

8/27/80

Ⓟ

To: B. W. Wachholz
J. W. Healy

From: W. J. Bair

Meeting with George Casarett on August 22, 1980

409886

Re: Suggestions for Bikini book risk values

I. Cancer Risks

Relative risk: gives higher values, less reliable because spontaneous cancer incidence is not known.

Absolute: is less variable with population--not dependent upon spontaneous cancer incidence

George thinks both should be used to show range of risk estimates. To do so means percentage values as used in Enewetak book should not be used.

Dose

George suggests using bone marrow dose only because it is highest.

BEIR-I

EPA revised risk coefficients to accommodate changes in U.S. population statistics.

II. Birth Defects

Question of meaning of parental exposure--total dose to both parents? May need to double dose used for Bikini people.

George thinks approach used for 3 Mile Island report is valid.

(NOTE: Asterisks *, **, and *** noted on the attached tables are for references that will be supplied later.)

REPOSITORY PNNL
 COLLECTION Marshall Islands
 BOX No. 5684
 FOLDER Untitled

DOCUMENT DOES NOT CONTAIN ECI

Reviewed by J. Schuette Date 9/30/97

FORM 100

Bikini - Risk Calculation - August 23, 1980

Dose an rem)	30 year Man Rem	Number of Can		
		BEIR I		Absolute Up
		Relative Updated** (568)	1972* (310)	
3.0 6.0	1650 3300	.512 1.023	.937 1.874	.157 .314
25. 47.	13750 25850	4.26 8.014	7.81 14.68	1.31 2.46
3.4 6.5	1870 3575	0.58 1.11	1.062 2.03	.178 .34
1.5 3.1	525 1085	.163 .34	.298 .616	.0499 .103
and 1 off)				
1.7 3.3	595 1155	0.184 0.358	.338 .656	.057 .11
1.03 2.1	242 493.5	.075 .153	.137 .28	.023 .047
and 2 off)				
1.2 2.2	282 517	.087 .1603	.16 .294	.027 .049

Living Condition	P
(Risk Coefficients - p	1
Eneu - 100%	5
1. Imported food	5
2. No imported food	5
Bikini - 100%	5
3. Imported food	5
4. No imported food	5
Eneu - 330, Bikini 35	5
5. Imported food	5
6. No imported food	5
Eneu (1 on and 1 off)	3
7. Imported food	3
8. No imported food	3
Eneu - 330, Bikini - 3	(1
9. Imported food	3
10. No imported food	3
Eneu	2
11. Imported food	2
12. No imported food	2
Eneu - 330, Bikini - 3	(1
13. Imported food	2
14. No imported food	2

BEIR I

Relative
(Based on 0.4% Increase Per Rem)

	<u>% Increase</u>	<u>Normal Cancer Death (15%)</u>	<u>Number of Increased Cancer Death</u>
1.	1.2	83	.996
2.	2.4	83	1.99
3.	10.	83	8.3
4.	18.8	83	15.6
5.	1.36	83	1.13
6.	2.6	83	2.15
7.	.6	53	.318
8.	1.24	53	.66
9.	.68	53	.36
10.	1.32	53	.6996
11.	.412	35	.144
12.	.84	35	.294
13.	.48	35	.168
14.	.88	35	.308

BIRTH DEFECTS

	Population and Number of Births	Spontaneous Birth Defects (10.7%-11%)*	30-Year Dose (rem)	% Increase (0.2%/rem)**	No. of Increased Birth Defects	Number Based on 0.01%/rem
1.	550	59 → 60	2.8	.56	.336	.017
2.	550	59 → 60	5.4	1.08	.648	.032
3.	550	59 60	24.	4.8	2.88	.144
4.	550	59 60	44.	8.8	5.28	.264
5.	550	59 60	3.2	.64	.38	.019
6.	550	59 60	5.9	1.18	.708	.0354
7.	350	37 40	1.4	.28	.112	.0056
8.	350	37 40	2.8	.56	.224	.0112
9.	350	37 40	1.6	.32	.128	.0064
10.	350	37 40	3.0	.6	.24	.012
11.	235	25 27	.96	.192	.0518	.0026
12.	235	25 27	1.9	.38	.1026	.00513
13.	235	25 27	1.1	.22	.0594	.0029
14.	235	25 27	2.0	.4	.108	.0054