

## A Study on the Control Systems of the Organic Rankine Cycle

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A previous study of an ORC (Organic Rankine Cycle) system has been performed for 50kWe for low-grade temperature heat sources. The ORC system is consist of TGU(turbine-generator unit), a condenser, a working fluid pump, a pre-heater, an evaporator, a super-heater. As a working fluid R-245fa is adopted, considering operating condition of cycle and eco-friendly characteristics. In an ORC system, the temperature and pressure fluctuations in the supply heat source can affect the output power of the TGU and cycle efficiency. The control system plays an important role in the ORC system, and effective control allows the ORC system operating in various temperature ranges to meet the process operation efficiency, safety and reliability. The aim of this study is to investigate a case studies on ORC control strategy and to perform dynamic simulations of commercial program to provide an overall control strategy.