MSR ChecklisT

1. Identification: -
2. TITLE: PRELIMINARY DESIGN Review Checklist
3. DESCRIPTION and intended use

The objectives of the Preliminary Design Review (PDR) are to confirm:

the Mission System preliminary design is sufficiently mature to proceed to the detailed design phase;

all subsystem and enabling product building blocks have been defined appropriately;

all subsystem building block designs satisfy their parent requirements;

the approaches to the next phase of development have been appropriately planned and that risks are identified with appropriate mitigation plans in place; and

the Supportability of the Mission System has been adequately addressed and the implications of the Mission System preliminary design on the Support System have been identified and incorporated into the applicable Contract plans.

This MSR Checklist sets out the Commonwealth’s requirements and minimum expectations for the conduct of a PDR.

1. INTER-RELATIONSHIPS

The PDR shall be conducted in accordance with the Approved System Review Plan (SRP), and shall be consistent with the following data items, where these data items are required under the Contract:

Systems Engineering Management Plan (SEMP);

Integrated Support Plan (ISP); and

Verification and Validation Plan (V&VP).

Primarily, the PDR demonstrates how the evolving design solution for the Mission System, as captured by the hierarchy of specifications and design documentation defined in the Mission System Technical Documentation Tree (MSTDT):

addresses the requirements embodied in the System Specification (SS) and Support System Specification (SSSPEC); and

allows the Commonwealth to achieve the capability defined by the Operational Concept Document (OCD).

Note: The Status column in the following three tables indicates whether or not the associated Checklist items are able to be tailored by the Contractor in its SRP, based on the following definitions:

1. Mandatory items are not to be tailored;
2. Highly Desirable items should not be tailored, but may be tailored depending upon the specifics of the Contract and the Contractor’s internal processes; and
3. Optional items may be tailored, based upon the specifics of the Contract and the Contractor’s internal processes.

Notwithstanding the Status assigned to each Checklist item, the items are to be included in the SRP if they are applicable.

1. Review Entry Criteria

| Item | Entry Criteria | Status |
| --- | --- | --- |
|  | 1. All data items required to be delivered before, and linked to, the PDR have been delivered and the Commonwealth Representative considers the data items to be suitable for the purposes of conducting PDR. | 1. Mandatory |
|  | 1. All technical documentation, as defined by the MSTDT and required to inform the PDR, has been developed and delivered in accordance with the CDRL, the MSTDT, and the Contractor’s plans. | 1. Mandatory |
|  | 1. The Contractor has reviewed Contract plans (including the Performance Measurement Baseline) to assess their consistency with the system requirements. | 1. Highly Desirable |
|  | 1. Action items from any previous System Reviews affecting PDR have been successfully addressed or action plans agreed with the Commonwealth Representative. | 1. Mandatory |

