

R

III

407530

Handwritten notes

Handwritten notes

Handwritten notes

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025																																																																																																																																							
Population (millions)	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355	360	365	370	375	380	385	390	395	400	405	410	415	420	425	430	435	440	445	450	455	460	465	470	475	480	485	490	495	500	505	510	515	520	525	530	535	540	545	550	555	560	565	570	575	580	585	590	595	600	605	610	615	620	625	630	635	640	645	650	655	660	665	670	675	680	685	690	695	700	705	710	715	720	725	730	735	740	745	750	755	760	765	770	775	780	785	790	795	800	805	810	815	820	825	830	835	840	845	850	855	860	865	870	875	880	885	890	895	900	905	910	915	920	925	930	935	940	945	950	955	960	965	970	975	980	985	990	995	1000

1. Highest dose values were used. These are based on 100% compliance. A 10% survey
 () Numbers used in book.
 [] Maximum annual dose in millirems.

GENETIC EFFECTS

OCTOBER 31, 1982

8	9	10	11
30-year RB Inse x Number of Births (Column 7 x Column 4)	REF-111 Minimum Number of Increased Effects (Column 8 x 5 x 10 ⁻⁵ per rem)	Maximum Number of Increased Effects (Column 8 x 75 x 10 ⁻⁵ per rem)	Percent Increased (Column 10 ÷ Column 3 x 100)
1557.0	0.0000 (0.0000)	0.0000	
246.7	0.0000	0.0000 (0.0000)	
342.44	0.0000 (0.0000)	0.0000 (0.0000)	
100.0	0.0000 (0.0000)	0.0000 (0.0000)	
22.0	0.0000 (0.0000)	0.0000 (0.0000)	
222.75	0.0000 (0.0000)	0.0000 (0.0000)	
12.0	0.0000 (0.0000)	0.0000 (0.0000)	
72.0	0.0000 (0.0000)	0.0000 (0.0000)	
1.5	0.0000 (0.0000)	0.0000 (0.0000)	
1.00	0.0000 (0.0000)	0.0000 (0.0000)	
100.0	0.0000 (0.0000)	0.0000 (0.0000)	
100.0	0.0000 (0.0000)	0.0000 (0.0000)	

Table 1. Summary of Survey Data

Survey Method	Sample Size (n)	Mean (m)	Standard Deviation (s)	95% CI (m ± 1.96s)
Handheld (A)	100	0.002	0.002	0.002 ± 0.004
Handheld (B)	100	0.007	0.007	0.007 ± 0.014
Handheld (C)	100	0.0165	0.0165	0.0165 ± 0.033
Handheld (D)	100	0.026	0.026	0.026 ± 0.052
Handheld (E)	100	0.09	0.09	0.09 ± 0.18
Handheld (F)	100	0.09	0.09	0.09 ± 0.18
Handheld (G)	100	0.076	0.076	0.076 ± 0.152
Handheld (H)	100	0.002	0.002	0.002 ± 0.004
Handheld (I)	100	0.0165	0.0165	0.0165 ± 0.033
Handheld (J)	100	0.026	0.026	0.026 ± 0.052
Handheld (K)	100	0.09	0.09	0.09 ± 0.18
Handheld (L)	100	0.09	0.09	0.09 ± 0.18
Handheld (M)	100	0.076	0.076	0.076 ± 0.152
Handheld (N)	100	0.002	0.002	0.002 ± 0.004
Handheld (O)	100	0.0165	0.0165	0.0165 ± 0.033
Handheld (P)	100	0.026	0.026	0.026 ± 0.052
Handheld (Q)	100	0.09	0.09	0.09 ± 0.18
Handheld (R)	100	0.09	0.09	0.09 ± 0.18
Handheld (S)	100	0.076	0.076	0.076 ± 0.152
Handheld (T)	100	0.002	0.002	0.002 ± 0.004
Handheld (U)	100	0.0165	0.0165	0.0165 ± 0.033
Handheld (V)	100	0.026	0.026	0.026 ± 0.052
Handheld (W)	100	0.09	0.09	0.09 ± 0.18
Handheld (X)	100	0.09	0.09	0.09 ± 0.18
Handheld (Y)	100	0.076	0.076	0.076 ± 0.152
Handheld (Z)	100	0.002	0.002	0.002 ± 0.004

* Highest dose values were used. These were based on BNL Community A & B Surveys.

CANCER RISK

8	9	10	11	12	13	14
BEIR-I Absolute (Col. 7 x 87 x 10 ⁻⁴ rem ⁻¹)	BEIR-I Relative (Col. 7 x 458 x 10 ⁻⁴ rem ⁻¹)	Number of Cancer Deaths BEIR-III Absolute (Col. 7 x 67 x 10 ⁻⁴ rem ⁻¹)	BEIR-III Relative (Col. 7 x 430 x 10 ⁻⁴ rem ⁻¹)	Deaths in 30 years	Natural Rates Cancer (1/100 of All Deaths)	Percent Increase (Col. 11 ÷ Col. 13 x 100)

3 x 2 50 1000 1000 1000

2 x 2 30 1000 1000 1000

2 x 2 30 1000 1000 1000

2 x 2 30 1000 1000 1000

2 x 2 30 1000 1000 1000

2 x 2 30 1000 1000 1000

2 x 2 30 1000 1000 1000

2 x 2 30 1000 1000 1000

2 x 2 30 1000 1000 1000

2 x 2 30 1000 1000 1000

2 x 2 30 1000 1000 1000

1	2	3	4	5	6	7
Age Group	Initial Population	40-Year Born Moving In*	40-Year Persons (Col. 1 + Col. 2)	Number of Births Expected in 40 Years	40-Year Base (Col. 4 + Col. 5)	30 Year Additional Person Years (Col. 4 + Col. 5)
0-4	400	2,100	2,500	100	2,600	2,600
5-9	300	1,700	2,000	80	2,100	2,100
10-14	200	1,300	1,500	60	1,600	1,600
15-19	100	900	1,000	40	1,100	1,100
20-24	50	450	500	20	550	550
25-29	25	225	250	10	275	275
30-34	10	90	100	4	110	110
35-39	5	45	50	2	55	55
40-44	2	18	20	1	22	22
45-49	1	9	10	0.5	11.5	11.5
50-54	0.5	4.5	5	0.25	5.75	5.75
55-59	0.25	2.25	2.5	0.125	2.875	2.875
60-64	0.125	1.125	1.25	0.0625	1.4375	1.4375
65-69	0.0625	0.5625	0.625	0.03125	0.71875	0.71875
70-74	0.03125	0.28125	0.3125	0.015625	0.36875	0.36875
75-79	0.015625	0.140625	0.15625	0.0078125	0.184375	0.184375
80-84	0.0078125	0.0703125	0.078125	0.00390625	0.0921875	0.0921875
85-89	0.00390625	0.03515625	0.0390625	0.001953125	0.04609375	0.04609375
90-94	0.001953125	0.017578125	0.01953125	0.0009765625	0.023046875	0.023046875
95-99	0.0009765625	0.0087890625	0.009765625	0.00048828125	0.011534375	0.011534375
100	0.00048828125	0.00439453125	0.0048828125	0.000244140625	0.005829375	0.005829375
Total	32	2,900	3,200	141	3,341	3,341

* Includes those who are born there and those who move in from other areas.