

Submission No:.....46.....

Date Received:.....22-5-09.....

Secretary:.....

Centre for Interdisciplinary Studies in Environment and Development

An Autonomous Centre promoted by Institute for Social and Economic Change for bridging the Social and Natural Sciences

CISED

7 April 09

Dear Ms. Hill and Senator Ludlam,

It is true that India does have plans for a major expansion of nuclear energy generation. And if even all the reactors being constructed currently are completed, nuclear generation capacity in the country will grow substantially. At the same time, it must be remembered that Indian planners have a history of projecting rapid growth for nuclear power in India. In 1962, the Indian Department of Atomic Energy (DAE) predicted that, by 1987, India would have 20-25 GWe of installed heavy-water and breeder-reactor capacity [Hart, 1983, p. 61]. This was subsequently updated to 43 GWe of nuclear capacity by 2000 [Sethna, 1972]. None of this came true. At the end of 2008, India's nuclear capacity amounted to just 4.12 GWe, about 3 percent of the country's total electricity generation capacity.

It is also instructive to see what will be needed for nuclear power to grow to 25 percent of the country's total electricity generation capacity by 2020. According to the government Planning Commission's Integrated Energy Policy document of 2006, which is to put out a roadmap for energy in India till 2031, the total installed capacity requirement is at least 425 GW. Twenty five percent of that figure is 106 GW, about 25 times the current nuclear capacity in the country. Even the DAE, no stranger to optimistic projections, has plans for such a rapid and large growth.

The uranium shortfall faced by the DAE is well known, but it is primarily because of mismatches in mining and milling capacity construction, and reactor commissioning. Further, there is no connection between uranium shortages in the country and importing Low Enriched Uranium (LEU) from Russia. The reason that India is forced to import LEU is because it has very little uranium enrichment capacity. Whatever it has is used to manufacture enriched uranium for its nuclear submarine. Lastly, the DAE itself does not see uranium shortage to be a major constraint in the long term – its plans are to expand the construction of breeder reactors on a very large scale. These reactors produce more plutonium than they consume in generating electricity and are intended to free India from uranium constraints.

I hope that these comments are useful in interpreting claims about the future of nuclear power in India. I am also attaching a few of my research papers to help with this.

Yours truly,

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