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The Korean Activities of Oxy-Fuel Combustion

Dr. Hee Chun Lim,
KEPCO Research Institute, Daejeon, Republic of Korea

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Abstract

The tentative demonstration site is the Youngdong thermal Power Plant unit #1 with 125 MWe capacity owned and operated by KOSEP(Korea South and East Power Co). The power plant is already planned to switch the fuel from Korean Domestic Anthracite to imported sub-bituminous coal, and it provides the main opportunity to build the demonstration plant. Consequently, we can save the capital investment for the oxy-fuel power plant by taking advantage of the existing facilities and plant modification plan for fuel switching. The resulting oxy-fuel demonstration plant will have a dual combustion capability. We will have a great deal of flexibility in technical and business sense.

The Youngdong plant is very attractive because of its size. It is big enough to be in the scale up factor to the commercial plant while not too big to cost too much for the demonstration. The R&D is carried out in 3 phases, Phase I is for the development of conceptual design of 100MWe class Oxy-PC Power plant, which was concluded 2010. Phase II, which started immediately after the phase I, focuses on Development of Basic Design. The final R&D phase III, which is hoped to begin in 2013, aims to development of detailed design as well as construction of demonstration plant.