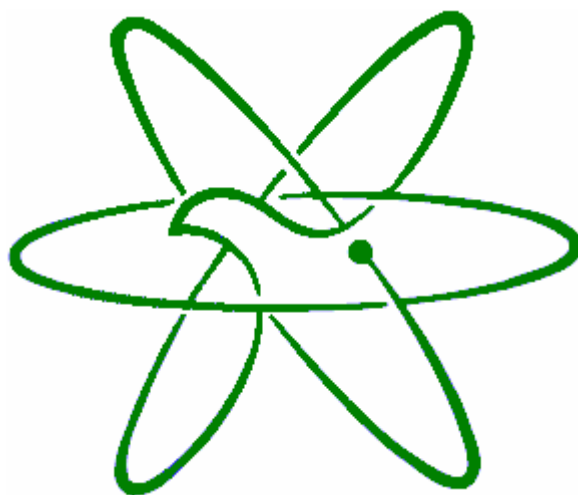


Statistics on The Use And Management of Ionizing Radiation in Taiwan



Atomic Energy Council
Executive Yuan

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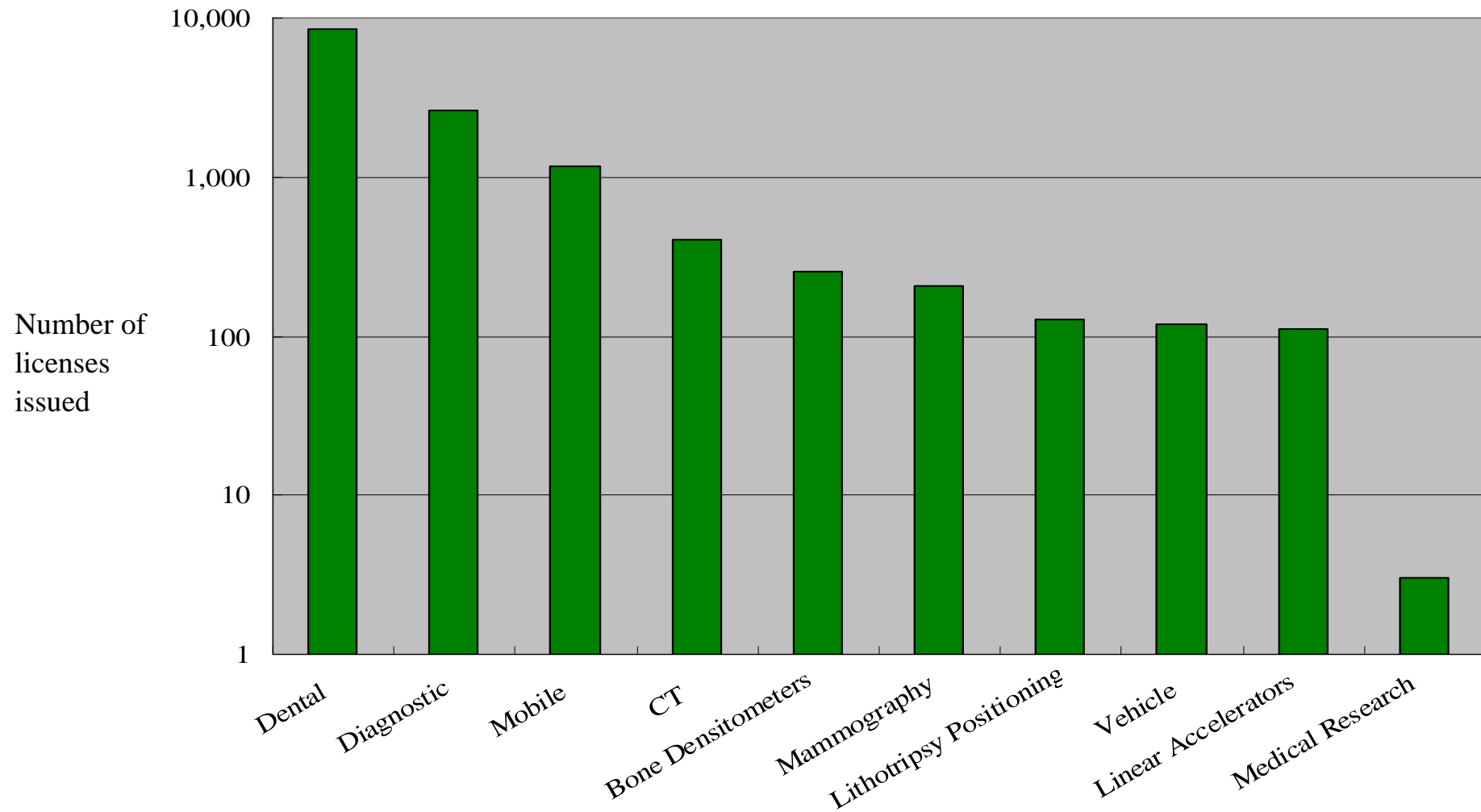
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Table 1 Number of licenses issued of medical equipments capable of producing ionizing radiation

