

Addressing Public Concerns about Radiation Impacts by Looking Back in Nuclear Accidents Worldwide

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Abstract : According to a report of International Atomic Energy Agency (IAEA), there are approximately 437 nuclear power stations are in operation in the present around the world in order to meet increasing energy demands. Indeed, nearly, a third of the world's energy demands are met through nuclear power because it is one of the most efficient and long-lasting sources of energy. However, there are also consequences when a major event takes place at a nuclear power station. Over the past years, a few major nuclear accidents have occurred around the world. According to a report of International Nuclear and Radiological Event Scale (INES), there are six nuclear accidents that are considered to be high level (risk) of the events: Fukushima Dai-chi (Level 7), Chernobyl (Level 7), Three Mile Island (Level 5), Windscale (Level 5), Kyshtym (Level 6) and Chalk River (Level 5). Today, many people still have doubt about using nuclear power. There is growing number of people who are against nuclear power after the serious accident occurred at the Fukushima Dai-chi nuclear power plant in Japan. In other words, there are public concerns about radiation impacts which emphasize Linear-No-Threshold (LNT) Issues, Radiation Health Effects, Radiation Protection and Social Impacts. This paper will address those keywords by looking back at the history of these major nuclear accidents worldwide, based on INES. This paper concludes that all major mistake from nuclear accidents are preventable due to the fact that most of them are caused by human error. In other words, the human factor has played a huge role in the malfunction and occurrence of most of those events. The correct handle of a crisis is determined, by having a good radiation protection program in place, it's what has a big impact on society and determines how acceptable people are of nuclear.

Keywords : linear-no-threshold (LNT) issues, radiation health effects, radiation protection, social impacts

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