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2007 Report on Occupational Radiation Exposures in Canada

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Abstract

The report provides statistics on occupational radiation exposures for use by regulatory authorities, organizations and private individuals. Out of a total of 152,563 monitored workers, 2 annual doses exceeded the regulatory limit of 50 mSv in 2006. Out of 70 specified job categories 40 had a smaller annual average in 2006 than in 2005, 20 had a higher average, and 10 had the same average rounded to 0.01 mSv.

In the nuclear power sector, the annual averages which had increased in 2005 for all job classes, went down in 2006 for all but 2 job classes. The annual average dose for the entire NDR, which was unusually high at 0.42 mSv in 2005, went down to 0.31 mSv, which is typical for the period between 1996 and 2004.

Acknowledgments

This document was prepared by Dr. W. Sont of the Occupational Radiation Hazards Division, Radiation Protection Bureau. Acknowledgments are extended to Mrs. C. Powell and Mr. B. Davies for their assistance.

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Introduction

This series of reports provides statistics on occupational radiation exposures of monitored workers in Canada. The statistics are intended to assist regulatory authorities, organizations, and private individuals in comparing incurred occupational radiation exposures with national or provincial/territorial averages and trends in similar occupations. This report, as well as previous issues, can be found on the NDR's Web site[1] and downloaded, or obtained from the authors.

The information is based on the data in the National Dose Registry (NDR) maintained by the Radiation Protection Bureau of Health Canada[1]. The Registry is a centralized record-keeping system containing dose information on all monitored workers in Canada. It includes data submitted by nuclear power generating stations, Atomic Energy of Canada Ltd., uranium mines, and dosimeter processing companies.

Information for input into the NDR is received either via a direct link or by mail in computer readable form.

The report provides data on the two consecutive years prior to the year in which the data are extracted from the database. The data for the second (i.e. more recent) year will be close to complete at the time of data extraction. Some changes may still occur, for which the most frequent causes are: (1) a high dose to a dosimeter is judged to be non-personal after investigation; (2) a job category of a worker is updated; or, (3) dosimeters or data are returned late. The report therefore contains preliminary data on the second year (Table 1), and more complete data on the first year (Tables 2-6).

For a description and a guide to interpretation of the data, the reader is referred to the next section "General comments". The section "Comments specific to this report" has been included to address situations that do not recur from year to year.

General comments

The statistics include doses as they exist in the database at the time they are extracted for analysis, which in the case of this report is October 2, 2007. Doses are assigned to the year in which the dosimeter was issued, even though some of the dosimeters may actually have been worn during part of the subsequent year. As the statistics are determined in the same manner each year, the annual dose figures are based on a 12-month period, though not necessarily the strict calendar year.

Dose records submitted by outside organizations such as nuclear power generating stations, uranium mines, and commercial processors, are included to the extent that they have been received. The doses are representative of the calendar year only if the fourth quarter records have been received by the time of analysis. When statistics are based on partial data, the fact is indicated in the section "Comments specific to this report".

All doses are in International System (SI) units and presented to the nearest hundredth of a millisievert (1 mSv = 100 mrem). For the external whole body doses various organizations have set recording thresholds from 0 to 0.2 mSv.

The words "dose" and "exposure" are used interchangeably in this report. Doses of different types of radiation are expressed in mSv and added to give the effective dose stated in the report. The following dose types may be included:

- External whole body gamma.
- External whole body high energy beta.
- External whole body X-ray.
- External whole body neutron.
- Internal whole body tritium, as determined by urinalysis.
- Radon progeny exposures, converted from WLM values (see below).

All types of exposure are given in one total. In Table 5, the percentage contribution of radon progeny and tritium components are indicated. Skin doses and extremity doses are not included in the report but are recorded in the database.

In the NDR database, radon progeny exposures are expressed in Working Level Months (WLM), which are in most cases calculated by the mines on the basis of area monitoring[(2)]. In the report the radon progeny exposures are converted to equivalent doses (in mSv). The value used in this report is 5 mSv/WLM, in accordance with the radiation protection regulations[(3)] under the *Nuclear Safety and Control Act*.

Job category designations are based on a standard list provided by the Registry and are updated when the Registry is notified. The job category is selected by the organization from a standard list maintained by the NDR. The NDR keeps the most recent job category that an organization submits for a worker in a given year. However, a worker who has been monitored by more than one organization, can have records under more than one job category for the same year. Some organizations have their own job classifications schemes, and translate them into the Registry's standardized list prior to submission of the records.

In this report, the data are tabulated as follows:

2006: Preliminary analysis

Table 1:

Table 1 gives the annual dose distributions by job category.

2005: Final Analysis

Table 2:

Table 2 contains dose statistics by job category and province or territory.

Table 3:

Table 3 contains dose statistics by age and sex. In this table job categories have been grouped into "job sectors".

Table 4:

Table 4 contains various dose statistics by job category. The table also shows the parameters of the statistical distribution applied to the doses, as determined by maximum likelihood estimation. From that information, model estimates and confidence intervals for these statistics have been calculated. For a more detailed discussion the reader is referred to the Appendix and reference [4].

Table 4 lists statistics for annual doses and for doses over fixed and rolling five year blocks, for use in comparing doses with various regulatory limits. New fixed five year blocks start in 2001, 2006, and so on. New rolling five year blocks start each calendar year.

Table 5:

Table 5 lists collective annual doses for job categories with percentages of tritium and radon progeny exposures.

Table 6:

Table 6 shows 10 year trends in number of workers and average dose for the various job categories.

It should be noted that in the tables, a worker is counted more than once if he (she) works in more than one job category, in more than one province, or in more than on job sector in the same year. For this reason the totals in Tables 2-6 may slightly differ.

Comments specific to this report

Dose distributions are described with statistical models defined by a set of four parameters. A method for obtaining point estimates for model statistics is outlined in the appendix and in more detail in reference [4]. A method for obtaining confidence intervals is described in reference [4] only. Starting with the 2006 Annual Report, Table 4 compares model statistics and their confidence intervals with observed statistics. This gives some indication of the usefulness of the fit for estimating statistics that are not listed in this report and for predictive purposes. The statistical models work quite well for job categories in nuclear power production, uranium mining, and particle accelerator research, less so for medicine and industry. It is to be noted that no literature exists on statistical models as applied to doses accumulating in 5 year blocks. Generally, they do not seem to perform as well as models of annual doses. More analyses need to be run in subsequent annual reports so that clearer patterns emerge from which firmer conclusions can be drawn.

For dose statistics over 5-year blocks, the fixed blocks and rolling blocks are identical in this report. Only one set of statistics is reported for both.

References

1. The National Dose Registry's Web site is found at http://www.healthcanada.gc.ca/ndr

2. ICRP publication 65, "Protection against Radon-222 at home and at work". Annals of the ICRP 23(2), p. 4 (1993).

3. Regulations of the *Nuclear Safety and Control Act*, Canada Gazette, June 21, 2000, part 2. For more information see the web site of the CNSC:

   http://www.cnsc-ccsn.gc.ca

4. Sont, W.N. "A family of statistical distributions for modelling occupational radiation doses in low dose occupations". Radiation Prot Dosimetry 121(3) pp. 284-292 (2006).

5. Kumazawa, S. and Numakunai, T. "A new theoretical analysis of occupational dose distributions indicating the effect of dose limits". Health Physics 41(3) pp. 465-475 (1981).

2006 Preliminary Analysis

Table 1
Breakdown of annual doses by job category for all of Canada

Job Category	Distribution of workers over dose intervals							Number of Workers	Avg. Dose (mSv)	Avg. of Positive Doses
	0 mSv	>0-1 mSv	>1-2 mSv	>2-5 mSv	>5-20 mSv	>20-50 mSv	>50 mSv			
Administration										
Administrator	495	191	2	2	0	0	0	690	0.11	0.39
Office staff	3049	406	22	7	1	0	0	3485	0.05	0.39
Safety officer	309	86	3	3	1	0	0	402	0.11	0.48
Industry and Research										
Aircrew	11	1	1	2	0	0	0	15	0.50	1.87
Ground transportation	42	20	12	8	1	0	0	83	0.70	1.41
Industrial radiographer	1188	511	246	458	530	14	1	2948	2.63	4.40
Instructor (non-medical)	286	25	3	1	1	0	0	316	0.06	0.68
Instrument technician	1488	607	34	37	5	0	0	2171	0.17	0.55
Laboratory technician (industrial)	2122	634	80	62	15	0	0	2913	0.22	0.80
Nuclear fuel processor	364	365	108	117	43	0	0	997	0.98	1.54
Scientist/Engineer (field)	843	702	54	35	13	0	0	1647	0.30	0.62
Scientist/Engineer (laboratory)	3760	556	12	4	4	0	0	4336	0.04	0.31
Security	214	9	1	0	0	0	0	224	0.01	0.32
Tradesmen	121	63	7	0	2	0	0	193	0.20	0.54
Well logger	1125	1199	193	115	13	0	0	2645	0.40	0.69
Medicine										
Chiropractor	1041	70	3	2	0	0	0	1116	0.02	0.37
Dental assistant	13691	365	6	2	0	0	0	14064	0.01	0.22
Dental hygienist	9615	193	5	1	2	0	0	9816	0.01	0.31
Dental therapist/nurse	152	17	0	0	0	0	0	169	0.02	0.24
Dentist	7610	255	8	1	1	0	0	7875	0.01	0.32
Gynaecologist	10	1	0	0	0	0	0	11	0.01	0.10
Laboratory technician (medical)	2254	365	28	36	7	0	0	2690	0.10	0.64
Medical physicist	363	58	0	3	1	0	0	425	0.06	0.43
Medical radiation technologist	10447	3005	124	87	16	0	0	13679	0.09	0.38
Nuclear medicine technologist	350	445	385	535	86	0	0	1801	1.66	2.06
Nurse	5997	1412	59	33	6	0	0	7507	0.08	0.38
Physician	2214	712	77	53	17	0	0	3073	0.21	0.74
Radiation therapist	1250	439	7	3	1	1	0	1701	0.08	0.32
Radiologist (diagnostic)	1584	429	36	19	7	4	0	2079	0.20	0.83

Table 1 (Cont'd)
Breakdown of annual doses by job category for all of Canada

Job Category	Distribution of workers over dose intervals							Number of Worker	Avg. Dose (mSv)	Avg. of Positive Doses
	0 mSv	>0-1 mSv	>1-2 mSv	>2-5 mSv	>5-20 mSv	>20-50 mSv	>50 mSv			
Radiologist (therapeutic)	222	28	1	5	2	0	0	258	0.13	0.96
Veterinarian	2963	258	1	3	0	0	0	3225	0.02	0.28
Veterinary technician	3511	257	4	3	4	0	0	3779	0.03	0.39
Ward aid/orderly	875	111	12	4	0	0	0	1002	0.06	0.44
Nuclear Power										
Reactor - administration	3229	330	40	57	27	0	0	3683	0.14	1.15
Reactor - chemical and radiation control	227	249	90	166	109	0	0	841	1.87	2.57
Reactor - construction	760	209	56	104	90	0	0	1219	0.94	2.49
Reactor - control technician	149	107	50	34	38	0	0	378	1.35	2.23
Reactor - electrical maintenance	696	355	133	122	67	0	0	1373	0.84	1.71
Reactor - fuel handling	26	18	10	15	17	0	0	86	2.33	3.33
Reactor - general maintenance	1018	432	122	189	108	0	0	1869	0.91	2.00
Reactor - health physics	62	25	6	10	0	0	0	103	0.50	1.25
Reactor - industrial radiographer	13	10	12	19	11	0	0	65	2.61	3.26
Reactor - mechanical maintenance	559	433	168	344	201	0	0	1705	1.77	2.64
Reactor - operations	1091	700	251	285	146	0	0	2473	1.05	1.88
Reactor - scientific/professional	2212	431	61	100	42	0	0	2846	0.29	1.31
Reactor - training	71	24	3	3	1	0	0	102	0.26	0.84
Reactor - visitor	3940	560	172	296	223	0	0	5191	0.61	2.54
Particle Accelerators										
Accelerators - Administration	26	13	1	0	0	0	0	40	0.10	0.29
Accelerators - Control technicians	18	7	1	2	0	0	0	28	0.40	1.12
Accelerators - Designers	9	6	0	0	2	0	0	17	0.78	1.66
Accelerators - General Maintenance	4	8	1	7	0	0	0	20	1.34	1.67
Accelerators - Machinists	17	8	0	0	1	0	0	26	0.30	0.86
Accelerators - Mechanical technicians	29	20	5	12	9	0	0	75	1.70	2.78
Accelerators - Operations	4	13	7	10	4	0	0	38	1.95	2.18
Accelerators - Scientific/professional	168	106	11	11	3	0	0	299	0.36	0.81
Accelerators - Visitors	65	34	0	1	0	0	0	100	0.13	0.37
Uranium Mining										
Uranium mine electrician	7	18	0	0	0	0	0	25	0.04	0.06
Uranium mine mill maintenance	112	267	57	12	0	0	0	448	0.44	0.59
Uranium mine mill worker	20	98	81	40	1	0	0	240	1.18	1.29
Uranium mine nurse	19	8	0	0	0	0	0	27	0.09	0.29

Table 1 (Cont'd)
Breakdown of annual doses by job category for all of Canada

Job Category	Distribution of workers over dose intervals							Number of Worker	Avg. Dose (mSv)	Avg. of Positive Doses
	0 mSv	>0-1 mSv	>1-2 mSv	>2-5 mSv	>5-20 mSv	>20-50 mSv	>50 mSv			
Uranium mine office staff	250	171	0	1	0	0	0	422	0.08	0.20
Uranium mine support worker	53	210	33	45	7	0	0	348	0.88	1.04
Uranium mine surface maintenance	514	450	35	9	2	0	0	1010	0.20	0.41
Uranium mine surface miner	49	98	8	2	0	0	0	157	0.30	0.44
Uranium mine surface personnel	180	172	19	0	0	0	0	371	0.18	0.35
Uranium mine surface support worker	768	478	18	6	0	0	0	1270	0.11	0.27
Uranium mine underground maintenance	45	124	29	12	0	0	0	210	0.57	0.73
Uranium mine underground miner	35	156	63	81	36	0	0	371	1.74	1.92
Uranium mine underground personnel	29	65	27	10	0	0	0	131	0.67	0.86
Uranium mine visitor	54	7	0	0	0	0	0	61	0.02	0.18
Miscellaneous/Unknown										
Miscellaneous/Unknown	27505	5832	620	627	470	7	1	35062	0.26	1.20
Total										
Total	117354	25045	3551	4126	2456	29	2	152563	0.31	1.33

2005 Final Analysis

Table 2
Number of workers (top) and average whole body dose in mSv (bottom) by job category and province/territory

Job Sector and Category	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	N.W.T.	Yukon	Canada
Administration													
Administrator	9	0	5	10	77	378	21	8	101	46	0	1	656
	0.09	-	0.00	0.08	0.00	0.17	0.00	0.01	0.05	0.04	-	0.00	0.11
Office staff	39	11	80	46	639	1699	241	89	483	260	14	0	3600
	0.01	0.00	0.01	0.04	0.01	0.09	0.02	0.00	0.06	0.03	0.00	-	0.06
Safety officer	3	1	5	8	30	402	30	8	40	21	0	0	548
	0.00	0.13	0.02	0.10	0.03	0.13	0.01	0.00	0.20	0.54	-	-	0.14
Sector total	**51**	**12**	**90**	**64**	**746**	**2479**	**292**	**105**	**624**	**327**	**14**	**1**	**4804**
	0.02	**0.01**	**0.01**	**0.06**	**0.01**	**0.11**	**0.02**	**0.00**	**0.07**	**0.07**	**0.00**	**0.00**	**0.07**
Industry and Research													
Aircrew	0	0	0	0	4	4	0	0	1	1	0	0	10
	-	-	-	-	0.00	0.91	-	-	0.55	0.29	-	-	0.45
Ground transportation	0	0	0	0	14	52	0	0	9	5	0	0	80
	-	-	-	-	0.85	0.69	-	-	0.11	0.10	-	-	0.62
Industrial radiographer	52	0	71	85	331	603	29	161	1350	210	1	2	2824
	0.32	-	0.30	0.98	1.00	1.24	0.65	1.46	4.64	1.81	0.00	0.00	2.87
Instructor (non-medical)	7	0	15	4	38	109	10	20	51	23	0	0	277
	0.05	-	0.10	0.24	0.05	0.04	0.01	0.04	0.13	0.00	-	-	0.06
Instrument technician	69	0	47	189	449	951	37	62	301	63	0	0	2167
	0.01	-	0.24	0.33	0.13	0.17	0.05	0.13	0.21	0.35	-	-	0.18
Laboratory technician (industrial)	37	7	48	55	726	1404	140	249	224	136	0	0	3025
	0.15	0.09	0.06	0.28	0.13	0.39	0.01	0.07	0.36	0.34	-	-	0.27
Nuclear fuel processor	0	0	0	0	0	870	0	0	94	0	0	0	964
	-	-	-	-	-	1.15	-	-	0.31	-	-	-	1.07
Scientist/Engineer (field)	19	0	27	13	51	832	11	181	328	111	3	0	1575
	0.56	-	0.18	0.36	0.07	0.32	0.20	0.07	0.27	0.18	0.12	-	0.26
Scientist/Engineer (laboratory)	62	7	139	23	1736	1832	77	157	832	323	1	0	5185
	0.03	0.08	0.07	0.17	0.03	0.09	0.03	0.03	0.13	0.03	0.61	-	0.07
Security	1	0	9	12	1	131	0	0	11	12	0	0	177
	0.24	-	0.00	0.09	0.00	0.01	-	-	0.00	0.00	-	-	0.01
Tradesmen	1	0	0	2	7	133	0	13	44	4	0	0	204
	0.00	-	-	3.61	0.00	0.16	-	0.09	0.06	0.00	-	-	0.16
Well logger	0	0	0	10	1	32	0	11	2418	4	0	0	2476
	-	-	-	0.13	0.00	0.56	-	0.01	0.41	0.22	-	-	0.41
Sector total	**248**	**14**	**356**	**393**	**3358**	**6953**	**304**	**854**	**5663**	**892**	**5**	**2**	**18964**
	0.15	**0.09**	**0.14**	**0.46**	**0.17**	**0.43**	**0.09**	**0.33**	**1.35**	**0.54**	**0.20**	**0.00**	**0.64**

