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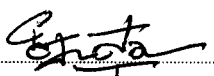
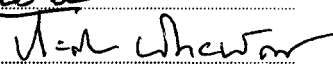
YOCHAI SASIWAN: STABILITY OF A COGENERATION SYSTEM AGAINST
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This thesis presents an algorithm for stability analysis of a cogeneration systems against islanding. The principle of frequency relay has been developed for checking the isolation and for tripping an inter-tie circuit breaker to release a section of utility's load from the independent islanded power. This protective scheme is used to maintain the stability of a cogeneration system. The developed computer software used for simulation purposes includes four main parts of the system models, i.e. generator, exciter, governor and load models. These parts will be used to analyze altogether for illustrating the exact system responses.

In the analysis, the steam-turbine cogeneration system and the combine-cycle cogeneration system, which are widely used in the industries, will be applied and tested by modeling their specific characteristics and by comparing the system responses between various operation conditions.

The obtained results indicate that operating conditions of the cogeneration system, which is connected to the utility network, have several impacts in remaining in a stable condition during islanding. In addition, they can lead to plan and to design for a reliable and effective protective scheme of the cogeneration system.

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