

Case Study for BHP Billiton Yabulu

BHP Billiton was planning to expand their Yabulu Refinery in far North Queensland – Australia, bringing many benefits for Yabulu and the Townsville community by updating technology at the plant and cementing its long term goal to secure its future as a major local employer and world-class, competitive nickel producer.

The expansion prompted BHP Billiton Yabulu to review its ageing IT infrastructure however, BHP Billiton Yabulu did not want to duplicate its telephone and data systems at the new site. The criteria for the upgrade was that it needed to be cost effective, deliver high speed connectivity to connect the Port Facility to the Yabulu Refinery without incurring ongoing telecoms provider carriage costs with a guaranteed grade of service up to 23kms.



The distance between the remote sites posed a problem for the more traditional Telco carrier options and proved to be prohibitively expensive. BHP Billiton Yabulu approached Wave1 to propose an alternative to the costly fibre solution.

However, a wireless system of this nature requires clear line of sight between the two locations and this was not the case.



After careful location selection and terrain path calculations Wave1 overcame this obstacle by suggesting that an intermediate repeater point at Mt. Stuart had clear line of sight to both sites. This option meant that two back-to-back microwave systems were required which would double the supply & installation costs but would still be a far cheaper than costly carrier services.

BHP Billiton Yabulu awarded Wave1 with the contract which included the supply of high powered wireless 122Mbps back to back licensed microwaves, installation and a 5 year lease agreement of the equipment.

This option matched BHP Billiton Yabulu's preference for an ongoing monthly operating expenditure rather than an up front capital purchase cost.

Wave1's wireless option has given BHP Billiton's Yabulu Refinery greater flexibility and will meet their bandwidth requirements for many years to come. The microwave link also gives BHP Billiton Yabulu the ability to expand their communications network for future projects in the area.

Due to Wave1's stringent OH&S policies, Wave1 was able to implement the wireless microwave system within BHP Billiton Yabulu's high standard of OH&S policy procedures allowing a safe working environment and maintaining optimum efficiency in the implementation of the system.

The technical requirements meant that the system had to accommodate high capacity data throughput and carrier grade voice connection between each site. These criteria required a "Licensed" 18GHz wireless link minimising interference and downtime. Overall network speed, will increase 10fold allowing for an increasing volume of high speed voice and data services therefore fulfilling BHP Billiton Yabulu's business network connectivity goals.

Wave1's solution included the installation of large antenna masts which gave BHP Billiton Yabulu the option to add other systems as required. BHP Billiton Yabulu now has a 100Mbps full duplex, Fast Ethernet wireless system enabling larger bandwidth than ever before, which supports heavy user traffic including large data files & voice traffic between the sites with optional 8E1's if required.