Table 2 (Cont'd)

Number of workers (top) and average whole body dose in mSv (bottom) by job category and province/territory

Job Sector and Category	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	N.W.T.	Yukon	Canada
Medicine													
Chiropractor	1	0	3	3	614	258	76	4	125	17	0	0	1100
	0.55	-	0.00	0.22	0.06	0.02	0.03	0.00	0.05	0.15	-	-	0.05
Dental assistant	198	32	332	198	3083	5238	841	349	3144	642	24	4	14059
	0.03	0.00	0.01	0.01	0.02	0.01	0.00	0.02	0.01	0.01	0.00	0.03	0.01
Dental hygienist	58	20	221	120	3214	3752	539	156	1258	300	5	1	9619
	0.03	0.00	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.01
Dental therapist/nurse	0	0	0	0	9	20	37	47	22	3	8	10	154
	-	-	-	-	0.02	0.00	0.02	0.02	0.03	0.00	0.00	0.42	0.04
Dentist	111	11	170	94	3035	2662	566	110	990	241	14	0	7969
	0.05	0.03	0.01	0.03	0.01	0.01	0.00	0.01	0.01	0.02	0.01	-	0.01
Gynaecologist	1	0	1	0	1	1	6	0	1	1	1	0	13
	0.00	-	0.23	-	0.00	0.00	0.00	-	0.00	0.00	0.00	-	0.02
Laboratory technician (medical)	35	4	105	17	1251	1902	108	64	268	178	2	0	3934
	0.02	0.15	0.01	0.12	0.10	0.14	0.01	0.02	0.09	0.10	0.00	-	0.11
Medical physicist	7	4	11	7	100	182	21	11	23	73	0	0	438
	0.00	0.00	0.04	0.26	0.10	0.04	0.13	0.00	0.10	0.02	-	-	0.06
Medical radiation technologist	339	44	168	398	3412	4784	714	687	1660	1456	48	10	13612
	0.17	0.15	0.14	0.12	0.10	0.11	0.06	0.05	0.21	0.08	0.01	0.13	0.12
Nuclear medicine technologist	22	5	47	39	540	728	66	26	161	199	0	0	1818
	1.28	0.88	1.89	1.31	1.82	1.64	1.25	1.86	1.76	0.71	-	-	1.60
Nurse	200	4	124	167	1319	3724	290	130	517	451	102	74	7100
	0.07	0.00	0.08	0.16	0.04	0.11	0.03	0.13	0.18	0.10	0.01	0.13	0.09
Physician	42	5	52	39	891	1334	115	39	212	220	3	6	2942
	0.46	0.18	0.42	0.35	0.24	0.20	0.11	1.06	0.27	0.14	0.00	0.00	0.23
Radiation therapist	16	11	36	39	348	786	52	63	160	291	0	0	1781
	0.54	0.01	0.21	0.13	0.13	0.09	0.05	0.12	0.10	0.07	-	-	0.10
Radiologist (diagnostic)	53	1	25	48	544	897	91	49	262	236	4	0	2198
	0.12	0.00	0.31	0.16	0.12	0.18	0.06	0.00	0.28	0.19	0.00	-	0.17
Radiologist (therapeutic)	2	0	5	7	84	116	6	9	23	29	0	0	279
	0.05	-	0.04	0.02	0.09	0.16	0.00	0.04	0.09	0.00	-	-	0.11
Veterinarian	43	55	154	79	872	531	177	170	654	582	0	8	3314
	0.03	0.09	0.03	0.10	0.02	0.05	0.02	0.01	0.02	0.03	-	0.01	0.03
Veterinary technician	49	14	123	90	876	590	163	113	700	782	1	11	3493
	0.03	0.05	0.01	0.02	0.01	0.07	0.01	0.01	0.02	0.03	0.00	0.12	0.03
Ward aid/orderly	9	8	12	23	603	195	51	15	71	72	6	5	1070
	0.01	0.00	0.03	0.07	0.05	0.07	0.01	0.15	0.06	0.12	0.00	0.00	0.06

Table 2 (Cont'd)

Number of workers (top) and average whole body dose in mSv (bottom) by job category and province/territory

Job Sector and Category	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	N.W.T.	Yukon	Canada
Sector total	**1186**	**218**	**1589**	**1368**	**20796**	**27700**	**3919**	**2042**	**10251**	**5773**	**218**	**129**	**74893**
	0.13	**0.09**	**0.11**	**0.13**	**0.10**	**0.11**	**0.04**	**0.08**	**0.10**	**0.08**	**0.01**	**0.13**	**0.10**
Nuclear Power													
Reactor - administration	0	0	0	240	612	3113	0	0	0	0	0	0	3955
	-	-	-	0.17	0.05	0.20	-	-	-	-	-	-	0.17
Reactor - chemical and radiation control	0	0	0	26	28	614	0	0	0	0	0	0	668
	-	-	-	0.52	0.80	2.24	-	-	-	-	-	-	2.11
Reactor - construction	0	0	0	0	85	1098	0	0	0	0	0	0	1183
	-	-	-	-	1.05	1.94	-	-	-	-	-	-	1.87
Reactor - control technician	0	0	0	0	195	73	0	0	0	0	0	0	268
	-	-	-	-	1.04	0.95	-	-	-	-	-	-	1.02
Reactor - electrical maintenance	0	0	0	73	49	1335	0	0	0	0	0	0	1457
	-	-	-	0.30	1.05	1.04	-	-	-	-	-	-	1.00
Reactor - fuel handling	0	0	0	110	18	0	0	0	0	0	0	0	128
	-	-	-	4.60	2.66	-	-	-	-	-	-	-	4.33
Reactor - general maintenance	0	0	0	233	92	1211	0	0	0	0	0	0	1536
	-	-	-	0.50	1.94	1.24	-	-	-	-	-	-	1.17
Reactor - health physics	0	0	0	34	24	25	0	0	0	0	0	0	83
	-	-	-	1.05	0.08	0.13	-	-	-	-	-	-	0.49
Reactor - industrial radiographer	0	0	0	0	6	61	0	0	0	0	0	0	67
	-	-	-	-	6.74	3.06	-	-	-	-	-	-	3.39
Reactor - mechanical maintenance	0	0	0	248	149	1370	0	0	0	0	0	0	1767
	-	-	-	1.61	2.25	2.35	-	-	-	-	-	-	2.24
Reactor - operations	0	0	0	134	110	2194	0	0	0	0	0	0	2437
	-	-	-	1.68	0.77	1.18	-	-	-	-	-	-	1.19
Reactor - scientific/professional	0	0	0	285	244	2043	0	0	0	0	0	0	2564
	-	-	-	0.52	0.42	0.42	-	-	-	-	-	-	0.43
Reactor - training	0	0	0	42	17	30	0	0	0	0	0	0	89
	-	-	-	0.48	0.18	0.19	-	-	-	-	-	-	0.33
Reactor - visitor	0	0	0	0	1079	5435	0	0	0	0	0	0	6487
	-	-	-	-	0.26	1.06	-	-	-	-	-	-	0.93
Sector total	**0**	**0**	**0**	**1425**	**2708**	**18602**	**0**	**0**	**0**	**0**	**0**	**0**	**22689**
	-	**-**	**-**	**1.07**	**0.54**	**1.06**	**-**	**-**	**-**	**-**	**-**	**-**	**1.00**
Particle Accelerators													
Accelerators - Administration	0	0	0	0	0	0	0	0	0	39	0	0	39
	-	-	-	-	-	-	-	-	-	0.14	-	-	0.14
Accelerators - Control technicians	0	0	0	0	0	0	0	0	0	29	0	0	29
	-	-	-	-	-	-	-	-	-	0.38	-	-	0.38

Table 2 (Cont'd)

Number of workers (top) and average whole body dose in mSv (bottom) by job category and province/territory

Job Sector and Category	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	N.W.T.	Yukon	Canada
Accelerators - Designers	0	0	0	0	0	0	0	0	0	17	0	0	17
	-	-	-	-	-	-	-	-	-	0.59	-	-	0.59
Accelerators - General Maintenance	0	0	0	0	0	0	0	0	0	19	0	0	19
	-	-	-	-	-	-	-	-	-	1.01	-	-	1.01
Accelerators - Machinists	0	0	0	0	0	0	0	0	0	28	0	0	28
	-	-	-	-	-	-	-	-	-	0.28	-	-	0.28
Accelerators - Mechanical technicians	0	0	0	0	0	0	0	0	0	78	0	0	78
	-	-	-	-	-	-	-	-	-	1.06	-	-	1.06
Accelerators - Operations	0	0	0	0	0	0	0	0	0	42	0	0	42
	-	-	-	-	-	-	-	-	-	1.96	-	-	1.96
Accelerators - Scientific/professional	0	0	0	0	0	0	0	0	0	322	0	0	322
	-	-	-	-	-	-	-	-	-	0.26	-	-	0.26
Accelerators - Visitors	0	0	0	0	0	0	0	0	0	98	0	0	98
	-	-	-	-	-	-	-	-	-	0.07	-	-	0.07
Sector total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**672**	**0**	**0**	**672**
	-	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0.46**	**-**	**-**	**0.46**
Uranium Mining													
Uranium mine electrician	0	0	0	0	0	0	0	1	0	0	0	0	1
	-	-	-	-	-	-	-	0.05	-	-	-	-	0.05
Uranium mine mill maintenance	0	0	0	0	0	0	0	310	0	0	0	0	310
	-	-	-	-	-	-	-	0.68	-	-	-	-	0.68
Uranium mine mill worker	0	0	0	0	0	0	0	285	0	0	0	0	285
	-	-	-	-	-	-	-	1.00	-	-	-	-	1.00
Uranium mine nurse	0	0	0	0	0	0	0	23	0	0	0	0	23
	-	-	-	-	-	-	-	0.04	-	-	-	-	0.04
Uranium mine office staff	0	0	0	0	0	0	0	286	0	0	0	0	286
	-	-	-	-	-	-	-	0.10	-	-	-	-	0.10
Uranium mine support worker	0	0	0	0	0	0	0	350	0	0	0	0	350
	-	-	-	-	-	-	-	0.89	-	-	-	-	0.89
Uranium mine surface maintenance	0	0	0	0	0	0	0	385	0	0	0	0	385
	-	-	-	-	-	-	-	0.27	-	-	-	-	0.27
Uranium mine surface miner	0	0	0	0	0	0	0	73	0	0	0	0	73
	-	-	-	-	-	-	-	0.83	-	-	-	-	0.83
Uranium mine surface personnel	0	0	0	0	0	11	0	269	0	0	0	0	280
	-	-	-	-	-	0.06	-	0.34	-	-	-	-	0.33
Uranium mine surface support worker	0	0	0	0	0	0	0	795	0	0	0	0	795
	-	-	-	-	-	-	-	0.12	-	-	-	-	0.12

Table 2 (Cont'd)

Number of workers (top) and average whole body dose in mSv (bottom) by job category and province/territory

Job Sector and Category	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	N.W.T.	Yukon	Canada
Uranium mine underground	0	0	0	0	0	0	0	190	0	0	0	0	190
	-	-	-	-	-	-	-	0.60	-	-	-	-	0.60
Uranium mine underground miner	0	0	0	0	0	0	0	258	0	0	0	0	258
	-	-	-	-	-	-	-	1.73	-	-	-	-	1.73
Uranium mine underground personnel	0	0	0	0	0	6	0	124	0	0	0	0	125
	-	-	-	-	-	0.01	-	0.60	-	-	-	-	0.60
Uranium mine visitor	0	0	0	0	0	1	0	53	0	0	0	0	53
	-	-	-	-	-	0.00	-	0.02	-	-	-	-	0.02
Sector total	**0**	**0**	**0**	**0**	**0**	**18**	**0**	**3402**	**0**	**0**	**0**	**0**	**3414**
	-	**-**	**-**	**-**	**-**	**0.04**	**-**	**0.53**	**-**	**-**	**-**	**-**	**0.53**
Miscellaneous/unknown													
Miscellaneous/unknown	254	41	456	407	7156	13011	763	851	3297	1711	44	3	27915
	0.34	0.11	0.37	1.99	1.19	6.59	0.18	0.50	2.17	45.64	0.20	0.16	15.80
Sector total	**254**	**41**	**456**	**407**	**7156**	**13011**	**763**	**851**	**3297**	**1711**	**44**	**3**	**27915**
	0.06	**0.05**	**0.13**	**0.25**	**0.06**	**0.34**	**0.04**	**0.07**	**0.24**	**5.96**	**0.03**	**0.16**	**0.58**
Total													
Total	1710	285	2456	3569	33650	65724	5173	6896	19295	9146	280	135	147099
	0.12	0.08	0.12	0.56	0.13	0.46	0.04	0.34	0.49	1.26	0.01	0.13	0.41
Sector total	**1710**	**285**	**2456**	**3569**	**33650**	**65724**	**5173**	**6896**	**19295**	**9146**	**280**	**135**	**147099**
	0.12	**0.08**	**0.12**	**0.56**	**0.13**	**0.46**	**0.04**	**0.34**	**0.49**	**1.26**	**0.01**	**0.13**	**0.41**

2005 Final Analysis

Table 3
Dose distribution broken down by job sector, age and sex

			Sex			
Job Sector	Age	Statistic	Male	Female	Unknown	Overall
Administration	Below 25	Number of Workers	32	269	0	301
		Average dose (mSv)	0.25	0.05	-	0.07
		% tritium	0.00	0.00	-	0.00
		% radon progeny	0.00	0.00	-	0.00
	25-34	Number of Workers	150	848	0	998
		Average dose (mSv)	0.17	0.05	-	0.07
		% tritium	0.47	0.05	-	0.21
		% radon progeny	0.00	0.00	-	0.00
	35-44	Number of Workers	284	1040	0	1324
		Average dose (mSv)	0.20	0.04	-	0.07
		% tritium	0.17	0.57	-	0.34
		% radon progeny	0.00	0.00	-	0.00
	45-54	Number of Workers	312	1149	0	1461
		Average dose (mSv)	0.23	0.04	-	0.08
		% tritium	0.99	0.00	-	0.58
		% radon progeny	0.00	0.00	-	0.00
	55 and up	Number of Workers	149	472	0	621
		Average dose (mSv)	0.21	0.04	-	0.08
		% tritium	0.16	0.12	-	0.15
		% radon progeny	0.00	0.00	-	0.00
	Total	Number of Workers	927	3778	0	4705
		Average dose (mSv)	0.21	0.04	-	0.08
		% tritium	0.50	0.17	-	0.35
		% radon progeny	0.00	0.00	-	0.00
Industry and Research	Below 25	Number of Workers	1418	380	0	1798
		Average dose (mSv)	1.65	0.32	-	1.37
		% tritium	0.21	0.67	-	0.23
		% radon progeny	0.14	0.00	-	0.13
	25-34	Number of Workers	3879	1567	0	5446
		Average dose (mSv)	0.97	0.15	-	0.73
		% tritium	0.38	3.30	-	0.55
		% radon progeny	0.01	0.00	-	0.01
	35-44	Number of Workers	3895	1114	0	5009
		Average dose (mSv)	0.74	0.16	-	0.61
		% tritium	0.40	4.77	-	0.65
		% radon progeny	0.03	0.00	-	0.02

