

Regulators perspective

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Role of regulator

Based on international standards, national legislation and guides

- IAEA BSS, Safety Requirement GSR, Part 3
 - Protection of the environment
 - No real requirement – only one nicely written page
- IAEA Safety Guide, RS.G-1.8
 - Mentioned to ensure the protection of the public and environment
 - NPP: radiological of impacts, if any, on local environment
 - Monitoring results for workers, the public and the environment
- EU BSS
 - Nothing useful (removed from the final text!)

=> Finnish legislation, regulation and guides

Normal situation > <Emergencies

- In normal NPP situation
 - Plans have to be based on the fact, that normal using has no effect on humans and environment
 - Discharge limits very tight
 - Discharge levels are much lower => background level – no effect
- Mining sites
 - No limits for protection of environment
- Severe emergency situation
 - Most important to be proactive (prevent)
 - First focus on protection of people
 - Elevated levels in environment => not enough knowledge about effects
 - We need generally accepted and understood benchmark

YVL- guide (waste disposal)

- The claim 318 concerns the protection of other biotic environment. Repository of nuclear waste should not cause any harmful effects of radiation to biota. The international principles, radiation dose criteria and analysis methods to protect other biotic environment are only in preparation. The basis, which is building up, states that organisms must be protected on population level: the radiation exposure must stay on considerably lower level than the radiation doses that, to the best knowledge available, could cause decrease in diversity or some other significant harm to any biotic population. According to present knowledge, a radiation dose of less than 0,1 milligray per hour to a part of the organisms will not cause harmful effects to healthy populations [3]. This dose is more than thousand-fold greater compared to the dose limit set for humans receiving the highest exposure due to repository and several hundred-folds bigger than natural background radiation. Because of the ample safety marginal it is presumable that also the protection of endangered organisms and the biotic populations outside the living environment of humans is sufficient. It must, however, be verified by analysing typical radiation doses in the biota of the environment of the repository area must be assessed, assuming the biota will remain similar as today-

What is missing

- More research, and not only for external gamma/gamma radiation
- Knowledge of effects
 - In different environments, different radiation and both external and internal exposure
 - On remediation processes (ecological part)
 - On waste disposal aspect (not only NPP accident)
 - **Tools to be used**

Protecting of wildlife

