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**PRESS NOTE**

**January 16, 2012**

**Scientific Meet on Radiation and Cancer**

In a series of initiatives to provide information on nuclear power, a scientific-workshop-cum-press meet titled 'Scientific Meet on Radiation & Cancer' was organized on January 16, 2012 at Tarapur Maharashtra Site (TMS) of Nuclear Power Corporation of India Limited (NPCIL).

The purpose of the meet was essentially to disseminate information on radiation and cancer based on the scientific studies carried out by Tata Memorial Center and NPCIL over the last several years.

Dr. S.S. Shastri, Head, Oncology, Tata Memorial Center (TMC), Shri S A Bhardwaj, Director-Technical (NPCIL), Shri S. K. Tapkir, Executive Director (R&R), NPCIL, Shri Ravindranath, Site Director (TMS), Shri R.P.S. Tomar, Station Director, TAPS 3&4 and Shri H R Bhat, Chief Engineer-Health Physics (NPCIL), Dr S K Jain, Chief Medical Superintendent (NPCIL) conducted the meet. Other senior officials from TMS were also present at the meet.

A Study has been conducted by NPCIL for the period 1995 to 2010 covering health profile of its employees at nuclear power stations for over 15 years. The study has concluded that the employees working in nuclear power stations in the close proximity of radiation are not prone to any higher rate of occurrence of disease, particularly 'cancer', than the general public. According to the scientific studies, the average natural incident rate of cancer amongst the general public is 98.5/lakh against 54.05/lakh among the NPCIL employees. Similarly, it is also found that mortality due to cancer, the average death rate in the general public, is 68/lakh as compared 29.05/lakh among NPCIL employees. Dr. Shastri, while speaking on the radiation and cancer, cited interesting facts based on studies on 17700 workers of the uranium mining in Canada, who have been tracked for over last several decades, are found to be keeping better health than the general public in Canada. This is in sharp contrast to the general public perceptions and indicates no linkage between nuclear power and occurrence of cancer.

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**About NPCIL:** NPCIL has comprehensive capability in all facets of nuclear power generation technology namely-site selection, design, construction, commissioning, operation & maintenance and life extension with over 345 reactor-years of safe and reliable operation of nuclear reactors. At present, the company operates 20 reactors with the installed capacity of 4780 MW.

Shri H.R. Bhat, Chief Engineer (Health Physics), NPCIL, while presenting the various aspects related to the radiation shared that radiation is present everywhere in nature, including the houses in which we live, the water we drink, and the food we eat, etc. Another point worth noting is that radioactive elements like Potassium-40, Radium-226 and Radium-228 are also present naturally in the human body.

The omnipresent natural background radiation is regularly measured all over the country by Indian Environmental Radiation Monitoring Network (IERMON) system of Bhabha Atomic Research Center (BARC) including the surrounding areas of nuclear power plants prior to the setting up of these and during their operation, by an independent Environmental Survey Laboratory (ESL) at each of the nuclear power plant sites. These measurements over several years have established that the amount of radiation in the surrounding areas of the nuclear power stations is barely measurable even using ultra-sensitive instruments. This amount is indeed so small that it is in fact well within the variance of natural background and statistical variation in measurements. In absolute terms also, this is a negligible fraction of the natural radiation that surrounds us all. The scientific data collected and analyzed on thousands of samples, over the last several decades, of the environmental matrices like sea food, milk, vegetables, meat, water, soil samples etc., have established that the radioactivity and the radiation level in the surrounding areas of nuclear power plants are an insignificant fraction of the natural radiation levels prevalent in these areas. The operation of nuclear power plants does not add to the natural radiation already existing in the nature around these plants.

Dr. Shastri also brought out one very pertinent fact about radiation in daily life, that the routine medical diagnostic procedures such as dental X-ray, chest X-ray, CT scan, etc. deliver radiation doses several times higher than those from a nuclear power plant. For example, chest X-ray exposes a patient to far more radiation each time than a nuclear power plant would in about 20 years!

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Tata Memorial Center, in association with the prominent local medical colleges, has carried out epidemiological survey of NPCIL employees at each nuclear power plant site in India. The study has found that the prevalence of congenital birth defects/anomalies is only 0.45% among the

NPCIL employees as against 1.4% prevalent in Mumbai as brought out by an exhaustive study at a large maternity hospital in Mumbai.

During the concluding session, it was recognized that the apprehensions about the radiation and nuclear power stations could be allayed by educating the general public. This workshop has indeed been a step forward by NPCIL in meeting this objective.

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# Photographs of Scientific Meet

