

Dose Limits

Comparison between ICRP Recommendations and Domestic Laws and Regulations

		Occupational exposure		Public exposure	
		ICRP	Laws and regulations concerning the prevention of radiation hazards (Japan)	ICRP	Laws and regulations concerning the prevention of radiation hazards (Japan)
mSv: millisieverts					
Effective dose limits		The average annual dose for the prescribed five years should not exceed 20 mSv. The annual dose for any single year should not exceed 50 mSv. (*1)	The average annual dose for the prescribed five years should not exceed 20 mSv. The annual dose for any single year should not exceed 50 mSv. (*3)	1 mSv/year (In special circumstances, a higher value of effective dose could be allowed in a single year, provided that the average over 5 years does not exceed 1 mSv per year.) (*1)	No dose limit is specified, but doses at the boundaries of the site, including those due to exhaust gas and discharged water, are regulated not to exceed the dose limit of 1 mSv/year. (*3)
Equivalent dose limits	The Lens of the Eye	The average annual dose for the five years should not exceed 20 mSv/year and the annual dose for any single year should not exceed 50 mSv. (*2)	The average annual dose for the five years should not exceed 20 mSv/year and the annual dose for any single year should not exceed 50 mSv. (*3)	15 mSv/year (*1)	—
	Skin	500 mSv/year (*1)	500 mSv/year (*3)	50 mSv/year (*1)	—
	Fingers and toes	500 mSv/year (*1)	—	—	—
Dose limits for female radiation workers		The effective dose of an embryo/a fetus during gestation after reporting pregnancy should not exceed 1 mSv. (*1)	5 mSv/3 months Equivalent dose limit for the abdominal surface after coming to know of pregnancy until delivery: 2 mSv Internal exposure: 1 mSv (*3)	—	—

Source: Prepared based on the following:
 *1 2007 Recommendations of the ICRP;
 *2 ICRP Publication 118 "ICRP Statement on Tissue Reactions and Early and Late Effects of Radiation in Normal Tissues and Organs - Threshold Doses for Tissue Reactions in a Radiation Protection Context"; and
 *3 Japanese laws and regulations concerning the prevention of radiation hazards (as of December 2021)

Present laws and regulations in Japan have not yet completed the incorporation of the 2007 Recommendations of the ICRP, but dose limits specified in the 2007 Recommendations are mostly the same as those in the 1990 Recommendations. Therefore, dose limits in Japan also mostly coincide with those specified in the 2007 Recommendations. Japan has uniquely specified dose limits for female radiation workers (5 mSv per three months).

The ICRP Statement on Tissue Reactions provides recommendations concerning the equivalent dose limit for the lens of the eye under planned occupational exposure. Following the Statement, in Japan, the Radiation Council compiled and provided some insights on “Approach to Radiation Protection of the Lens of the Eye” in 2018, for relevant administrative bodies, and all related laws and regulations (the Regulation on Prevention of Ionizing Radiation Hazards, etc.) were amended in 2021.

Included in this reference material on March 31, 2013

Updated on March 31, 2023