

November, 2013

## ISOE INFORMATION SHEET

### **REPUBLIC OF KOREA SUMMARY OF NATIONAL DOSIMETRIC TRENDS**

**ISOE Asian Technical Center - Information Sheet No. 38 (2013)**

#### **Personnel Dose Management by KHNP**

For the year 2012, 23 NPPs were in operation; 19 PWR units and 4 PHWR units. The trends on the number of units are shown in Figure 1. The average collective dose per unit for the year 2012 was 455.26 man-mSv/unit (All Type); 416.85 man-mSv/unit (PWR) and 637.72 man-mSv/unit (PHWR). The trends on the average collective dose per unit are shown in Figure 2. The dominant contributors of the collective dose in the year 2012 were the works carried out during the outages, resulting 86.3% of the total collective dose in 2012. There were 14,715 people involved in radiation works in 23 operating units and the total collective dose was 10,471 man-mSv (All Type); 7,920 man-mSv (PWR) and 2,551 man-mSv (PHWR). The trends on the total collective dose and number of workers are shown in Figure 3 and Figure 4, respectively.

The average annual individual dose in 2012 was 0.71 mSv/yr and the trend is shown in Figure 5. There was no worker exposed higher than the regulatory dose limit (100 mSv in 5 years and 50 mSv in any single year). But, 1 radiation worker slightly exceeded 20 mSv (KHNP's own dose limit) in 2012. However, most of radiation workers (82.6%) received radiation dose below 1 mSv.

The increase of the doses between the year 2009 and 2010 is due to the refurbishment (2009~2010) in Wolsung Unit 1, one of PHWRs. New 2 PWR reactors were on line in 2012. They are Shinkori unit 2 and Shinwolsung unit 1 which are 1000 MWe capacity PWRs. Shinkori unit 2 started its commercial operation on Jul. 20, 2012 and Shinwolsung unit 1 did on Jul. 31, 2012.

