RISK ASSESSMENT FOLLOWING CRISIS IN THE UNITED STATES:

THE KEMENY COMMISSION

Roger E. Kasterson and Arnold L. Gray

Center for Technology, Environment, and Development
Clark University
Worcester, Massachusetts 01610

U.S. Management of Risk: An Example

The past decade has witnessed a confluence of two important developments in energy policy-making: the recognition of the transition role of oil in the mix of energy resources and the rapid growth of interest in and use of risk assessment. On the one hand, it is clear that the United States and other nations must reduce their dependence upon imported (especially) and domestic oil supplies. This has been the common message of all the major energy reports. On the other hand, there is evident public concern over the risks, particularly those catastrophic in nature, presented by various energy sources. Opposition to the expansion of nuclear power has been most notable, but energy planners and utility executives ponder the long-term responses likely to other power sources such as the new coal-burning plants.

Much of the increased scientific attention to energy risks has occurred in the form of major probabilistic assessments of risk, both for individual energy facilities and for comparisons among energy sources. Beginning with the U.S. Nuclear Regulatory Commission's Reactor Safety Study (WASH 1400) of 1975, major risk studies have emerged as a central ingredient in energy policy deliberations in the United States and other countries. 1) Event tree and fault tree analyses are accepted methodologies, 2) the Lewis Report has called for increased use of quantitative risk analysis by the regulatory agencies, 3) there is evident congressional interest in comparative risk assessment, and 4) energy utilities and consulting firms are acquiring increased capability in such assessment skills.
This embrace of "big" risk assessments has preceded, however, thoughtful examination of the contributions of such studies. Sweden has been perhaps the largest per-capita generator of such assessments. Accordingly, the Swedish Energy Research and Development Commission in 1980 engaged the Beijer Institute to conduct a cross national study inquiring into the impacts of such assessments.

The paper which follows examines one special type of risk assessment: the Kemeny Commission post-mortem on the 1979 accident at the Three Mile Island nuclear plant [1]. As an assessment, it is more concerned with risk management institutions and practices than with the quantification of risk. Also, the linkage of the assessment with a major crisis undoubtedly puts this study at the higher end of likelihood of regulatory and policy change. The intent of this particular paper is to provide some empirical evidence from which to assess the more generic impacts of major energy risk assessments.

THE STRUCTURE OF NUCLEAR RISK MANAGEMENT

To facilitate comparisons with other national energy management systems, some pertinent features of nuclear risk management in the United States are noted. The most fundamental are those embedded in American political culture.

The basic tenets of American political culture are rooted in the inherent heterogeneity of American demography and in the Madisonian theory of democracy. In the Federalist, Paper No. 10, Madison noted the existence of factions which emanated from the nature of individuals - the differences of interest associated with differences in property, the attachment to various leaders, and the fallibility of human reason itself. Madison's central goal - which has become an article of faith in the American political credo - is the achievement of a non-tyrannical republic. To achieve it, the United States has erected a complicated network of constitutional checks and balances: the separate constituencies for electing President, senators, and representatives; the presidential veto power; a bicameral congress; presidential control over appointments and senatorial confirmation; and federalism itself. Other checks and balances have been added - judicial review, decentralized political power, the Senate filibuster, and indeed almost every organizational mechanism to provide an external check on any identifiable group of political leaders [2].

Central to this political culture has been the assumption of inherent conflict among the diversity of interests. The Constitution provides means for limiting and channeling conflict, not avoiding it. It is not surprising, then, that regulation in the United States is strongly adversarial in nature and is yet another arena where social conflicts are played out. Just as the constitutional