

Normative Energy Ethics

Lecture Series



December 12,
2023
15.00 CET

Nuclear waste, retrievability and future generations

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The climate crisis has led to renewed interest in nuclear energy, despite the existence of radioactive waste, potentially harmful for an extremely long period of time – up to one million years. The unparalleled time frame at stake rises the issues of responsibility towards future generations and of intergenerational equity in a brand new way and innovative policy and technical responses are required to address it. The aim of this talk is to analyze these strategies. Therefore, first, the institutional responses are presented. Secondly, deep geological disposal as an answer to institutional requirements is studied. Being passively safe, this option does not require active human intervention to guarantee its safety on the long term. Thereby, it tackles both the issue of our responsibility towards future generations and the one of intergenerational equity.

Thirdly, reversibility and retrievability are analyzed, and their ethical complexity is highlighted. Indeed, various provisions can be implemented to enhance reversibility and retrievability. These provisions are related to the decision-making process, to the waste containers, to the backfill materials, to the facility layout and to the closure process. The impacts of these provisions are clarified, specifically in terms of the principle of well-being and how they must be balanced against a desire to leave options open for future generations. The results are far from straightforward since these various features frequently lead to ethical dilemmas. Options regarding closure of the facility are particularly noteworthy in this regard. A reversible closure process may have both positive and negative impacts until the end of the institutional control phase, but thereafter it potentially leads to very deleterious consequences in terms of operational and long-term safety, as well as security and economic wellbeing. Ultimately, this research highlights the fact that, conceptually speaking, it makes no sense to analyze reversibility and retrievability as if they were global features of a geological disposal.



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