

## ISOE INFORMATION SHEET

### PRELIMINARY EUROPEAN DOSIMETRIC RESULTS FOR 2002

ISOE European Technical Centre - Information Sheet No. 35 (2003)

This ISOE Information Sheet presents the average collective doses per reactor in the countries participating in ISOE through the European Technical Centre. The averages over the past three years (2000-2002) for operating PWRs and BWRs respectively are presented in Tables 1 and 2.

The PWR average collective dose per reactor remains quite stable with regards to 2001, around 0.8 man·Sv per reactor. In Germany the main reason of the increase of the average collective dose per reactor is a big outage in Biblis and the definitively shutdown of the Mulheim-Karlich NPP which have had low doses in the recent years (13 operating reactors in 2002 instead of 14 reactors in 2001).

The BWRs have seen an increase of the average collective dose which is mainly due to the increase of the results in Sweden (performance of modernization work at Oskarshamn 1 and Barsebäck 2) and in Spain (only one outage in Cofrentes NPP which had performed chemical decontamination of the reactor coolant system with worse results than expected).

The following Figures show VVER, PWR (VVER excluded) and BWR three-years rolling average collective dose trend per reactor by country from 1992 to 2002.

Table 1. PWRs average collective dose per reactor by country from 2000 to 2002

Country	Average coll. dose per reactor (man·Sv)		
	2000	2001	2002
Belgium	0.35	0.54	0.42
France	1.09	1.02	0.97
Germany	1.13	0.89	1.23
Netherlands	0.56	0.52	0.34
Spain	0.59	0.43	0.49
Sweden	0.43	0.35	0.51
Switzerland	0.69	0.48	0.51
United Kingdom	0.46	0.19	0.30
<b>Sub-Total</b>	<b>0.95</b>	<b>0.87</b>	<b>0.88</b>
Czech Republic	0.25	0.29	0.20
Finland	1.13	0.56	1.31
Hungary	0.76	0.63	0.80
Slovakia	0.81	0.37	0.32
<b>VVER Sub-Total</b>	<b>0.68</b>	<b>0.44</b>	<b>0.54</b>
<b>All PWRs</b>	<b>0.91</b>	<b>0.80</b>	<b>0.83</b>

Table 2. BWRs average collective dose per reactor by country from 2000 to 2002

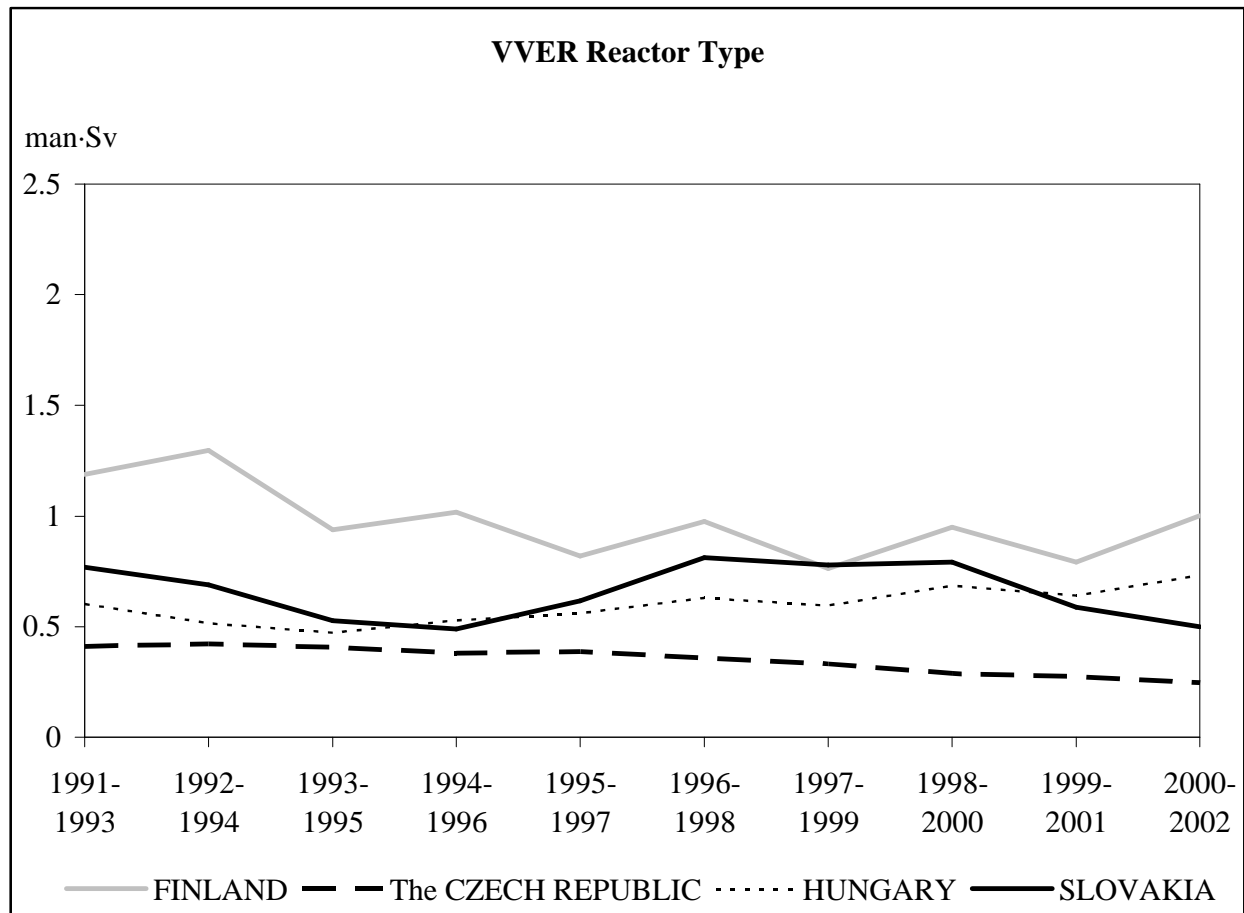
Country	Average coll. dose per reactor (man·Sv)		
	2000	2001	2002
Finland	0.86	0.59	0.56
Germany	0.88	1.06	0.76
Spain	1.52	0.93	1.52
Sweden	0.85	0.71	1.35
Switzerland	0.89	0.97	1.03
<b>All BWRs</b>	<b>0.93</b>	<b>0.85</b>	<b>1.08</b>