Table 3 (Cont'd)
Dose distribution broken down by job sector, age and sex

Job Sector	Age	Statistic	Sex: Male	Female	Unknown	Overall
Industry and Research	45-54	Number of Workers	3418	836	0	4254
		Average dose (mSv)	0.58	0.13	-	0.49
		% tritium	0.55	0.51	-	0.55
		% radon progeny	0.00	0.42	-	0.02
	55 and up	Number of Workers	1663	240	0	1903
		Average dose (mSv)	0.40	0.18	-	0.37
		% tritium	0.22	0.00	-	0.21
		% radon progeny	0.00	0.00	-	0.00
	Total	Number of Workers	14273	4137	0	18410
		Average dose (mSv)	0.82	0.16	-	0.67
		% tritium	0.37	2.56	-	0.49
		% radon progeny	0.04	0.07	-	0.04
Medicine	Below 25	Number of Workers	391	5015	0	5406
		Average dose (mSv)	0.30	0.06	-	0.08
		% tritium	1.93	0.00	-	0.52
		% radon progeny	0.00	0.00	-	0.00
	25-34	Number of Workers	3210	16656	0	19866
		Average dose (mSv)	0.22	0.08	-	0.10
		% tritium	0.00	0.00	-	0.00
		% radon progeny	0.00	0.00	-	0.00
	35-44	Number of Workers	4978	16475	0	21453
		Average dose (mSv)	0.17	0.10	-	0.11
		% tritium	0.02	0.00	-	0.01
		% radon progeny	0.00	0.00	-	0.00
	45-54	Number of Workers	5130	12376	0	17506
		Average dose (mSv)	0.14	0.11	-	0.12
		% tritium	0.00	0.00	-	0.00
		% radon progeny	0.00	0.00	-	0.00
	55 and up	Number of Workers	4128	4357	0	8485
		Average dose (mSv)	0.08	0.09	-	0.08
		% tritium	0.00	0.00	-	0.00
		% radon progeny	0.00	0.00	-	0.00
	Total	Number of Workers	17837	54879	0	72716
		Average dose (mSv)	0.15	0.09	-	0.10
		% tritium	0.09	0.00	-	0.03
		% radon progeny	0.00	0.00	-	0.00
Nuclear Power	Below 25	Number of Workers	884	189	0	1073
		Average dose (mSv)	1.29	0.38	-	1.13
		% tritium	11.32	17.05	-	11.66
		% radon progeny	0.00	0.00	-	0.00

Table 3 (Cont'd)
Dose distribution broken down by job sector, age and sex

Job Sector	Age	Statistic	Sex: Male	Female	Unknown	Overall
Nuclear Power	25-34	Number of Workers	2946	590	0	3536
		Average dose (mSv)	1.65	0.42	-	1.44
		% tritium	17.30	22.01	-	17.52
		% radon progeny	0.00	0.00	-	0.00
	35-44	Number of Workers	5091	846	0	5937
		Average dose (mSv)	1.25	0.44	-	1.13
		% tritium	18.24	20.59	-	18.37
		% radon progeny	0.00	0.00	-	0.00
	45-54	Number of Workers	6662	767	0	7429
		Average dose (mSv)	1.07	0.25	-	0.98
		% tritium	16.66	22.26	-	16.80
		% radon progeny	0.00	0.00	-	0.00
	55 and up	Number of Workers	3339	168	0	3507
		Average dose (mSv)	0.64	0.15	-	0.62
		% tritium	16.70	26.31	-	16.81
		% radon progeny	0.00	0.00	-	0.00
	Total	Number of Workers	18922	2560	0	21482
		Average dose (mSv)	1.14	0.35	-	1.05
		% tritium	16.99	21.21	-	17.16
		% radon progeny	0.00	0.00	-	0.00
Particle Accelerators	Below 25	Number of Workers	21	5	0	26
		Average dose (mSv)	0.21	0.22	-	0.22
		% tritium	0.00	0.00	-	0.00
		% radon progeny	0.00	0.00	-	0.00
	25-34	Number of Workers	83	21	0	104
		Average dose (mSv)	0.60	0.49	-	0.58
		% tritium	0.00	0.00	-	0.00
		% radon progeny	0.00	0.00	-	0.00
	35-44	Number of Workers	103	21	0	124
		Average dose (mSv)	0.66	0.23	-	0.59
		% tritium	0.00	0.00	-	0.00
		% radon progeny	0.00	0.00	-	0.00
	45-54	Number of Workers	151	28	0	179
		Average dose (mSv)	0.71	0.10	-	0.61
		% tritium	0.00	0.00	-	0.00
		% radon progeny	0.00	0.00	-	0.00
	55 and up	Number of Workers	195	7	0	202
		Average dose (mSv)	0.28	0.07	-	0.28
		% tritium	0.00	0.00	-	0.00
		% radon progeny	0.00	0.00	-	0.00

Table 3 (Cont'd)
Dose distribution broken down by job sector, age and sex

Job Sector	Age	Statistic	Sex: Male	Female	Unknown	Overall
Particle Accelerators	Total	Number of Workers	553	82	0	635
		Average dose (mSv)	0.51	0.24	-	0.48
		% tritium	0.00	0.00	-	0.00
		% radon progeny	0.00	0.00	-	0.00
Uranium Mining	Below 25	Number of Workers	281	63	0	344
		Average dose (mSv)	0.33	0.15	-	0.29
		% tritium	0.00	0.00	-	0.00
		% radon progeny	45.91	50.00	-	46.28
	25-34	Number of Workers	722	81	0	803
		Average dose (mSv)	0.62	0.26	-	0.58
		% tritium	0.00	0.00	-	0.00
		% radon progeny	50.34	52.38	-	50.44
	35-44	Number of Workers	819	66	0	885
		Average dose (mSv)	0.74	0.20	-	0.70
		% tritium	0.00	0.00	-	0.00
		% radon progeny	48.06	66.67	-	48.46
	45-54	Number of Workers	716	57	0	773
		Average dose (mSv)	0.65	0.26	-	0.62
		% tritium	0.00	0.00	-	0.00
		% radon progeny	47.46	65.33	-	48.02
	55 and up	Number of Workers	325	9	0	334
		Average dose (mSv)	0.44	0.17	-	0.43
		% tritium	0.00	0.00	-	0.00
		% radon progeny	56.98	93.33	-	57.36
	Total	Number of Workers	2863	276	0	3139
		Average dose (mSv)	0.61	0.22	-	0.58
		% tritium	0.00	0.00	-	0.00
		% radon progeny	49.10	59.43	-	49.44
Miscellaneous /Unknown	Below 25	Number of Workers	1590	6182	0	7772
		Average dose (mSv)	6.64	0.04	-	1.39
		% tritium	0.13	0.44	-	0.14
		% radon progeny	0.00	0.04	-	0.00
	25-34	Number of Workers	3248	4860	1	8109
		Average dose (mSv)	0.38	0.08	0.10	0.20
		% tritium	5.32	0.88	0.00	4.28
		% radon progeny	0.00	0.00	0.00	0.00
	35-44	Number of Workers	2840	2410	0	5250
		Average dose (mSv)	0.52	0.13	-	0.34
		% tritium	6.98	1.71	-	6.08
		% radon progeny	0.00	0.00	-	0.00

Table 3 (Cont'd)
Dose distribution broken down by job sector, age and sex

Job Sector	Age	Statistic	Sex: Male	Female	Unknown	Overall
Miscellaneous /Unknown	45-54	Number of Workers	2099	1444	0	3543
		Average dose (mSv)	0.58	0.13	-	0.40
		% tritium	7.27	0.73	-	6.41
		% radon progeny	0.01	0.00	-	0.01
	55 and up	Number of Workers	905	429	0	1334
		Average dose (mSv)	0.45	0.11	-	0.34
		% tritium	8.40	0.08	-	7.52
		% radon progeny	0.00	0.00	-	0.00
	Unknown	Number of Workers	4	0	0	4
		Average dose (mSv)	0.04	-	-	0.04
		% tritium	0.00	-	-	0.00
		% radon progeny	0.00	-	-	0.00
	Total	Number of Workers	10686	15325	1	26012
		Average dose (mSv)	1.39	0.08	0.10	0.62
		% tritium	2.05	0.94	0.00	1.97
		% radon progeny	0.00	0.01	0.00	0.00
Total	Below 25	Number of Workers	4617	12103	0	16720
		Average dose (mSv)	3.09	0.07	-	0.90
		% tritium	1.05	1.80	-	1.09
		% radon progeny	0.32	0.60	-	0.33
	25-34	Number of Workers	14238	24623	1	38862
		Average dose (mSv)	0.78	0.09	0.10	0.34
		% tritium	8.31	2.92	0.00	7.40
		% radon progeny	2.04	0.49	0.00	1.78
	35-44	Number of Workers	18010	21972	0	39982
		Average dose (mSv)	0.68	0.11	-	0.37
		% tritium	10.36	3.67	-	9.24
		% radon progeny	2.37	0.36	-	2.04
	45-54	Number of Workers	18488	16657	0	35145
		Average dose (mSv)	0.63	0.11	-	0.39
		% tritium	11.01	2.37	-	9.83
		% radon progeny	1.88	0.55	-	1.70
	55 and up	Number of Workers	10704	5682	0	16386
		Average dose (mSv)	0.35	0.09	-	0.26
		% tritium	10.39	1.35	-	9.33
		% radon progeny	2.13	0.28	-	1.91
	Unknown	Number of Workers	4	0	0	4
		Average dose (mSv)	0.04	-	-	0.04
		% tritium	0.00	-	-	0.00
		% radon progeny	0.00	-	-	0.00

Table 3 (Cont'd)
Dose distribution broken down by job sector, age and sex

			Sex			
Job Sector	Age	Statistic	Male	Female	Unknown	Overall
Total	Total	Number of Workers	66061	81037	1	147099
		Average dose (mSv)	0.80	0.10	0.10	0.41
		% tritium	7.58	2.81	0.00	6.96
		% radon progeny	1.63	0.46	0.00	1.48

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Table 4
Dose distribution by job category as of the end of 2005

Administrator

Annual doses

Parameters	A	0.089869	B	1.564820	C	0.000000	D	0.708480
Sample size	656							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.11	0.11	0.09	0.13
Average from 0.1 mSv up	0.41	0.41	0.36	0.45
Number at or exceeding 0.1 mSv	182	169.56	148.57	191.55
Number exceeding 1 mSv	5	6.62	1.62	12.62
Number exceeding 2 mSv	2	0.00	0.00	0.62
Number exceeding 5 mSv	0	0.00	0.00	0.00
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.196160	B	0.259854	C	0.000000	D	0.884742
Sample size	1110							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.39	0.38	0.33	0.44
Average over 0.5 mSv	1.66	1.81	1.64	2.00
Number exceeding 0.5 mSv	243	208.58	183.58	236.60
Number exceeding 5 mSv	4	6.62	1.62	12.62
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Office staff

Annual doses

Parameters	A	0.324821	B	0.455893	C	0.000000	D	1.800690
Sample size	3600							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.06	0.07	0.06	0.07
Average from 0.1 mSv up	0.41	0.41	0.38	0.45
Number at or exceeding 0.1 mSv	501	503.59	465.57	545.64
Number exceeding 1 mSv	26	42.62	29.62	54.62
Number exceeding 2 mSv	10	4.62	1.62	10.62
Number exceeding 5 mSv	2	0.00	0.00	0.00
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.376904	B	0.007042	C	0.000000	D	1.791810
Sample size	6601							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.18	0.21	0.18	0.25
Average over 0.5 mSv	1.8	2.79	2.32	3.36
Number exceeding 0.5 mSv	578	410.61	372.61	450.61
Number exceeding 5 mSv	15	48.62	35.62	62.62
Number exceeding 20 mSv	1	6.62	2.62	11.62
Number exceeding 50 mSv	1	0.62	0.00	2.62
Number exceeding 100 mSv	1	0.00	0.00	0.62

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Safety officer

Annual doses

Parameters	A	0.422624	B	0.418047	C	0.000000	D	1.450200
Sample size	548							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.14	0.15	0.13	0.18
Average from 0.1 mSv up	0.44	0.44	0.38	0.52
Number at or exceeding 0.1 mSv	171	168.55	149.56	190.56
Number exceeding 1 mSv	13	16.62	8.62	24.61
Number exceeding 2 mSv	4	2.62	0.00	5.62
Number exceeding 5 mSv	0	0.00	0.00	0.00
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.442432	B	0.030648	C	0.000000	D	1.262880
Sample size	704							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.39	0.45	0.35	0.57
Average over 0.5 mSv	1.89	2.25	1.77	2.88
Number exceeding 0.5 mSv	124	116.58	97.59	135.58
Number exceeding 5 mSv	7	11.62	4.62	18.62
Number exceeding 20 mSv	1	0.00	0.00	1.62
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Aircrew

Annual doses

Parameters	A	0.046048	B	0.707307	C	0.000000	D	0.045524
Sample size	10							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.44	0.50	0.14	1.09
Average from 0.1 mSv up	0.88	1.00	0.46	1.88
Number at or exceeding 0.1 mSv	5	4.51	1.59	7.44
Number exceeding 1 mSv	2	1.59	0.00	4.51
Number exceeding 2 mSv	0	0.00	0.00	1.59
Number exceeding 5 mSv	0	0.00	0.00	0.00
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.308701	B	0.106993	C	0.002592	D	0.384271
Sample size	25							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	1.33	1.26	0.54	2.33
Average over 0.5 mSv	2.92	2.99	1.52	5.19
Number exceeding 0.5 mSv	11	9.53	4.58	14.48
Number exceeding 5 mSv	3	1.61	0.00	4.58
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Ground transportation

Annual doses

Parameters	A	0.693236	B	0.100305	C	0.000000	D	0.920847
Sample size	80							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.62	0.54	0.39	0.76
Average from 0.1 mSv up	0.85	0.70	0.51	0.99
Number at or exceeding 0.1 mSv	59	60.44	53.46	67.41
Number exceeding 1 mSv	15	11.59	6.60	18.57
Number exceeding 2 mSv	3	3.61	0.62	8.60
Number exceeding 5 mSv	1	0.00	0.00	1.62
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.300742	B	0.077462	C	0.000421	D	0.698401
Sample size	273							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.98	1.01	0.76	1.29
Average over 0.5 mSv	2.84	3.17	2.51	3.88
Number exceeding 0.5 mSv	91	80.55	66.56	96.54
Number exceeding 5 mSv	13	15.61	8.62	22.60
Number exceeding 20 mSv	1	0.00	0.00	0.62
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Industrial radiographer

Annual doses

Parameters	A	0.158339	B	0.078658	C	0.000000	D	0.153661
Sample size	2824							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	2.87	2.90	2.71	3.07
Average from 0.1 mSv up	4.9	4.96	4.69	5.22
Number at or exceeding 0.1 mSv	1651	1647.48	1596.48	1695.47
Number exceeding 1 mSv	1167	1150.52	1100.53	1199.52
Number exceeding 2 mSv	982	949.54	904.52	993.56
Number exceeding 5 mSv	567	596.57	555.58	639.57
Number exceeding 20 mSv	42	38.62	27.62	50.62
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.179999	B	0.020260	C	0.001657	D	0.105755
Sample size	4802							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	8.08	8.15	7.71	8.59
Average over 0.5 mSv	15.6	16.08	15.35	16.88
Number exceeding 0.5 mSv	2481	2419.50	2352.50	2483.50
Number exceeding 5 mSv	1492	1487.55	1426.50	1547.54
Number exceeding 20 mSv	683	704.59	659.59	752.59
Number exceeding 50 mSv	172	164.62	140.59	189.62
Number exceeding 100 mSv	6	6.62	1.62	11.62

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Instructor (non-medical)

Annual doses

Parameters	A	0.282814	B	0.043230	C	0.062881	D	2.368570
Sample size	277							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.06	0.09	0.06	0.15
Average from 0.1 mSv up	0.39	0.35	0.20	0.74
Number at or exceeding 0.1 mSv	41	40.59	28.60	52.58
Number exceeding 1 mSv	2	1.62	0.00	5.62
Number exceeding 2 mSv	1	0.62	0.00	3.62
Number exceeding 5 mSv	1	0.00	0.00	1.62
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.359429	B	0.000000	C	0.027773	D	1.946650
Sample size	429							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.25	0.19	0.11	0.75
Average over 0.5 mSv	4.05	2.69	1.27	15.03
Number exceeding 0.5 mSv	23	20.61	13.62	30.61
Number exceeding 5 mSv	2	1.62	0.00	5.62
Number exceeding 20 mSv	1	0.00	0.00	2.62
Number exceeding 50 mSv	1	0.00	0.00	0.62
Number exceeding 100 mSv	0	0.00	0.00	0.62

