

Experience with animals exposed in a variety of above and below ground structures during full-scale field operations at the Nevada Test Site in 1953, 1955 and 1957 were reviewed.

The data were assembled and summarized to illustrate the nature of the blast-induced problems of significance in protective shelters, "open" as well as "closed." Potential hazards were related to the following: various patterns of variation in environmental pressure; translational events associated with transient, high-velocity winds, ground shock and gravity involving the impact of energized inanimate objects on one hand the consequences of whole-body displacement on the other; non-line-of-site thermal phenomena including hot objects and rapidly moving hot, dustladen air and debris; and dust, in the respirable size range, sufficiently high in concentration even in "closed" shelters as to warrant design measures to minimize or eliminate the occurrence of small particulates whether arising from wall spalling or otherwise.

Tentative biological criteria, conceived to help assess human hazards from blast-related phenomena, were presented. Relevant data from the literature and ongoing research in environmental medicine were formulated, what information was extrapolated from animal data, and wherein "best estimates" were employed. "State-of-the-art" concepts were noted to emphasize areas in which more thinking and research must continue if more refined, complete and adequate criteria are to be forthcoming for assessing mans reponse to blast-induced variation in his immediate environment.