Types of Equipments	Number of licenses issued
Dental X-ray Machines	8,598
Diagnostic X-ray Machines	2,623
Mobile X-ray Machines	1,158
Computerized Tomography Scanners	406
Bone Densitometers	253
Mammography X-ray Machines	205
X-ray Machines for Extracorporeal Shock Wave Lithotripsy Positioning	127
X-ray Machines Installed on Vehicle	119
Medical Linear Accelerators	110
X-ray Machines Used for Medical Research	3
Total	13,602

Figure 1 Number of licenses issued for medical equipments capable of producing ionizing radiation



Note: Full name of type of equipments please refer to table 1.

Table 2 Number of licenses issued for non-medical equipment capable of producing ionizing radiation and radioactive materials by the types of organization

Unit : Total number of licenses issued

Categories of Licenses Types of Organization	Permission			Registration			Total			Sum
	Eq ¹	SS ²	USS ³	Eq	SS	USS	Eq	SS	USS	
Government Agencies	82	100	3	413	463	6	495	563	9	1,067
Academic Institutions	10	50	26	250	359	12	260	409	38	707
Research Institutions	15	24	15	87	144	7	102	168	22	292
Private Sector	330	1,906	8	2,424	659	6	2,754	2,565	14	5,333
Others ⁴	3	0	0	265	0	0	268	0	0	268
Total	440	2,080	52	3,439	1,625	31	3,879	3,705	83	7,667

Note 1. Eq : Equipments capable of producing ionizing radiation.

2. SS : Sealed radioactive materials.

3. USS : Unsealed radioactive materials.

4. Others: Organizations missing its original application information at the time of making this statistic report.

Fig. 2 Number of licenses issued for non-medical equipment capable of producing ionizing radiation and radioactive materials by the types of organization

