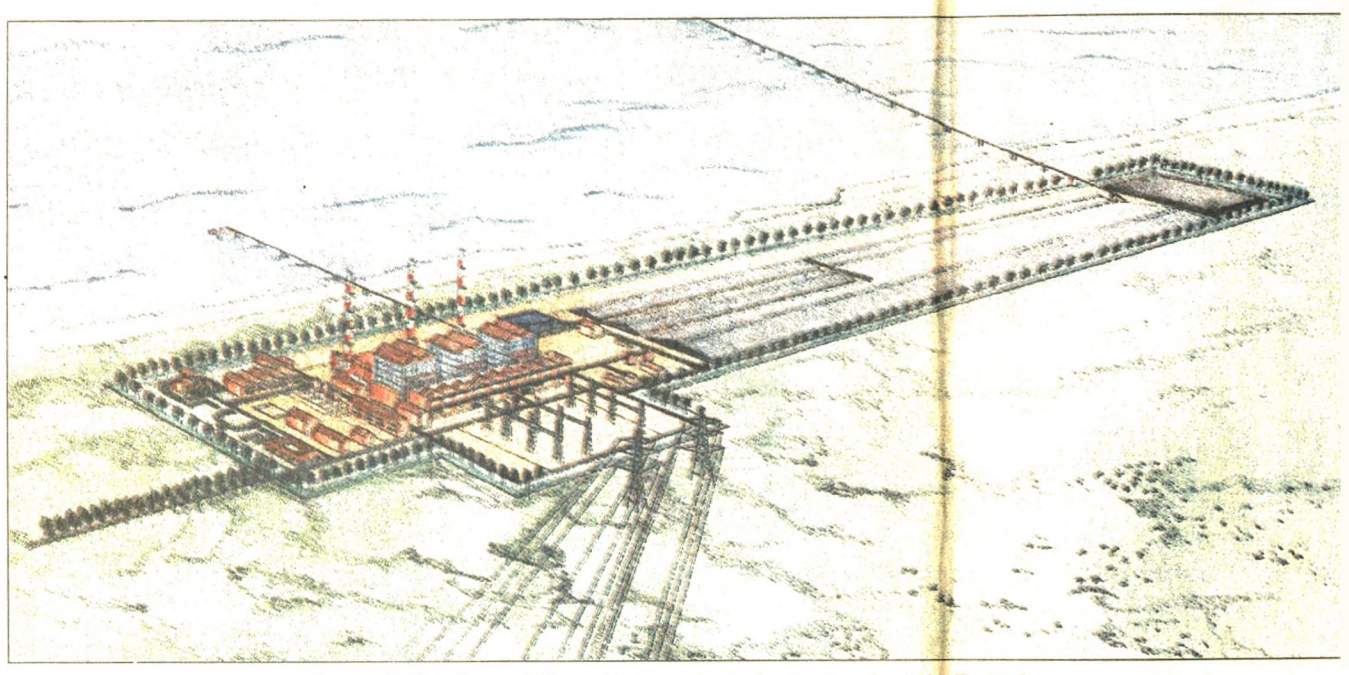
The dilemma of coal power

by SHANIKA SRIYANANDA



An artist's view of the proposed coal power plant in Puttalam.

During the past two decades, the demand for power had been growing at an average of 7 percent and had doubled in every 10 years. Ten years ago it was 2800 GWh and in 1998 it has increased to 5,683 GWh. But, still 55 percent of our population do not have access to electricity.

Ceylon Electricity Board (CEB), which is responsible for meeting country's entire electricity demand, generates a total of 1136.5 megawatts of hydro power and 465.3 megawatts of thermal power. Besides 73.3 megawatts generated by two independent power producers augment to the national grid.

The larger portion of the power consumption is by the industrial and commercial sectors, amounting approximately to 62 percent and the domestic consumption is about 36 percent while two percent go for lighting of streets and places of worship.

"We may experience power cuts in the year 2004. It would be serious than in 1996", says CBE Additional General Manager, D. G. D. C. Wijeratne.

