

**Kudankulam Nuclear Power Station, An Important
Developmental Hub For Tamil Nadu –
A Green House Gas and Fly-Ash Pollution Free
Electricity Provider
For
The Industrial and Other Over All Development
By
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Electricity For Development is To Benefit The People, to Their Satisfaction:

In a Democratic Set Up like ours, every developmental activity needs to be done to benefit the people and benefit them to their whole hearted satisfaction. Therefore, “Development Of The People, By the People and For the People” is the best ideal that should be practiced in our country. Therefore, it becomes absolutely essential to recognize the importance of regular Public Interaction, Public Communication and Public Awareness Meetings to timely educate and clear all the reservations/mis-information, if any, in the minds of the people.

Fortunately, it can be seen that the above democratic concept is more or less put to practice in the case of Nuclear Power Stations in India. It is meant for the development of the people, it is carefully planned and executed in close scrutiny by the Indian Experts, it is manned and operated by Indian Experts. Right from the stage of site selection onwards, the people are involved in various stages and the vital issues of ecologic and environmental harmony as well as the public safety and health aspects are carefully studied and all necessary actions are taken in a sustainable manner through dedicated scientific monitoring and sustained engineered remediation. Such a dedicated and engineered commitment is a characteristic of DAE and NPCIL. A dedicated large team of international class experts are at work round the clock in all Nuclear Power Stations which has paid rich practical dividends, testified by the accident free records of operations of several Nuclear Power Stations in India.

NPCIL make all these information available to the public on a regular basis through periodic public interactions as well as through the NPCIL Web Site.

However, if because of any reason, there is a communication gap with the people, it is essential to ensure to fill such communication through regular dissemination of all information in the public domain to the people.

Generation Of Electricity For Development and The Necessity for Evolving Environment Friendly Green Technologies:

Various established technologies are utilised in India, as well as in all other countries, for generating electricity. These technologies are generally classified as Thermal (coal, petroleum, natural gas, etc based), Hydro, Nuclear, Wind, Solar, Geothermal, etc. It can be noticed that all these technologies have their own characteristic features, advantages and limitations, different levels of environmental impacts, etc.

The thermal technologies have the associated problems from green House Gas emission and/or fly-ash, apart from the necessity of handling, transportation, containment and storage problems of extremely large quantities of fuel and waste products. The green House Gases from Thermal Power Stations have the possibility of contributing to global warming and the high levels of particulate matter emissions has the possibility of contributing to respiratory problems and also damaging the ecologically sensitive coral reefs, etc.

The hydro technology has problems of submergence of sylvan ecology and huge dam sites that are prone to damages due to earth quakes.

The wind and solar power technologies are seriously limited by the site specific and season specific nature of their availability and also have limitations of being susceptible to interferences by heavy winds, storms, etc. Similarly, the Geothermal Technology is limited to specific locations.

It is in this context that the Nuclear Technology of Generating Electricity has several distinct advantages. It is compact and highly manageable in terms of handling, transportation and storage of the fuel. It is free of fly ashes, particulate matter pollution and greenhouse gas emission. And it is probably only the one technology which is evolved and nurtured in a sustainable manner keeping the health, safety, ecology and environment concerns as the prime aspects of the electricity generating technology package. Thus it can be closely observed and seen that Nuclear Technology, which has undergone several reactor-years of failure-proof and successful operations all over India, is a safe, ecological and environmental friendly, development-promoting and greener than all other technologies of electricity generation.

However, due to the heavy developmental demands for energy and due to limited availability of the primary resources, it is necessary for India to tap all the above resources, in parallel. Therefore, Nuclear Technology needs to be understood and accepted by all well meaning and development-oriented people. And those who have any doubts in their mind need be helped with clarifications at their levels of understanding. Since the nuclear technology is relatively more high-tech-oriented, such

communications to the larger public could be effectively accomplished by enlisting the active participation of the academicians in universities, colleges, schools, etc.

Sustained Flow of Information and Regular Public Awareness Programmes Would Help The Common Man to Overcome the “ Fears and Reservations” About Nuclear Power Stations:

The Common Man, in fact, exists in different strata of understanding, depending on their educational back ground and capacity to assimilate the information given to them. Therefore, there has to be graded channels or mechanism to cater to reach the information to the different levels of knowledge-strata in the society. Simple communications in popular and easy-to-assimilate local language needs be disseminated among the population on a regular basis to address their concerns and reservations. The graded communications and their contents can be designed to suit to the level of understanding such as, University/College Level, School Level, Level of Public with simple reading ability, etc.

Sun - The Largest Nuclear Reactor That We See and Benefit Every Day Across The globe:

Most of the public, and even many of those educated in science, seems not knowing that The Sun is a huge Nuclear Reactor and that the entire vegetation in earth, the coal, the petroleum, the rain water that goes into Hydro Power Stations are all deriving their energy from The Sun, The Nuclear reactor that Provides the requisite energy for all these productive processes. Thus, speaking universally, Nuclear Energy is The Single Sustainer Of The Entire Systems In The Globe and Solar System.

And we walk in the sun, bathe in the sun, goes out of mood when there is no sunshine. And we also do prostrations to Sun (*Surya Namaskaaram*), the Life Supporting Nuclear Reactor. Are we doing all these, because we have not learnt that The Sun is A Nuclear Reactor ? or Is It because that without sun we can not sustain our life supporting systems and, therefore, irrespective whether it is a nuclear reactor or not we acknowledge it and accept it because it is essential for sustaining the system and further developments !