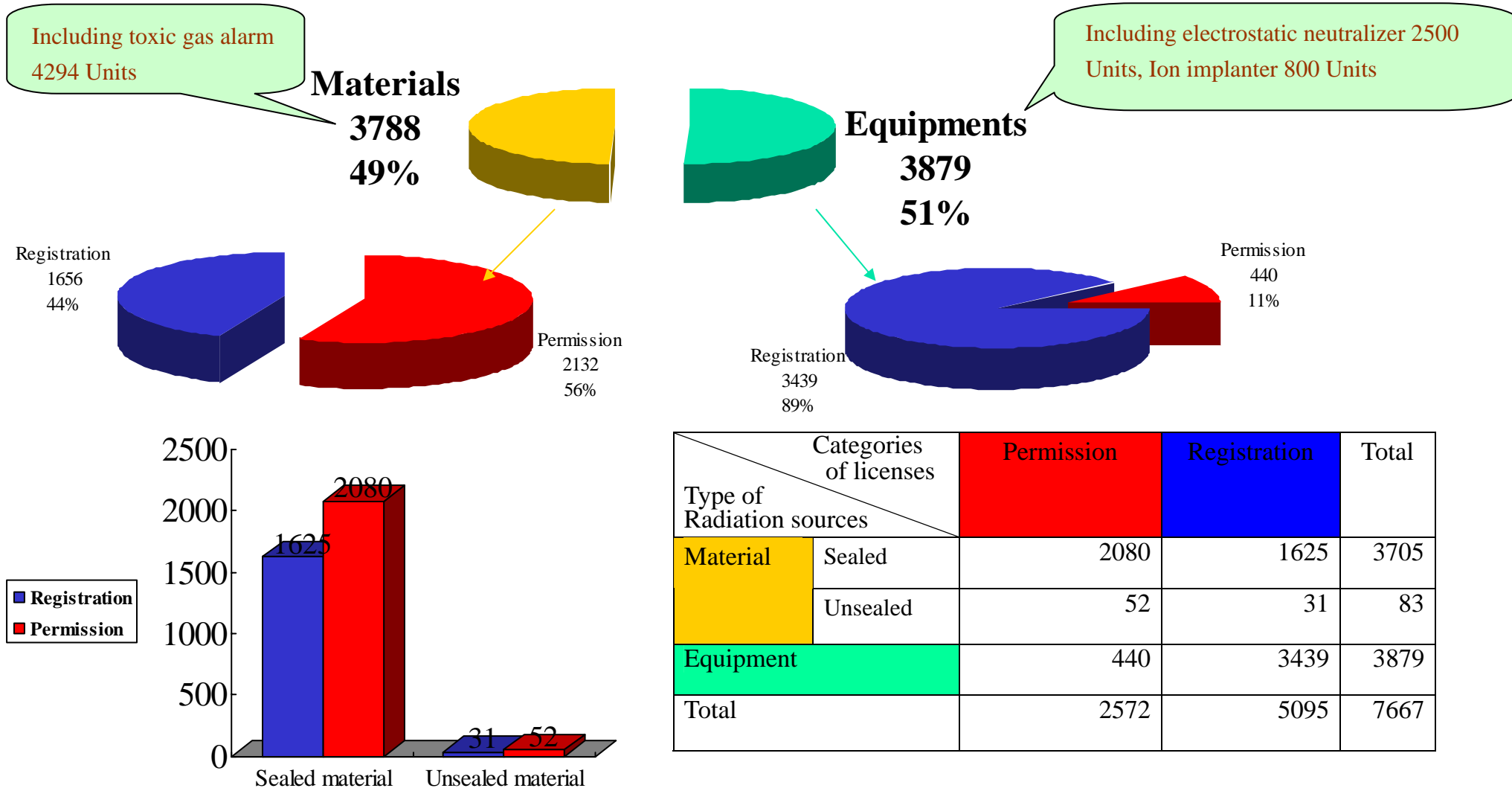


Table 3 Number of licenses issued by the geographical distribution

Unit : Total number of licenses issued

Types of Institutions City and County	Government Agency			Academic Institutions			Research Institutions			Private Sector			Others ¹			Total			Sum
	Eq	SS	USS	Eq	SS	USS	Eq	SS	USS	Eq	SS	USS	Eq	SS	USS	Eq	SS	USS	
Taipei City	71	67	0	59	122	9	25	44	8	179	94	6	64	0	0	398	327	23	748
Kaohsiung City	47	32	0	20	41	3	3	0	0	351	480	1	22	0	0	443	553	4	1,000
Taipei County	14	137	3	7	13	0	13	14	1	376	119	2	41	0	0	451	283	6	740
Yilan County	5	21	0	0	2	0	0	0	3	10	33	1	4	0	0	19	56	4	79
Taoyuan County	191	66	0	19	38	6	17	13	8	621	362	0	23	0	0	871	479	14	1,364
Hsinchu County	0	3	0	2	0	0	19	19	1	207	154	1	2	0	0	230	176	2	408
Miaoli County	1	7	0	1	1	0	2	0	1	91	132	0	4	0	0	99	140	1	240
Taichung County	12	9	1	3	5	0	1	60	0	125	119	2	14	0	0	155	193	3	351
Changhua County	0	6	0	4	4	2	0	3	0	18	34	0	4	0	0	26	47	2	75
Nantou County	2	2	0	1	0	0	1	0	0	17	13	0	2	0	0	23	15	0	38
Yunlin County	1	5	0	3	8	0	0	0	0	56	238	0	4	0	0	64	251	0	315
Chiayi County	8	11	0	6	4	2	0	0	0	7	78	0	2	0	0	23	93	2	118
Tainan County	1	8	0	2	9	0	0	1	0	141	169	0	9	0	0	153	187	0	340
Kaohsiung County	13	29	1	15	20	0	0	0	0	105	331	0	3	0	0	136	380	1	517

