

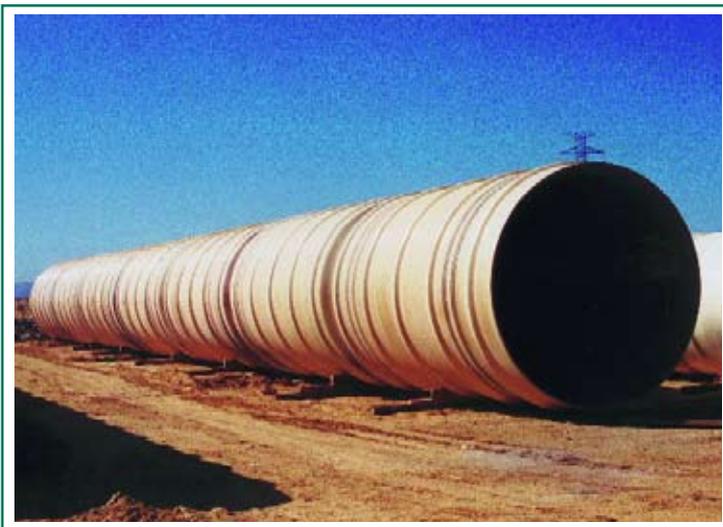
Pelican Point Power Station Adelaide, South Australia

May 2000

INTRODUCTION

Fossil fuel power plants require vast quantities of cooling water to get maximum efficiency from their steam turbines. For this reason large power plants are usually located close to the large rivers or the sea. In the case of Pelican Point Power Station the plant is located on the Outer Harbour close to the Port of Adelaide. Cooling water from the sea inlet is circulated through the heat exchangers and returned back to the sea.

The power plant size of 500MW required twin inlet pipes of 2.2m diam. and an outlet pipe of 2.8m diam. Alternative materials and international and local suppliers were evaluated before the contract was given to Maskell's in early October for full delivery by the end of the year.



DESIGN

Maskell design engineers worked closely with the contractor and his consulting engineers to establish the most economical installation and backfill materials required for the satisfactory performance of the pipe.

This required full evaluation of bore samples taken at the site and geotechnical reports and advising on the optimum trench widths and depths. Maskell engineers also assisted on the selection and evaluation of properties of bedding and backfill materials attending site on a number of occasions. This enabled economic use of excavated native material for backfill both onshore and offshore.



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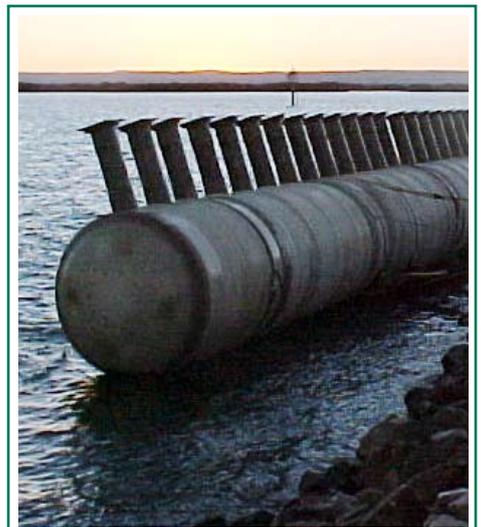
INSTALLATION

The pipe was manufactured in our Melbourne factory and delivered to site by road. A trench was excavated and dewatered between sheet piling to take the inlet and outlet pipes.

Crushed rock bedding was prepared and the pipe placed in and joined by butt strap welding. Flexible couplings and rocker pipes were used at all connections to fixed structures. Temporary bulkheads were installed in the pipes to enable controlled filling when the time came to flood the installation.

The 2.8m diam. outlet pipe ran about 150m into the sea to distribute the warm water through a 50m by 2.2m diam. diffuser with multiple jet outlets. Both the outlet pipe and the diffuser were fully preassembled on land and floated out into position with carefully controlled buoyancy before being sunk into position in a prepared trench. The outlet system was then backfilled completing this portion of the contract in good time.

The under water section of the outlet pipe was then connected to the shore section by a coupling ready for flooding and removal of the isolation bulkhead when the time was right.



CREDITS: Customer: National Power
Client Consultant: ABB-Alstom Power
Sub Contractor McConnell Dowell