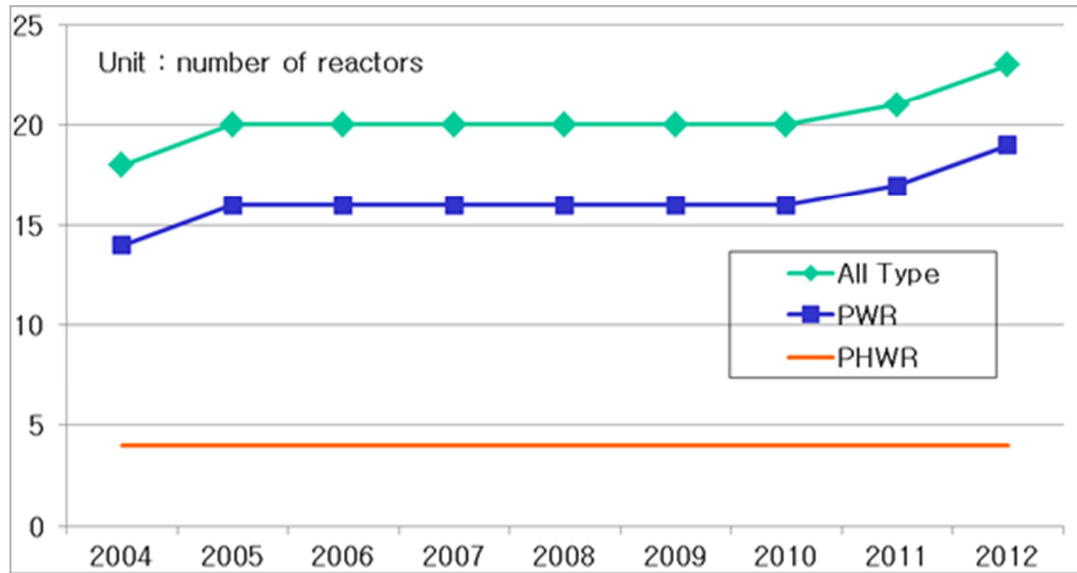


Figure 1. Trends on the number of reactor units

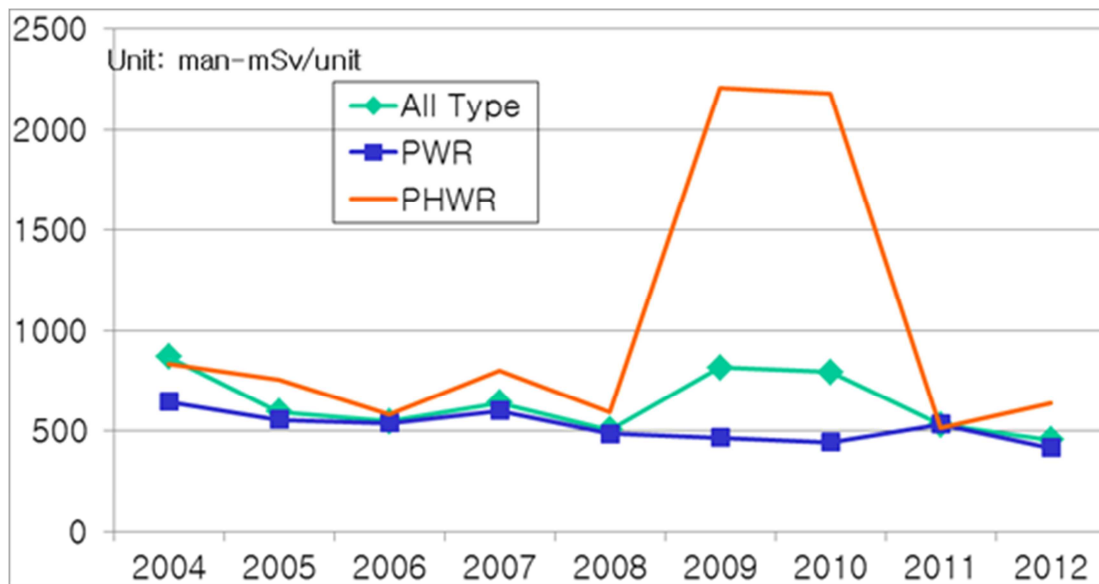


Figure 2. Trends on the average annual collective dose per unit

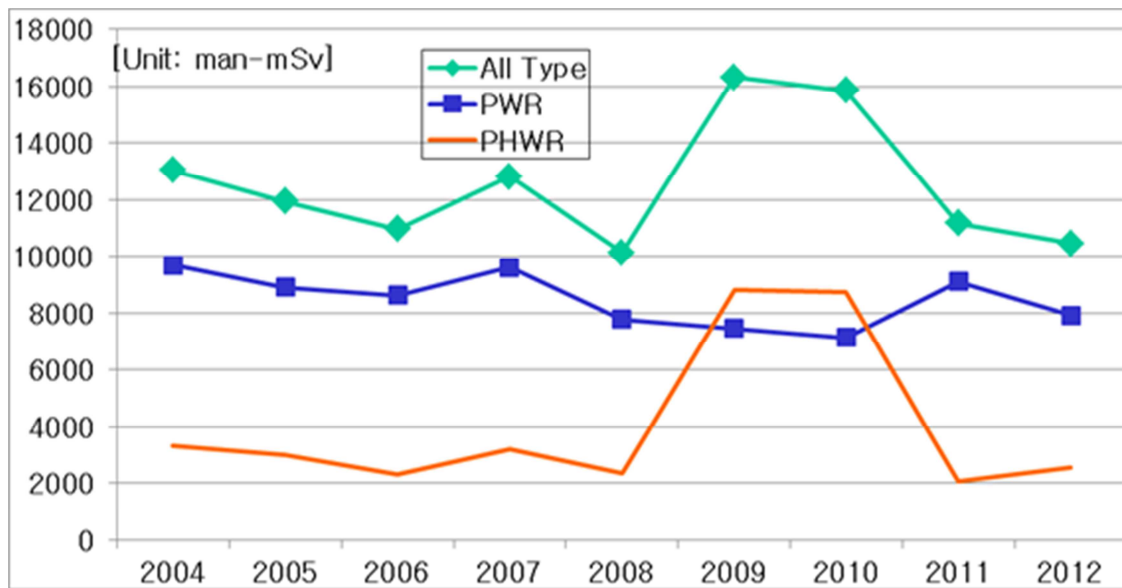