Table 3 Number of licenses issued by the geographical distribution

Unit : Total number of licenses issued

Types of Institutions City and County	Government Agency			Academic Institutions			Research Institutions			Private Sector			Others ¹			Total			Sum
	Eq	SS	USS	Eq	SS	USS	Eq	SS	USS	Eq	SS	USS	Eq	SS	USS	Eq	SS	USS	
Pingtung County	16	50	4	1	21	0	0	0	0	13	21	0	7	0	0	37	92	4	133
Taitung County	14	14	0	0	0	0	0	0	0	0	9	0	0	0	0	14	23	0	37
Hualien County	24	16	0	10	7	1	0	0	0	6	42	0	2	0	0	42	65	1	108
Penghu County	19	15	0	0	1	0	0	0	0	0	0	0	0	0	0	19	16	0	35
Keelung City	10	18	0	3	5	1	0	0	0	8	1	0	4	0	0	25	24	1	50
Hsinchu City	5	6	0	39	29	5	13	12	0	332	87	1	6	0	0	395	134	6	535
Taichung City	12	20	0	39	48	7	0	1	0	76	45	0	35	0	0	162	114	7	283
Chiayi City	3	3	0	2	2	1	8	0	0	0	2	0	5	0	0	18	7	1	26
Tainan City	9	6	0	24	29	1	0	1	0	15	2	0	11	0	0	59	38	1	98
Kinmen County	9	8	0	0	0	0	0	0	0	0	0	0	0	0	0	9	8	0	17
Lienchiang County	8	4	0	0	0	0	0	0	0	0	0	0	0	0	0	8	4	0	12
Total	495	563	9	260	409	38	102	168	22	2,754	2,565	14	268	0	0	3,879	3,705	83	7,667

- Note 1. Others: Organizations missing its original application information at the time of making this statistic report.
 2. Eq : Equipments capable of producing ionizing radiation.
 3. SS : Sealed radioactive materials.
 4. USS : Unsealed radioactive materials.

Fig 3 Statistics of licenses of all kinds of institutions having installed Non-medical equipment capable of producing ionizing radiation and radioactive materials

