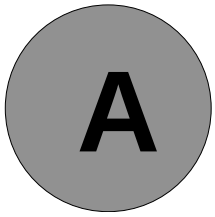

GUIDANCE MATERIAL:

OPERATIONAL ENVIRONMENT DEFINITION

1 INTRODUCTION

The purpose of this Guidance Material is to help further describing the Operational Environment so that PSSA can be performed.

The OED was already made during FHA, however some data have to be further detailed for the system design phase and its safety assessment (PSSA).

1 OPERATIONAL ENVIRONMENT DEFINITION FOR PSSA PURPOSE

Preliminary System Safety Assessment can only be properly conducted when considering the Air Navigation system being assessed within the context of the Operational Environment in which it will be integrated.

The description of the operational environment should include all characteristics, which may be relevant when assessing system architectures and their ability to meet safety objectives.

The minimum following information (additional to FHA'OED) should be provided:

- **Current ATM/CNS capabilities:** Detailed technical and operational performance and limitations of:
  - Equipment: technical specifications of the interface with the system being assessed:
    - either communication (Interface Requirement Specification) though Interface Control Document could be enough for FHA)
    - or Human Machine Interface (HMI): a user's manual or equivalent should be provided to start PSSA;
  - Navigation capability and performance (RNP, RNAV): PSSA-OED Should provide accuracy, precision, …. specifications;
  - Surveillance capability and performance (PSR, SSR, ADS): e.g. FHA-OED will say PSR+SSR though PSSA-OED will provide range coverage, exact area coverage (in case of obstacles, mountains), maximum number of tracks, accuracy, precision;
  - Communication capability and performance (voice and data-link): e.g. : FHA-OED will say " datalink", though PSSA-OED should say: datalink using VDL Mode 2 over ATN or using ACARS);
  - Proficiency of ATCOs;
  - Current procedures (operational, maintenance, etc.): procedures should be identified (decomposition into tasks, use of equipment, separation standards applied),

  - Use of safety nets (technical specification: algorithm, level of false alarms, time to react ,…);

- **Aircraft Performance and Equipment:**

  - aircraft technical requirements such as communication network, navigation performance, surveillance (transponder performance: Mode S, …)

  - Aircraft operator specific performance: e.g. conformance to TCAS RA;

- **Adjacent Centre Capabilities**:

  - technical characteristics of ATC Unit with which traffic is exchanged (performances and limitations): FHA-OED will say coordination with adjacent centers, PSSA-OED should say “OLDI over X25” with a specified Quality of Service);

  - Detailed operational performance: Letter of Agreement specification (description of various roles, communication means, recovery, emergency aspects), specification of coordination procedure between centres (task decomposition, equipment interface specification, …)

- **Airport Infrastructure**: e.g. detailed and technical specification of airport movement infrastructure (A-SMGCS, communication equipment, ..), specification of visual aids, airport movement procedure (decomposition into tasks, usage of equipment, emergency & recovery aspects, ..).

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