CHAPTER VI

SHORT CIRCUIT ANALYSES ON THE YEA. POWER SYSTEM

The developed programs have been used to analyse short circuit effects on the 230-KV and some 69-KV system of the YEA. at the nowaday maximum and minimum generations and the estimated condition in 1970.

Those conditions of the system are shown in Appendices K,L and M. The generation, load, and voltage magnitude conditions of the nowaday system are obtained from the YEA. records. The record on Jan. 2, 1967 at 4.00 a.m. is taken as the minimum generation case and that on Jan. 30, 1967 at 7.30 p.m. as the maximum generation case. The voltage angle at the generations at the Yanhee Dam is taken as reference, and that of the generators and synchronous condenser at the North Bangkok plant is estimated to be-5. degrees at maximum generation and 3.0 degrees at minimum generation. In calculating the equivalent admittance of the loads, the voltage magnitude at the buses the loads connected to are assumed to be unity.

The conditions in 1970 are all estimated. Loads are taken from the estimate load paper of the YEA. Generations are estimated by considering the base power to be generated by the generators at the Yanhee Dam and the steam plant at South Bangkok.

The Fault level at busbars at various conditions are tabulated in Appendices O and P. Owing to the limited number of busbars the program can handle, the entries of the tables are not completed. However the listing CB MVA, having compared with

the Report No. 2 on Fault Level of the YEA., confirmed the need to increase the size of the circuit breaker at the MEA 69 KV substation installed at North Bangkok in 1970 or earlier. Appendices Q and R show the maximum and minimum phase currents and ground currents which can serve in determining the setting of relays and the turn ratios of the current transformers.

Some samples of computations from the computer are shown in Appendix S.