

ITT2B-Scenario: System Safety Engineering

Question:

In no more than 1500 words contained in a maximum of 4 sides of A4 (including diagrams and graphs) outline the issues pertaining to Systems Safety which need to be considered when planning and implementing changes within a transport network. Illustrate your understanding of Safety Engineering in relation to the following:

1. The use and process required to conduct a significance test for a system;
2. The use of and monitoring against a Systems RAMS Management Plan;
3. Planning and control of Systems Safety activities into a project;
4. Identification & Management of Systems Safety risks;
5. Demonstration of an ALARP argument including sensitivity analysis and discounting;
6. Mechanisms implemented to influence Project Management understanding of the Systems Safety discipline needs;
7. Ability to tailor Systems Safety processes according to risk and project scale;
8. Influencing the Procurement Process to enable an effective and efficient Systems Safety framework;
9. Ensuring the link between System safety and Cyber Security and managing emerging and or residual safety risks;
10. Demonstrating how safety evidence is presented.

Additionally, discuss how system safety risks can be maintained to ALARP during operational service without incurring disproportionate ongoing cost with condition and age?

In your answer include reference to any safety analysis methods and tools as relevant, for example HAZOP/HAZID, FMEA/FMECA, Fault/Event Tree, Safety Case.