Of course, the latter reasoning is more tangible and practical, because we are all accepting the Green-House-Gas-Emitting and Fly-Ash-Leaving Thermal Power Stations because it is giving us electric power to meet our various needs ?!

So, why not apply the same logic and accept the nuclear technology which has even given rise to the Coal that is needed to operate the Thermal Power Stations ! Or accept the Nuclear Power Station as a Green-House-Gas-&-Fly-Ash-Free Green Technology which is better than the Thermal Power Stations ?

If the Coal Mine Fire is difficult to be extinguished, can we altogether abandon the mining of Coal and throttle the entire developmental process?!

Since the Dam in a Hydro Project is liable to be catastrophically damaged due to earthquakes, can we abandon all Hydro- Electricity Projects ?!

Obviously, there are very many relative issues associated with each method of electricity generation. And it is based on a judicious balancing of the strengths and weaknesses as well as on the basis of the technological strength and operational confidence that the different technologies are adopted.

In India The NPCIL and DAE has the full-fledged expertise and experience generated out of hundreds of Power-Reactor-Years. And it is based on these in-depth experience, India has chosen and decided to go for the VVERs for Kudankulam.

Those who have the reservations based on the Chernobyl and Fukushima incidents would get all the necessary clarification from the NPCIL Web Site, which gives all necessary details to overcome the reservations. And also it would be useful to contact the NPCIL authorities at Kudankulam, for any authentic clarification.

The development Impacts Of Kudankulam Nuclear Power Station is Already Perceptible:

An impartial observer can easily understand how the barren area of Kudankulam has already registered a tremendous transformation in terms of employment opportunities, greenery, inhabitability, roads and other infrastructure, etc. However, it could have happened that these impacts has not been quantified and properly projected for the information of the Public. There is also a need for an independent institution in a university campus to do such impact studies on a sustainable basis and make the information available at any point of time for measuring the developmental impacts in quantitative parameters. Some time back, the MS University has been working out such a proposal which could be advantageously used for assessing the developmental and sociological impacts, which will certainly help to monitor and project all the positive transformations in proper perspectives.

Fukushima Type Problems are not at all probable at Kudankulam:

Kudankulam Nuclear Power Station is Located about 1500 kilometers far away from the tsunamigenic fault in the region and the most severe Tsunami in 2004 has caused only 2.2 Meter rise in sea level in the vicinity of KKNPS. And all the installations in KKNPS are well above this maximum possible rise in sea water. The Report of the Task Force that studied this issue is available to all in the Web Site of DAE and NPCIL. Schematic diagram indicating the locations of the Reactor Installations with respect to sea level also can be seen at NPCIL, on request.

With 6000MW Power, On Completion of the 6 Reactors, There Will Be A Spurt In The Industrial Activities and Consequent Availability of Employment Opportunities:

Availability of Electric Power would definitely boost the establishment of Industries and the region will potentially register a spurt in Industrial activities. Naturally the employment opportunities will show a big spurt providing great opportunities for the educated youth in this region.

The KKNPS Has The Potential To Provide An Industrial Boom In The Region, So That The People Of This Region Might Not Have to Go To Far Away Places For Lively-Hood:

Spurt of Industrial activities as a direct consequence of KKNPS and the resultant availability of job opportunities would totally change the demographic migration pattern. At present, the people of this region has to go faraway places in search of lively-hood. But with the Industrial boom created by KKNPS, not only that a vast number of the people of the region will be able to get employment but also it will attract people from faraway places to migrate towards southern Tamil Nadu. The entire process can be easily visualized in terms of development of new settlements and development of the existing cities into Megacities.

It Is Time That The Enterprising People of This Region Should, Without Delay, Start Visualising and Plan For The Implementation Of Positive Developmental Activities In The Region With The Dynamic Participation Of The Government Of Tamil Nadu, The Industrial Houses:

With the tremendous availability of electricity from Kudankulam Nuclear Power Station in the offing, it is time that the enterprising people of this region wake up and start planning industrial, manufacturing, processing and many other productive activities. They should also enthruse the leading Industrial Houses to come over and establish activities there. The Government of Tamil Nadu could give a great impetus to the development of this region.

While many part of India is lagging behind in industry for want of Power, the Kudankulam Region in Tamil Nadu and Tamil Nadu in general are placed in an enviably advantageous position, thanks to the Kudankulam Power Projects, NPCIL and DAE.

It Is Time To Welcome The Maha Lakshmi Arriving At Your Door Step and Plan On A Host Of Activities To Transform This Region Into Prosperity:

In the wake of the Prime Minister assuring the people of Tamil Nadu and The People of the Kudankulam Region about all necessary precautions regarding environmentally

and ecologically safe operation of the KKNPS, the enterprising people of Kudankulam Region and Tamil Nadu should plan the developmental exploitation of this unique opportunity, The Maha Lakshmi who has come to their door-step.

*The Author is an Expert in R&D and Knowledge Management. He is currently active as Visiting Professor (R&D and Knowledge management and as Advisor (R&D). As a former Senior Scientist of BARC and the Programme Officer of Board of Research in Nuclear Sciences (BRNS), Department of Atomic Energy (DAE), Government of India he was responsible for inducting as many as 35 institutions in Tamil Nadu into impact-making collaborative research programmes. He also coordinated the Baseline Studies covering an area of 30 Km around the KKNPP Site, as a part of the scientific studies needed to help to streamline the an effective Environmental Impact Monitoring of the KKNPS. He is of the clear opinion that the so called Public is not different from the functionaries of NPCIL or DAE because “the public” by definition consists also of their relatives, their friends and their relatives and friends in turn and so on and, therefore, “The Public Concern” is also the concern for the officials.



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