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UNIT COMMITMENT SOLUTION IN ELECTRICAL POWER USING TURBO C++.

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ABSTRACT

The objective of this project is to apply Priority List Method as a method solving of Unit Commitment in electrical power system. Fundamental to the economic operating of a power generation unit is heat rate characteristic. Every generator unit operates at different modes and none of the generator has similar heat rate characteristic. Therefore by manipulating this characteristic, Unit Commitment plans the best set of units to be available to supply the forecasted load demand. Turbo c++ will be used to process the data. Functions such as **while, if** and **for** are used to search generator or load status and to make decision for Unit Commitment by considering the start up and shut down rules. In this project, turbo c++ will be used to plan the Unit Commitment on actual daily load data from TNB according to Priority List Method.

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CHAPTER 1

INTRODUCTION

1.0 OVERVIEW

Human activity follows cycles and most systems supplying services to large population will experience cycle. Load demand also follows this cycle. The load taken by human activities do not generally occur at the same instant. Generation units must be ran to serve the requirements but electrical energy cannot be stored. It has to be generated whenever there is a demand for it. It is, therefore, imperative for the electrical power utilities that the on their system (network) should be estimated in advance. Because the total load of power varies throughout the day and reaches a different peak value from one day to another, the electric utility has to decide which generators to start up and when to connect them to the network – and the sequence in which the operating units should be shut down and for how long. The computational procedure for making such decision is called UNIT COMMITMENT and a unit when scheduled for connection to the system is said to be committed. Here we consider the commitment of fossil-fuel and gas units which have different production costs and heat rate/ fuel rate characteristic by assuming hydro power plant as the base load or must run units.