

1 4 Project Status of 250MW Air-blown IGCC Demonstration Plant

Keyword : Coal, Gasification, Combined Cycle, Air-blown, High efficiency

Y. Ishibashi Clean Coal Power R&D Co., Ltd.

Clean Coal Power R&D Co. Ltd. (CCP) has been established on June 15th, 2001 by the nine regional utility companies of Japan, EPDC (Electric Power Development Company) and CRIEPI (Central Research Institute of Electric Power Industry) to conduct the 250MW Air-blown IGCC (Integrated coal Gasification Combined Cycle) Demonstration Project.

This project is succeeding the Pilot Plant Project of dry-coal-fed and air-blown gasifier of 200 tons/day (25MWe equivalent), which had been conducted between 1986 and 1996. The purpose of the Demonstration Project is to verify the reliability, operability and economy of the coal-IGCC plant so that utility companies can be convinced to construct commercial IGCC plants thereafter. The unit capacity of 250MW has been selected in consideration of the scale-up factor of 2 to 3 for the expected commercial plants with gas turbines of 1350 to 1500 deg-C TIT, (Turbine Inlet Temperature) and for 50Hz and 60Hz.

The demonstration plant is the integration of an air-blown gasifier, cold gas cleanup and gas turbine combined cycle. The air-blown, entrained flow gasifier is the key technology of air-blown IGCC. Air-blown IGCC principally aims at reducing the auxiliary power consumed at the ASU.

The site of the Demonstration Plant was decided to be Nakoso, Iwaki-city, Fukushima Prefecture which is located at approximately 200 kilometers north of Tokyo, exactly the same site where the Pilot Plant Project was carried out. Plant construction will start in 2004 followed by operation tests through 2009. Environmental Impact Assessment is now underway.

This paper presents the latest status of the project and outline of the demonstration plant.

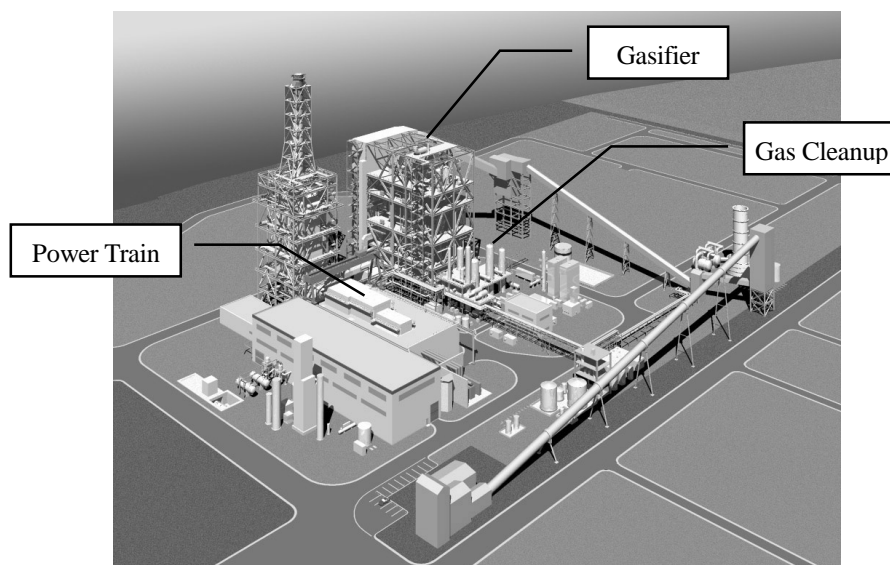


Fig. 1 : Conceptual Drawing of IGCC Demonstration Plant