10. Conclusion

10.1 Site suitability

The proposed Tallawarra Stage B power station would be located in Yallah, on the western foreshore of Lake Illawarra, approximately 13 kilometres southwest of Wollongong. A coal fired power station once operated on the site, although this plant has since been demolished and the site remediated.

The power station site and surrounding Tallawarra Lands were purchased in April 2003 by TRUenergy and work on a new CCGT power station (Tallawarra Stage A) began in 2004. The Tallawarra Stage A plant has recently been commissioned.

The proposed site at Tallawarra is considered an ideal location for the proposed power station as:

- The site is already owned and operated by TRUenergy;
- The Tallawarra Stage A power station has recently been commissioned on the site and the proposed Tallawarra Stage B power plant would utilise some of the existing equipment and infrastructure associated with the Tallawarra Stage A power station;
- The proposed Tallawarra Stage B power station would be located within a highly disturbed area associated with the former coal fired power station. It has a smaller footprint than the former coal fired power station therefore a benefit of this site is that the proposed works would be contained to a previously disturbed area and would not affect any natural areas;
- The site would also have the benefit of being located within the Wollongong – Sydney – Newcastle major load centre and therefore is able to provide reliable electricity supply to this high demand area without transmission network constraints. This location is therefore a suitable site for providing electricity supply to the local and regional market.

10.2 Strategic Justification

As a result of increasing population growth and electricity usage, the demand for electricity generation is reaching the current supply capacity and therefore new generation facilities are required. As highlighted in the Owen Inquiry, future electricity generation would most likely require an open cycle gas-fired power station, a combined cycle gas-fired power station or a coal-fired power station within the Wollongong – Sydney – Newcastle major load areas. Due to the high greenhouse intensity of coal-fired generation, the NSW Government recognises that further development of the State's gas industry is advantageous.

The Tallawarra Stage B proposal would comprise either an open cycle or combined cycle gas-fired power station within the Wollongong – Sydney major load area. In contrast to coal-fired power generation, the Tallawarra Stage B proposal would provide base load, intermediate or peaking electricity that is capable of operating within a carbon constrained environment. The decision as to

whether to proceed with an OCGT or CCGT plant would be made following analysis of market needs.

The alternatives to proceeding with the Tallawarra Stage B proposal are to rely on other sources of electricity generation or demand management strategies to meet future electricity needs. Demand management and renewable energy sources, although desirable strategies, are not considered to be viable alternatives as they are unlikely to provide the necessary capacity to meet future demand for electricity.

The Tallawarra Stage B proposal would provide additional electricity supply in NSW to address the predicted market requirements and is considered to provide the best means of meeting future demand. The proposed development would also improve the reliability and security of electricity supply, provide direct and indirect employment opportunities and provide improved environmental outcomes when compared to conventional power generation technologies. The consequences of not proceeding with the proposal would result in the loss of the benefits of the project.

10.3 Assessment of Environmental Issues

The environmental assessment addressed the issues identified in the requirements provided by the Department of Planning. The detailed studies outlined in this Environmental Assessment have demonstrated that the project can be completed without significant impacts on the community or local environment or changes in the level of impact of TRUenergy's currently approved Tallawarra A operations.

The Environmental Assessment identifies that the project specific impacts and cumulative site impacts are predicted to comply with the relevant noise and air quality goals. The project will result in only minor changes to the existing surface water management system and is not predicted to adversely impact on Yallah Creek or Lake Illawarra aquatic habitats and ecosystems. As the development will be sited within a highly disturbed area associated with the former coal fired power station, it is not expected that any threatened species, endangered ecological communities or known Aboriginal sites will be impacted by the proposal.

10.4 Ecologically Sustainable Development

Ecologically Sustainable Development (ESD) is a major principle now used in guiding environmental impact assessment and the NSW Government, in its various State of Environment Reports, has suggested the following definition of ESD:

"Using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased."

By following an ecologically sustainable path of development, the likelihood of serious environmental impacts arising from economic activity and development should be reduced.

