

USER GUIDANCE

This toolkit is a proof of concept to showcase how the output of the BEIS Safety and Security research work streams fits into the wider safety case context, and how this could be built upon to provide a more comprehensive UK safety case toolkit.

The following general rules apply when navigating the toolkit:

- Text which in the first usage is in *blue italics* indicates a defined term in the glossary. Hovering the cursor over the text will bring up the relevant definition.
- Text which in the first usage is blue and underlined indicates a hyperlink to the relevant section of the safety case toolkit.
- Text which in the first usage is *blue* but not underlined, is identified as a source of further guidance and is referenced at the end of that particular guidance.
- The menu provides links to the main topic areas of the toolkit. Hovering the cursor over these topic headings will make the subsection headings visible.
- Expandable subsections are used throughout the toolkit, and are indicated by an inverted white triangle on the section heading. Clicking on the triangle will expand or collapse the subsection as required.
- Headings not in use in this this toolkit prototype have been deliberately greyed out to avoid confusion.

The tools, methods and guidance specifically developed as part of the Nuclear Innovation programme have been supplemented with links to existing international, national and industry guidance, and good practice where this has been identified. Where sources of such industry guidance and good practice have been identified and utilised, this has been clearly stated including any identified enhancements or required UK specific context, with reference made to the relevant publication, for example IAEA Safety Guides.

The following content presents the direct output of the Advanced Safety Case Methodologies task R3.7.02 – Optimise the Communication, Presentations and Construction of the Safety Case:

- Attributes of Good Quality Safety Cases.
- Fundamental Nuclear Safety Principles.
- Claims Arguments and Evidence.
- Categorisation and Classification.
- Operating Rules and Technical Specifications.
- Electronic Safety Cases / Safety Case Data Model.
- Operational Risk Management and Dynamic ALARP.

In addition, the following content relates to other Nuclear Innovation Programme Safety and Security research tasks:

- GDA Roadmap – R3.7.13: Generic Roadmap towards Licensed operation of New / Novel Reactor Design in the UK.
- Probabilistic Safety Assessment – R3.7.12: Harmonisation with the International Treatment of Common Cause Failure (CCF).
- Model Based Systems Engineering (MBSE) – R3.5.07: Application of Model Based Systems Engineering (MBSE) in the UK Nuclear Sector.

Limitations and Constraints

The tools, methods and guidance presented in the toolkit represent the conclusions drawn by the individuals involved in relevant research tasks based on their experience and available guidance. While stakeholders from across the UK nuclear industry have input to the development of this toolkit through their involvement in and feedback from workshops, the toolkit cannot be considered to provide a definitive industry-wide view on the topics covered.

This toolkit is not a one-stop shop for the production of fit for purpose UK safety cases. It provides detailed advice and guidance on a number of specific areas of research and development identified during task R3.7.02 as areas of opportunity. It also provides more context on how these specific aspects fit into the broader UK safety case production process by providing a high-level overview of safety case lifecycle, tools and techniques, and signposting to existing guidance and good practice where appropriate. Application of the toolkit:

- Does not guarantee the quality of the end product. This is the responsibility of the site licence holder to demonstrate through the application of appropriate due process.
- Is not a substitute for a robust safety management system, which any organisation seeking a licence to operate a nuclear installation within the UK is required to have.