TABLE 5.2.2.1–1.—*Major Sources of Radiation Exposure in the Vicinity of the Nevada Test Site*

SOURCE OF EXPOSURE	DOSE TO AVERAGE INDIVIDUAL (mrem/yr)[1]	PERCENTAGE OF TOTAL EXPOSURE
NATURAL BACKGROUND RADIATION		
Cosmic and external terrestrial	97	
Internal terrestrial	39	
Radon in home	200	
Total natural	336	84
MEDICAL RADIATION		
Diagnostic x-rays	39	
Nuclear medicine	14	
Total medical	53	13.2
OTHER SOURCES		
Weapons test fallout	<1	
Consumer and industrial products	10	
Air travel	1	
Nuclear facilities (other than NTS and transportation of radioactive materials)	<1	
NTS - environmental radioactivity	.00055	
Total other	11	2.8
Total—all sources	400	100

[1]Effective dose equivalent.

Sources: NCRP 1987:15, 53; DOE 1994t:1-6; DOE 1994v:2.4-42

handling of pits at Pantex Plant, worker doses from unloading 2,000 pits per year are estimated to be 27 person-rem per year or 270 person-rem for unloading 20,000 pits (the maximum number of pits which may be stored at P-Tunnel). Once removed from the SSTs, pits would be transferred into P-Tunnel for storage. Pit transfers within P-Tunnel would result in radiological exposures to onsite workers handling the pits; doses of less than 2 person-rem per year for handling 2,000 pits and about 13 person-rem for the placement of 20,000 pits.

The combined worker dose from unloading and storage of 20,000 pits at P-Tunnel would be 283 person-rem distributed over the 30 people directly involved in material handling. Assuming that the same 30 people continue to handle 20,000 pits over a period of 10 years and using a dose-to-risk conversion factor of 4×10^{-4} latent cancer fatality (LCF) per person-rem, there would be an additional 0.11 LCF experienced by this group due to radiological exposure from pit handling.

The probability of LCFs from all causes in the general population is estimated at 20 percent, which implies that 6 of 30 workers would develop a fatal cancer from all other causes. With an additional 0.11 LCF from pit handling, the total risk of latent fatal cancers among workers at P-Tunnel would increase by 1.8 percent.

Some operational accidents could result in impacts to both onsite workers and the offsite general population. Radiological exposures and the resultant risk of LCFs have been calculated.

The probability of an onsite worker contracting a fatal cancer from radiological exposures from