ABSTRACTION

PT. Tersana Baru sugar factory is one of a sugar factory in Indonesia with a national level of sugar production, their objectives is to fulfill the sugar needs for whole Indonesia. Tersana Baru sugar factory was established on 1937 under caring of N.V. Nederland Handels Maarshappij Roterdam. It was taken afford by Indonesia government in 1958. The sugar factory located in Cirebon, west java with a total of 1.934 employees,328of them are permanent workers and 1.606 are contractors.

Tersana Baru Sugar Factory has a total of 6 work stations. One of them which is a basic source of this research is the milling station.

In accordance with an interview from an engineer of Tersana Baru Sugar Factory in October 2007 until march 2008, it is revealed that there still problems appears with the production efficiency and effectiveness. The large number of error occurrences provided by human or operator mistakes in monitoring and controlling the manually man-managed factory and human resources in efficiency.

However this research will somehow provides an alternative solution. Supervisory Control and Data acquisition system (SCADA) and automation system design especially in PG Tersana Baru milling station. Designing SCADA and automation system started from gathering existing processes information in milling process. Merely(moreover), continued by analyzing the existing system from the first step and designing SCADA system and automation scenario will improve the existing process in this work station.

From these on, the SCADA system and automation process are successfully designed. In the simulation, user playing a role as an engineer of Tersana Baru sugar factory ,those the user can control and monitor milling station from their personal computer as if like it is in real condition. Tersana Baru sugar factory SCADA system injected with a report system to enlist the failures or conditional occurances happens throughout processes and also automatically controls the weighing machine, imbibisi water temperatures and nira tanks. This SCADA system also provide reports for the weighing station which is deigned in a structurized database system as a reference for monitoring and controlling purposes.