

Nuclear Power at the Crossroads: Challenges and Prospects for the Twenty First Century. Edited by T. C. Lowinger and G. W. Hinman, International Research Center for Energy and Economic Development, Boulder, Colorado, U.S.A., 1994: 11 Chapters, 218 + xxi pages.

When the first atomic power plants went on stream in the U.S.A. in the late 1950s, nuclear energy was universally acclaimed as a convenient, cheap and clean heat source for thermal power for generations to come. In that initial flush of euphoria, the hidden hazards of the radioactive fuel were overlooked as it was trusted that these could be contained by technological measures. It took two major accidents in nuclear reactors, namely, that at Three Mile Island, U.S.A., in 1979, and that at Chernobyl, former U.S.S.R., seven years later, to shake the world out of its complacency *vis-à-vis* nuclear hazards. Overnight, the initial enthusiasm for nuclear power turned into a crescendo of popular uprising which virtually stalled further expansion of nuclear power facilities for several years. This negative swing led to problems of other sorts, particularly in industrialized countries, where the phenomenal rise in electricity demand and the problems connected with fossil fuels which are the present mainstay for power generation (supply uncertainties, pollution, the greenhouse syndrome, etc.) have combined to bring the self-imposed moratorium on nuclear power to a rational reappraisal. It is now recognized that in the absence of any other readily available alternative as of yet to fossil fuels, expansion of the nuclear option is an inevitable necessity, if the present pace of development is to be sustained. In other words, nuclear power is now at the "crossroads", waiting to be unleashed for a "big leap forward" in the 21st century.

The key to the resurgence of nuclear power on a bigger-than-before scale lies in the rebuilding of confidence in the absolute safety of nuclear reactors and the affordability of nuclear power. This would involve a critical analysis of a number of issues (social, political and economic) with which the people at large are directly concerned, though the base for such an exercise would,

of course, be the quality of the technology and engineering invested in the design, construction and maintenance of new reactors. Admittedly, it will take many years of near faultless performance for nuclear power to regain public confidence. If the nuclear industry cannot ensure a high level of safety, it will not be accepted.

The United States and Japan are two among the highly industrialized countries where the restoration of nuclear power (in a big way) is considered vital and imperative in order to sustain economic growth. In pursuit of this objective, a team of social scientists and economists from Washington State University, U.S.A., and the Institute of Applied Energy (IAE), Japan, joined hands under the auspices of the International Research Center for Energy and Economic Development (ICEED), U.S.A., in 1988, to examine the national issues germane to the advancement of nuclear energy utilization in each of these countries which, though belonging to different social cultures, have common stakes in power development. The results of this comparative study of the socio-economic factors and people's dispositions are presented in the book under review.

Of the eleven chapters of the book, the first is a very useful introduction and overview by the editors. The remaining chapters deal with several vital issues such as those relating to plant safety, people's perceptions, cost overruns and construction delays, because of faulty estimating procedures, and political management. There are chapters comparing the situations pertaining to the two countries on several important issues determining the future of nuclear enterprises.

As observed by the Director of ICEED in his foreword, the book offers comparative case studies of specialized issues pertaining to nuclear power development, all of which would be of interest to teachers, students, analysts, forecasters and policy makers on an international scale.

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