ASSR – ATLAS SYSTEMS SAFETY REVIEWS

Guidelines for writing a ASSR Safety Report

Introduction

The goals and the organization of the ASSRs meetings are described in the document ATC-TY-ER-001 which can also be accessed using the Web (Atlas-Technical Coordination-Technical matter-Safety-Documents).

In this document is mentioned that, before each meeting, the persons responsible for the particular safety aspects treated during the meeting, must prepare a Safety Report which will constitute the main working document during the Review.

In the Report , hazards which can cause death or injury or damages to facilities, systems, subsystems or equipment should be identified. Risks should be assessed and mitigating actions taken to reduce hazards to an acceptable level should be described.

The reviewers will assess the adequacy of the preventive or mitigative design features provided to limit the probability of occurrence of a mishap and to reduce the severity of its consequence.

The Safety Reports will, of course, each have different sizes, according to the system concerned and the safety item treated.

However, in order to provide a certain uniformity in the presentation , the following guidelines should be followed:

1) Description of the System, Subsystem or Equipment concerned

- Where possible, a up-dated version of the description contained in the TDR should be presented
- add the necessary drawings and text to clarify the subject

2) Description of the identified hazards

- Starting with the hazards reported in the respective TDRs, and those identified since, complete and up-date the list
- In particular try to make a distinction amongst:
    - hazards and risks for persons
    - hazards and risks for the system or equipment itself
    - hazards and risks for the surrounding systems

3) Risk elimination or mitigation during the design phase of the system

- Report on how the hazard has been reduced ALARA (As Low As Reasonably Achievable) during the design phase, compatible with the physics requirements
- The compliance with Cern safety Rules and TIS Codes and Safety Instructions, should be demonstrated. In particular:
    - the Code C1 and Safety Instructions IS 28 and IS 33 for electricity
    - the Code G and IS 38 for the use of flammable gas
    - the IS 22 for the use of Lasers
    - the IS 23 for the selection of electrical cables etc..
    - the IS 36 for the use of magnetic fields
    - the IS 41 for the choice of plastic and non metallic materials

-the IS 48 for the use of cable trays
- etc…

-In those cases where a compliance with the safety rules could not be totally achieved, the reasons should be justified, such as physics requirements, technical constraints, costs, delay in the project etc..
In these cases, the compensatory safety measures should be enumerated.

4) Risk mitigating actions and safety measures
Where the hazards and the consequent risks could not have been eliminated during the design phase of the project, the necessary risk mitigating actions and safety measures must be enumerated and described in detail.
This includes safety interlocks, redundancy, fail safe design, system protection, protective devices, monitors, alarms etc…

5) Residual hazards and risks
If, despite the previous activities, some hazard cannot be completely eliminated, special compensatory safety measures should be implemented.
This could be:

- provide warning and caution notes in assembly, operation, maintenance of the equipment
- place distinctive warning notices or distinctive marking on hazardous components, material , equipment to ensure personal and equipment protection
- develop detailed safety procedures etc….

All this should be described in detail.

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