

IERE—SPC China Forum**Abstract**

Title: Integrated Coal Gasification Combined Cycle—250MW Demonstration Project

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Speaker: Shozo Kaneko

Abstract:

What are requested for power generation in 21st century? They are, higher efficiency for the conservation of precious fossil fuels, security and reliability, and environmental friendliness including global warming due to CO₂. IGCC—Integrated Coal Gasification Combined Cycle—is considered to be one of the most important and viable technologies for this goal.

Based on this conclusion Japan has decided to construct a 250MW IGCC Demonstration Plant with the strong support of the Government – Ministry of Economy, Trade and Industry (METI). Although some IGCC's of same capacity class are already in operation in USA and Europe, it is strongly desired to establish the IGCC technology which has the same level reliability and economy as today's conventional coal-fired power plants.

To realize this goal, Clean Coal Power R&D Co., Ltd. (CCP) was established in June, 2001, by 10 Japanese utility companies. CCP is responsible for the 250MW IGCC Demonstration Plant to be constructed with the financial support by METI. This Demonstration Plant is based on the technology of previous National Project of IGCC Pilot Plant which was conducted until 1996, adopting unique air-blown 2-stage entrained flow gasification system, aiming at highest efficiency, reliability and operability for utility power generation. The coal feeding system is dry system and the design coals are coals with low ash melting points. The syngas is cleaned-up by high temperature porous filter and wet desulfurization system.

The construction site was decided to be Nakoso, Iwaki-city, Fukushima Prefecture, about 200 km north of Tokyo, and the environmental assessment is now underway. The Demonstration Plant is scheduled to start construction in 2004 and operation in 2007.

This paper presents the outline of the Demonstration Project and the future prospect of the IGCC technology.