

ENVIRONMENT

Technologies for Better Quality of Life

HEALTH SURVEYS OF WORKERS AND POPULATION AROUND VARIOUS NUCLEAR ESTABLISHMENTS IN INDIA

The Department of Atomic Energy (DAE) and its constituent units have been model employers and benefactors of surrounding populations of various plant sites. The Department also ensures that its operations including nuclear power generation, are not only safe for its employees but also conserve the surrounding environment.

To further consolidate its health safety endeavour, DAE undertook studies on the health status of its employees and the population around its installations. The responsibilities to collect data relating to these studies were given to independent agencies that included the Tata Memorial Centre, Mumbai (Maharashtra), SMS Medical College Hospital, Jaipur (Rajasthan), Department of Community Medicine, Jawaharlal Nehru Medical College, Aligarh (Uttar Pradesh), AAMCRI, Kanchipuram (Chennai), and Kasturba Medical College, Manipal (Karnataka). The final data analysis and studies on the health status of the employees and their families, at the sites was conducted by the Tata Memorial Centre.

These studies covered the six nuclear power stations namely Tarapur Atomic Power Station (Maharashtra), Rajasthan Atomic Power Station (Rajasthan), Madras Atomic Power Station (Tamil Nadu), Narora Atomic Power Station (Uttar Pradesh), Kakrapar Atomic Power Station (Gujarat), and Kaiga Generating Station (Karnataka), and some other DAE installations.

The findings of these studies are described below :

[Studies of health status of employees and their families at nuclear power stations at Tarapur, Rawatbhata, Narora, Kalpakkam, Kakrapar and Kaiga](#)

The epidemiological studies of 17,364 employees including 8080 radiation workers of the Indian Nuclear Power Plants and other establishments, 13057 spouses and 23,179 children, carried out by Tata Memorial Centre, conclude that there is no increase in occurrence of cancer and presence of birth defects in offsprings of radiation workers, when compared with non-radiation workers, as well as those reported for general population. There is no difference between spouses and children of radiation employees and spouses and children of non-

radiation employees as far as occurrence of cancer and birth defects is concerned. In fact a “Healthy Worker Effect” is discernible among the employees of DAE family.

[Baseline health survey in population around Kakrapar Atomic Power Station, Kaiga Generating Station, Kudan Kulam Atomic Power Project](#)

The studies at the three nuclear power plant sites revealed morbidity pattern, which highlighted occurrence of common problems of nutrition, tuberculosis, skin diseases etc, which require to be tackled at social, political and economic levels.

The results of the Kakrapar Atomic Power Station study (Mandavi) showed that the prevalence rate of congenital anomalies, mental retardation, cataract, goitre & cancer were in the range of natural occurrences reported for rural population.

Similarly, prevalence of cancer and congenital abnormalities in populations around the Kaiga Generating Station and Kudan Kulam Atomic Power Project did not indicate any deviation from their naturally occurring prevalence.

The data emerging from above studies will be used as baseline data for comparison in future studies.