BOOK REVIEW

Chernobyl – Catastrophe and Consequences

Jim Smith and Nicholas A Beresford
Springer and Praxis Publishing, UK ISBN 3 540 23866 2

The 20th anniversary of this momentous event has predictably given rise to a very broad spectrum of opinion and comment, varying from what Sir Bernard Ingham has described as "Chernobylitis – an inevitable festival of scaremongering, exaggeration and emotion" – to a formidable variety of attempts to state and analyse the facts behind what Smith and Beresford describe accurately in their title to this remarkable book.

It was my privilege as a young man in the 1950's to visit both Hiroshima and Nagasaki and in my later Parliamentary career to take a Select Committee to Three Mile Island. In the history of the 20th Century these events will undoubtedly be judged by its historians as examples of mankind's willingness to put civilisation at the risk of unpredictable consequences of unfettered science and its technological consequences. At the other end of the spectrum of opinion will be those who argue that, against the immense actual and potential contribution of nuclear power to our demand for energy, the catastrophe of Chernobyl must be judged in the context of a century in which human folly and stupidity undoubtedly cost tens of millions of lives.

The current media reports on the disaster reflect the broad spectrum of views on this event in particular and nuclear power in general. The view which may broadly be described as "green" propagates the opinion that Chernobyl was responsible for hundreds of thousands of deaths, many of which have still to occur. At the other end of the spectrum the IAEA, doubtless described as an "interested party" by its critics, suggests that "a reasonable central estimate is about 400 fatal radiation induced cancers during the lifetime of the 600,000 most highly exposed individuals and perhaps another 5,000 in more peripheral populations."

The IAEA article concludes that: "While any such estimates have some 'uncertainty', the current findings are compatible with the risk estimates derived from Japan and clearly rule out the claims of 'hundreds of thousands' deaths made by some anti-nuclear groups."

The number of actual deaths attributable without doubt to the disaster is, in fact, under one hundred.

But where, in this profoundly important controversy, does Smith and Beresford's important book fall? I would suggest that this is for each reader to judge. But I know of no more comprehensive, thorough or authoritative study of this topic or one which is demonstrably free from bias. It contains major contributions from three Russian, three Belarian, and one Ukraine, two Norwegian, one Swedish, three UK and one Austrian citizen. The volume contains some 71 charts and 82 tables. The text is complex and demands more that a modest familiarity with nuclear terminology, statistics and diagrams. Acronyms abound, as usual, but what is of outstanding interest is the range of scientific investigations which have been undertaken and effectively summarised. These cover radiation exposures generally, radiation fallout and environmental transfer, radioactivity in both terrestial and aquatic systems, wildlife health consequences and social and economic effects. Each chapter is followed by a list of references which reveals the astonishing range of investigations and publications to which this event has given rise.

The authors' summary and conclusions at the end of this profound and authoritative analysis are worth reading in themselves, even if the earlier material proves somewhat daunting for those who seek to extract from this disaster views for or against mankind's future dependence on nuclear power.

One of these is of particular interest: "Perhaps the largest impact of the accident on the ecology of the Chernobyl exclusion zone was brought about by the removal of the human population. Consequently activities such as agricultural production and the associated usages of herbicides, pesticides and fertilisers ceased. As a result floral and faunal biodiversity and abundance increased considerably."

The authors concluded that: "The net positive effect of removing humans from the exclusion zone therefore appears to exceed the negative impacts of radiation."

In their masterly summary they reach two further conclusions which seem of particular relevance to the current debate. The first is that "in many cases the mistakes made in response to the accident could be attributed not to a lack of knowledge in the scientific literature, but (for many complex reasons) to an ineffective distribution of this knowledge both within the scientific community itself and to decision makers and the general public." This would seem to have a special relevance to readers of this Journal.

The second conclusion is that "apart from less than 100 deaths which have been linked directly to radiation, the actual number of deaths attributable to Chernobyl *is not known accurately, and probably never will be* " (italics mine).

Finally the authors conclude that in coming decades "nuclear power will form an important (and probably increasing) role in global electricity generation" and that "if another Chernobyl is to be avoided, governments, scientists and the nuclear industry must not forget the lessons learnt in the years since 1986."

The authors have, in my judgement, perfomed an outstanding service to humanity in assembling and publishing the facts which sustain their conclusions in this volume. They have effectively demolished any excuse for publishing nonsense on the topic of nuclear power, its challenges, risks and rewards.

Sir Ian Lloyd