Figure 3. Trends on the total collective dose

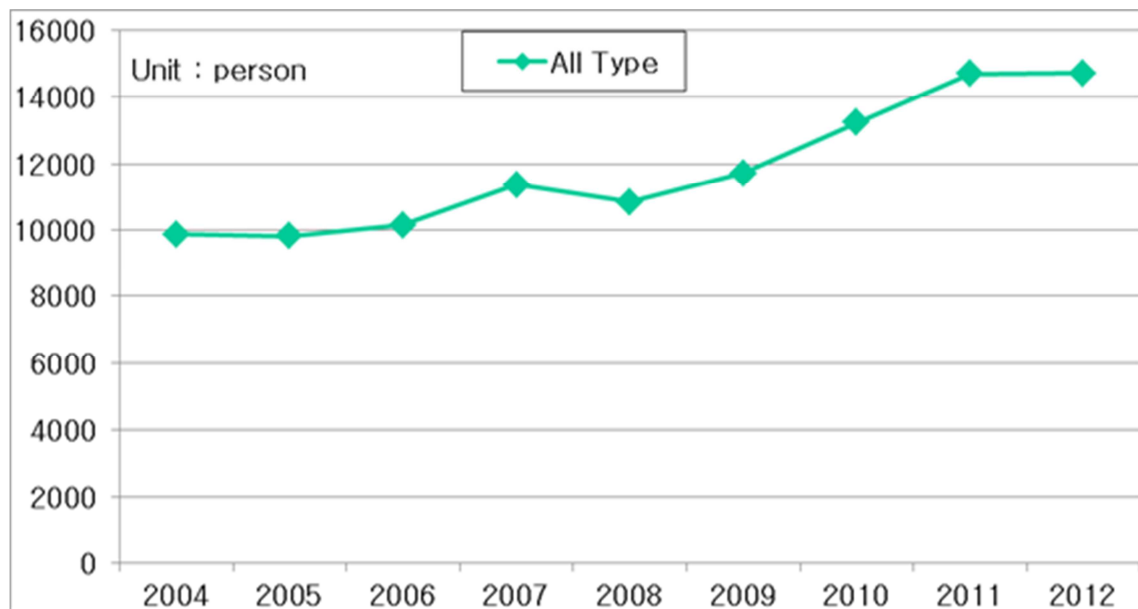
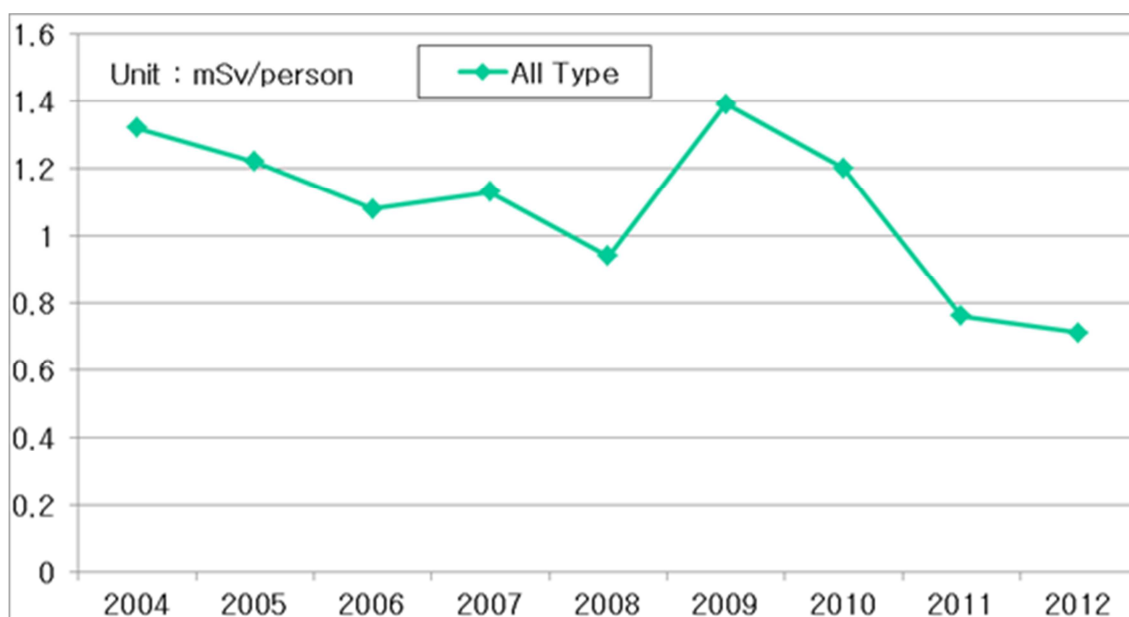


Figure 4. Trend on the number of workers



**Figure 5. Trend on the average individual dose**