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Instrument technician

Annual doses

Parameters	A	0.453402	B	0.011564	C	0.000000	D	1.708830
Sample size	2167							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.18	0.22	0.18	0.27
Average from 0.1 mSv up	0.69	0.78	0.64	0.97
Number at or exceeding 0.1 mSv	564	564.56	524.54	602.55
Number exceeding 1 mSv	73	91.61	74.62	110.61
Number exceeding 2 mSv	38	43.62	31.60	57.62
Number exceeding 5 mSv	8	12.62	6.60	20.62
Number exceeding 20 mSv	1	0.62	0.00	2.62
Number exceeding 50 mSv	0	0.00	0.00	0.62

Doses accumulating over 5 year block starting 2001

Parameters	A	0.395317	B	0.003715	C	0.000000	D	1.186780
Sample size	3525							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.82	0.85	0.72	1.04
Average over 0.5 mSv	3.73	4.36	3.65	5.30
Number exceeding 0.5 mSv	736	633.58	591.56	680.58
Number exceeding 5 mSv	90	115.62	96.62	136.62
Number exceeding 20 mSv	24	25.62	15.62	35.62
Number exceeding 50 mSv	11	5.62	1.62	11.62
Number exceeding 100 mSv	2	0.62	0.00	3.62

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Laboratory technician (industrial)

Annual doses

Parameters	A	0.386514	B	0.060569	C	0.000000	D	1.427470
Sample size	3025							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.27	0.29	0.26	0.33
Average from 0.1 mSv up	0.9	0.92	0.81	1.03
Number at or exceeding 0.1 mSv	907	908.55	858.55	957.55
Number exceeding 1 mSv	181	206.61	178.59	233.61
Number exceeding 2 mSv	109	104.62	83.62	124.61
Number exceeding 5 mSv	24	27.62	18.62	38.62
Number exceeding 20 mSv	1	0.00	0.00	0.62
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.345005	B	0.012602	C	0.000000	D	1.234960
Sample size	6506							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.67	0.70	0.63	0.78
Average over 0.5 mSv	3.67	4.14	3.71	4.62
Number exceeding 0.5 mSv	1132	1022.59	966.56	1078.58
Number exceeding 5 mSv	196	212.62	182.62	240.62
Number exceeding 20 mSv	27	38.62	26.62	52.62
Number exceeding 50 mSv	3	3.62	0.62	8.62
Number exceeding 100 mSv	1	0.00	0.00	0.62

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Nuclear fuel processor

Annual doses

Parameters	A	0.271786	B	0.198894	C	0.000000	D	0.291016
Sample size	964							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	1.07	1.07	0.96	1.17
Average from 0.1 mSv up	1.7	1.69	1.54	1.83
Number at or exceeding 0.1 mSv	606	605.47	573.48	635.46
Number exceeding 1 mSv	279	299.55	270.55	326.54
Number exceeding 2 mSv	173	182.58	158.58	207.57
Number exceeding 5 mSv	49	39.61	27.62	52.61
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.319166	B	0.035578	C	0.000000	D	-0.036880
Sample size	1195							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	4.3	4.34	3.95	4.78
Average over 0.5 mSv	6.75	7.22	6.66	7.90
Number exceeding 0.5 mSv	754	709.48	676.48	742.47
Number exceeding 5 mSv	284	305.56	277.57	334.55
Number exceeding 20 mSv	70	60.61	46.62	76.61
Number exceeding 50 mSv	0	0.62	0.00	4.62
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Scientist/Engineer (field)

Annual doses

Parameters	A	0.585055	B	0.035195	C	0.000000	D	1.493790
Sample size	1575							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.26	0.29	0.25	0.32
Average from 0.1 mSv up	0.58	0.59	0.53	0.67
Number at or exceeding 0.1 mSv	721	711.51	672.52	751.53
Number exceeding 1 mSv	66	98.61	78.61	116.61
Number exceeding 2 mSv	33	37.62	26.62	49.62
Number exceeding 5 mSv	7	6.62	2.62	12.62
Number exceeding 20 mSv	0	0.00	0.00	0.62
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.354100	B	0.102429	C	0.000000	D	0.730976
Sample size	2618							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.71	0.79	0.72	0.85
Average over 0.5 mSv	2.04	2.43	2.25	2.60
Number exceeding 0.5 mSv	846	768.55	725.56	815.55
Number exceeding 5 mSv	56	91.62	71.62	109.64
Number exceeding 20 mSv	5	0.00	0.00	0.62
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Scientist/Engineer (laboratory)

Annual doses

Parameters	A 0.570817	B 0.047199	C 0.000000	D 2.171020
Sample size	5185			
Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.07	0.09	0.09	0.10
Average from 0.1 mSv up	0.36	0.37	0.34	0.41
Number at or exceeding 0.1 mSv	1043	1051.57	997.55	1105.60
Number exceeding 1 mSv	28	67.62	52.62	84.62
Number exceeding 2 mSv	13	19.62	11.62	29.62
Number exceeding 5 mSv	2	1.62	0.00	5.62
Number exceeding 20 mSv	1	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A 0.515576	B 0.000000	C 0.000000	D 1.687400
Sample size	10288			
Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.23	0.25	0.22	0.28
Average over 0.5 mSv	1.69	1.96	1.74	2.32
Number exceeding 0.5 mSv	1136	935.60	878.58	991.60
Number exceeding 5 mSv	29	59.62	45.62	75.62
Number exceeding 20 mSv	7	5.62	1.62	10.65
Number exceeding 50 mSv	6	0.62	0.00	2.62
Number exceeding 100 mSv	1	0.00	0.00	0.62

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Security

Annual doses

Parameters	A	0.152323	B	2.423260	C	0.000000	D	1.716160
Sample size	177							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.01	0.02	0.01	0.03
Average from 0.1 mSv up	0.22	0.22	0.15	0.31
Number at or exceeding 0.1 mSv	10	9.61	4.59	16.60
Number exceeding 1 mSv	0	0.00	0.00	0.00
Number exceeding 2 mSv	0	0.00	0.00	0.00
Number exceeding 5 mSv	0	0.00	0.00	0.00
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.371612	B	0.155785	C	0.023587	D	2.192520
Sample size	230							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.05	0.08	0.05	0.11
Average over 0.5 mSv	1.12	1.08	0.63	2.19
Number exceeding 0.5 mSv	6	4.62	1.62	10.61
Number exceeding 5 mSv	0	0.00	0.00	0.62
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Tradesmen

Annual doses

Parameters	A	0.626393	B	0.034688	C	0.000000	D	1.787650
Sample size	204							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.16	0.18	0.14	0.27
Average from 0.1 mSv up	0.44	0.44	0.32	0.64
Number at or exceeding 0.1 mSv	75	76.53	63.55	89.52
Number exceeding 1 mSv	5	6.62	2.62	12.61
Number exceeding 2 mSv	1	1.62	0.00	5.62
Number exceeding 5 mSv	1	0.00	0.00	1.62
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.565603	B	0.017843	C	0.000000	D	1.309290
Sample size	329							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.39	0.41	0.30	0.54
Average over 0.5 mSv	1.62	1.77	1.32	2.49
Number exceeding 0.5 mSv	64	57.58	44.59	70.57
Number exceeding 5 mSv	3	2.62	0.00	7.62
Number exceeding 20 mSv	0	0.00	0.00	0.62
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Well logger

Annual doses

Parameters	A 0.373865	B 0.266951	C 0.000000	D 0.759456
Sample size	2476			
Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.41	0.48	0.44	0.51
Average from 0.1 mSv up	0.81	0.86	0.81	0.91
Number at or exceeding 0.1 mSv	1263	1331.49	1282.47	1379.49
Number exceeding 1 mSv	268	375.59	342.59	411.61
Number exceeding 2 mSv	106	148.61	126.61	171.61
Number exceeding 5 mSv	12	8.62	2.62	14.62
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A 0.413932	B 0.074413	C 0.000000	D 0.628150
Sample size	3965			
Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	1.01	0.99	0.93	1.06
Average over 0.5 mSv	2.25	2.60	2.47	2.74
Number exceeding 0.5 mSv	1673	1391.54	1331.52	1449.56
Number exceeding 5 mSv	150	189.61	165.62	216.61
Number exceeding 20 mSv	10	0.62	0.00	3.62
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Chiropractor

Annual doses

Parameters	A 0.371896	B 0.005354	C 0.007429	D 2.402450
Sample size	1100			
Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.05	0.06	0.04	0.11
Average from 0.1 mSv up	0.65	0.55	0.35	1.21
Number at or exceeding 0.1 mSv	81	80.61	64.61	98.60
Number exceeding 1 mSv	9	8.62	2.62	14.62
Number exceeding 2 mSv	4	3.62	0.62	8.62
Number exceeding 5 mSv	2	0.62	0.00	3.62
Number exceeding 20 mSv	0	0.00	0.00	0.62
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A 0.276444	B 0.058014	C 0.013815	D 1.809350
Sample size	1440			
Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.14	0.16	0.12	0.20
Average over 0.5 mSv	2.08	2.23	1.74	2.91
Number exceeding 0.5 mSv	84	74.61	58.61	92.61
Number exceeding 5 mSv	8	7.62	2.62	13.62
Number exceeding 20 mSv	0	0.00	0.00	0.62
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Dental assistant

Annual doses

Parameters	A 0.311821	B 0.000000	C 0.052358	D 3.095190
Sample size	14059			
Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.01	0.04	0.04	0.05
Average from 0.1 mSv up	0.35	0.29	0.22	0.59
Number at or exceeding 0.1 mSv	494	492.62	452.62	536.61
Number exceeding 1 mSv	7	15.62	8.62	24.62
Number exceeding 2 mSv	6	6.62	2.62	12.62
Number exceeding 5 mSv	3	1.62	0.00	4.62
Number exceeding 20 mSv	1	0.00	0.00	1.62
Number exceeding 50 mSv	0	0.00	0.00	0.62

Doses accumulating over 5 year block starting 2001

Parameters	A 0.668681	B 0.075133	C 0.000000	D 3.001570
Sample size	21465			
Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.03	0.03	0.03	0.03
Average over 0.5 mSv	1.39	0.85	0.77	0.95
Number exceeding 0.5 mSv	294	103.62	85.62	124.62
Number exceeding 5 mSv	7	0.00	0.00	0.62
Number exceeding 20 mSv	3	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Dental hygienist

Annual doses

Parameters	A 0.776221	B 0.000000	C 0.028645	D 4.030070
Sample size	9619			
Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.01	0.03	0.03	0.03
Average from 0.1 mSv up	0.24	0.15	0.14	0.16
Number at or exceeding 0.1 mSv	291	274.62	244.62	306.64
Number exceeding 1 mSv	8	0.00	0.00	1.62
Number exceeding 2 mSv	2	0.00	0.00	0.00
Number exceeding 5 mSv	1	0.00	0.00	0.00
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A 0.364092	B 0.000000	C 0.031004	D 2.507390
Sample size	12846			
Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.04	0.07	0.06	0.10
Average over 0.5 mSv	1.59	2.11	1.53	4.18
Number exceeding 0.5 mSv	191	179.62	152.62	204.65
Number exceeding 5 mSv	5	11.62	5.62	19.65
Number exceeding 20 mSv	1	1.62	0.00	4.62
Number exceeding 50 mSv	1	0.00	0.00	1.62
Number exceeding 100 mSv	1	0.00	0.00	0.62

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Dental therapist/nurse

Annual doses

Parameters	A	0.613546	B	0.141027	C	0.000000	D	2.623640
Sample size	154							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.04	0.05	0.03	0.07
Average from 0.1 mSv up	0.34	0.25	0.17	0.42
Number at or exceeding 0.1 mSv	20	17.60	10.61	25.58
Number exceeding 1 mSv	0	0.00	0.00	1.62
Number exceeding 2 mSv	0	0.00	0.00	0.62
Number exceeding 5 mSv	0	0.00	0.00	0.00
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.148091	B	0.387210	C	0.037666	D	1.480520
Sample size	214							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.12	0.14	0.10	0.20
Average over 0.5 mSv	1.24	1.25	0.89	1.66
Number exceeding 0.5 mSv	15	13.61	7.62	21.60
Number exceeding 5 mSv	0	0.00	0.00	0.62
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Dentist

Annual doses

Parameters	A	0.000000	B	1.189900	C	0.064375	D	2.283540
Sample size	7969							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.01	0.04	0.04	0.04
Average from 0.1 mSv up	0.22	0.21	0.20	0.24
Number at or exceeding 0.1 mSv	342	340.61	305.61	378.61
Number exceeding 1 mSv	1	1.62	0.00	5.62
Number exceeding 2 mSv	0	0.00	0.00	0.00
Number exceeding 5 mSv	0	0.00	0.00	0.00
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.311935	B	0.000000	C	0.040181	D	2.334830
Sample size	9860							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.08	0.12	0.09	0.27
Average over 0.5 mSv	2.35	3.49	2.14	10.94
Number exceeding 0.5 mSv	249	203.62	176.60	231.64
Number exceeding 5 mSv	8	22.62	13.62	32.62
Number exceeding 20 mSv	4	4.62	0.62	9.62
Number exceeding 50 mSv	1	1.62	0.00	4.62
Number exceeding 100 mSv	1	0.62	0.00	2.62

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Gynaecologist

Annual doses

Parameters	A	0.127832	B	4.395730	C	0.000000	D	1.388010
Sample size	13							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.02	0.02	0.00	0.05
Average from 0.1 mSv up	0.2	0.22	0.11	0.30
Number at or exceeding 0.1 mSv	1	0.61	0.00	2.58
Number exceeding 1 mSv	0	0.00	0.00	0.00
Number exceeding 2 mSv	0	0.00	0.00	0.00
Number exceeding 5 mSv	0	0.00	0.00	0.00
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.000000	B	0.950709	C	0.030700	D	1.243890
Sample size	19							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.07	0.08	0.03	0.21
Average over 0.5 mSv	0.9			
Number exceeding 0.5 mSv	1	0.62	0.00	2.59
Number exceeding 5 mSv	0	0.00	0.00	0.00
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Laboratory technician (medical)

Annual doses

Parameters	A	0.533357	B	0.199286	C	0.000000	D	2.062020
Sample size	3934							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.11	0.09	0.08	0.10
Average from 0.1 mSv up	0.52	0.35	0.32	0.38
Number at or exceeding 0.1 mSv	853	805.57	754.55	851.60
Number exceeding 1 mSv	100	45.62	33.62	58.62
Number exceeding 2 mSv	41	8.62	3.62	14.62
Number exceeding 5 mSv	7	0.00	0.00	0.62
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.441843	B	0.018948	C	0.000000	D	1.467280
Sample size	7127							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.31	0.33	0.31	0.37
Average over 0.5 mSv	2.05	2.25	2.05	2.47
Number exceeding 0.5 mSv	937	855.59	806.55	910.64
Number exceeding 5 mSv	76	81.62	64.62	99.62
Number exceeding 20 mSv	5	4.62	0.62	10.62
Number exceeding 50 mSv	0	0.00	0.00	0.62
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Medical physicist

Annual doses

Parameters	A	0.411365	B	0.133716	C	0.037951	D	2.242620
Sample size	438							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.06	0.09	0.07	0.11
Average from 0.1 mSv up	0.33	0.31	0.24	0.43
Number at or exceeding 0.1 mSv	82	81.58	66.59	97.59
Number exceeding 1 mSv	4	3.62	0.62	8.62
Number exceeding 2 mSv	2	0.62	0.00	3.62
Number exceeding 5 mSv	0	0.00	0.00	0.62
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.527130	B	0.000000	C	0.000000	D	1.592210
Sample size	597							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.32	0.28	0.21	0.43
Average over 0.5 mSv	1.78	1.89	1.33	3.14
Number exceeding 0.5 mSv	88	64.60	49.60	80.59
Number exceeding 5 mSv	3	3.62	0.62	8.62
Number exceeding 20 mSv	1	0.00	0.00	1.62
Number exceeding 50 mSv	1	0.00	0.00	0.62
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Medical radiation technologist

Annual doses

Parameters	A 0.544714	B 0.000566	C 0.003329	D 2.015490
Sample size	13612			
Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.12	0.14	0.13	0.15
Average from 0.1 mSv up	0.48	0.48	0.45	0.53
Number at or exceeding 0.1 mSv	3299	3300.56	3203.57	3397.59
Number exceeding 1 mSv	254	298.62	265.62	332.62
Number exceeding 2 mSv	116	112.62	92.62	136.62
Number exceeding 5 mSv	13	25.62	15.62	35.65
Number exceeding 20 mSv	3	1.62	0.00	4.62
Number exceeding 50 mSv	1	0.00	0.00	0.62

