

Carbonizing Gasification Gas Engine Power Generation Test Facility for Biomass/Waste

Purpose:

Because power generation efficiency is low and business profits are poor except in cases of large-scale plants of several thousand kW or more, the introduction of biomass power generation plants is not so advanced. Therefore, it is intended to develop a highly effective gasification gas engine power generation system that can also be used in small and medium-sized facilities.

Outlines:

This demonstration facility consists of a "Carbonizing gasifier" that has been developed by CRIEPI & Okadora Co., Ltd. and a highly effective "Gas engine" that has been developed by Kansai Electric Power Co., Inc. (KEPCO) & Niigata Power Systems Co., Ltd.. This power generating system, which represents a step towards practical application, integrates the advanced gasification technology of CRIEPI and the highly effective gas engine technology of KEPCO. CRIEPI & KEPCO demonstrate the fact that this efficiency is highly effective, and are advancing technological development for practical use.

Specifications:

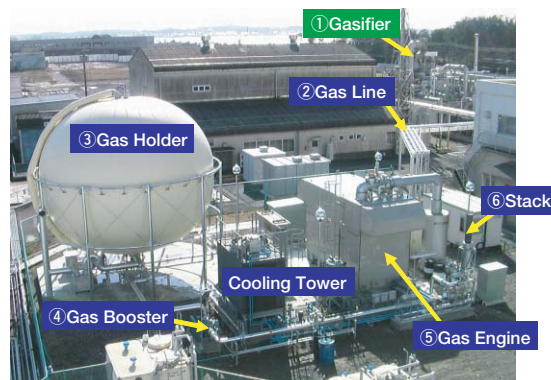
- (1) Gas Supplying Unit from Gasifier
 - a) Gas Flow Rate : Rated 780Nm³/h
 - b) Pressure/Temp. : 35 ~ 60kPa/40 °C or lower
 - c) Capacity of Gas Holder : 300m³
- (2) Gas Engine (Kansai EPC & Niigata Power Systems)
 - a) Type : 6L17AG (6-cylinder engine)
 - b) Power Output : Rated 320kW
 - c) Power Efficiency : 34% (LHV base)
 - d) Gas Consumption : Rated 780Nm³/h
 - e) Engine Cycle : Miller Cycle

Location and Date of Installation:

Yokosuka Campus, January 2007



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