



Factsheet for Decision Makers

Radiation Protection of Workers

DOSE LIMITS FOR WORKERS

Why is it important?

Radiation sources are widely used in medicine, industry, agriculture and research.

The uses of radiation continue to increase worldwide. Millions of workers throughout the world are exposed to radiation every day as a part of their jobs.

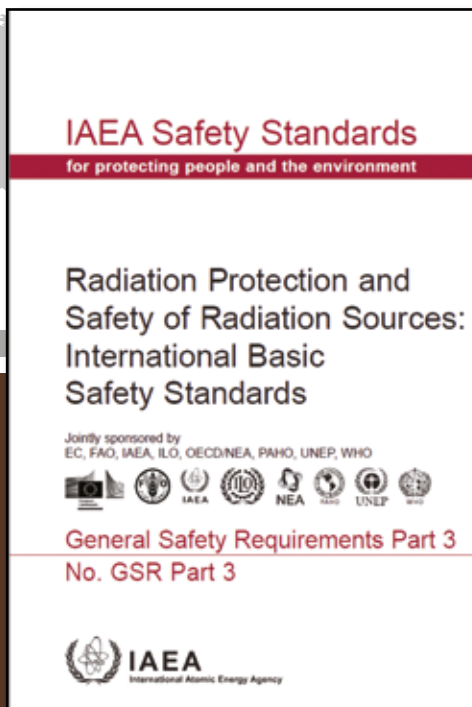
The International Labour Organization’s Radiation Protection Convention (C115) states that: “In the light of knowledge available at the time, all appropriate steps shall be taken to ensure effective protection of workers, as regards their health and safety, against ionizing radiations”.

What do I need to know?

Radiation doses to workers need to be controlled and the actual doses received need to be recorded and retained.

The system of radiation protection and safety outlined in the BSS sets dose limits for occupational exposure.

The measures in the BSS ensure that no individual bears an unacceptable risk of harm following exposure due to radiation. The implementation of the radiation protection system also requires that doses are reduced below the dose limits as far as reasonably achievable - so called optimization of protection.



The International Basic Safety Standards (BSS) are the international benchmark for radiation safety. The BSS are used in many countries as the basis for national legislation to protect workers, patients, the public and the environment from the risks of ionizing radiation.

The BSS are based on the most recent scientific evidence on the effects of ionizing radiation and take into account practices and experiences from around the world in the use of ionizing radiation and nuclear techniques. Eight international organizations sponsor the BSS.

What actions are required?



The government is responsible for establishing the legal and regulatory framework to protect workers exposed to radiation.

The licensee, employer and/or facility operator have prime responsibility for ensuring that workers' exposure does not exceed the dose limits.

The licensee, employer and/or facility operator should ensure that doses are reduced as far as reasonably practicable.

Workers are responsible for fulfilling their obligations and for carrying out their duties for protection and safety.

Dose Limits



For occupational exposure of workers over the age of eighteen years*:

20 mSv effective dose per year - averaged over five years (100 mSv in 5 years) **and**

50 mSv in any single year (in some countries the dose limit is 20mSv per year)

20 mSv equivalent dose per year to the lens of the eye averaged over five years (100 mSv in 5 years) **and**

50 mSv in any single year

500 mSv equivalent dose per year to the extremities (hands and feet) or to the skin



For occupational exposure of apprentices or students of 16 to 18 years of age who are being trained for employment involving radiation or use sources in the course of their studies*:

6 mSv effective dose per year

20 mSv equivalent dose per year to the lens of the eye

150 mSv equivalent dose per year to the extremities (hands and feet) or to the skin

* *Additional restrictions apply to occupational exposure for a female worker who is pregnant or is breast-feeding.*

Resources

Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards, No. GSR Part 3
http://www-pub.iaea.org/MTCD/publications/PDF/Pub1578_web-57265295.pdf

Occupational Radiation Protection Safety Guide