Doses accumulating over 5 year block starting 2001

Parameters	A 0.488841	B 0.022894	C 0.000000	D 1.270380
Sample size	16699			
Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.43	0.45	0.43	0.47
Average over 0.5 mSv	1.83	2.13	2.02	2.23
Number exceeding 0.5 mSv	3397	2869.58	2782.58	2960.63
Number exceeding 5 mSv	207	249.62	220.60	280.65
Number exceeding 20 mSv	16	11.62	5.62	18.62
Number exceeding 50 mSv	2	0.00	0.00	0.62
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Nuclear medicine technologist

Annual doses

Parameters	A 0.097168	B 0.436302	C 0.012908	D -0.536266
Sample size	1818			
Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	1.6	1.61	1.54	1.69
Average from 0.1 mSv up	1.98	1.99	1.91	2.07
Number at or exceeding 0.1 mSv	1466	1463.42	1429.43	1494.42
Number exceeding 1 mSv	974	988.99	947.49	1031.51
Number exceeding 2 mSv	645	626.54	588.54	667.56
Number exceeding 5 mSv	65	64.62	48.62	82.61
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A 0.212546	B 0.056633	C 0.000000	D -0.438281
Sample size	2278			
Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	6.41	6.86	6.50	7.20
Average over 0.5 mSv	8.47	9.60	9.19	10.03
Number exceeding 0.5 mSv	1719	1616.45	1576.45	1659.44
Number exceeding 5 mSv	1012	969.52	923.50	1016.51
Number exceeding 20 mSv	107	207.60	181.60	238.60
Number exceeding 50 mSv	5	0.62	0.00	3.62
Number exceeding 100 mSv	4	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Nurse

Annual doses

Parameters	A 0.762450	B 0.267229	C 0.000000	D 2.508990
Sample size	7100			
Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.1	0.08	0.08	0.08
Average from 0.1 mSv up	0.42	0.24	0.23	0.25
Number at or exceeding 0.1 mSv	1628	1633.57	1559.57	1705.56
Number exceeding 1 mSv	98	18.62	11.62	27.62
Number exceeding 2 mSv	31	0.62	0.00	3.62
Number exceeding 5 mSv	6	0.00	0.00	0.00
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A 0.375171	B 0.098391	C 0.000000	D 1.247570
Sample size	10293			
Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.32	0.34	0.32	0.36
Average over 0.5 mSv	1.64	1.89	1.79	1.98
Number exceeding 0.5 mSv	1763	1538.59	1467.59	1604.61
Number exceeding 5 mSv	70	97.62	79.62	116.62
Number exceeding 20 mSv	4	0.00	0.00	0.62
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Physician

Annual doses

Parameters	A	0.437697	B	0.036055	C	0.000000	D	1.539740
Sample size	2942							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.23	0.26	0.23	0.30
Average from 0.1 mSv up	0.77	0.81	0.71	0.92
Number at or exceeding 0.1 mSv	891	895.55	844.55	943.54
Number exceeding 1 mSv	152	168.61	144.59	194.63
Number exceeding 2 mSv	60	80.62	62.62	99.62
Number exceeding 5 mSv	16	21.62	13.62	31.62
Number exceeding 20 mSv	3	0.00	0.00	1.62
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.339331	B	0.044250	C	0.000000	D	0.935658
Sample size	3905							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.74	0.82	0.75	0.90
Average over 0.5 mSv	2.71	3.25	3.00	3.53
Number exceeding 0.5 mSv	1001	912.57	864.57	965.56
Number exceeding 5 mSv	114	171.61	147.62	197.64
Number exceeding 20 mSv	16	8.62	3.62	14.62
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Radiation therapist

Annual doses

Parameters	A	0.577251	B	0.000000	C	0.033987	D	2.223410
Sample size	1781							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.1	0.13	0.12	0.16
Average from 0.1 mSv up	0.34	0.32	0.28	0.41
Number at or exceeding 0.1 mSv	544	545.55	506.55	581.54
Number exceeding 1 mSv	14	24.62	15.62	35.62
Number exceeding 2 mSv	9	7.62	2.62	13.62
Number exceeding 5 mSv	4	0.62	0.00	3.62
Number exceeding 20 mSv	0	0.00	0.00	0.62
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.589790	B	0.000000	C	0.000000	D	1.187460
Sample size	2243							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.53	0.56	0.48	0.67
Average over 0.5 mSv	1.75	2.10	1.81	2.62
Number exceeding 0.5 mSv	587	484.57	445.58	522.57
Number exceeding 5 mSv	26	36.12	25.60	48.62
Number exceeding 20 mSv	4	2.62	0.00	6.62
Number exceeding 50 mSv	1	0.00	0.00	1.62
Number exceeding 100 mSv	1	0.00	0.00	0.62

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Radiologist (diagnostic)

Annual doses

Parameters	A	0.468925	B	0.033780	C	0.000000	D	1.702470
Sample size	2198							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.17	0.19	0.17	0.23
Average from 0.1 mSv up	0.63	0.65	0.56	0.76
Number at or exceeding 0.1 mSv	598	599.56	558.54	638.55
Number exceeding 1 mSv	62	89.61	71.62	108.61
Number exceeding 2 mSv	32	38.62	27.62	52.64
Number exceeding 5 mSv	10	8.62	3.62	15.62
Number exceeding 20 mSv	0	0.00	0.00	0.62
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.430867	B	0.011010	C	0.000000	D	1.095690
Sample size	2802							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.72	0.75	0.65	0.87
Average over 0.5 mSv	2.79	3.23	2.80	3.73
Number exceeding 0.5 mSv	671	587.57	546.58	631.57
Number exceeding 5 mSv	79	90.62	72.62	110.61
Number exceeding 20 mSv	14	12.62	6.62	19.62
Number exceeding 50 mSv	1	0.62	0.00	3.62
Number exceeding 100 mSv	0	0.00	0.00	0.62

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Radiologist (therapeutic)

Annual doses

Parameters	A	0.281952	B	0.087320	C	0.047379	D	1.955080
Sample size	279							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.11	0.13	0.09	0.20
Average from 0.1 mSv up	0.51	0.49	0.29	0.81
Number at or exceeding 0.1 mSv	59	58.57	46.58	73.56
Number exceeding 1 mSv	7	5.62	1.62	10.62
Number exceeding 2 mSv	2	2.62	0.00	6.62
Number exceeding 5 mSv	2	0.00	0.00	2.62
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.431326	B	0.019380	C	0.003126	D	1.345930
Sample size	390							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.41	0.42	0.29	0.62
Average over 0.5 mSv	2.22	2.39	1.65	3.62
Number exceeding 0.5 mSv	64	56.59	42.60	70.58
Number exceeding 5 mSv	7	5.62	1.62	11.62
Number exceeding 20 mSv	1	0.00	0.00	1.62
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Veterinarian

Annual doses

Parameters	A	0.927848	B	1.477960	C	0.000000	D	3.270980
Sample size	3314							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.03	0.04	0.04	0.05
Average from 0.1 mSv up	0.29	0.16	0.15	0.16
Number at or exceeding 0.1 mSv	344	364.60	331.58	396.60
Number exceeding 1 mSv	9	0.00	0.00	0.00
Number exceeding 2 mSv	3	0.00	0.00	0.00
Number exceeding 5 mSv	0	0.00	0.00	0.00
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.372721	B	0.109590	C	0.012178	D	1.704250
Sample size	5236							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.14	0.16	0.15	0.18
Average over 0.5 mSv	1.37	1.52	1.39	1.66
Number exceeding 0.5 mSv	413	362.61	327.58	399.61
Number exceeding 5 mSv	9	10.62	4.62	17.62
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Veterinary technician

Annual doses

Parameters	A	0.413873	B	0.126383	C	0.030255	D	2.592840
Sample size	3493							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.03	0.05	0.05	0.06
Average from 0.1 mSv up	0.28	0.28	0.24	0.32
Number at or exceeding 0.1 mSv	331	331.60	299.60	368.60
Number exceeding 1 mSv	8	11.62	5.62	19.62
Number exceeding 2 mSv	2	2.62	0.00	6.62
Number exceeding 5 mSv	1	0.00	0.00	0.62
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.377299	B	0.142885	C	0.012776	D	1.942370
Sample size	5852							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.08	0.10	0.10	0.11
Average over 0.5 mSv	1.15	1.29	1.18	1.42
Number exceeding 0.5 mSv	287	244.62	210.62	273.61
Number exceeding 5 mSv	4	2.62	0.00	6.62
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Ward aid/orderly

Annual doses

Parameters	A	0.159281	B	0.296841	C	0.045940	D	1.931370
Sample size	1070							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.06	0.09	0.07	0.10
Average from 0.1 mSv up	0.44	0.43	0.34	0.53
Number at or exceeding 0.1 mSv	145	143.59	125.57	164.59
Number exceeding 1 mSv	13	14.62	7.62	23.62
Number exceeding 2 mSv	5	4.62	0.62	9.62
Number exceeding 5 mSv	0	0.00	0.00	0.62
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.418260	B	0.033609	C	0.000000	D	1.599630
Sample size	2109							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.22	0.24	0.20	0.28
Average over 0.5 mSv	1.88	2.01	1.71	2.41
Number exceeding 0.5 mSv	201	192.60	168.60	220.60
Number exceeding 5 mSv	18	15.62	7.62	22.62
Number exceeding 20 mSv	0	0.00	0.00	1.62
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Reactor - administration

Annual doses

Parameters	A	0.147185	B	0.099556	C	0.000000	D	1.622460
Sample size	3955							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.17	0.18	0.15	0.21
Average from 0.1 mSv up	1.73	1.74	1.52	1.99
Number at or exceeding 0.1 mSv	392	392.60	354.60	431.62
Number exceeding 1 mSv	157	168.61	144.62	195.61
Number exceeding 2 mSv	109	107.62	88.62	126.62
Number exceeding 5 mSv	38	35.62	25.62	48.62
Number exceeding 20 mSv	0	0.00	0.00	0.62
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.170292	B	0.030895	C	0.000000	D	1.416470
Sample size	6809							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.55	0.56	0.50	0.64
Average over 0.5 mSv	5.4	5.79	5.21	6.37
Number exceeding 0.5 mSv	683	639.60	595.60	689.60
Number exceeding 5 mSv	216	222.62	193.59	250.62
Number exceeding 20 mSv	38	36.62	24.62	48.62
Number exceeding 50 mSv	0	0.62	0.00	2.62
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Reactor - chemical and radiation control

Annual doses

Parameters	A	0.188800	B	0.146864	C	0.000000	D	0.015556
Sample size	668							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	2.11	2.03	1.82	2.26
Average from 0.1 mSv up	3.19	3.07	2.77	3.38
Number at or exceeding 0.1 mSv	441	440.46	416.44	463.45
Number exceeding 1 mSv	278	290.52	264.53	316.51
Number exceeding 2 mSv	218	219.54	196.55	243.53
Number exceeding 5 mSv	119	96.59	79.60	115.58
Number exceeding 20 mSv	0	0.00	0.00	0.62
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.199344	B	0.044509	C	0.000000	D	-0.102650
Sample size	860							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	5.87	5.71	5.14	6.29
Average over 0.5 mSv	8.89	9.66	8.87	10.46
Number exceeding 0.5 mSv	565	503.48	475.49	529.47
Number exceeding 5 mSv	285	282.54	257.55	308.54
Number exceeding 20 mSv	73	70.60	56.61	87.60
Number exceeding 50 mSv	6	0.62	0.00	3.62
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Reactor - construction

Annual doses

Parameters	A	0.093711	B	0.103269	C	0.000000	D	0.437816
Sample size	1183							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	1.87	1.75	1.56	1.95
Average from 0.1 mSv up	4.42	4.25	3.87	4.65
Number at or exceeding 0.1 mSv	501	485.52	453.53	521.52
Number exceeding 1 mSv	347	347.55	317.56	379.55
Number exceeding 2 mSv	296	282.57	253.57	311.56
Number exceeding 5 mSv	180	158.59	138.60	181.59
Number exceeding 20 mSv	0	2.62	0.00	6.62
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.159255	B	0.043997	C	0.000000	D	0.384278
Sample size	3269							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	3.72	3.22	3.00	3.44
Average over 0.5 mSv	7.93	8.34	7.85	8.81
Number exceeding 0.5 mSv	1525	1251.53	1194.53	1303.53
Number exceeding 5 mSv	701	636.58	592.55	679.57
Number exceeding 20 mSv	153	132.62	111.62	154.61
Number exceeding 50 mSv	2	1.62	0.00	5.62
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Reactor - control technician

Annual doses

Parameters	A	0.141329	B	0.195675	C	0.000000	D	0.399648
Sample size	268							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	1.02	1.01	0.81	1.24
Average from 0.1 mSv up	2.23	2.18	1.81	2.56
Number at or exceeding 0.1 mSv	122	124.51	107.53	139.49
Number exceeding 1 mSv	66	72.56	58.57	87.54
Number exceeding 2 mSv	49	48.58	37.59	61.57
Number exceeding 5 mSv	16	13.61	7.62	21.60
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.133798	B	0.055912	C	0.000000	D	0.339200
Sample size	390							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	2.82	3.07	2.48	3.65
Average over 0.5 mSv	6.96	7.78	6.53	8.93
Number exceeding 0.5 mSv	157	151.53	133.51	171.51
Number exceeding 5 mSv	68	77.58	62.58	93.57
Number exceeding 20 mSv	15	11.62	5.62	18.61
Number exceeding 50 mSv	0	0.00	0.00	0.62
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Reactor - electrical maintenance

Annual doses

Parameters	A	0.178378	B	0.184183	C	0.000000	D	0.451344
Sample size	1457							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	1	0.97	0.87	1.06
Average from 0.1 mSv up	2.06	2.00	1.84	2.17
Number at or exceeding 0.1 mSv	706	699.51	658.49	736.52
Number exceeding 1 mSv	393	382.06	351.57	414.55
Number exceeding 2 mSv	254	251.58	223.59	279.60
Number exceeding 5 mSv	80	70.61	54.59	87.61
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.200344	B	0.057750	C	0.000000	D	0.221775
Sample size	2114							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	3.08	3.02	2.81	3.26
Average over 0.5 mSv	6.18	6.57	6.16	6.98
Number exceeding 0.5 mSv	1045	960.51	915.52	1003.51
Number exceeding 5 mSv	392	427.57	391.58	465.57
Number exceeding 20 mSv	66	50.62	37.62	64.62
Number exceeding 50 mSv	0	0.00	0.00	0.62
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Reactor - fuel handling

Annual doses

Parameters	A	0.168758	B	0.122594	C	0.010494	D	-0.491656
Sample size	128							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	4.33	4.31	3.55	5.16
Average from 0.1 mSv up	5.18	5.12	4.30	6.04
Number at or exceeding 0.1 mSv	107	106.42	98.43	114.40
Number exceeding 1 mSv	76	82.46	71.49	92.44
Number exceeding 2 mSv	68	70.49	59.51	81.47
Number exceeding 5 mSv	48	43.54	34.53	54.52
Number exceeding 20 mSv	0	0.62	0.00	2.62
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.244457	B	0.041356	C	0.000000	D	-0.216461
Sample size	248							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	6.27	6.12	5.05	7.41
Average over 0.5 mSv	9.31	9.50	8.04	11.24
Number exceeding 0.5 mSv	166	158.46	144.45	174.45
Number exceeding 5 mSv	100	86.54	72.55	101.52
Number exceeding 20 mSv	18	21.60	13.61	31.59
Number exceeding 50 mSv	0	0.00	0.00	1.62
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Reactor - general maintenance

Annual doses

Parameters	A	0.107557	B	0.117505	C	0.000788	D	0.616403
Sample size	1536							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	1.17	1.16	1.04	1.29
Average from 0.1 mSv up	3.27	3.23	2.95	3.52
Number at or exceeding 0.1 mSv	547	549.54	510.54	585.53
Number exceeding 1 mSv	337	354.57	323.57	386.56
Number exceeding 2 mSv	267	272.58	241.59	300.58
Number exceeding 5 mSv	140	129.60	107.61	149.63
Number exceeding 20 mSv	0	0.62	0.00	2.62
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.182288	B	0.027265	C	0.000000	D	0.724469
Sample size	2604							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	2.74	2.38	2.13	2.64
Average over 0.5 mSv	8.18	8.68	7.95	9.50
Number exceeding 0.5 mSv	865	701.56	656.56	747.55
Number exceeding 5 mSv	360	322.59	293.57	356.62
Number exceeding 20 mSv	108	89.62	73.62	108.61
Number exceeding 50 mSv	0	5.62	1.62	11.62
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Reactor - health physics