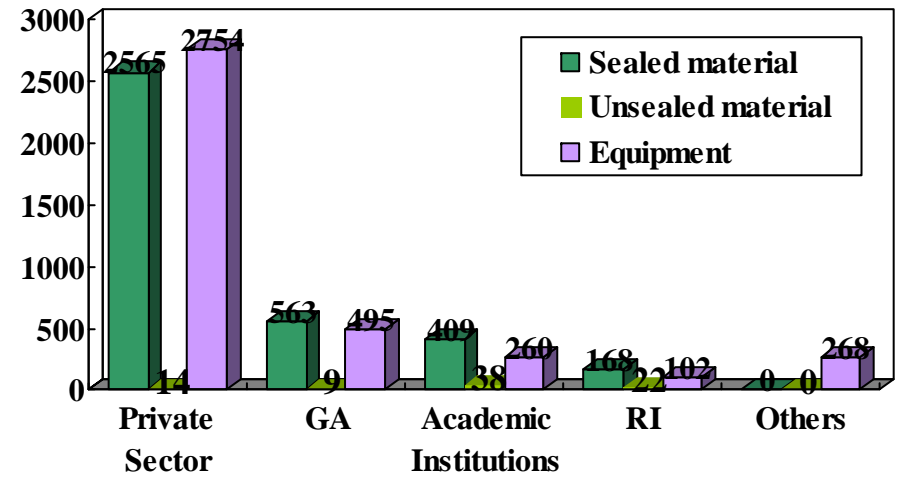
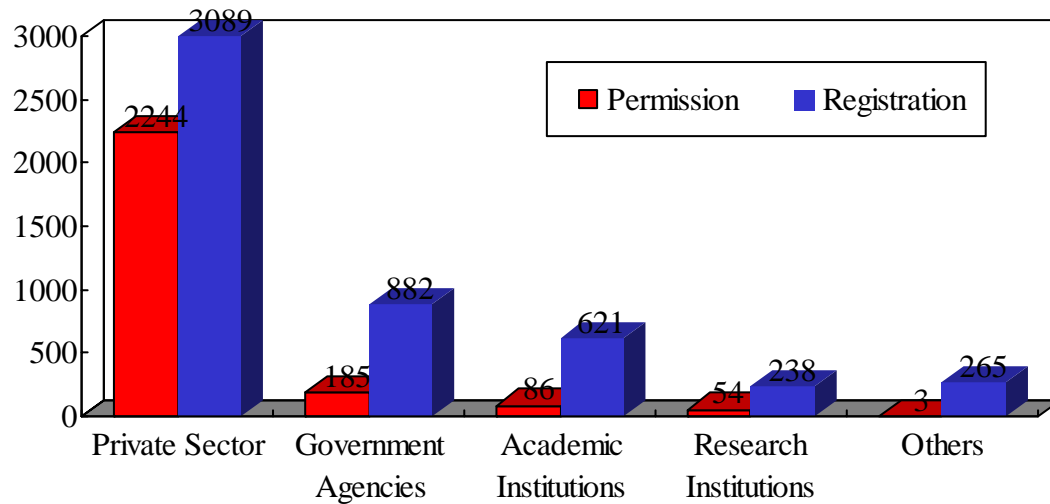
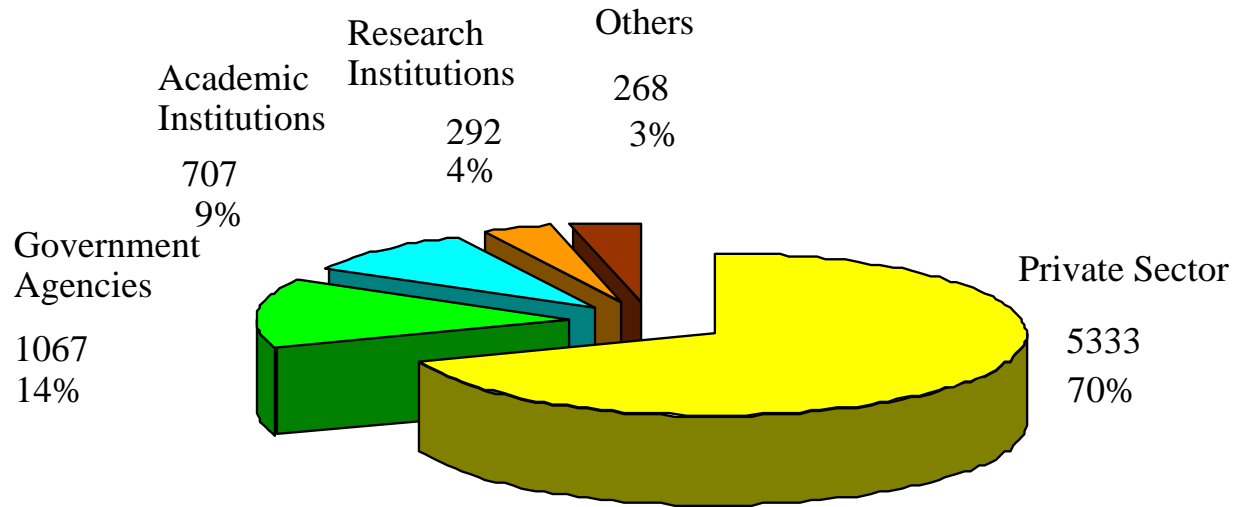


Table 4 Statistics of non-medical equipments capable of producing ionizing radiation by the usage

Types of Equipments	Total number of licenses issued
X-ray machines for analysis and identification	1,128
Photographic inspection X-ray machines	867
X-ray machines for baggage screening	299
Ion implanters ¹	288
Veterinary X-ray machines	277
X-ray machines for measurement control	223
X-ray diffraction instruments	216
Electrostatic neutralizer ²	129
X-ray cameras for non-destructive testing	125
Mobile X-ray machines	103
X-ray machines for academic research	81
Others ³	56
Non-medical accelerators	14
X-ray machines for criminal identification	14
Electron beam lithography machines	12
X-ray machines in manufacturers	12
Electron beam welding machines	9
Bone densitometers for academic research	7
X-ray machines for calibration	6
Dentist X-ray machines for academic research	4
Container inspection X-ray machines	4
Computerized Tomography Scanners for academic research	4
High-intensity radiation facilities	1
Total	3,879

- Note 1. There are 800 units of ion implanters in these 288 licenses.
2. There are 2,500 units of electrostatic neutralizers in these 129 licenses.
3. Others: Organizations missing its original application information at the time of making this statistic report.

