



ISOE INFORMATION SHEET

PRELIMINARY EUROPEAN DOSIMETRIC RESULTS FOR 1998

ISOE European Technical Centre - CEPN Information Sheet No. 20

This ISOE Information Sheet presents the European average collective doses per reactor in each country over the past three years (1996-1998) for operating PWRs and BWRs respectively in Tables 1 and 2.

The European PWR average collective dose continues to decrease, reaching for this first time a dosimetric result lower than 1 personSv per reactor. As far as the VVERs reactors are concerned, the average collective dose remains around 0.5-0.7 personSv per unit.

The decrease of the average collective dose can be observed in most countries in 1998, excepted in Belgium, in Finland and in Hungary three countries with a small number of reactors (respectively 7, 2 and 4 units). Therefore, they are very sensitive to the number and type of outage and/or large projects (one steam generator replacement in 1998 in Belgium) performed during the year. Nevertheless, despite the increase of the doses, the average dose per reactor remained in these three countries still lower than, or about, 1 personSv per reactor.

The 1998 collective dose in the United Kingdom corresponds to the unique reactor, Sizewell B

which has not had refueling outage in 1998. It is also noticeable that in Spain only 5 units upon 7 units have had an outage in 1998.

Table 1. PWRs average collective dose per reactor by country from 1996 to 1998

| Country | Average coll. dose per reactor (personSv) | | |
|-----------------------|---|-------------|-------------|
| | 1996 | 1997 | 1998 |
| Belgium | 0.92 | 0.39 | 0.71 |
| France | 1.59 | 1.42 | 1.20 |
| Germany | 1.66 | 1.43 | 1.01 |
| Netherlands | 1.11 | 2.83 | 0.68 |
| Spain | 1.47 | 1.35 | 0.55 |
| Switzerland | 0.71 | 0.48 | 0.46 |
| Sweden | 0.66 | 0.64 | 0.59 |
| United Kingdom | 0.53 | 0.50 | 0.04 |
| Sub-Total | 1.46 | 1.28 | 1.02 |
| Czech Republic | 0.36 | 0.38 | 0.34 |
| Finland | 1.32 | 0.57 | 1.04 |
| Hungary | 0.63 | 0.49 | 0.76 |
| VVER Sub-Total | 0.66 | 0.46 | 0.65 |
| All PWRs | 1.38 | 1.20 | 0.99 |

After several years of increase, the European BWR average collective dose began to decrease.

It can be noticed that the average collective dose has decreased significantly from 1997 to 1998 in Sweden and in Spain.

In the Netherlands, the Dodewaard boiling water reactor was definitively closed in 1997 after 30 years of operation.

The following Figures show VVER, PWR (VVER excluded) and BWR annual average collective dose trend per reactor by country from 1988 to 1998.

Table 2. BWRs average collective dose per reactor by country from 1996 to 1998

| Country | Average coll. dose per reactor (personSv) | | |
|-----------------|---|-------------|-------------|
| | 1996 | 1997 | 1998 |
| Finland | 0.84 | 0.83 | 1.03 |
| Germany | 1.43 | 1.33 | 1.56 |
| Netherlands | 0.99 | 0.11 | - |
| Spain | 3.36 | 2.39 | 0.53 |
| Sweden | 2.33 | 2.82 | 1.55 |
| Switzerland | 1.68 | 1.45 | 1.19 |
| All BWRs | 1.92 | 1.95 | 1.37 |