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Paper Title	Environmental Conservation Measures in CEPCO	
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ABSTRACT

CEPCO has given the first priority on the environmental conservation, which has been one of the most important management issues for the company, and has implemented state-of-the-art measures aggressively. In particular, both the prevention measures against air pollution and water pollution and the reduction of CO₂ emission, which is the most effective counter measure against global warming, are the pressing issues for thermal power stations.

In order to resolve these problems, we have been developing technologies and installing the latest measures. For the purpose of preserving global environment, we are willing to transfer our technologies and experiences to developing countries.

In the first part of this paper, we would like to show the environment protection measures on coal-fired power stations, though they are generally recognized less environment-friendly, by illustrating the protection measures against air pollution in Hekinan Power Station that complies with the strictest environmental standards in the world.

In the second part, we will show our activities on the technical cooperation aiming at reduction of CO₂ emission in developing countries. The cooperation is endorsed by the result that we got the first place on the thermal efficiency of thermal power stations in five consecutive years among Japanese 10 electric power companies.

Firstly, with respect to the environment protection measures on the coal-fired power station, we will show the latest and the most advanced technologies that we adopted to Hekinan No.4 and 5 units whose capacities are 1,000MW respectively and are the most environment-friendly power stations among the coal-fired ones at the present. Hekinan No.4 unit commenced its commercial operation in November 2001. As of July 2002, No.5 unit is under the trial operation and is going to commence the commercial one in November 2002. After the completion of the construction of No.5 unit, the output of Hekinan Power Station aggregates to 4,100MW. Therefore, Hekinan is supposed to be the largest power station in the category of coal-fired ones in Japan.

Hekinan is required to comply with the very strict environmental standards so that we cannot find similar ones in other countries. Although the standards are composed of many restrictions, we will pick up two outstanding environmental preservation measures as examples and explain them.

The first example is the soot and dust control measures that enable us to achieve 5mg/Nm³ in terms of

dust density. The second one is SO_x reduction measures that enable us to achieve 25ppm in terms of SO_x density.

Secondly, we would like to show the result of the feasibility study that we have positively conducted in order to make use of our knowledge and experience on the operation of the state-of-the-art power stations and contribute to rehabilitating old thermal power stations in developing countries.

We have conducted 20 feasibility studies in mainly Southeast Asian countries since 1998. Investigation on the rehabilitation of the facilities in the thermal power station and the survey on implementing advanced combined-cycle gas turbine system are representing our technical advantages.

We achieved 0.22% improvement in thermal efficiency in absolute value and the reduction of the corresponding amount of CO₂ emission in the operational modification program at Suralaya No.3 unit in Indonesia.

We will explain the abstract of this project in the later part of this paper.

Key Words: Environmental Measures, Environmental Protection System, Thermal power plant, Coal-fired plant, Electrostatic Precipitator, Flue Gas Desulfurizer, Rehabilitation, Thermal Efficiency, CO₂ Emission