

### 3.3 Transmission Project

EGAT's transmission system development in the future will cover the expansion of 500, 230 and 115 kV transmission lines and substations to all provinces of Thailand. The 500 kV EHV transmission system is being developed to transmit bulk power through long distance and to superimpose the 230 kV system. The future development will be concentrated in 5 areas - the eastern area (Bang Pakong/Ao Phai), the western area (Quae Yai and Quae Noi Rivers), the northern area (Mae Moh), the northeastern area (Nam Phong) and the southern area (Chiew Larn, Khanom and Krabi).

The large scale generation development of lignite-fired power plants at Mae Moh minemouth for additional capacity of 1,200 MW in the period up to year 2001 will require long distance EHV transmission lines to transmit bulk power to load center at the greater Bangkok area. Presently, it is envisaged that 500 kV AC lines will be required from the new Mae Moh power plant (3rd power plant site) to Tha Tako intermediate substation, and from Tha Tako to Nong Chok Substation. Integration of power generation between Mae Moh 2 and Mae Moh 3 power plant sites are also required.

For the southern transmission system, interconnection between Thailand and Malaysia has been in operation since 1981. The power exchanges between the two power utilities are to prevent power shortage during scheduled and unscheduled outages. In the context of ASEAN cooperation, Power System Interconnection Stage II has been initiated and is under preliminary study. The study covers the Stage II power exchange in the range of 100, 200, and 300 MW. The HVDC back-to-back system may be one of the most promising alternatives to overcome the power swing and stability problems.

This report will emphasize more on the 500 kV EHV system because it is the system that will likely offer better opportunities for Canadian suppliers in competition with suppliers from other countries.

#### 3.3.1 500 kV EHV Transmission System

The EHV transmission system will be developed for Mae Moh 10-13, Bang Pakong Thermal # 3-4 and Ao Phai # 1&2.