

Chernobyl Accident: Lessons Learned for Radiation Protection

Jacov Kenigsberg*

*National Commission of Radiation Protection, Republic of Belarus
Prospect Pobediteley, 23, 220004, Minsk, Belarus*

Abstract

The long-term nature of the consequences of the accident at the Chernobyl nuclear power plant, which was a major technological catastrophe in terms of its scope and complexity and created humanitarian, environmental, social, economic and health consequences.

After more than twenty years we can conclude that Chernobyl accident was requested the big efforts of the national governments and international organisations for improvement new approaches to radiation safety, radiation protection, health care, emergency preparedness and response. During first years after accident some response actions did more harm than good because not based on international radiation protection principles, based on criteria developed during emergency and associated with mistrust, emotions, political pressure. As a result was inappropriate government reaction: unjustified relocation and decontamination - loss jobs, homes, billions of \$ cost; unjustified compensation (high portion of annual national budgets).

Non-radiological (e.g. detrimental economic, social and psychological) consequences was worse than direct radiological consequences. Psychological effects do not correlate with real exposure but with perception of risk. The affected people believe in threat to their health, doubt what has been reported about accident and resulted doses, got modification in life style, have somatic complains, got substance abuse (alcohol, tranquilizers, sleeping pills). The lack of accurate information and misperception of real radiation risk is believed also to have lead to change in behavior of some affected people.

Possible long-term health effect due to the accidental exposure remains an issue. There is no doubt that excess thyroid cancer incidence results from exposure to radioactive iodines, mainly by iodine-131. Radiation induced thyroid cancer could easily be prevented by timely warning, effective thyroid blocking, timely restriction of consumption for contaminated food.

The implementation of good known effective countermeasures at early stage could have substantially reduced the number of thyroid cancer cases after accident.

UN Chernobyl Forum recommended long-term activity for mitigation Chernobyl's consequences – A Strategy for Recovery. For improvement this strategy must be create the modern system of the radiation protection based on the new international and national recommendations. The key issues of the Belarusian experience is discussed.

* Presenting author: E-mail: jekenig@komchern.org.by