

## **N177. Dose Control At China's First Nuclear Power Plants**

Two Chinese Pressurized Water Reactors (PWRs) are expected to start up within the next 3 years. To successfully manage the nuclear power program, the government has set forth a series of regulations, codes, and guidelines for safety and radiation protection.

"Regulations for Radiation Protection," based on ICRP recommendations was issued in 1988. The primary limit for the annual effective dose equivalent for workers is 50 mSv (5 rem). In addition to this, measures have been taken to ensure that exposures are kept at ALARA levels.

Dose management systems have been developed which include:

- Specification of dose limits for different conditions.
- Setting up strict administration controls on exposure and compensation for workers who exceed the limits.
- Establishment of reference levels for recording, investigation, and intervention.
- Identification and classification of a radiation area into 3 areas of work based on potential levels of exposure.
- Recognizing 2 classes of working conditions according to the potential annual exposure in both nuclear power plants.

Regulations stipulate that dose equivalent to individual members of the public should correspond to an average of 1 mSv/yr (100 mrem/yr), not to exceed 5 mSv/yr (500 mrem/yr) in any one year.

To meet this requirement, stricter guidelines for the release of radioactive substances have been set such that dose to individual members of the public should not exceed 0.25 mSv/yr (25 mrem/yr).

*Taken from "Safety First, Quality First': Dose Control at China's First Nuclear Power Plants," Hua Liu and Wanli Zhong, Nuclear Engineering International Dosimetry and Radiation Protection Issue, pp. 9-10, 1992.*