

Title	Guidance for the Definition and Application of Probabilistic Safety Criteria
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Abstract	<p>The project “The Validity of Safety Goals” has been financed jointly by NKS (Nordic Nuclear Safety Research), SSM (Swedish Radiation Safety Authority) and the Swedish and Finnish nuclear utilities. The national financing went through NPSAG, the Nordic PSA Group (Swedish contributions) and SAFIR2010, the Finnish research programme on NPP safety (Finnish contributions). The project has been performed in four phases during 2006–2010.</p> <p>This guidance document aims at describing, on the basis of the work performed throughout the project, issues to consider when defining, applying and interpreting probabilistic safety criteria. Thus, the basic aim of the document is to serve as a checklist and toolbox for the definition and application of probabilistic safety criteria. The document describes the terminology and concepts involved, the levels of criteria and relations between these, how to define a probabilistic safety criterion, how to apply a probabilistic safety criterion, on what to apply the probabilistic safety criterion, and how to interpret the result of the application. The document specifically deals with what makes up a probabilistic safety criterion, i.e., the risk metric, the frequency criterion, the PSA used for assessing compliance and the application procedure for the criterion. It also discusses the concept of subsidiary criteria, i.e., different levels of safety goals.</p> <p>The results from the project can be used as a platform for discussions at the utilities on how to define and use quantitative safety goals. The results can also be used by safety authorities as a reference for risk-informed regulation. The outcome can have an impact on the requirements on PSA, e.g., regarding quality, scope, level of detail, and documentation. Finally, the results can be expected to support on-going activities concerning risk-informed applications.</p>
Key words	Safety Goals, PSA, Safety Targets, ALARP, Decision criteria, Risk informed decision making