

OLYMPIC DAM EXPANSION TEAM CHOOSES AMT FOR LARGE SCALE BUDGETING AND MODELLING

THE OLYMPIC DAM EXPANSION MAINTENANCE DEVELOPMENT TEAM AT BHP BILLITON REQUIRED A LIFE CYCLE COSTING SYSTEM TO ASSIST THEM WITH MODELING THE COST, RESOURCES AND PERFORMANCE OF THE LARGE OPEN CUT MINING EQUIPMENT.



THE CUSTOMER

BHP Billiton is the world's largest diversified resource company. They are undertaking a feasibility study into the possible expansion of Olympic Dam Copper/Uranium mine in Northern South Australia.

BHP Billiton chose to use iSolutions life cycle costing consulting services and AMT Budgeting and Modeling solution to process the large volumes of data required to produce the maintenance budget.

THE CHALLENGE

Being the largest projects of its type in the world meant that the risks involved in equipment selection and cost estimation are high. A small variance in input costs can make a large absolute dollar difference to the overall project cost.

Further, due to the large number of assets required for the project, a tool was required that could handle the first principle modeling of the parts, labour and materials required for each asset over its useful life.

A spreadsheet only model is not capable of handling the large volume of data required to evaluate many scenarios.

BHP Billiton also required the expertise of a life cycle costing expert to validate the cost and life data provided by manufactures during the equipment tender process.

THE SOLUTION

iSolutions provided both the expertise and systems to build detailed life cycle models of the equipment. iSolutions AMT Modeling and Budgeting Tool was used to build the models and the base manufacturer data was validated against the cost and performance of existing BHP Billiton equipment.

Once loaded, many scenarios were run to model the risks identified by the project team. The costs for overhead items such as management, building maintenance, light vehicles, computers and power were also added to the model to provide a complete estimate of the maintenance department budget and resources.

Well over 700 items of equipment each with more than 100 unique scheduled maintenance tasks each were modeled over the projects 40 year life.

High risk components such as large diesel engines took advantage of AMT's detailed RCM failure modelling capabilities to correctly account for failure risk.

The final output showed the total maintenance department costs as well as the proposed organisation structure with manning numbers by trade type. Required parts and consumables quantities such as required fuel, oils, ground engaging tools and water were also estimated.

THE TECHNOLOGY

Built on a highly scalable SQL database and Microsoft .net 2.0 platform, AMT was able to handle the large asset base as well as the many scenarios required to access project risks.