"The present capacity of the power plants and that of the proposed hydro and thermal power plants will not be enough to meet the future demand", he said.

We had experienced temporary power cuts in 1983, 1992 and 1996 due to drought. They lasted for two to three hours a day. But according to Mr. Wijeratne's prediction, the future power cuts would be permanent, particularly in 2004.

" Only solution is to build a coal power plant that generates 300 MW in the first phase and increase its capacity up to 900 MW at the end of the third phase", Mr. Wijeratne pointed out.

For the past two decades the CEB authorities were of the view that most suitable power generation source for Sri Lanka was coal. First they selected Trincomalee to set up a coal power plant, but failed due to untold reasons. Then turned to Marawila. It also became just a 'proposal' with the order issued by the then President R. Premadasa to stop the project. Years had gone. The CEB looked for alternative energy sources, mini hydro or oil based power plants.

Finally the CEB decided to build mini-hydro and macro-hydro power stations. But their generation was limited to less than five megawatts. Though we have abundance of solar energy to generate power, a thorough study has to be carried yet.

The CEB experts firmly believe that the only cost effective source, which suits a developing country like Sri Lanka, is coal and it may be the cheapest source to generate power. They predict a serious power crisis in 2004. Therefore, a mega power plant is a 'must'. It could be either coal or oil-based plant. It is the responsibility of the CEB to supply power in the next millennium. In 1996, once again the CEB picked up the twice put off proposal of constructing a 'coal power plant'. The site earmarked was Norochcholai in Kalpitiya peninsula.

Power crisis

It became a controversial issue once again with massive protests of the villagers of Norochcholai, environmentalists and religious leaders in the area. In response to the protests, President Chandrika Bandaranaike Kumaratunga was reported to have stopped the setting up of the 'West Coast Coal Power Project' in Norochcholai.

Yet work in Norochcholai is going ahead. The CEB has completed all the preliminary stages and found a funding agency for the project. "We have not received an order to stop the project. The CEB has already spent Rs. 300 million for initial studies. Setting up of a megapower plant is time consuming. It will take more than eight years to complete".

"We are already behind the scheduled timeframe to build the coal power plant and now the CEB is wondering how to face the power crisis in 2004", he pointed out. Mr. Wijeratne is of the opinion that the most suitable place for the coal power plant is Norochcholai. But the villagers of Norochcholai are not ready to give away their fertile lands for the benefit of the 'affluent' in the country. Environmentalists clamour against the pollution from harmful waste discharged by the coal power plant. The political and religious leaders join in their protests.

If this twice cancelled project, is cancelled once again what would be the alternative to meet the future electricity demand? "If no coal power plant could be set up, we have to depend on other energy sources such as oil to generate power.

Cultivable lands

We can build gas turbines, that run on diesel, easily within a short period of time. Gas turbine power generation is easy but to generate a unit it will take at least Rs. 5", Mr. Wijeratne added.

The 'long-term generation expansion plan 1999-2013' of the CEB revealed that the estimated cost for fuel (fuel oil, diesel, residual) in 1999 is US $ 75 million and according to our estimates this cost will go up for US $ 191 million in the year 2013. If we do not commission the coal power plant in 2003, the cost for the fuel will be massive. The report states that the proposed coal power plant will consume 826,000 tones of coal annually. With the increased use of coal, the consumption of oil will be reduced considerably. By year 2000 nearly 294,000 tonnes of heavy fuel will be burnt in all power stations and this will reduce to 107,000 tonnes in 2010.

Distillate oil consumption is expected to be 397,000 tonnes in 2000 and 244,000 in 2005 and 126,000 in 2010.

According to CEB officials the villagers will be given better cultivable lands within the vicinity and if necessary the CEB will also pay compensation to each villager.

The CEB will apply best technology much above than the World Health Organisation (WHO) standards which could prevent the pollution by 90 per cent.

These standards are equal to those in Philippines, India and Indonesia. The CEB will use high quality low sulphur coal and also design the boiler to limit the emission of Sulphur-dioxide, Nitrogen-dioxide.