Annual doses

Parameters	A	0.000000	B	0.336862	C	0.015271	D	0.625869
Sample size	83							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.49	0.51	0.30	0.76
Average from 0.1 mSv up	1.71	1.60	1.08	2.24
Number at or exceeding 0.1 mSv	24	24.55	16.58	33.52
Number exceeding 1 mSv	13	13.58	7.60	20.56
Number exceeding 2 mSv	9	7.60	2.62	12.59
Number exceeding 5 mSv	2	0.62	0.00	2.62
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.093814	B	0.064074	C	0.022125	D	0.770588
Sample size	121							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	1.57	1.54	0.90	2.33
Average over 0.5 mSv	6.42	6.11	4.31	8.81
Number exceeding 0.5 mSv	29	29.56	20.58	38.55
Number exceeding 5 mSv	14	12.60	6.61	19.58
Number exceeding 20 mSv	1	0.62	0.00	3.62
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Reactor - industrial radiographer

Annual doses

Parameters	A	0.000000	B	0.210936	C	0.025386	D	-0.353464
Sample size	67							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	3.38	2.91	2.17	3.72
Average from 0.1 mSv up	4.44	4.00	3.16	4.93
Number at or exceeding 0.1 mSv	51	48.44	40.47	54.42
Number exceeding 1 mSv	42	37.49	29.51	45.46
Number exceeding 2 mSv	37	31.51	23.54	39.48
Number exceeding 5 mSv	22	15.57	9.59	22.54
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.264338	B	0.076642	C	0.000000	D	-0.502559
Sample size	179							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	5.14	5.28	4.40	6.19
Average over 0.5 mSv	6.67	7.07	6.07	8.13
Number exceeding 0.5 mSv	137	132.44	120.46	143.43
Number exceeding 5 mSv	64	67.53	55.52	80.51
Number exceeding 20 mSv	4	5.62	1.62	10.61
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Reactor - mechanical maintenance

Annual doses

Parameters	A	0.119956	B	0.164676	C	0.000000	D	-0.067561
Sample size	1767							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	2.23	2.24	2.10	2.38
Average from 0.1 mSv up	3.54	3.54	3.34	3.75
Number at or exceeding 0.1 mSv	1116	1114.47	1076.45	1154.46
Number exceeding 1 mSv	777	813.51	772.52	855.53
Number exceeding 2 mSv	638	643.53	609.54	684.53
Number exceeding 5 mSv	307	302.58	272.59	332.58
Number exceeding 20 mSv	0	0.00	0.00	1.62
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.176606	B	0.045399	C	0.000000	D	0.010524
Sample size	3116							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	5.32	5.15	4.84	5.47
Average over 0.5 mSv	8.88	9.56	9.08	10.03
Number exceeding 0.5 mSv	1859	1666.49	1612.50	1719.51
Number exceeding 5 mSv	944	938.55	888.55	990.55
Number exceeding 20 mSv	241	229.61	201.58	257.60
Number exceeding 50 mSv	1	3.62	0.62	8.62
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Reactor - operations

Annual doses

Parameters	A	0.186961	B	0.145448	C	0.000000	D	0.407083
Sample size	2437							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	1.18	1.21	1.13	1.31
Average from 0.1 mSv up	2.32	2.38	2.25	2.54
Number at or exceeding 0.1 mSv	1245	1236.50	1191.50	1283.52
Number exceeding 1 mSv	690	704.55	663.56	747.57
Number exceeding 2 mSv	460	496.57	459.58	536.57
Number exceeding 5 mSv	154	183.61	160.61	209.60
Number exceeding 20 mSv	0	0.00	0.00	0.62
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.235926	B	0.039941	C	0.000000	D	0.021087
Sample size	2839							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	4.4	4.71	4.40	5.02
Average over 0.5 mSv	7.64	8.52	8.05	9.00
Number exceeding 0.5 mSv	1624	1552.49	1501.49	1601.51
Number exceeding 5 mSv	748	776.56	726.56	824.58
Number exceeding 20 mSv	117	180.11	155.61	205.61
Number exceeding 50 mSv	20	3.62	0.62	8.62
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Reactor - scientific/professional

Annual doses

Parameters	A	0.139637	B	0.099091	C	0.003456	D	1.213210
Sample size	2564							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.43	0.43	0.38	0.49
Average from 0.1 mSv up	2.2	2.18	1.93	2.44
Number at or exceeding 0.1 mSv	501	500.58	460.55	539.57
Number exceeding 1 mSv	227	242.60	211.60	270.60
Number exceeding 2 mSv	171	168.61	143.61	194.61
Number exceeding 5 mSv	75	67.62	51.62	83.62
Number exceeding 20 mSv	0	0.00	0.00	1.62
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.161408	B	0.042673	C	0.000000	D	0.879092
Sample size	4365							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	1.38	1.41	1.29	1.54
Average over 0.5 mSv	6.24	6.44	6.02	6.94
Number exceeding 0.5 mSv	949	936.57	881.58	987.59
Number exceeding 5 mSv	368	384.60	345.61	423.60
Number exceeding 20 mSv	59	57.62	42.62	73.65
Number exceeding 50 mSv	0	0.00	0.00	1.62
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Reactor - training

Annual doses

Parameters	A	0.129145	B	0.138987	C	0.036839	D	1.291870
Sample size	89							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.32	0.33	0.16	0.62
Average from 0.1 mSv up	1.2	1.16	0.55	2.03
Number at or exceeding 0.1 mSv	24	23.56	15.58	31.54
Number exceeding 1 mSv	8	6.61	2.59	12.59
Number exceeding 2 mSv	3	3.61	0.62	8.60
Number exceeding 5 mSv	3	0.62	0.00	3.61
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.188403	B	0.039691	C	0.010253	D	1.033950
Sample size	134							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	1.02	1.02	0.55	1.66
Average over 0.5 mSv	5.14	5.37	3.23	8.47
Number exceeding 0.5 mSv	26	23.58	15.60	33.56
Number exceeding 5 mSv	10	7.61	2.62	13.60
Number exceeding 20 mSv	1	0.62	0.00	3.62
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Reactor - visitor

Annual doses

Parameters	A 0.119977	B 0.115820	C 0.000000	D 0.740986
Sample size	6487			
Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.93	0.94	0.88	0.99
Average from 0.1 mSv up	2.82	2.92	2.78	3.05
Number at or exceeding 0.1 mSv	2134	2072.55	2002.52	2147.59
Number exceeding 1 mSv	1220	1269.58	1209.55	1337.60
Number exceeding 2 mSv	909	944.59	890.59	999.61
Number exceeding 5 mSv	414	420.61	384.61	463.61
Number exceeding 20 mSv	1	1.62	0.00	4.62
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A 0.130590	B 0.045967	C 0.000000	D 0.884833
Sample size	15295			
Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	1.45	1.45	1.38	1.52
Average over 0.5 mSv	6.08	6.92	6.68	7.16
Number exceeding 0.5 mSv	3622	3159.57	3060.57	3251.57
Number exceeding 5 mSv	1338	1416.60	1346.60	1484.60
Number exceeding 20 mSv	211	214.62	187.62	242.65
Number exceeding 50 mSv	6	1.62	0.00	4.62
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Accelerators - Administration

Annual doses

Parameters	A	0.176084	B	0.139948	C	0.152656	D	2.014650
Sample size	39							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.15	0.16	0.10	0.35
Average from 0.1 mSv up	0.31	0.26	0.15	0.62
Number at or exceeding 0.1 mSv	19	18.51	13.54	24.47
Number exceeding 1 mSv	1	0.62	0.00	2.61
Number exceeding 2 mSv	1	0.00	0.00	1.61
Number exceeding 5 mSv	0	0.00	0.00	0.62
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.042809	B	0.848283	C	0.060590	D	-1.009040
Sample size	47							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	1.35	1.35	1.08	1.62
Average over 0.5 mSv	1.63	1.68	1.43	1.97
Number exceeding 0.5 mSv	38	35.44	29.47	40.43
Number exceeding 5 mSv	0	0.00	0.00	0.62
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Accelerators - Control technicians

Annual doses

Parameters	A	0.000000	B	0.118509	C	0.120048	D	1.465250
Sample size	29							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.39	0.36	0.10	1.02
Average from 0.1 mSv up	0.94	0.77	0.17	2.26
Number at or exceeding 0.1 mSv	12	11.53	6.57	16.48
Number exceeding 1 mSv	2	1.61	0.00	4.59
Number exceeding 2 mSv	2	0.62	0.00	3.59
Number exceeding 5 mSv	1	0.00	0.00	1.61
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.544796	B	0.131662	C	0.000000	D	-0.438480
Sample size	29							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	1.96	2.35	1.53	3.42
Average over 0.5 mSv	2.52	2.98	2.07	4.08
Number exceeding 0.5 mSv	22	21.44	17.45	26.40
Number exceeding 5 mSv	2	3.59	0.62	7.56
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Accelerators - Designers

Annual doses

Parameters	A	0.177363	B	0.124345	C	0.051440	D	1.004030
Sample size	17							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.59	0.55	0.12	1.58
Average from 0.1 mSv up	1.26	1.11	0.26	3.20
Number at or exceeding 0.1 mSv	8	7.51	3.57	11.46
Number exceeding 1 mSv	2	1.60	0.00	5.54
Number exceeding 2 mSv	2	0.62	0.00	3.57
Number exceeding 5 mSv	1	0.00	0.00	1.60
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.459194	B	0.013498	C	0.569637	D	0.031606
Sample size	19							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	4.79	4.34	1.99	9.19
Average over 0.5 mSv	5.36	4.72	2.19	9.93
Number exceeding 0.5 mSv	17	17.40	14.44	18.38
Number exceeding 5 mSv	3	3.58	0.62	7.53
Number exceeding 20 mSv	2	0.62	0.00	2.59
Number exceeding 50 mSv	0	0.00	0.00	0.62
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Accelerators - General Maintenance

Annual doses

Parameters	A	0.232742	B	0.262221	C	0.033320	D	0.241793
Sample size	19							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	1.01	0.98	0.48	1.72
Average from 0.1 mSv up	1.37	1.33	0.65	2.24
Number at or exceeding 0.1 mSv	14	13.45	9.50	16.41
Number exceeding 1 mSv	5	5.55	1.60	9.50
Number exceeding 2 mSv	4	2.59	0.62	6.54
Number exceeding 5 mSv	1	0.00	0.00	1.60
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.181356	B	0.098426	C	0.028381	D	-0.532424
Sample size	20							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	5.27	5.26	2.86	7.93
Average over 0.5 mSv	6.57	7.00	4.20	10.10
Number exceeding 0.5 mSv	16	14.44	10.49	17.43
Number exceeding 5 mSv	7	7.53	3.58	12.47
Number exceeding 20 mSv	0	0.00	0.00	1.60
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Accelerators - Machinists

Annual doses

Parameters	A	0.000000	B	0.077400	C	0.117464	D	1.772960
Sample size	28							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.28	0.22	0.07	0.98
Average from 0.1 mSv up	0.99	0.61	0.13	3.12
Number at or exceeding 0.1 mSv	8	7.56	3.59	12.51
Number exceeding 1 mSv	1	0.62	0.00	3.59
Number exceeding 2 mSv	1	0.62	0.00	2.60
Number exceeding 5 mSv	1	0.00	0.00	1.61
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.482676	B	0.007715	C	0.000000	D	0.410089
Sample size	31							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	1.97	2.09	0.77	5.30
Average over 0.5 mSv	3.15	4.22	1.74	10.93
Number exceeding 0.5 mSv	19	14.51	8.56	19.47
Number exceeding 5 mSv	1	2.60	0.00	6.57
Number exceeding 20 mSv	1	0.00	0.00	2.60
Number exceeding 50 mSv	0	0.00	0.00	0.62
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Accelerators - Mechanical technicians

Annual doses

Parameters	A	0.000000	B	0.266430	C	0.083212	D	0.470538
Sample size	78							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	1.07	0.93	0.62	1.30
Average from 0.1 mSv up	1.6	1.40	1.00	1.95
Number at or exceeding 0.1 mSv	52	50.46	42.49	58.44
Number exceeding 1 mSv	24	19.56	12.58	26.54
Number exceeding 2 mSv	16	12.58	6.60	19.56
Number exceeding 5 mSv	5	2.62	0.00	5.61
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.362753	B	0.051584	C	0.000000	D	-0.521980
Sample size	84							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	5.66	5.62	4.15	7.27
Average over 0.5 mSv	6.67	7.28	5.63	9.24
Number exceeding 0.5 mSv	71	64.43	56.46	71.41
Number exceeding 5 mSv	31	30.53	21.56	39.51
Number exceeding 20 mSv	6	3.61	0.62	8.60
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Accelerators - Operations

Annual doses

Parameters	A	0.094238	B	0.387674	C	0.000000	D	-0.646826
Sample size	42							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	1.96	1.94	1.41	2.53
Average from 0.1 mSv up	2.5	2.43	1.87	3.04
Number at or exceeding 0.1 mSv	33	33.43	27.46	37.40
Number exceeding 1 mSv	27	24.48	18.51	30.44
Number exceeding 2 mSv	22	17.52	10.56	23.49
Number exceeding 5 mSv	3	2.61	0.00	6.59
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.227187	B	0.099194	C	0.000000	D	-0.886123
Sample size	44							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	6.78	6.67	5.01	8.72
Average over 0.5 mSv	7.64	7.91	6.00	9.93
Number exceeding 0.5 mSv	39	36.42	31.45	40.40
Number exceeding 5 mSv	21	21.50	16.53	28.46
Number exceeding 20 mSv	3	0.62	0.00	4.60
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Accelerators - Scientific/professional

Annual doses

Parameters	A	0.000000	B	0.210885	C	0.129268	D	1.449880
Sample size	322							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.27	0.29	0.22	0.38
Average from 0.1 mSv up	0.58	0.57	0.42	0.75
Number at or exceeding 0.1 mSv	147	146.51	127.53	162.52
Number exceeding 1 mSv	21	19.61	11.62	28.60
Number exceeding 2 mSv	10	10.62	4.62	18.61
Number exceeding 5 mSv	2	1.62	0.00	4.62
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.699751	B	0.011986	C	0.000000	D	-0.055087
Sample size	339							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	2.13	2.47	2.04	2.99
Average over 0.5 mSv	2.63	3.41	2.87	4.16
Number exceeding 0.5 mSv	270	236.45	219.46	253.44
Number exceeding 5 mSv	19	43.59	31.60	56.58
Number exceeding 20 mSv	5	3.62	0.62	7.62
Number exceeding 50 mSv	0	0.00	0.00	0.62
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Accelerators - Visitors

Annual doses

Parameters	A	0.268492	B	0.181352	C	0.117311	D	2.327640
Sample size	98							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.08	0.11	0.09	0.16
Average from 0.1 mSv up	0.24	0.22	0.15	0.38
Number at or exceeding 0.1 mSv	31	30.55	22.54	39.55
Number exceeding 1 mSv	1	0.62	0.00	2.62
Number exceeding 2 mSv	0	0.00	0.00	0.62
Number exceeding 5 mSv	0	0.00	0.00	0.00
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.174891	B	0.438983	C	0.003941	D	0.224790
Sample size	113							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.67	0.68	0.51	0.87
Average over 0.5 mSv	1.55	1.65	1.37	2.00
Number exceeding 0.5 mSv	46	41.53	32.55	52.51
Number exceeding 5 mSv	1	0.00	0.00	1.62
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Uranium mine electrician

Annual doses

Parameters	A	0.562422	B	9.016540	C	0.000154	D	9.095410
Sample size	1							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0	0.00	0.00	0.00
Average from 0.1 mSv up				
Number at or exceeding 0.1 mSv	0	0.00	0.00	0.00
Number exceeding 1 mSv	0	0.00	0.00	0.00
Number exceeding 2 mSv	0	0.00	0.00	0.00
Number exceeding 5 mSv	0	0.00	0.00	0.00
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.877155	B	3.495470	C	0.000014	D	9.525970
Sample size	4							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0	0.00	0.00	0.00
Average over 0.5 mSv				
Number exceeding 0.5 mSv	0	0.00	0.00	0.00
Number exceeding 5 mSv	0	0.00	0.00	0.00
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Uranium mine mill maintenance

