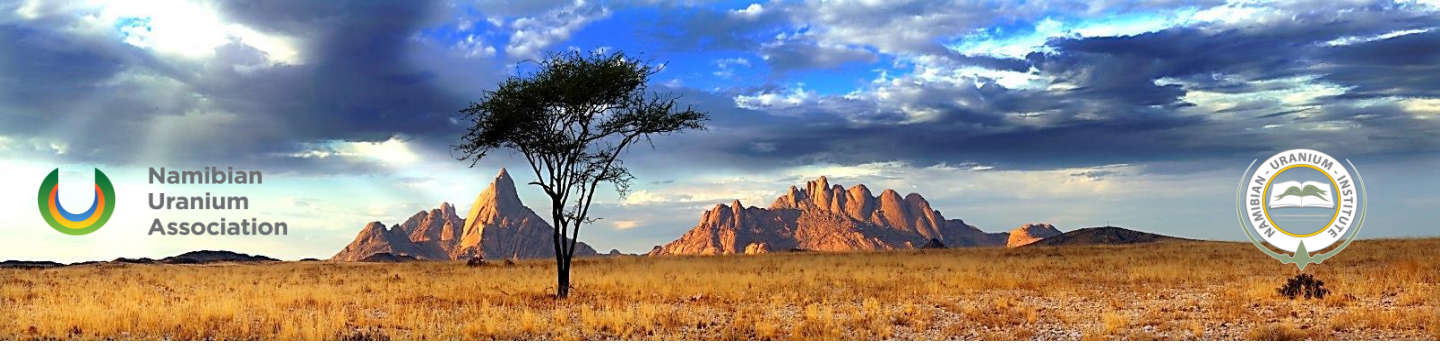


FACTSHEET: Exposure to Radiation

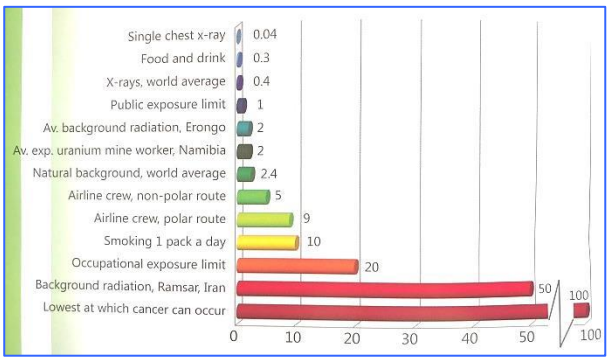
Apart from the background radiation, to which we are all exposed, there are potential exposure pathways for people working in the uranium exploration and mining sector. We distinguish between external and internal exposure.

External exposure is mainly from gamma radiation, and typically originates from radioactive ores, uranium-bearing waste rock, filled uranium oxide drums, or containers packed with such drums.

Inhalation of uranium-bearing dust leads to internal exposure, mainly from alpha radiation. Inhalation of radon gas and its decay products leads to internal exposure to alpha radiation. Ingestion (swallowing) of uranium-bearing dust leads to internal exposure, mainly from alpha and gamma radiation. Gamma radiation is the most penetrating type of nuclear radiation, and hence the most hazardous externally. Alpha radiation is the most ionizing type of nuclear radiation, and hence the largest internal radiation hazard.

Exposure Doses

Exposure to radiation is measured in Sievert (Sv) indicating the biological effect of ionising radiation. 1 Sv is equal to an energy of 1 Joule deposited into 1 kg of tissue. We can and should minimise unnecessary exposure to significant levels of radiation. Dose limits are therefore specified by the International Atomic Energy Agency.

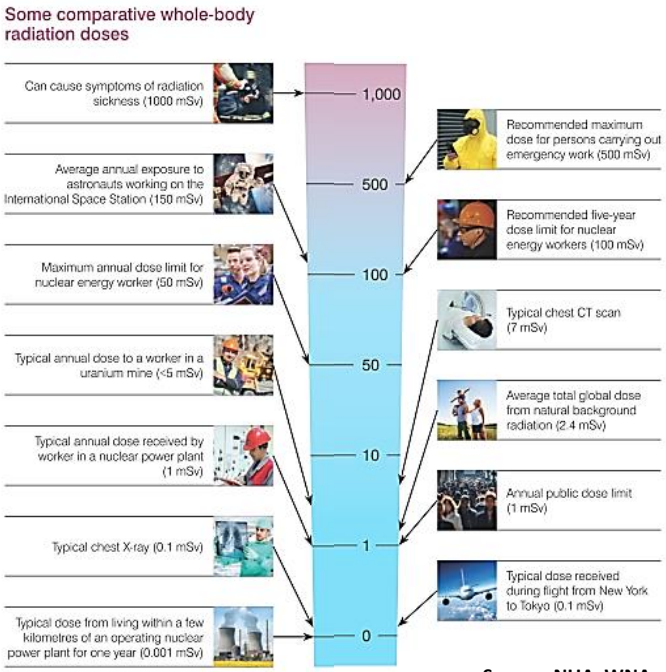


Exposure dose in mSV per year

Protection against radiation

Radiation can be very easily detected with a range of simple, sensitive instruments capable of detecting minute amounts of radiation from natural and anthropogenic sources. There are three ways in which people can be protected from identified radiation sources, namely limiting exposure time, increasing the distance from the source, and putting shielding in place.

Effects of radiation — Some dose limits



Source: NUA, WNA

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