
Nuclear energy for power generation: Vitharana

Monday, 22 June 2009

Last Updated Monday, 22 June 2009

By Sandun A Jayasekera Sri Lanka's Atomic Energy Authority (AEA) is in the process of exploring the possibility of using nuclear energy for future power generation, Chairman and Minister Tissa Vitharana said yesterday. He said cabinet approval would be sought shortly to initiate a programme for 'Nuclear Energy for Peaceful Use,' Minister Vitharana told Daily Mirror. Professor Vitharana said: 'Though the initial cost is higher than that of a coal power station, operational and maintenance cost is relatively low compared to coal power plants while carbon emission is zero,' Prof. Vitharana said added. 'If Sri Lanka has taken a policy decision today, Sri Lanka can possess Nuclear Power Systems (NPS) within 10 to 15 years. Though a policy decision has not yet been taken to construct NPS, and an important initiative is to be taken by the AEA to explore the possibility of using nuclear power for power generation. This important move considering that nuclear option has not been included in CEB's generation plan for the next 15 years. 'Though nuclear power seems to be an immediate option, setting up of a NPP (Nuclear Power Plant) is a complex process which consumes considerable time. A Nuclear Power Planning study has to be performed. At present, countries like Bangladesh, Indonesia, Thailand and Malaysia have taken steps to implement NPP projects. 'As public acceptance and awareness on nuclear power is vital for future prospects of using nuclear power in Sri Lanka, Atomic Energy Authority of Sri Lanka has initiated Young Nuclear Scientists' Society (YNSS) with the aim of attracting young generation. Educational Programmes, particularly for school children will be conducted at AEA from July 1 to 3 at the AEA during its 40th Anniversary celebrations. 'Demonizing nuclear power especially after the Chernobyl disaster has over the years created a negative perception of nuclear power. However, compared to coal power which incurs considerable cost of purchasing, storing, transporting and loading and unloading, nuclear energy is emission free. Nuclear technology can be applied in many other areas such as in diagnostic and therapeutic procedures in Medicine, Agriculture, Veterinary Medicine and Industry. One of the plus points of nuclear power is that it almost zero emission. 'If a policy decision has been taken to set up a NPP in Sri Lanka, primary consideration should be the selection of site for the plant. AEA is of the view that appropriate site would be set up in an island like Mannar or Delft considering technical factors. 'A long term nuclear power programme for Sri Lanka should take into account the availability of thorium resources. Sustenance of NPP will depend on the availability of nuclear fuel. Nearly 30 per cent of world's thorium resources are reported to be in the South Asian Region (Sri Lanka and India). Thorium resources have not been tapped for power generation. India is planning to use thorium resources for her second generation of NPPs. Sri Lanka's thorium resources are found to be in coastal line from Kalutara to Beruwala and in the Eastern Province. Ministry of Science and Technology has advised AEA to set up a National Committee on Nuclear Power as an alternative energy option. This committee which will include academics from Moratuwa University, Officials of the CEB and AEA and other experts will be formed soon. In the meantime the Ministry will be submitting Cabinet papers to obtain concurrence of the Cabinet for feasibility studies on Nuclear power option as well as to obtain assistance for exploration of Thorium Resources in the country' said Prof. Tissa Vitharana Minister of Science and Technology. 'In the 30 countries that have nuclear power generation capacity, the percentage of electricity coming from nuclear reactors ranges from 78 % in France to just 2 % in China. As of March 2008, there were 439 nuclear power plants around the world, while 35 more are under construction. 'The USA has the most with 104, France is next with 59, then Japan with 55 and Russia has 31 and seven more under construction. The expansion in nuclear power generation is centered in Asia. A total of 20 of the 35 plants under construction are in Asia, while 28 of the last 39 plants connected to the grid are also in Asia. Asia: Expanding Scene But what is the outlook for nuclear power generation in individual countries around the world? 'Our overview starts with the countries of Asia, the world's region where most of the expansion is taking place. India gets less than 3% of its electricity from nuclear, but it is, along with China and Russia, one of the leaders in current new construction, boasting six of the world's 35 reactors under construction. India's future plans, however, are even more impressive: an eight-fold increase by 2022 to 10% of the electricity supply and an overall 70-fold increase to 2052 to 26%. A 70-fold increase figure certainly sounds remarkable, but it works out to be an average growth rate of 9.5% per year, which is a bit less than the average global nuclear growth from 1970 through 2002. So it is hardly unprecedented. China, like India, faces a steep growth in energy demand and is trying to expand its generating capacity using all possible energy sources, including nuclear power. China has six reactors under construction and plans nearly a five-fold expansion by 2020. 'However, because the country's energy demand is growing fast, that would still amount to only 4% of electricity generated by then. Looking ahead, China is a potential supplier of technology and services, particularly in Asia. Japan Moving across the Sea is Japan, a country with 55 reactors, one more under construction and plans to increase nuclear power's share of electricity from 30% in 2006 to over 40% before 2020. Republic of Korea Another Asian country with a significant commitment to nuclear technology is South Korea, which has 20 reactors in operation and three more under construction. Nuclear power already supplies nearly 40% of South Korea's electricity.' Courtesy: dailymirror.lk