Table 3. Number of outages versus number of operating PWR and BWR reactors from 2000 to 2002

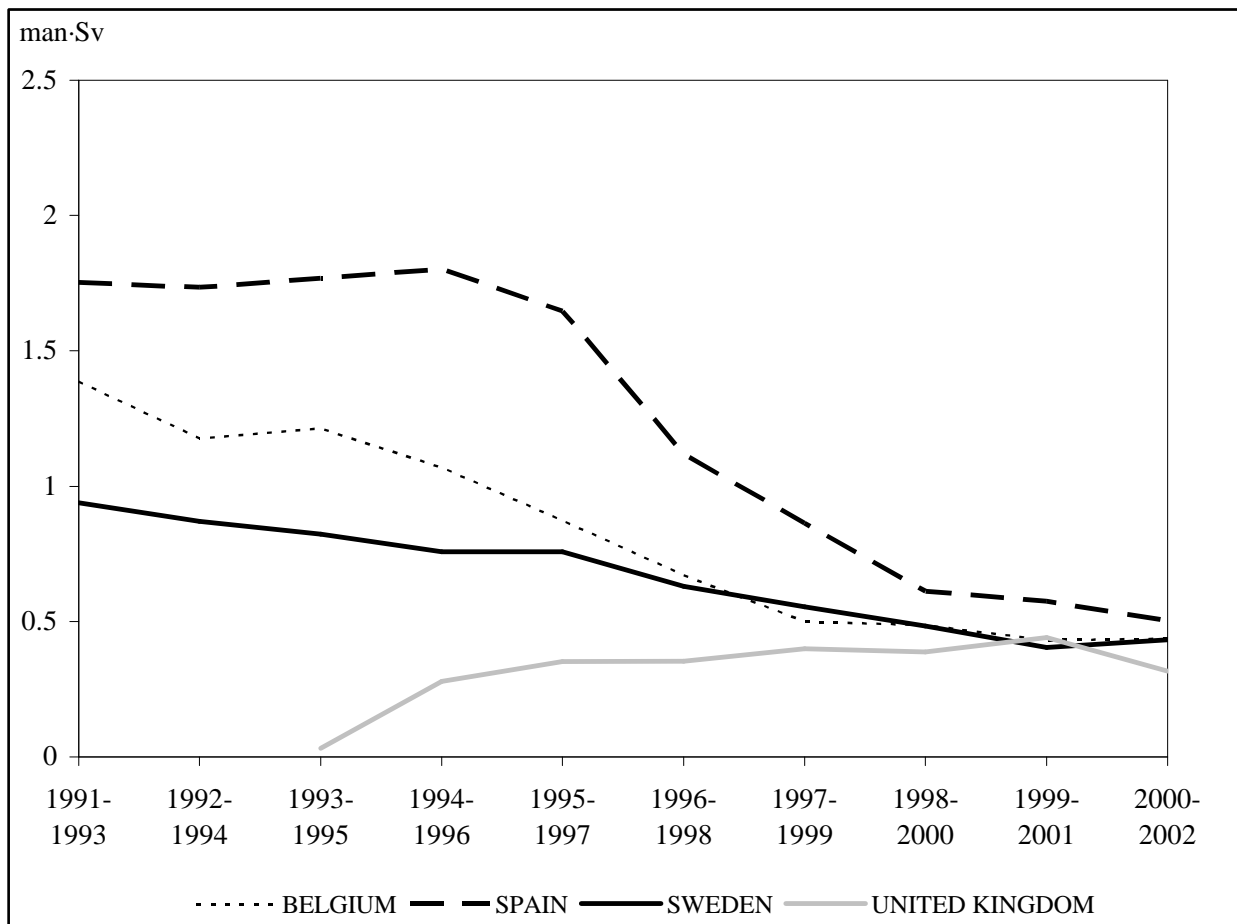
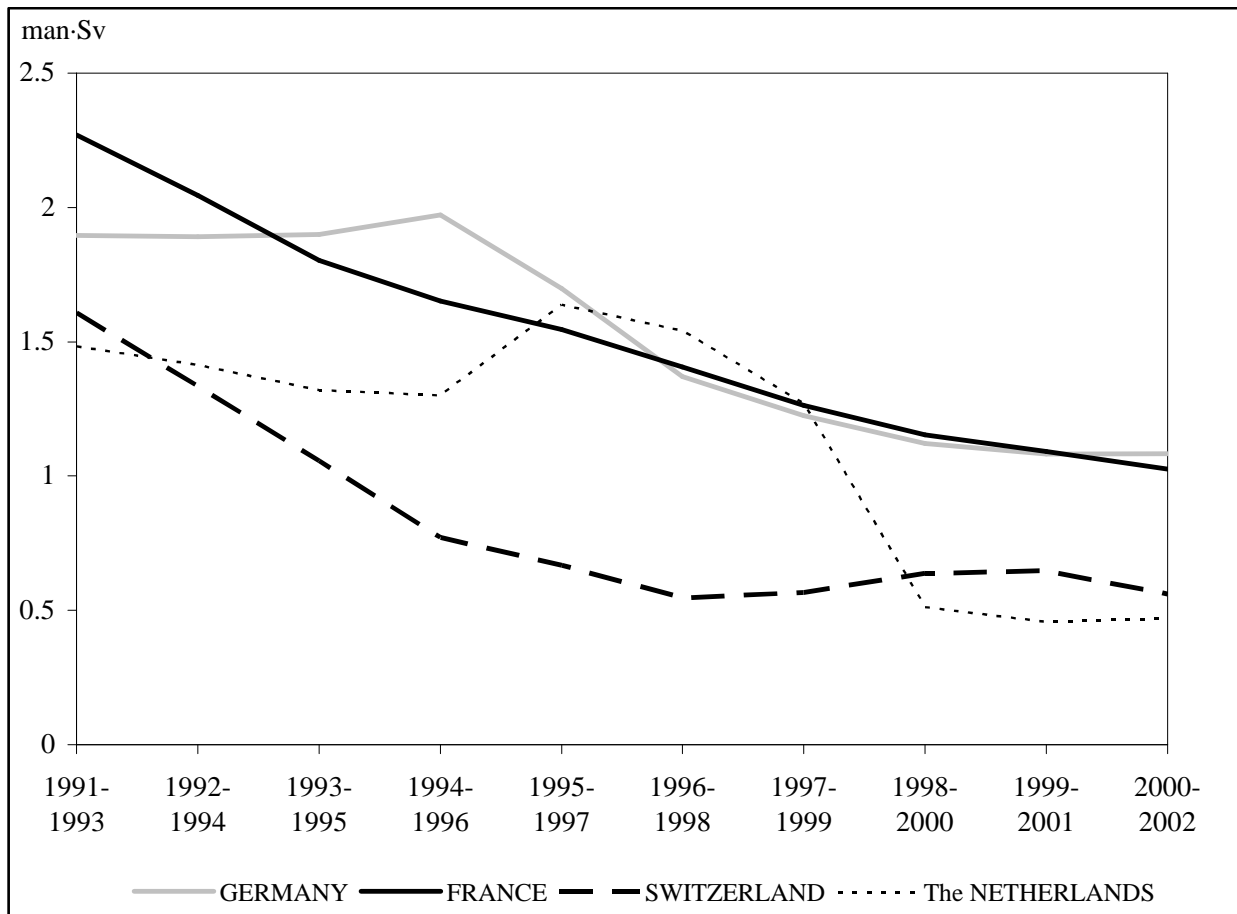
Country	Number of outages / Number of reactors		
	2000	2001	2002
<b>PWR:</b>			
Belgium	6/7	7/7	6/7
France	44/54	45/56	49/56
Germany	14/14	14/14	13/13
Netherlands	1/1	1/1	1/1
Spain	6/7	5/7	5/7
Sweden	3/3	3/3	3/3
Switzerland	3/3	3/3	3/3
United Kingdom	1/1	0/1	1/1
<b>BWR:</b>			
Finland	2/2	2/2	2/2
Germany	6/6	6/6	4/6
Spain	1/2	1/2	1/2
Sweden	8/8	8/8	8/8
Switzerland	2/2	2/2	2/2

Note: All VVER reactors have had outages every year.

### Evolution of the PWRs 3-Years Rolling Average Collective Dose per Reactor by Country



### Evolution of the PWRs 3-Years Rolling Average Collective Dose per Reactor by Country



### Evolution of the BWRs 3-Years Rolling Average Collective Dose per Reactor by Country

