

ABSTRAK

Simulator sistem SCADA (*Supervisory Control and Data Acquisition*) merupakan *software* berbasis *Human Machine Interface* yang mampu memvisualisasikan proses sebuah *plant*. Penelitian ini menjelaskan hasil dari perancangan simulator sistem SCADA yang bertujuan untuk memudahkan operator dalam melakukan pengawasan, pengendalian, penanganan *alarm*, akses ke *historical data* dan *historical trend* pada Pusat Listrik Tenaga Nuklir (PLTN) jenis *Fast Breeder Reactor* (FBR). Simulasi ini menggunakan data teknis PLTN Kalpakkam India. Simulator ini dikembangkan menggunakan *software* Wonderware *Intouch* 10 yang dilengkapi dengan *main menu*, *plant overview*, *area graphics*, *control displays*, *setpoint display*, *alarm system*, *real-time trending*, *historical trending* dan *security system*. Simulator ini dapat mensimulasikan secara baik prinsip dari aliran energi dan proses konversi energi pada PLTN jenis FBR. Simulator sistem SCADA dapat digunakan sebagai media pelatihan untuk operator *plant*.

Kata Kunci: Simulator sistem SCADA, *Human Machine Interface*, *Fast Breeder Reactor*, *Wonderware Intouch*.

ABSTRACT

SCADA (Supervisory Control and Data Acquisition) system simulator is a Human Machine Interface-based software that is able to visualize the process of a plant. This study describes the results of the process of designing a SCADA system simulator that aims to facilitate the operator in monitoring, controlling, handling the alarm, accessing historical data and historical trend in Nuclear Power Plant (NPP) type Fast Breeder Reactor (FBR). This simulation used technical data from NPP Kalpakkam, India. This simulator was developed using Wonderware Intouch software 10 and is equipped with main menu, plant overview, area graphics, control display, setpoint display, alarm system, real-time trending, historical trending and security system. This simulator can properly simulate the principle of energy flow and energy conversion process on NPP type FBR. This SCADA system simulator can be used as training media for plant operators.

Keywords: *SCADA system simulator*, *Human-machine interface*, *fast breeder reactor*, *wonderware intouch*.