

Occupational Exposures:

In each nuclear power plant (NPP), a Radiological Safety Officer (RSO) and Alternate RSO are designated by the Competent Authority to implement the radiation protection programme. The RSO are entrusted with the responsibility for providing radiological surveillance and safety support functions. These include radiological monitoring of workplace, plant systems, personnel, effluent monitoring, carrying out exposure control, exposure investigations, analysis and trending of radioactivity in plant systems.

All NPP have established radiological surveillance programme and work procedures intended to control the occupational exposures. AERB Safety Manual on 'Radiation Protection for Nuclear Facilities' (AERB/NF/SM/O-2 Rev.4, 2005) specifies Dose Limits and Investigation Levels (IL) for occupational workers to control the individual doses. As per AERB directives, for an occupational worker annual dose limit is 30 mSv, with the condition that it should not exceed 100 mSv in a span of 5 years. The specified annual dose constraint for radiation exposure of temporary worker is 15 mSv.

For better exposure control, individual cases are investigated and controlled at an early stage so as to remain within the AERB specified dose limits. The following Investigation Levels (IL) are applicable to the nuclear facilities.

Monthly dose	- 10 mSv
Quarterly dose	- 15 mSv
Annual dose	- 20 mSv

The information on number of workers in NPP who received dose between 20 to 30 mSv and above 30 mSv during the year 2017 is given in Table:3.1. In the year, 2017 there was no case of individual radiation exposure above the prescribed annual dose limit of 30 mSv.

Table 3.1: Radiation Doses Received by Workers in NPP (2017)

NPP	Number of monitored persons	Average dose for monitored person (mSv)	Number of persons received dose	Average dose among dose receivers (mSv)	Number of workers received dose in the range		
					< 20 (mSv)	20-30 (mSv)	>30 (mSv)
TAPS-1&2	1321	2.23	1058	2.78	1321	0	0
RAPS-1&2	823	0.85	546	1.29	823	0	0
MAPS-1&2	1251	2.05	1111	2.31	1251	0	0
NAPS-1&2	1111	0.86	757	1.26	1111	0	0
KAPS-1&2	1554	2.28	1264	2.81	1553	1	0
KGS-1&2	1433	0.98	1069	1.31	1433	0	0
RAPS-3&4	1362	0.24	703	0.47	1362	0	0
TAPS-3&4	1487	1.66	1230	2.01	1487	0	0
KGS -3&4	1191	0.51	655	0.93	1191	0	0
RAPS 5&6	1005	0.19	392	0.48	1005	0	0
KKNPP	2286	0.19	457	0.95	2286	0	0

Figure below gives collective dose for operation and maintenance of NPPs for last 5 years.

