

BHOPAL DISASTER AND RISK ANALYSIS: THE SIGNIFICANCE  
OF THE BHOPAL DISASTER TO RISK ANALYSIS AT ANY OTHER  
CHEMICAL PLANT (SAFETY EXPENDITURE WITH CAPITAL RATIONING)

Ernest V. Anderson

Probabilities, Utilities and Risks  
Sun City West, Arizona 85375

ABSTRACT

Current frequency of chemical plant incidents involving the public my average one every ten years for a fifty man department (one every million man hours.) Prior to Bhopal these resulted in from 1 to 400 complaints per incident with visits to a first aid station the most common reaction. What guides should now be applied to such exposures?

Self regulation of loss exposures has limitations due to ignorance, poverty and self deception. Effective safety measures require both minimum and maximum cost levels on money. Synergism between small exposures may require that each of us consider the implications of others following our safety guides and lowers the allowable level of imposed risk.

KEY WORDS: Bhopal, Negligible-risk, Safe-enough, Stopping-rules,  
Externalities, Synergism, Acceptable-risk-imposition.

OBJECTIVES OF THIS PAPER

The objectives of this paper are to increase public understanding of some principles that have been useful in the field of loss prevention with insured risks and with self-insured risks, and to suggest that self-regulation of the chemical industry while necessary is in three (3) particular cases not sufficient to prevent material and human loss.

PUBLIC UNDERSTANDING

PUBLIC UNDERSTANDING is pertinent to any discussion of risk analysis. Indeed, the words "public" and "understanding" each have implications for decision-making.

UNDERSTANDING is risk analysis is achieved when any concerned citizen would act with the same sense of urgency or caution as the person who gives a warning or conveys relevant information. Of course, there can be disagreements about safety decisions--and I will say more about that--but if there is UNDERSTANDING, both parties will appreciate why, how, or what they are evaluating differently.

The other part of PUBLIC UNDERSTANDING--the PUBLIC-- is too often