Annual doses

Parameters	A	0.340397	B	0.575198	C	0.000000	D	0.087934
Sample size	310							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.66	0.67	0.59	0.76
Average from 0.1 mSv up	0.89	0.89	0.80	0.99
Number at or exceeding 0.1 mSv	231	230.44	215.45	245.43
Number exceeding 1 mSv	73	78.06	64.55	93.55
Number exceeding 2 mSv	25	21.61	13.61	30.60
Number exceeding 5 mSv	0	0.00	0.00	0.62
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.162420	B	0.147516	C	0.016256	D	-0.058672
Sample size	506							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	2.32	2.32	2.04	2.61
Average over 0.5 mSv	3.97	4.13	3.75	4.51
Number exceeding 0.5 mSv	292	277.49	257.47	300.48
Number exceeding 5 mSv	90	87.58	70.59	104.57
Number exceeding 20 mSv	0	0.00	0.00	0.62
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Uranium mine mill worker

Annual doses

Parameters	A	0.000000	B	0.772270	C	0.022408	D	-0.650583
Sample size	285							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.99	1.08	0.97	1.19
Average from 0.1 mSv up	1.32	1.36	1.24	1.48
Number at or exceeding 0.1 mSv	214	225.43	211.44	238.42
Number exceeding 1 mSv	115	130.51	113.50	146.50
Number exceeding 2 mSv	47	53.58	40.59	66.57
Number exceeding 5 mSv	0	0.00	0.00	0.62
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.133040	B	0.105172	C	0.005297	D	-0.319262
Sample size	467							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	4.33	4.30	3.81	4.80
Average over 0.5 mSv	6.67	6.62	6.07	7.24
Number exceeding 0.5 mSv	301	299.46	279.48	318.45
Number exceeding 5 mSv	158	156.54	137.55	177.53
Number exceeding 20 mSv	4	5.62	1.62	11.62
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Uranium mine nurse

Annual doses

Parameters	A	0.000008	B	3.022920	C	0.000000	D	1.082650
Sample size	23							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.03	0.02	0.00	0.06
Average from 0.1 mSv up	0.35	0.25		
Number at or exceeding 0.1 mSv	2	1.61	0.00	4.58
Number exceeding 1 mSv	0	0.00	0.00	0.00
Number exceeding 2 mSv	0	0.00	0.00	0.00
Number exceeding 5 mSv	0	0.00	0.00	0.00
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.000000	B	0.476801	C	0.046156	D	0.962567
Sample size	37							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.23	0.25	0.10	0.46
Average over 0.5 mSv	1.49	1.41	0.76	2.44
Number exceeding 0.5 mSv	5	4.59	0.62	8.57
Number exceeding 5 mSv	0	0.00	0.00	0.00
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Uranium mine office staff

Annual doses

Parameters	A 0.719588	B 0.033061	C 0.000000	D 2.246420
Sample size	286			
Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.09	0.11	0.09	0.14
Average from 0.1 mSv up	0.31	0.30	0.24	0.40
Number at or exceeding 0.1 mSv	83	82.55	67.57	97.54
Number exceeding 1 mSv	1	2.62	0.00	6.62
Number exceeding 2 mSv	1	0.62	0.00	2.62
Number exceeding 5 mSv	0	0.00	0.00	0.62
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A 0.342562	B 0.304565	C 0.015377	D 1.110060
Sample size	495			
Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.27	0.29	0.24	0.34
Average over 0.5 mSv	1.19	1.30	1.12	1.48
Number exceeding 0.5 mSv	90	77.59	61.59	95.58
Number exceeding 5 mSv	0	0.00	0.00	1.62
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Uranium mine support worker

Annual doses

Parameters	A	0.242680	B	0.406210	C	0.027721	D	0.098939
Sample size	350							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.87	0.88	0.78	0.99
Average from 0.1 mSv up	1.14	1.13	1.00	1.27
Number at or exceeding 0.1 mSv	268	267.43	252.45	283.42
Number exceeding 1 mSv	102	110.55	94.56	127.53
Number exceeding 2 mSv	57	49.59	36.60	62.58
Number exceeding 5 mSv	0	1.62	0.00	4.62
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.324009	B	0.056252	C	0.013997	D	0.303602
Sample size	581							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	2.11	2.11	1.80	2.46
Average over 0.5 mSv	4.16	4.36	3.81	4.92
Number exceeding 0.5 mSv	287	271.51	247.52	296.50
Number exceeding 5 mSv	82	78.59	62.60	93.61
Number exceeding 20 mSv	6	4.62	0.62	8.62
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Uranium mine surface maintenance

Annual doses

Parameters	A	0.289575	B	0.812052	C	0.059069	D	0.888811
Sample size	385							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.26	0.28	0.24	0.31
Average from 0.1 mSv up	0.41	0.40	0.36	0.45
Number at or exceeding 0.1 mSv	244	242.47	223.48	261.45
Number exceeding 1 mSv	16	18.61	10.62	27.61
Number exceeding 2 mSv	2	0.62	0.00	3.62
Number exceeding 5 mSv	0	0.00	0.00	0.00
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.126521	B	0.201492	C	0.054246	D	0.493905
Sample size	606							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.96	0.99	0.86	1.13
Average over 0.5 mSv	2.52	2.62	2.35	2.90
Number exceeding 0.5 mSv	218	207.54	183.55	231.53
Number exceeding 5 mSv	22	26.61	17.59	37.61
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Uranium mine surface miner

Annual doses

Parameters	A	0.288868	B	0.418921	C	0.000000	D	0.077977
Sample size	73							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.82	0.83	0.60	1.08
Average from 0.1 mSv up	1.16	1.16	0.89	1.46
Number at or exceeding 0.1 mSv	52	51.45	43.48	58.45
Number exceeding 1 mSv	21	21.55	14.58	29.55
Number exceeding 2 mSv	6	8.60	3.61	14.58
Number exceeding 5 mSv	0	0.00	0.00	1.62
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.257416	B	0.081503	C	0.000000	D	0.131719
Sample size	125							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	2.37	2.39	1.80	3.11
Average over 0.5 mSv	4.43	4.67	3.65	5.85
Number exceeding 0.5 mSv	66	61.50	51.52	73.48
Number exceeding 5 mSv	22	20.58	12.60	28.59
Number exceeding 20 mSv	2	0.62	0.00	2.62
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Uranium mine surface personnel

Annual doses

Parameters	A	0.128514	B	0.422354	C	0.046951	D	0.870067
Sample size	280							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.32	0.35	0.27	0.43
Average from 0.1 mSv up	0.71	0.70	0.56	0.86
Number at or exceeding 0.1 mSv	127	126.51	111.53	142.50
Number exceeding 1 mSv	26	29.60	19.61	39.59
Number exceeding 2 mSv	15	9.62	4.62	16.61
Number exceeding 5 mSv	0	0.00	0.00	0.62
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.316688	B	0.092475	C	0.000000	D	0.736858
Sample size	527							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.84	0.84	0.69	1.01
Average over 0.5 mSv	2.68	2.73	2.34	3.20
Number exceeding 0.5 mSv	155	149.55	129.56	167.55
Number exceeding 5 mSv	23	22.61	14.62	32.61
Number exceeding 20 mSv	0	0.00	0.00	0.62
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Uranium mine surface support worker

Annual doses

Parameters	A	0.282686	B	0.977464	C	0.000000	D	1.157160
Sample size	795							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.11	0.12	0.11	0.14
Average from 0.1 mSv up	0.4	0.39	0.35	0.44
Number at or exceeding 0.1 mSv	224	221.55	196.56	246.55
Number exceeding 1 mSv	11	11.62	6.60	20.62
Number exceeding 2 mSv	2	0.00	0.00	1.62
Number exceeding 5 mSv	0	0.00	0.00	0.00
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.407507	B	0.143724	C	0.000000	D	1.302030
Sample size	1503							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.26	0.28	0.24	0.31
Average over 0.5 mSv	1.46	1.53	1.37	1.71
Number exceeding 0.5 mSv	214	204.59	177.60	231.59
Number exceeding 5 mSv	7	4.62	1.60	10.62
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Uranium mine underground maintenance

Annual doses

Parameters	A	0.086962	B	1.092270	C	0.032949	D	-0.302673
Sample size	190							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.59	0.60	0.52	0.68
Average from 0.1 mSv up	0.76	0.76	0.67	0.85
Number at or exceeding 0.1 mSv	147	146.43	135.42	157.42
Number exceeding 1 mSv	42	41.57	30.58	53.55
Number exceeding 2 mSv	5	4.62	0.62	8.61
Number exceeding 5 mSv	0	0.00	0.00	0.00
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.226964	B	0.158473	C	0.029752	D	0.145124
Sample size	347							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	1.61	1.61	1.37	1.86
Average over 0.5 mSv	3.07	3.12	2.74	3.53
Number exceeding 0.5 mSv	175	170.50	153.51	189.49
Number exceeding 5 mSv	30	32.60	22.61	43.59
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Uranium mine underground miner

Annual doses

Parameters	A	0.000000	B	1.173060	C	0.003754	D	-0.620864
Sample size	125							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.58	0.68	0.56	0.79
Average from 0.1 mSv up	0.89	0.95	0.83	1.08
Number at or exceeding 0.1 mSv	82	88.45	78.47	97.43
Number exceeding 1 mSv	29	35.55	26.57	45.53
Number exceeding 2 mSv	5	4.62	0.62	9.61
Number exceeding 5 mSv	0	0.00	0.00	0.00
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.187328	B	0.051995	C	0.025226	D	-0.162900
Sample size	496							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	5.72	5.68	5.00	6.43
Average over 0.5 mSv	8.61	9.04	8.08	10.06
Number exceeding 0.5 mSv	328	309.47	288.48	329.46
Number exceeding 5 mSv	172	171.54	151.52	192.53
Number exceeding 20 mSv	37	36.61	25.61	49.60
Number exceeding 50 mSv	0	0.00	0.00	1.62
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Uranium mine underground personnel

Annual doses

Parameters	A 0.350351	B 0.413447	C 0.000000	D 0.493888
Sample size	125			
Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.58	0.52	0.40	0.66
Average from 0.1 mSv up	0.89	0.83	0.66	1.02
Number at or exceeding 0.1 mSv	82	76.47	65.49	87.45
Number exceeding 1 mSv	29	22.58	13.60	30.56
Number exceeding 2 mSv	5	6.61	1.62	12.60
Number exceeding 5 mSv	0	0.00	0.00	0.62
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A 0.180125	B 0.110720	C 0.029370	D 0.300069
Sample size	219			
Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	1.81	1.81	1.43	2.23
Average over 0.5 mSv	3.91	4.04	3.34	4.82
Number exceeding 0.5 mSv	99	93.52	80.53	107.53
Number exceeding 5 mSv	38	26.59	18.58	37.58
Number exceeding 20 mSv	1	0.00	0.00	1.62
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 4 (Cont'd)
Dose distribution by job category as of the end of 2005

Uranium mine visitor

Annual doses

Parameters	A	0.069323	B	0.754296	C	0.000000	D	1.919370
Sample size	53							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.02	0.01	0.00	0.06
Average from 0.1 mSv up	0.46	0.52	0.12	
Number at or exceeding 0.1 mSv	2	1.62	0.00	4.60
Number exceeding 1 mSv	0	0.00	0.00	0.62
Number exceeding 2 mSv	0	0.00	0.00	0.00
Number exceeding 5 mSv	0	0.00	0.00	0.00
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00

Doses accumulating over 5 year block starting 2001

Parameters	A	0.312911	B	0.131908	C	0.002864	D	1.213770
Sample size	381							

Statistic	Sample value	Expectation value	Lower 95% CL	Upper 95% CL
Average	0.32	0.33	0.25	0.42
Average over 0.5 mSv	1.78	1.89	1.50	2.38
Number exceeding 0.5 mSv	60	54.59	41.60	67.58
Number exceeding 5 mSv	5	2.62	0.00	6.62
Number exceeding 20 mSv	0	0.00	0.00	0.00
Number exceeding 50 mSv	0	0.00	0.00	0.00
Number exceeding 100 mSv	0	0.00	0.00	0.00

Table 5
Collective dose in mSv by job category including tritium and radon progeny components

Job Sector and Category	Number of Workers	Collective Dose (mSv)	% tritium	% radon progeny
Administration				
Administrator	656	74.51	0.89	0.00
Office staff	3600	201.61	0.18	0.00
Safety officer	548	74.83	0.17	0.00
Industry and Research				
Aircrew	10	4.48	0.00	0.00
Ground transportation	80	49.52	0.00	0.00
Industrial radiographer	2824	8098.01	0.00	0.00
Instructor (non-medical)	277	15.97	0.00	0.00
Instrument technician	2167	385.00	1.71	0.00
Laboratory technician (industrial)	3025	813.65	3.61	0.00
Nuclear fuel processor	964	1026.93	0.00	0.00
Scientist/Engineer (field)	1575	414.46	1.32	0.00
Scientist/Engineer (laboratory)	5185	365.45	0.00	0.00
Security	177	2.04	0.00	0.00
Tradesmen	204	32.01	0.00	0.00
Well logger	2476	1012.49	0.00	0.00
Medicine				
Chiropractor	1100	52.27	0.00	0.00
Dental assistant	14059	167.83	0.00	0.00
Dental hygienist	9619	68.41	0.00	0.00
Dental therapist/nurse	154	6.86	0.00	0.00
Dentist	7969	73.94	0.00	0.00
Gynaecologist	13	0.23	0.00	0.00
Laboratory technician (medical)	3934	437.80	0.00	0.00
Medical physicist	438	26.07	0.00	0.00
Medical radiation technologist	13612	1569.04	0.15	0.00
Nuclear medicine technologist	1818	2903.55	0.00	0.00
Nurse	7100	670.75	0.00	0.00
Physician	2942	677.37	0.00	0.00
Radiation therapist	1781	181.12	0.00	0.00
Radiologist (diagnostic)	2198	375.30	0.00	0.00
Radiologist (therapeutic)	279	29.53	0.00	0.00
Veterinarian	3314	98.78	0.00	0.00
Veterinary technician	3493	92.77	0.00	0.00
Ward aid/orderly	1070	61.90	0.00	0.00
Nuclear Power				
Reactor - administration	3955	681.95	27.13	0.00
Reactor - chemical and radiation control	668	1408.87	18.07	0.00
Reactor - construction	1183	2214.87	11.55	0.00
Reactor - control technician	268	273.30	15.16	0.00

Table 5 (Cont'd)
Collective dose in mSv by job category including tritium and radon progeny components

Job Sector and Category	Number of Workers	Collective Dose (mSv)	% tritium	% radon progeny
Reactor - electrical maintenance	1457	1463.31	24.14	0.00
Reactor - fuel handling	128	554.25	8.03	0.00
Reactor - general maintenance	1536	1794.28	17.09	0.00
Reactor - health physics	83	40.96	12.35	0.00
Reactor - industrial radiographer	67	226.89	11.88	0.00
Reactor - mechanical maintenance	1767	3950.86	14.44	0.00
Reactor - operations	2437	2888.91	30.43	0.00
Reactor - scientific/professional	2564	1107.64	13.65	0.00
Reactor - training	89	29.00	10.41	0.00
Reactor - visitor	6487	6037.19	13.03	0.00
Particle Accelerators				
Accelerators - Administration	39	5.60	0.00	0.00
Accelerators - Control technicians	29	11.10	0.00	0.00
Accelerators - Designers	17	10.00	0.00	0.00
Accelerators - General Maintenance	19	19.10	0.00	0.00
Accelerators - Machinists	28	7.80	0.00	0.00
Accelerators - Mechanical technicians	78	82.70	0.00	0.00
Accelerators - Operations	42	82.30	0.00	0.00
Accelerators - Scientific/professional	322	83.70	0.00	0.00
Accelerators - Visitors	98	7.00	0.00	0.00
Uranium Mining				
Uranium mine electrician	1	0.05	0.00	100.00
Uranium mine mill maintenance	310	209.85	0.00	44.10
Uranium mine mill worker	285	285.25	0.00	54.60
Uranium mine nurse	23	0.90	0.00	66.67
Uranium mine office staff	286	28.75	0.00	54.09
Uranium mine support worker	350	309.84	0.00	51.25
Uranium mine surface maintenance	385	102.20	0.00	54.40
Uranium mine surface miner	73	60.50	0.00	20.99
Uranium mine surface personnel	280	91.30	0.00	63.09
Uranium mine surface support worker	795	93.89	0.00	51.44
Uranium mine underground maintenance	190	114.53	0.00	60.46
Uranium mine underground miner	258	447.12	0.00	42.70
Uranium mine underground personnel	125	75.00	0.00	56.93
Uranium mine visitor	53	1.05	0.00	14.29
Miscellaneous/Unknown				
Miscellaneous/Unknown	27915	16139.94	2.10	0.00
Total				
Total	147099	61006.23	6.96	1.48