The principles of ESD, as defined in Clause 6 of Schedule 2 of the *Environmental Planning and Assessment Regulation* 2000, are as follows:

- The precautionary principle – namely, that if there are threats of serious environmental damage, lack of scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation;
- Inter-generational equity – namely, that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations;
- Conservation of biological diversity (biodiversity) and ecological integrity; and
- Improved valuation and pricing of environmental resources.

The principles of ESD were considered during the design and assessment of the proposed Stage B power station.

10.4.1 Precautionary approach

The precautionary principle was invoked in the means by which the impact assessment was undertaken and mitigation measures identified and prescribed. This was undertaken as follows:

- Potential impacts were identified conservatively, in that all potential impacts were considered and assessed, even if there was no evidence that there may be an impact possible from the proposal;
- Assessment of impacts was undertaken using established and, in some cases, Government prescribed methodology, all of which were conservative in their approach and more likely to identify an impact when one was not necessarily likely; and
- Mitigation measures and monitoring programs were identified to ensure that impacts, should they occur even when not predicted, would allow any unforeseen impacts to be addressed as appropriate.

10.4.2 Inter-generational equity

The maintenance of inter-generational equity is essential in the development of any infrastructure project. This was considered in the proposed Stage B power station in that:

- Scarce resources would not be used in the construction or operation of the development;

- It would provide additional electricity supply in NSW without affecting any natural, greenfield sites, as the proposed power station would be located wholly within the footprint of a previous coal-fired power station;
- It would improve the reliability and security of electricity supply; and
- It would provide improved environmental outcomes when compared to conventional power generation technologies, especially in relation to greenhouse gas emissions.

10.4.3 Biodiversity and ecological integrity

Overall, the proposed development would have a positive impact on the biodiversity or ecological integrity of the area proposed for development. The site of the proposed Stage B power station has limited ecological value at present, as it is situated within the footprint of a previous coal-fired power station and has subsequently been previously disturbed and cleared. The Environmental Assessment has identified the potential to improve the ecological values in the area by revegetating areas along the site boundaries and major drainage lines. Weed management measures would also assist in maintaining biodiversity and the ecological values of the site.

10.4.4 Assessment against the principles of Ecologically Sustainable Development

Assessment of the project against the principles of ESD provided a framework for the proposed Stage B power station to:

- Recognise, describe and assess the effects of construction and operation on environmental resources;
- Avoid irreversible and detrimental damage to ecological resources;
- Enhance the health and quality of the environment, and may assist in benefiting present and future generations; and
- Minimise any impact on rare and endangered species and ensure conservation of biological diversity.

In preparing this Environmental Assessment, the potential environmental impacts from the proposed development have been investigated and a range of mitigation measures developed to minimise any adverse effects. All mitigation measures proposed in the Environmental Assessment have been developed based on the principles of ESD. It is clear that the principles of inter-generational equity and conservation of biological diversity are met and, if there is any doubt about potential detrimental effects on the environment, a precautionary approach is applied.

The principles of ESD will be further assessed by TRUenergy during the detailed design phase of the project. This design assessment will enable TRUenergy to identify and investigate the feasibility of implementing additional ESD measures, including further opportunities to:

- Use low impact building materials;
- Minimise the consumption of water and the generation of waste;
- Reduce the impact of the proposal on the biophysical environment and the community; and
- Identify suitable site management practices.

The outcomes of this further ESD assessment will be incorporated as appropriate into the final design of the site or the relevant Construction or Operational Environmental Management Plans.

10.5 Summary

The proposed Tallawarra Stage B power station and associated infrastructure represents a $300 to $500 million investment by TRUenergy to assist in securing electricity supplies in the region for the long term.

The choice of the site for the Tallawarra Stage B power station was based on due diligence surveys of all practical options and a decision based on the preferred option having the ability to utilise existing infrastructure associated with the Tallawarra Stage A CCGT power station, a relatively low overall cost, and good environmental and social outcomes compared with the other options. The use of the site chosen for the Stage B power station is consistent with the former and existing land use in the area and will not sterilise or affect future land uses in the area.

Key environmental issues were considered and potential impacts on those issues assessed. With the implementation of appropriate mitigation measures the residual impacts of the project would be low, and there is no environmental reason why the project should not proceed in the form described within this Environmental Assessment report.