Fig4、 Statistics of national radiation workers(1995-2006)

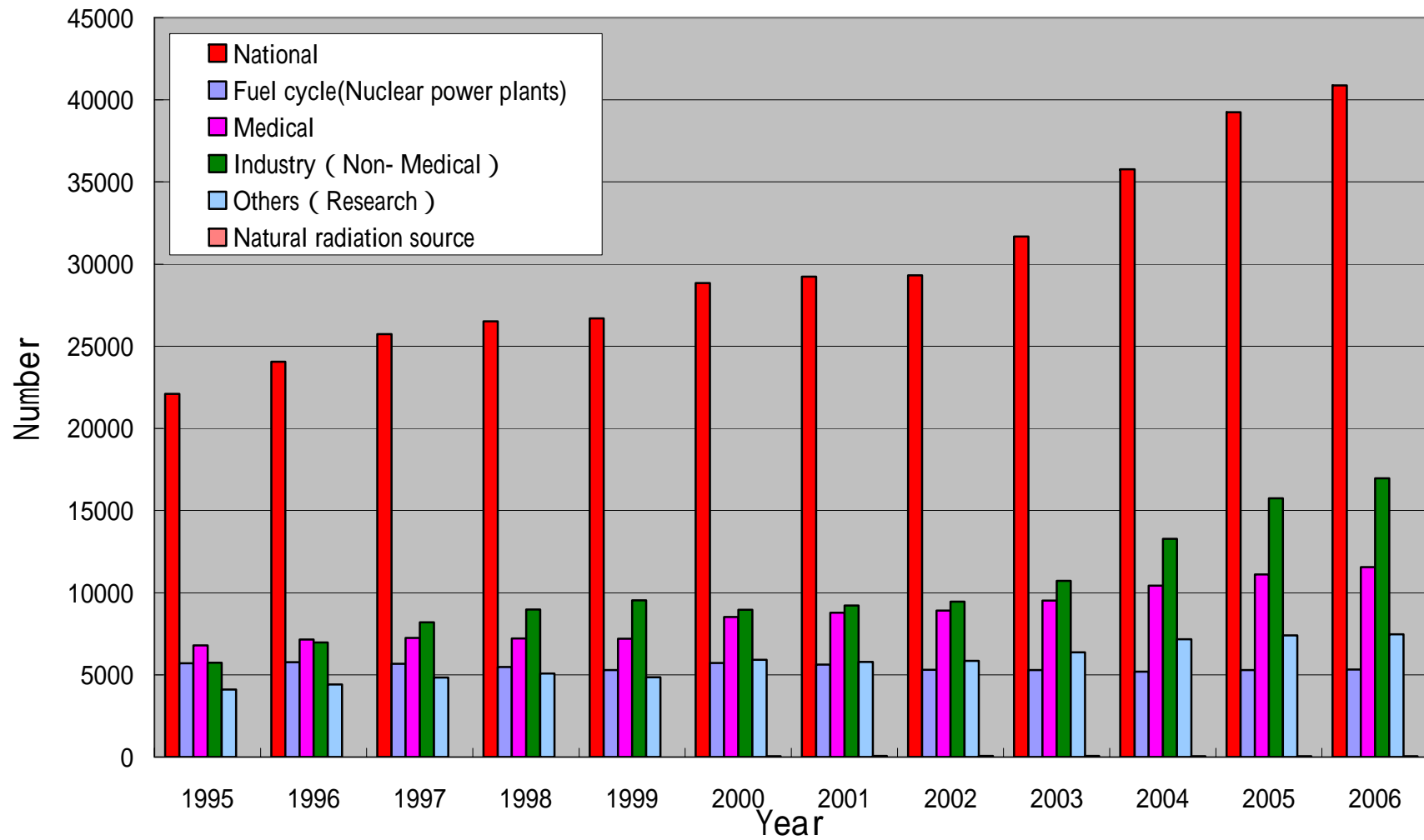


Fig5、 Statistics of national workers average radiation dose(1995-2006)