Table 6
10 year trend of worker counts (top) and average annual doses in mSv (bottom) by job category for all of Canada

Job Category	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Administration										
Administrator	427	578	576	573	579	612	629	627	646	656
	0.13	0.15	0.15	0.13	0.15	0.14	0.16	0.13	0.15	0.11
Office staff	4001	3862	3836	3920	3993	4026	3921	3933	3816	3600
	0.08	0.07	0.06	0.05	0.06	0.05	0.05	0.05	0.10	0.06
Safety officer	148	143	134	153	186	206	221	295	490	548
	0.18	0.19	0.21	0.25	0.15	0.16	0.21	0.20	0.12	0.14
Industry and Research										
Aircrew	2	3	3	9	10	12	13	11	16	10
	5.05	0.70	0.77	0.27	0.49	0.69	0.49	0.63	0.46	0.45
Ground transportation	6	6	24	19	41	189	212	82	83	80
	0.63	0.73	0.14	0.34	0.48	0.23	0.32	0.72	0.58	0.62
Industrial radiographer	2290	2412	2561	2630	2845	2894	2896	2710	2739	2824
	3.44	3.45	2.98	2.87	2.60	3.01	2.44	2.77	2.71	2.87
Instructor (non-medical)	165	167	183	195	199	207	209	216	245	277
	0.05	0.04	0.03	0.03	0.02	0.03	0.16	0.16	0.07	0.06
Instrument technician	1944	1979	1919	2206	2367	2376	2319	2235	2224	2167
	0.21	0.14	0.31	0.13	0.15	0.44	0.18	0.27	0.20	0.18
Laboratory technician (industrial)	3578	3662	3784	3901	4022	4454	4204	3625	3357	3025
	0.20	0.19	0.18	0.18	0.17	0.22	0.20	0.26	0.23	0.27
Nuclear fuel processor	188	180	178	571	572	638	706	738	863	964
	2.79	2.36	1.99	1.46	1.25	1.31	1.65	1.45	1.20	1.07
Scientist/Engineer (field)	1469	1494	1364	1266	1275	1289	1299	1241	1361	1575
	0.39	0.31	0.29	0.35	0.35	0.26	0.24	0.35	0.26	0.26
Scientist/Engineer (laboratory)	4785	4817	5125	5617	6120	6558	6757	6032	5590	5185
	0.04	0.06	0.05	0.04	0.04	0.13	0.07	0.06	0.06	0.07
Security	2	3	3	4	3	4	10	130	193	177
	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.03	0.03	0.01
Tradesmen	59	62	71	108	123	142	161	192	239	204
	0.08	0.24	0.24	0.19	0.30	0.11	0.12	0.17	0.11	0.16
Well logger	912	917	976	984	1231	1528	1573	1970	2408	2476
	0.59	0.53	0.45	0.45	0.67	0.42	0.39	0.43	0.36	0.41
Medicine										
Chiropractor	1062	1044	991	1020	1056	1066	1053	1099	1116	1100
	0.05	0.03	0.06	0.02	0.02	0.04	0.03	0.03	0.04	0.05
Dental assistant	7807	8904	9451	10227	10983	11643	11955	13399	14037	14059
	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Dental hygienist	6806	7008	7130	7534	7900	8267	8513	9271	9537	9619
	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01

Table 6 (Cont'd)
10 year trend of worker counts (top) and average annual doses in mSv (bottom) by job category for all of Canada

Job Category	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Dental therapist/nurse	56	94	100	99	110	119	130	137	151	154
	0.00	0.02	0.01	0.02	0.01	0.01	0.04	0.04	0.05	0.04
Dentist	6785	6954	7014	7189	7287	7444	7451	7836	8002	7969
	0.01	0.01	0.01	0.01	0.01	0.01	0.04	0.02	0.02	0.01
Gynaecologist	32	22	21	18	17	14	11	11	10	13
	0.01	0.02	0.00	0.01	0.00	0.01	0.04	0.03	0.02	0.02
Laboratory technician (medical)	3382	3196	3247	3400	3592	3738	3988	4387	4283	3934
	0.05	0.05	0.08	0.09	0.09	0.08	0.12	0.13	0.10	0.11
Medical physicist	261	261	280	326	346	371	385	411	430	438
	0.11	0.06	0.23	0.03	0.08	0.20	0.07	0.09	0.06	0.06
Medical radiation technologist	11893	11614	11541	11952	12321	12722	13062	13429	13450	13612
	0.08	0.08	0.09	0.06	0.07	0.09	0.11	0.12	0.11	0.12
Nuclear medicine technologist	1354	1334	1326	1445	1526	1625	1657	1714	1780	1818
	1.26	1.35	1.47	1.39	1.44	1.51	1.70	1.71	1.97	1.60
Nurse	4649	4448	4450	4794	5066	5695	5963	6188	6416	7100
	0.06	0.07	0.12	0.08	0.10	0.10	0.12	0.11	0.10	0.09
Physician	2076	1992	2002	2081	2139	2350	2446	2592	2727	2942
	0.14	0.14	0.24	0.16	0.18	0.17	0.23	0.25	0.22	0.23
Radiation therapist	988	994	1044	1338	1514	1656	1741	1801	1793	1781
	0.18	0.22	0.11	0.15	0.11	0.14	0.18	0.15	0.11	0.10
Radiologist (diagnostic)	1730	1741	1737	1780	1869	1986	2071	2128	2201	2198
	0.14	0.14	0.16	0.17	0.16	0.17	0.18	0.24	0.19	0.17
Radiologist (therapeutic)	168	160	158	202	214	250	259	270	285	279
	0.05	0.08	0.13	0.05	0.06	0.13	0.12	0.13	0.10	0.11
Veterinarian	4051	4217	4215	4069	3958	3863	3646	3581	3465	3314
	0.05	0.03	0.06	0.03	0.02	0.03	0.06	0.05	0.04	0.03
Veterinary technician	122	191	369	998	1674	2057	2230	2741	3217	3493
	0.05	0.05	0.07	0.02	0.03	0.03	0.04	0.04	0.04	0.03
Ward aid/orderly	1778	1666	1539	1573	1500	1434	1507	1388	1258	1070
	0.07	0.05	0.12	0.06	0.10	0.06	0.07	0.08	0.08	0.06
Nuclear Power										
Reactor - administration	4083	5163	5079	4507	4378	4679	4512	4381	3949	3955
	0.21	0.25	0.21	0.24	0.18	0.19	0.16	0.21	0.15	0.17
Reactor - chemical and radiation control	388	374	368	360	349	422	470	523	568	668
	1.91	1.79	1.40	1.57	1.52	1.46	1.71	1.96	2.11	2.11
Reactor - construction	1344	1359	1155	1602	1814	2085	1841	1861	1270	1183
	1.00	1.60	1.59	1.82	1.56	1.65	1.64	1.19	1.01	1.87
Reactor - control technician	111	111	118	135	170	177	189	183	153	268
	1.33	1.30	1.48	1.20	0.82	0.82	1.34	2.22	0.15	1.02
Reactor - electrical maintenance	1015	978	956	987	1064	1331	1441	1410	1393	1457
	1.18	1.13	0.95	1.04	0.85	0.99	0.86	1.10	0.67	1.00

Table 6 (Cont'd)
10 year trend of worker counts (top) and average annual doses in mSv (bottom) by job category for all of Canada

Job Category	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Reactor - fuel handling	44	39	55	45	52	47	51	127	113	128
	3.84	4.76	4.73	6.31	5.64	3.17	3.99	3.34	1.98	4.33
Reactor - general maintenance	1298	1286	1147	1299	1353	1502	1518	1394	1414	1536
	0.87	0.79	0.90	1.03	0.86	1.03	0.77	1.12	0.75	1.17
Reactor - health physics	84	68	61	79	84	63	63	54	71	83
	0.54	0.36	0.48	0.48	0.40	0.47	0.69	0.84	0.43	0.49
Reactor - industrial radiographer	26	11	9	22	58	46	68	94	72	67
	2.24	1.30	1.13	2.12	2.40	1.59	2.88	2.79	2.25	3.39
Reactor - mechanical maintenance	1429	1315	1229	1293	1286	1558	1736	1632	1452	1767
	2.31	2.55	2.12	2.52	2.10	2.17	1.84	2.32	1.56	2.24
Reactor - operations	1864	1866	1914	1934	1993	2171	2191	2312	2319	2437
	1.59	1.61	1.24	1.16	1.12	1.14	0.97	1.14	1.02	1.19
Reactor - scientific/professional	1388	1572	1440	1558	1989	2467	2519	2533	2510	2564
	0.55	0.73	0.53	0.54	0.48	0.45	0.54	0.55	0.42	0.43
Reactor - training	55	50	58	93	93	64	58	60	61	89
	0.28	0.31	0.60	0.83	0.43	0.36	0.56	0.61	0.27	0.33
Reactor - visitor	339	529	725	2667	3442	5350	6684	6630	6348	6487
	0.92	0.41	0.54	0.40	0.17	0.57	0.67	0.54	0.81	0.93
Particle Accelerators										
Accelerators - Administration	24	25	26	27	27	27	27	38	37	39
	0.03	0.02	0.01	0.00	0.07	0.23	0.10	1.16	0.12	0.14
Accelerators - Control technicians	15	15	15	15	15	15	15	25	29	29
	0.07	0.01	0.01	0.07	0.10	0.33	0.11	1.25	0.26	0.38
Accelerators - Designers	13	13	13	14	14	14	14	18	18	17
	1.05	1.18	0.65	1.03	0.96	1.36	0.92	1.92	0.86	0.59
Accelerators - General Maintenance	10	10	11	11	11	11	11	18	20	19
	1.16	1.13	3.78	0.98	0.71	1.30	1.20	2.21	0.95	1.01
Accelerators - Machinists	16	16	19	19	19	19	19	25	27	28
	0.06	0.19	0.30	0.41	0.34	0.62	0.32	1.14	0.26	0.28
Accelerators - Mechanical technicians	44	46	48	50	51	51	51	69	72	78
	1.94	1.80	0.55	0.80	0.89	1.03	1.11	2.61	1.42	1.06
Accelerators - Operations	15	16	18	18	18	18	18	34	38	42
	1.43	2.05	0.97	0.62	0.98	1.77	1.81	2.74	1.53	1.96
Accelerators - Scientific/professional	178	183	195	218	225	233	239	303	317	322
	0.34	0.20	0.18	0.20	0.24	0.47	0.30	1.24	0.25	0.26
Accelerators - Visitors	9	9	8	15	15	14	15	56	68	98
	0.03	0.04	0.01	0.01	0.07	0.26	0.12	1.04	0.07	0.07
Uranium Mining										
Uranium mine electrician			8	16	8		4			1
			0.18	0.27	0.15		0.00			0.05

Table 6 (Cont'd)
10 year trend of worker counts (top) and average annual doses in mSv (bottom) by job category for all of Canada

Job Category	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Uranium mine mill maintenance	163	169	186	207	185	162	183	209	309	310
	1.95	2.71	2.13	1.36	1.68	1.66	1.24	1.01	0.85	0.68
Uranium mine mill worker	245	256	272	306	273	258	249	260	274	285
	2.14	2.62	2.05	1.47	2.03	2.10	1.66	1.35	1.59	1.00
Uranium mine nurse	8	10	18	24	17	14	11	13	14	23
	0.09	0.16	0.24	0.06	0.11	0.11	0.11	0.21	0.17	0.04
Uranium mine office staff	115	140	177	196	179	170	149	145	223	286
	0.34	0.23	0.19	0.24	0.18	0.16	0.17	0.15	0.16	0.10
Uranium mine support worker	154	153	296	467	327	176	143	144	230	350
	2.73	3.51	1.79	1.29	1.19	1.11	1.37	1.77	1.21	0.89
Uranium mine surface maintenance	269	224	222	287	207	190	203	231	301	385
	0.78	0.51	0.57	0.51	0.61	0.81	0.49	0.47	0.42	0.27
Uranium mine surface miner	217	245	116	108	88	47	46	42	36	73
	0.95	0.93	0.73	0.59	1.34	2.15	1.53	1.19	0.45	0.83
Uranium mine surface personnel	80	123	164	222	187	177	173	182	232	280
	0.39	0.31	0.52	0.41	0.64	0.61	0.41	0.52	0.34	0.33
Uranium mine surface support worker	345	352	357	302	296	335	331	369	568	795
	0.57	0.65	0.60	0.30	0.30	0.28	0.19	0.17	0.15	0.12
Uranium mine underground maintenance	116	103	137	204	195	115	128	158	142	190
	2.32	1.49	1.13	0.92	0.70	0.46	0.74	1.01	1.00	0.60
Uranium mine underground miner	494	353	361	344	284	161	196	273	206	258
	6.51	6.05	3.27	3.13	2.57	2.29	2.65	2.74	3.71	1.73
Uranium mine underground personnel	347	340	213	150	110	72	82	97	94	125
	0.64	0.92	0.92	1.08	0.89	0.49	0.77	1.07	1.31	0.60
Uranium mine visitor	238	249	306	399	185	132	151	120	10	53
	0.15	0.13	0.06	0.10	0.21	0.41	0.34	0.14	0.05	0.02
Miscellaneous/Unknown										
Miscellaneous/Unknown	32902	31889	31569	30810	28561	25940	24938	25112	24997	27915
	0.21	0.21	0.22	0.17	0.17	0.15	0.14	0.15	0.15	0.58
Total										
Total	123200	124273	124477	127740	131465	136132	139181	142594	143360	147099
	0.34	0.34	0.31	0.31	0.28	0.33	0.31	0.33	0.30	0.41

Appendix

The new three component normal (TCN) distribution

The appendix explains how the data can be fitted to a statistical distribution, so that: (1) the sample of doses can be described by 5 quantities (the parameters of the distribution and sample size); and, (2) from these quantities, any dose statistic can be estimated, including any statistic not listed in this report, such as the 9-th decile.

Statistical distributions are defined by a probability density function, which is interpreted as follows:

The probability that a dose value lies between a and b equals

$$\int_a^b f(x)dx \quad ,$$

where f represents the probability density function and x assumes possible values of a random variable X which in our case represents the occupational dose.

The probability density function also contains a number of parameters, which determine the shape of the function. The distribution is defined by the mathematical formula for the density function, with the parameters as yet unspecified. Only when the parameters have been specified is the statistical model for the occupational dose defined. Parameters are adjusted to fit the data.

The TCN distribution has been designed to provide good fits especially to low dose distributions. Its probability density function is defined as:

$$f(x:A,B,C,D) =$$

$$\phi(A*\log(x) + B*x - C/x + D) *$$

$$(A/x + B + C/x^2) =$$

$$\phi(z) * (dz/dx)$$

where $\phi(t)$ denotes the standard normal probability density function $\exp(-t^2/2)/\sqrt{(2\pi)}$, and A, B, C and D are parameters of the distribution. In other words, the random variable:

$$Z = A*\log(X) + B*X - C/X + D$$

follows a standard normal distribution.

The parameters A, B and C are restricted to values >=0. If A=0 then B>0 and C>0. There are no restrictions on the parameter D.

Special cases of this distribution arise when B and C are fixed to 0, and when just C is fixed to 0, while A>0; they are reparametrized versions of respectively the lognormal and hybrid lognormal distributions[4,5], which were used in early reports.

If the parameters for the probability density function f are known, one can estimate any dose statistic. For example, the mean dose is estimated as:

$$\int_0^\infty xf(x)dx$$

(since the dose values x are between 0 and infinity).

The variance of the dose is estimated as:

$$\int_0^\infty (x-\text{mean})^2 f(x)dx$$

and the standard deviation as the square root thereof.

The probability that a dose exceeds, for example, 50 mSv, is estimated as:

$$\int_{50}^\infty f(x)dx \quad .$$

The 95-th percentile is estimated as that dose value v for which:

$$\int_{v}^{\infty} f(x)dx = 95/100 .$$

The fraction of the collective dose due to doses exceeding 15 mSv is estimated as:

$$\frac{\int_{15}^{\infty} xf(x)dx}{\int_{0}^{\infty} xf(x)dx} .$$

The parameters are determined from the actual dose data. They are chosen to give the best "fit" with the sample of observed data, for which purpose there exists a variety of methods. The parameters in Table 4 have been estimated with a form of the Maximum Likelihood method. With this method, dose statistics can be estimated with the formulas given above, with the tabulated parameter values substituted for A, B, C and D. Instead of single dose values, small dose intervals and their frequencies (i.e. number of doses within the intervals) are used to determine the parameters. Doses recorded as 0 are assumed to have small positive values within the lowest dose interval. The resulting models will be valid for complete sets of workers' doses, not just doses recorded as positive as in early reports.