ABSTRACT

In an effort to serve operations, PT. Linde Indonesia Gresik will operate four new compressor units, which include GC-1A, GC-1B, GC-1C compressors at 350 kW, and BC compressor at 240 kW.

On electrical systems in PT Linde Indonesia Gresik there are two transformer units working in parallel, who connecting synchronous bus 11 kV BUS-1 and 11 kV BUS-3 with a bus 1 APD-MCC-1, where at bus 1APD-MCC-1, 4 new compressors units will be installed. The transformer in question are 1APD-XF-1 and 1APD-XF-2.

In transient stability analysis, if there was an internal disturbance on the transformer 1APD-XF-1, who make the CB incoming and outgoing transformer is open. With the opening of the CB, the loading on the transformer 1APD-XF-2 becomes excessive (overload). So it is necessary to release the load (load shedding) and the installation of capacitor banks to be loaded back to normal. In addition to internal disturbances on the transformer, in transient stability studies will also be analyzed disturbances that might occur in an industrial electrical systems, such as release of power plant, loss of utility PLN and short circuit. Responses will be analyzed include the generator rotor angle response, frequency response, and voltage response.

For analysis of protection coordination, in this Final project will be the setting of over current relay and ground fault relay to any new compressor protection relay. From the results of a new compressor relay settings and from relay existing setting data, the curve will be plotted and analyzed work of curve, it purposed to determine there are or not the fault protection coordination between relay setting a new compressor, with existing relay settings.

Keywords: Transient Stability, Protection Coordination, Over Current Relay and Ground Fault Relay.
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