

## **CPI's Address @ Workshop**

Ladies & Gentlemen:

On behalf of China Power Investment Co.(CPI), I would like to warmly welcome leaders and experts from China and USA attending US-China De-SO<sub>x</sub>/NO<sub>x</sub> workshop.

As known, China is a major coal producer and consumer in the world. About 70% of total energy is from coal. It will keep around 60~70% in next 50 years. Near 50% of total coal production are burned for power generation. Up to the end of year 2002 the installed coal-fired generation capacity reaches 265.5 GW, the electricity generated by coal fired units goes to 1.3522 T KWh, which is 75% / 82% total nation's installed capacity/ electricity generated respectively.

During 21 Century Chinese economy will still keep a continuously, high speed and stable growth. The fast growth of Chinese economy requires power demand being increased with a very high rate. As forecast, up to 2005 the installed capacity will reach 390 GW, in which coal-fired capacity still remains around 70%. To 2010, the new installed capacity will be 150 GW. Most of these new units will be coal-fired one. Therefore within a considerable long period coal-fired power generation remains a dominant role and is no way to change it.

The huge amount of dust/NO<sub>x</sub>/SO<sub>x</sub> emitted by coal-fired power generation results in a severe pollution to environment. It becomes a barrier of a further development of power generation itself and nation's economy as well. It is very important for environment protection and for a continuously economic development to take effective steps controlling pollution created by coal-fired power generation. Further development of utility Industry has to solve this issue.

For the past decade Chinese government has paid a high attention on environmental protection. Several environmental protection regulations are formulated and gradually tightened. The allowable emission standards and punishment for fossil fuel power generation become severe. In 1997 the regulation "Atmosphere Emission Standards of Fossil Fuel Power Generation (GB13223-1996)" was effected, which greatly promotes the execution of power plant SO<sub>2</sub>/NO<sub>x</sub>/dust control. The new released "National Economic and Social Development 10<sup>th</sup> FYP" and the "National Environmental Protection "10<sup>th</sup> FYP" Plan" clearly required that

the total emitted SO<sub>x</sub> amount of year 2005 within “dual control zone” should be 20% cutting and 10% cutting in nation-wide, comparing to year 2000. The task of 10-20% SO<sub>x</sub> reducing which the Utility Industry facing is a great challenge for compliance. According to the above target, State will release a new “Atmosphere Emission Standard of Fossil fuel Power Generation”, which will further tighten the allowable emission limits. As expected the execution of the new proposed regulation will further promote to better control the pollution by power generation; to realize the continuously development of Chinese Utility; and to utilize resources forever as well.

The China Power Investment (CPI) Group is one of five independent power generation groups in China. After the reformation of Chinese utility industry, CPI is a state-own enterprise, which was formed based on several firms of the former State Power. Proved by Departments of State, CPI is a State-Authorized investment and State Share-control pilot enterprise. CPI group owns 30.15 GW of controlled installed capacity and 22.22 GW of beneficial installed capacity. The total fossil firing units are 22.88GW/69.25% of total; Hydro--7.92GW/26.27%; Nuclear--1.35GM/4.48%.

CPI extremely takes care of environment protection. After CPI established, we have made company's development strategic targets. That is:

To insist on the development as the first priority in order to satisfy demands from nation's economy and market developments;

To concretely build the concept of truly cooperation and customer service based on a safe production and economic benefits as well as on the further reformation and technical upgrading;

To extend company's business from the core area of power generation to relative fields and to overseas markets in order to make CPI becoming a large modern nation-cross profitable company.

Company's guideline on environmental protection is: supervised by nation's environmental protection policy and CPI's strategic target; guided by continuously development theory; compliant gradually tighten regulation; driven by advanced technologies. At present, CPI takes the SO<sub>x</sub> control management as the priority issue. We will do our best to manage the relations between long and short term benefits; local and entire benefits. CPI's image therefore will be improved.

CPI takes SO<sub>x</sub> compliance of key regions and cities as priority. The technologies are selected and studied depended on conditions of each individual cases. The selected technologies must be advanced and reliable and cost-effective. CPI insists on the principle of “Prevention First with Combination of Solutions Afterwards”. Through the principle, CPI believes not only the emission control target will be achieved, but also the environmental industry will realize nationalization and industrialization.

The 10<sup>th</sup> FYP environmental plan takes De-SO<sub>x</sub> as a key issue. It has already been included into CPI's general development plan. Per the requirements of the “10<sup>th</sup> FYP Electric Power Generation Environmental Protection Plan”, the total SO<sub>x</sub> emitted by CPI's fossil plants are required 8% reduction of the amount of year 2002

(520 K tons/2002 to 480 Ktons/2003). As planned 7 units will have De-SO<sub>x</sub> retrofit in 2005.

New units with 300 MW and above have to install FGD De-SO<sub>x</sub> devices. Other type units might apply clean coal combustion technologies, mainly CFB. Dust and waste water discharge should satisfy regulation limits. NO<sub>x</sub> Control may mainly apply low NO<sub>x</sub> burner while post-combustion De-NO<sub>x</sub> technologies should start pilot projects.

Up to 2010 CPI will try their best to control the SO<sub>x</sub> amount from fossil fuel plants under the year 2005 level. A total of 14 units with 37.1 GW capacity will install FGD devices, and cut 194 kilo tons SO<sub>x</sub> emission. The application degree of FGD grows to have a certain scale.

In order to achieve the above environmental target, it is necessary to carry some correspondence works among state and utility industry and users as well.

First is to improve the citizen's concept on environmental protection, and to lead them understanding the importance of environmental protection. People should understand the power plant emission protection from such height of a link between power generation and nation's economy development and society progress.

Second is to promote the nationalization of FGD technologies for a lower investment and operation cost. Meanwhile new FGD technologies should be conducted for further wide applications.

Third is the De-SO<sub>x</sub> projects should gain supports on funds, taxes and electricity price due to nation's market is not perfect at present. It will encourage utility industry taking more protection steps and achieve a mutual development of power generation and environmental protection, which gives nation's economic development support. Last is to strength the international cooperation on environmental issues. Try best to import both investments and technologies, and to promote the improvements on management and technical levels.

The US-China De-SO<sub>x</sub>/NO<sub>x</sub> Control Technologies Workshop is designated to strength cooperation on power plant emission control; to promote coal clean and efficient utilization. It is a very helpful and meaningful activity.

Best wishes to workshop for a great success!

Thanks every body!