2 DEVELOPMENT RATIONALE

2.1 THE HONGKONG ELECTRIC COMPANY LIMITED (HEC)

The Hongkong Electric Company, Limited (HEC) is committed to providing a reliable and cost-effective electricity supply to meet the current and future power requirements of the Hong Kong Special Administration Region (HKSAR). The provision of adequate, reliable and low cost electricity is considered vital to the continuing economic success of Hong Kong and HEC has long expressed the view that the Company can only keep up the current high standard of performance by building and maintaining its own generating, transmission and distribution facilities.

In addition to guaranteeing electricity supply to Hong Kong, HEC has given a public commitment to pursue policies and measures that aid the protection of Hong Kong's environment. The Company has sought to demonstrate this commitment through the application of a range of advanced environmental protection measures to meet the high standard expected by Government and the community. Measures have included the installation of flue gas desulphurisation plant and low NO_x combustion systems at some units of the existing Lamma Power Station to minimise air quality impacts, and the use of cable tunnels and extensive landscape planting to reduce landscape and amenity impacts and to improve the visual appearance of its facilities.

2.2 FUTURE ELECTRICITY NEEDS

According to the supply record over the last three decades, the electricity demand in HEC's service area of Hong Kong Island and Lamma Island increases steadily each year, with a growth rate of 10% and 8% in the 1970s and 1980s respectively. HEC foresees that this trend will continue, keeping pace with the social and economic growth of Hong Kong over the forthcoming century.

In forecasting the future demand for electricity, HEC has made prudent assumptions and has taken into account the positive impacts arising from the promotion of Demand Side Management (DSM) by HEC and the Government.

The economic benefits gained through the implementation of the DSM programme detailed above would be considerable. This is due to the reduction in the maximum load demand growth that would be achieved, thus deferring the need to add generating capacity to HEC's existing system until it is absolutely necessary in order to maintain system reliability based on established international standards. As a consequence of the energy conserved through DSM, lower levels of pollutants, including greenhouse gases, would be emitted to the environment.

Whilst HEC's load demand forecast will be under separate study, for the purpose of environmental impact assessment, it has been assumed that the proposed 1,800 MW new power station will need to be fully developed by 2012, with the first unit operational in 2003. All six 300 MW gas-fired units of the new power station will be operated as base-load units since these units will be more environmentally friendly, efficient and economical to operate than the existing Lamma units. The planned installation schedule is as follows:

Table 2.2a ***Tentative Development Schedule of the New 1,800 MW Power Station for the Purpose of the EIA Study***

Year	Maximum System Demand	New Plant Commissioned	Existing Lamma Power Station
2002	2,794 MW	-	2,794 MW
2003	-	1st 300 MW Unit	-
2005	-	2nd 300 MW Unit	-
2007	-	3rd 300 MW Unit	-
2010	-	4th 300 MW Unit	-
2012	3,916 MW[1]	5th & 6th 300 MW Unit	2,116 MW

Note : [1] Of the 3,916MW, 1,800 MW will be generated by the new power station and the remaining 2,116 MW will be generated from the most efficient units available in the existing Lamma Power Station i.e. the 350MW units (Units 4-8) will be operated on full load and the remaining 366MW will be generated from the 250MW units (Units 1-3).

Assuming the forecast peak day loading in 2002 will be fully provided by the existing Lamma Power Station, 2002 is the final year without contribution from the new power station. This will represent the maximum output from the existing power station immediately before the commissioning of the first 300 MW unit of the new power station in 2003. 2002 has therefore been used as the base case scenario against which the environmental impacts of the new power station are compared.