

[Korea]

Ionizing Radiation and Environmental Risk in Asia

Dong Chun SHIN*¹



The risk potentially arises from the production of radioactive waste and nuclear leak in Asian region. Radiation is known to cause cancer in humans and can also cause other adverse health effects including genetic defects. Asia is the main region in the world where electricity generating capacity and nuclear power is growing significantly. In East and South Asia there are 112 nuclear power reactors in operation, 37 under construction and firm plans to build a further 84 (as of April 2010). Many more are proposed. The greatest growth in nuclear generation is expected in China, Japan, South Korea and India. There is much evidence of radiation effects in long-term

and low dose exposure. To assess the health impacts of lower radiation doses, researchers rely on models of the process by which radiation causes cancer; several models that predict differing levels of risk have emerged. The “Linear No Threshold” hypothesis, used in all radiation protection practices, assumes that all doses, no matter how low, increase the risk of cancer. The LNT model is perceived to be safer for regulatory purposes because it assumes worst-case damage due to ionizing radiation. In the future, we have to create a multi-disciplinary community in the Asia which is concerned with an effectiveness of radiation risk reduction.

*1 Chair, Executive Committee of International Relations, Korean Medical Association, Seoul, Korea (intl@kma.org). Professor, Department of Preventive Medicine, Yonsei University College of Medicine.

This article is based on a presentation made at the Pre-conference Seminar of the 27th CMAAO General Assembly, Taipei, Taiwan, R.O.C., on November 10, 2011.