

# Clearance and recycling – how can radiation protection and application of the waste hierarchy be optimised?

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Henrik Efraimsson and Anders Wiebert  
Swedish Radiation Safety Authority (SSM)  
[henrik.efraimsson@ssm.se](mailto:henrik.efraimsson@ssm.se)

In this paper, the principles behind the current Swedish regulations for clearance of materials and for application of the waste hierarchy on radioactive waste are described and discussed. As a background, the applicable legislation for radiation protection and nuclear safety is briefly described and compared with the environmental legislation for waste management. The possibilities for a simultaneous optimisation of radiation protection, waste management and sustainability are analysed. As part of this, different factors to be considered in the optimisation of waste management in the context of clearance and recycling are presented and discussed. Examples of such factors are: possibilities of waste segregation, availability and acceptability of routes for recycling or disposal, availability of methods for radiological characterisation, predicted or potential radiation doses to members of the public, predicted or potential spread of radioactive substances in the environment, costs and material value. As an illustration, some examples on the use of the clearance option in the Swedish nuclear industry are presented, both from operation and decommissioning of nuclear facilities. Concluding remarks are made from a radiation protection regulatory perspective.