DATA ITEM DESCRIPTION

1. DID NUMBER: DID-ENG-SOL-TSREP-V5.3
2. TITLE: Trade Study Report
3. Description And Intended Use

Trade studies are a formal decision-making methodology used to select balanced solutions (eg, with respect to cost, schedule, performance, quality and risk) from available alternatives based on defined criteria. The outcome of a trade study is the identification of a preferred, feasible solution, given a specific set of defined evaluation criteria. The Trade Study Report (TSREP) documents the problem, methodology and outcome associated with each trade study explicitly defined in the Contract.

Note: The TSREP is not required to be used to document trade studies conducted by the Contractor as part of its normal design-and-development activities under the Contract.

The Contractor uses the TSREP to:

define the specific problem addressed by the trade study; and

detail the analysis, rationale and recommendations associated with the trade study.

The Commonwealth uses the TSREP to:

understand and assess the Contractor’s analysis of the problem;

provide input for Commonwealth decision-making; and

provide a repository for future reference.

1. INTER-RELATIONSHIPS

The TSREP is subordinate to the following data items, where these data items are required under the Contract:

Systems Engineering Management Plan (SEMP);

Integrated Support Plan (ISP); and

any plan for the conduct of trade studies required under the Contract.

1. Applicable Documents

The following documents form a part of this DID to the extent specified herein:

|  |  |
| --- | --- |
| 1. Nil. |  |

1. Preparation Instructions
   1. Generic Format and Content

The data item shall comply with the general format, content and preparation instructions contained in the CDRL clause entitled ‘General Requirements for Data Items’.

The data item shall include a traceability matrix that defines how each specific content requirement, as contained in this DID, is addressed by sections within the data item.

* 1. Specific Content
     1. Definition of the Problem

The TSREP shall define the problem that is the subject of the trade study.

* + 1. Evaluation Criteria

The TSREP shall define the set of evaluation criteria, by which alternative solutions have been compared and assessed, including any weighting of the criteria. These criteria should be traceable to requirements, operational scenarios, business case assumptions, business objectives, or other documented sources.

The TSREP shall record the rationale for the selection and rejection of the evaluation criteria applied.

* + 1. Definition of All Considered Solutions

The TSREP shall identify each of the possible solution options considered by the trade study.

For each of the identified options, the TSREP shall identify its significant characteristics. Where the specific options are described in detail by other documentation, this documentation shall be clearly referenced in the TSREP.

The TSREP should define the rationale for the selection of the chosen options from the total available solution space.

* + 1. Assessment Methodology

The TSREP shall define the methodology used in the execution of the trade study, including:

the assumptions, evidence supporting the assumptions, requirements and constraints;

any pilots, prototypes, models or simulators used; and

the trade-off methodology used.

* + 1. Option Assessment

The TSREP shall document the evaluation of each option against the defined criteria. Where the problem is reflected in a documented set of requirements, the compliance of each potential solution against those requirements shall be stated.

The TSREP shall document the rationale for the addition of new alternatives or methods and changes to criteria that occurred during the trade-study.

The TSREP shall identify the risks associated with the considered alternatives in the context of the required development.

* + 1. Recommendation

The TSREP shall document the recommended option and any proposed further course of action necessary to refine or implement that option.

The TSREP shall record both why the recommend option was selected and why other options were rejected.