

Chapter 5

The International Response: Prospects for a Nuclear Safety Regime

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In April 1986, the Chernobyl nuclear reactor breached containment and released more than 100 million curies of radioactivity into the environment. The release from this *worst case* accident, which has been compared to several dozen Hiroshima bombs (Hohenemser and Renn, 1988), conformed little, if at all, to accepted nuclear accident scenarios. To everybody's relief, there were far fewer immediate fatalities in the Ukraine than would have been anticipated. Actual deaths, however, instead became anonymous statistical deaths. The radionuclide contamination reached most of the Northern Hemisphere, and expected future cancer fatalities may be in the thousands.[1]

This global radionuclide contamination was a surprise to the nuclear community, and triggered a novel international political recognition of a shared, global responsibility for the safety of nuclear installations. Chernobyl changed the very *definition* of nuclear risk. What was seen primarily as a local or national problem has now become a transboundary problem with regional, and even global, dimensions. Nuclear risk has thus joined the rapidly expanding family of global environmental issues, such as ozone depletion, climate warming, acid rain, and tropical rain forest destruction. The abrupt and dramatic emergence of these transboundary issues is an important element in shaping institutional responses.

As a transboundary problem, nuclear risk is unique in two respects. The Chernobyl release was the first to place the *risk* of a technological accident on the international agenda, although the Rhine River disaster following shortly thereafter tragically repeated the message that technological accidents can have far-reaching effects (Linnerooth, 1988). Second, and more important, the nuclear issue is one of the few global problems for which long-standing international organizations exist with formal responsibilities for its management.[2] The most important such institution is the International Atomic Energy Agency (IAEA), which is a functional body concerned with promoting the peaceful uses of nuclear technologies. Other relevant UN organizations, although directly concerned to a far lesser extent with nuclear problems, are the World Health Organization (WHO), the Food and Agriculture Organization (FAO), and the International Labor Organization (ILO). Influential bodies outside the UN include institutions of the European Communities (EC) and the Nuclear Energy Agency (NEA) of the Organisation for Economic Cooperation and Development (OECD).

In the aftermath of Chernobyl, demands were made for an international nuclear safety regime that would ensure comparability of standards, effective transfer of data between national industries and authorities, and genuine improvements in safety and emergency response. The IAEA was the only network already in existence with nuclear expertise, a fund of relevant data, and the necessary global reach. It was therefore natural to see it as leading attempts at international safety harmonization put in train by the 1979 Three Mile Island accident in the USA. However, the stakes had been raised by the Chernobyl accident, so much so as to pose a new set of aims and challenges, which could even require intervention in national regulatory processes.

Substantial reorientation is required if the international community is to play anything more than a clearinghouse role. Therefore, it is relevant to ask, several years after Chernobyl, what has been achieved by the international community and what are the prospects? Can existing international organizations effectively contribute to the control of the risks of further global pollution from more than 400 civilian nuclear power plants in 26 countries and associated shipments of radionuclides numbering between 18 and 39 million packages per year? Or will the gap between the apparent achievements of international environmental diplomacy and the actual environmental results, as Carroll (1988) warns, also materialize for nuclear power?

This chapter addresses these questions by examining the international organizations responsible for nuclear safety in Europe. The chapter begins not with the Chernobyl accident, but with the 1979 Three Mile Island (TMI) accident in the USA, since the TMI accident (in contrast to the Windscale accident in the UK) focused international attention on nuclear accident preparedness. Section 5.2 shows how international organizations, already acutely