



Management of issues, limitation and assumptions in safety cases and safety case hierarchies

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Issues and Assumption management

- In safety cases often there is a need to manage collections of issues, requirements and constraints:
 - List of limitations
 - List of requirements
 - List of assumptions
 - List of actions
 - ... and so on
- Crucial at key project milestones, e.g.
 - Main Gate (Start of development)
 - Technical transfer (Start of use)
- Some standards require explicit list
 - E.g. Airworthiness Release to Service (RTS) document

Some technical options if using ASCE

- 0. Use existing capabilities for managing textual items and linking to them
 - Use embedded links to pull headings over
 - Use "Other" node types
 - Use a table and ASCE node mapping DNR
- 1. Use an external tool for managing these (spreadsheet, Requirements Management system etc)
 - You might already be required to use a specific tool
 - You can track changes from ASCE
 - *(see next talk!)*

More options

- 2. Develop/Use a custom schema that has these items
 - E.g. GSN has "Assumption and Context"
 - Could extend further with other node types
 - But this can get verbose, possibly cluttered
- 3. Use the Issues Embedding plugin
 - Benefit in keeping them in the context of the safety analysis that identified them
 - High degree of readability and comprehension in reports

Enter the Issues Embedding Plugin

- A DNR plugin that lets you raise a number of specific elements within your ASCE network:
 - Requirements, Issues, Limitations
 - Assumptions, Action, Risk, Custom
- Summary table collated and can be published into Safety case report, or into other ASCE networks
 - A simple approach to support for safety case modules
- Simple but effective
 - Can drag select to create new item
- Could be extended for other uses

Challenges

- Plugin needs to analyse and extract content from its own HTML node narratives
 - HTMLTidy used to convert HTML to XML
 - XPath then used to extract DNR content
- Otherwise fairly straightforward
 - a couple of hours to write basic prototype

Demo
