storage facility (RSF) and tailings storage facility (TSF) with possible other, more natural landform shapes.

Submission: 1

Response:

The proposed landforms of the rock storage facility and tailings storage facility are required to provide a secure repository for the waste rock and tailings produced by the proposed expansion. The landforms have been designed to ensure the stability of these structures while achieving an aesthetic resemblance to local mesa landforms. Alterations to the design of these structures would result in either an increase in height or an increase in land area requirements.

As described in Section 20.5.1 of the Draft EIS, the flat-topped RSF and TSF would resemble the natural, steep-walled mesas that occur in northern South Australia (see Plates 23.4 and 23.5 of the Supplementary EIS).

The assessment of the geotechnical stability of the design of the RSF and TSF, including consideration of design heights and wall angles, is described in Sections 5.4.6 and 5.5.6 of the Draft EIS and also in Sections 5.2 and 5.3 (respectively) of the Supplementary EIS. This assessment concluded that the geotechnical stability considerations influencing the design of these structures are considered to be well within industry standard operating envelopes, and are the equivalent of designs used in existing South Australian mining operations, including the Leigh Creek coal mine and Prominent Hill project.

The wall angles of RSF and TSF have been designed to ensure the security of these facilities and eliminate the risk of slippage or failure. Therefore, the design of the landform has engineering as well as aesthetic imperatives. Increasing the wall angle would compromise the structural integrity of these structures, whereas decreasing the batter angle to make a flatter shape, or reducing the structures' design height would increase the land area required for their construction and increase their overall impact on the surrounding area.

The final design has achieved an optimal combination of aesthetic imperatives and engineering requirements to minimise footprint, maximise stability and develop a mesa-like landform structure.

Plate 23.4 Natural mesa in northern South Australia

Plate 23.5 Viewpoint 10 showing the proposed rock storage facility (left) and tailings storage facility (right) from Arid Recovery viewing platform – *50 mm lens photomontage (human field of view)*