

## CS-230 BOT Project in Australia – Sydney M2 Motorway Project

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### *Introduction*

The first private funded infrastructure project in Australia was the Sydney Cross Harbour Tunnel which was completed in August 1992 on a Build Operate Transfer (BOT) basis. The Australian State Governments have financial restraints and in order to meet infrastructure demands new large infrastructure projects must be BOT based.

The Sydney M2 Motorway, a 21km tollway linking Sydney's northern and western suburbs, is part of the proposed suburban loop motorway. Environmental studies for this project were started by the Roads and Traffic Authority NSW (RTA) in early 1990. The BOT based road construction project was awarded to the Abigroup/Obayashi Corporation consortium in August 1994 at a total project cost of A\$ 644M.

The M2 Motorway is the third large infrastructure project to be build on a BOT basis in Australia and was opened in late may 1997, 6 months earlier than the contracted completion date.

This paper outlines the project, summarizes the funding structure and details the agreement made with the NSW State Government on the BOT project.

### *Project Outline*

The motorway was constructed on a Design and Build basis by a 50:50 Joint Venture between Abigroup, a leading Australian earth works contractor, and Obayashi Corporation.

Environmental issues such as reduction of construction noise, nature reservation, dust control, water contamination, and community liaison were the key factors in achieving successful completion. There were liquidated damages (0.25 % of contract sum per week) and bonus clauses provided in the contract.

#### (1) Summary of Construction Works

- |  |   |   |
|--|---|---|
| 1) Total length - 21 km                    | 2) Earth work volume – 2,700,000 m <sup>3</sup> | 3) Interchanges - 9 number                |
| 4) Bridges – 28 number                     | 5) Tunnel - 460 m in each direction             | 6) Pavement area – 570,000 m <sup>2</sup> |
| 7) No of lanes – 3 lanes in each direction | 8) Automated Vehicle Identity Toll System       |   |
| 9) Integrated Traffic Control System       |   |   |

#### (2) Consortium Member

- |                      |   |
|----------------------|---|
| 1) Project Leader    | - Abigroup and Obayashi Corporation JV (50/50 ratio JV)             |
| 2) Main Contractor   | - Abigroup and Obayashi Corporation JV (50/50 ratio JV)             |
| 3) Consultant        | - Gutteridge Haskins & Davey(GHD)                                   |
| 4) Finance Agent     | - Westpac Banking Group, Credit Lyonnaise and Long Term Credit Bank |
| 5) Financial Advisor | - Macquarie Corporate Bank  |
| 6) Legal Advisor     | - Mallesons Stephen Jaques  |

#### (3) Design and Build Contract

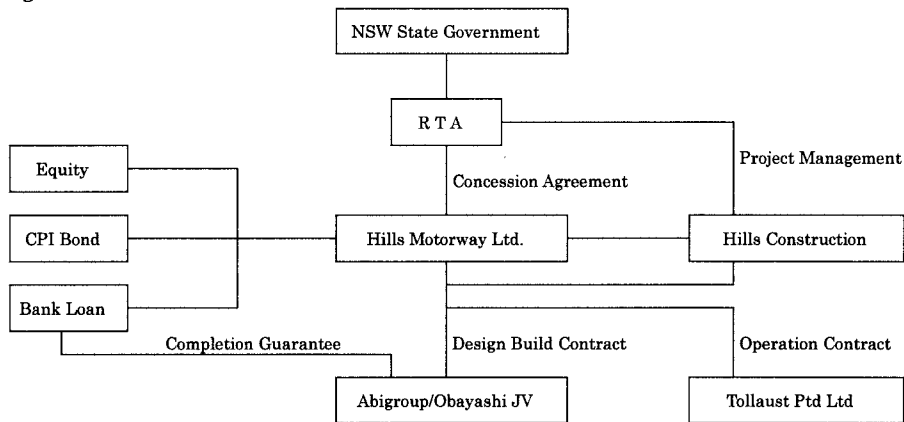
- |                    |  |
|--------------------|--|
| 1) Contract Sum    | - A\$ 435.77 mil.(A\$ 477mil. at completion) |
| 2) Contract Period | - October 1994 to Nov 1997                   |
| 3) Contract Type   | - Design and Build Fixed Lump Sum            |

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BOT

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### Contracting Structure



### Financial Scheme

Abi/Obayashi JV purposely formed Hill Motorway Limited, to operate M2 Motorway for 36 years. Hills Motorway can extend the concession period on a 3 yearly basis up to 45 years unless the Internal Rate of Return (IRR) after tax exceeds 16 %. The funding source for the project is equity of A\$ 155 M, Consumer Price Index (CPI) Bonds of A\$ 200 M underwritten by the banking syndicate of Westpac, Lyonnaise and Long Term Credit Bank (LTCB), term bank loans of A\$ 108 M, RTA contribution of A\$ 59 M and an Abi/Obayashi equity investment of A\$ 30M.

### Agreement on Restructuring the Project Scheme

Several clauses in the Concession Agreement between the Government and Hills Motorway Limited ensured against the uncontrolled risks which would adversely affect the project revenue i.e. changes of state or federal government laws, construction of alternative public transportation, natural disaster, national strikes after completion of the project. In case Hills Motorway Limited gain adverse effect such as reduction of revenue, increase of operation cost and discontinuance of business due to the reasons said above, the loss will be compensated by the state government. These clauses lead to minimizing project risks and are key factors for the success of BOT projects.

### Conclusion

M2 Motorway was successfully completed and opened in May 1997. The Abi/Obayashi Joint Venture liaison officer arranged publication of a monthly newspaper for the local community and was available to discuss any issues which were of concern during the construction period. There are several interesting points in the financial structure of a BOT project. Equity participation of A\$ 155M provides for tax free 10 % annual return for a 3 year construction period to the investors. The equity share was published in the Australian stock exchange from day one of the start of construction. The scheme is the first type to be introduced in Australia, mainly because the previous BOT projects applied the conventional funding scheme of equity and bank debt. The biggest risk remaining for the road project was the traffic flow. In December 1998, traffic flow was exceeding 70,000 vehicle per day, which was close to the forecasted figure of 78,000 per day.