Assessments by International Organizations

UNSCEAR 2020/2021 Report (8/8): Comparison between Various Attributes and Consequences of the Accidents at Chornobyl and Fukushima Daiichi NPSs

	Chornobyl NPS Accident	Fukushima Daiichi NPS Accident
Thyroid doses of evacuees for the first one year following the accident	Around 500 mSv	Around 0.8 – 15 mSv (adults)
Effective doses of evacuees for the first one year following the accident	Around 50 mSv	Around 0.05-6 mSv (adults)
Thyroid cancers	Substantial fraction of the 19,000 thyroid cancers observed (up to 2016) among people who were children or adolescents at the time of the accident is attributable to radiation exposure.	• Greater incidence of thyroid cancer and abnormalities was observed in those screened than were expected based on national statistics. • It is most likely the result of using high resolution ultrasound in the screening. • There is an increasing body of evidence that the observed thyroid cancers are not attributable to radiation exposure.
Other effects (e.g., other cancers, birth defects, fetal deaths, non-cancer diseases, etc.)	There is no persuasive evidence of any other health effect attributable to radiation exposure at Chornobyl NPS or Fukushima Daiichi NPS.	

The UNSCEAR 2020/2021 Report compiles major characteristics and features of the accidents at Fukushima Daiichi NPS and Chornobyl NPS, as well as estimated exposure doses and health effects due to these accidents regarding radiation workers and the general public. Results of the comparison concerning some items are shown in the table above.

The Report states that the consequences of the accident at Fukushima Daiichi NPS were much milder than those at Chornobyl NPS. As one of the reasons, it points out that the reactors at Fukushima Daiichi NPS had specifically designed containments within which most of the radionuclides released from the molten fuel were retained; by contrast, the reactor at Chornobyl NPS did not have a containment and the core was directly exposed to the atmosphere as a result of the explosion that occurred at the beginning of the accident. Additionally, cited major reasons include the rates of dispersed radionuclides deposited over the ocean and those deposited over the land mass, the transfer of radionuclides to agricultural products, the binding or fixation of radioactive cesium in soil, protective measures in respect of people and foodstuffs after the accidents, and differences in the regulations.

[Relevant parts in the Report]

- UNSCEAR 2020/2021 Report (prepared based on paragraph B1 on pages 189 to 198, ANNEX B)

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