1. Review Checklist

| Item | Checklist Item | Status |
| --- | --- | --- |
|  | 1. Were all entry criteria satisfied before starting PDR? | 1. Mandatory |
|  | 1. Has the impact of Approved and pending CCPs been assessed? | 1. Highly Desirable |
|  | 1. Have all Commonwealth Representative review comments against data items been adequately addressed? | 1. Mandatory |
|  | 1. Have the Mission System Functional Baseline (FBL) and the Support System FBL been established? | 1. Mandatory |
|  | 1. Are there any outstanding unresolved issues with the Mission System or Support System requirements (eg, requirements annotated with TBD in either the Mission System FBL or the Support System FBL)? | 1. Mandatory |
|  | 1. Has a consistent Configuration Baseline been established for all documents associated with PDR? | 1. Mandatory |
|  | 1. Where, as a result of the refinement of the design, any proposed change to an SS or SSSPEC requirement is in conflict with the FPS, has an Application for a Deviation been proposed for Commonwealth Representative Approval? | 1. Mandatory |
|  | 1. Has traceability been established, both downward and upward, between the Mission System FBL and the lower-level Configuration Items (CIs) in the proposed design solution? | 1. Mandatory |
|  | 1. Are Acceptance Verification criteria agreed with the Commonwealth Representative? | 1. Mandatory |
|  | 1. For the set of Mission System Hardware CIs and Software CIs (including those elements of the Support System embedded within the Mission System):    1. Has it been determined that the preliminary design solution expressed as the set of Hardware and Software CIs will meet the overall Mission System FBL?    2. Has the behaviour of the set of system components in each state and mode, including failure modes of the CIs, been identified?    3. For each of the key system performance measures, have the budgeted performance allocations across CIs been identified and does the preliminary design allow these budgets to be met?    4. Have any remaining areas of requirements variances, voids and conflicts been identified and an approach defined to address them? | 1. Mandatory |
|  | 1. For each Mission System Hardware CI (including those elements of the Support System embedded within the Mission System):    1. Will the preliminary Hardware CI detail design satisfy the performance characteristics of its specification?    2. Are the Hardware CI operating characteristics in each mode compatible with the overall system design requirements (eg, do the states and modes of the Hardware CI map to the higher-level states and modes and aggregate to achieve higher-level functionality)?    3. Have all physical and functional interfaces between the Hardware CI and other items of equipment, computer Software, and facilities been defined?    4. Have the risks associated with the design and production of the Hardware CI and the mitigation strategies to address them? | 1. Mandatory |
|  | 1. For each Mission System Software CI (including those elements of the Support System embedded within the Mission System):    1. determine whether all interfaces between the Software CI and all other CIs both internal and external to the system meet their functional and interface requirements;    2. determine whether the top-level design embodies all the functional and interface requirements;    3. determine whether the approved design methodology has been used for the top-level design;    4. determine whether the appropriate Human Engineering principals have been incorporated in the design;    5. determine whether timing and sizing constraints have been met throughout the top-level design; and    6. determine whether logic affecting Materiel Safety has been incorporated in the design. | 1. Mandatory |
|  | 1. For each Support System Hardware and Software CI that must interface with the Mission System in the operational environment:    1. identify the behaviour of each of the Support System CIs that interface with the Mission System in each of its applicable states and modes, including the failure modes of the CIs that may impact upon the Mission System;    2. determine whether all interfaces between the Mission System and Support System CIs meet their functional and interface requirements;    3. determine that the preliminary design for each of the Support System CIs provides the capability of satisfying the performance characteristics of its specification;    4. establish compatibility of the Support System CI operating characteristics in each mode with the overall Mission System design requirements; and    5. determine the risks associated with the deployment and the design and production of the Support System CIs and the mitigation strategies to address them. | 1. Highly Desirable |
|  | 1. Have additional Technical Performance Measures (TPMs) been identified since SDR? 2. Has the status of all TPMs been reported against their respective progress? | 1. Mandatory |
|  | 1. Have the results of significant trade studies been presented, for example:    1. sensitivity of selected mission requirements versus realistic performance parameters and cost estimates;    2. operations design versus maintenance design, including Support and Test Equipment (S&TE) impacts;    3. system centralisation versus decentralisation;    4. automated versus manual operation;    5. Reliability, Availability and Maintainability (RAM);    6. commercially-available items versus new developments;    7. existing inventory items versus new development;    8. testability trade studies (eg, allocation of fault detection/isolation capabilities between elements of built-in-test, on board/on-site fault detection/isolation subsystem, separate S&TE, and manual procedures);    9. size and weight;    10. desired propagation characteristics versus reduction interference to other systems (optimum selection frequencies);    11. performance/logistics trade studies;    12. Life Cycle Cost (LCC) reduction for different computer programming languages;    13. functional allocation between hardware, Software, firmware and Personnel/procedures;    14. LCC / system performance trade studies to include sensitivity of performance parameters to cost;    15. sensitivity of performance parameters versus cost;    16. cost versus performance;    17. design versus manufacturing consideration;    18. make versus buy;    19. Software-development schedule;    20. on-equipment versus off-equipment maintenance tasks, including S&TE impacts; and    21. common versus special-to-type S&TE. | 1. Mandatory |
|  | 1. Have the results of Commonwealth-directed trade studies been presented, and have the implications for the requirements and design of the Mission System and, where applicable, the Support System been addressed? 2. Have the agreed outcomes from Commonwealth-directed trade studies presented at previous reviews been incorporated into the requirements and design for the Mission System and, where applicable, the Support System? | 1. Optional |
|  | 1. Packaging and Mounting: 2. Do the proposed preliminary mechanical and packaging designs of consoles, racks, drawers, printed circuit boards, connectors, etc, allow the system requirements to be met? 3. Do the equipment layout and preliminary drawings (including three-dimensional / computer-aided design models, if applicable) indicate that the system design can be accommodated within the available space/facilities? 4. Have power distribution and grounding design aspects been addressed? 5. Is the packaging design compatible with the maintenance concepts (particularly maintenance to be conducted on-equipment) and maintainability considerations? | 1. Mandatory |
|  | 1. Design Producibility and Manufacturing: 2. The Contractor shall demonstrate and present evidence that manufacturing engineering will be integrated into the design process. 3. The Contractor shall provide evidence of performing producibility analyses on development hardware trading off design requirements against manufacturing risk, cost, production, volume, and existing capability/availability. Evidence of such analyses may be in the Contractor's own format but must conclusively demonstrate that in-depth analyses were performed by qualified organisations/individuals and the results of those analyses will be incorporated in the design. 4. Preliminary manufacturing engineering and production planning demonstrations shall address: material and component selection, preliminary production sequencing, methods and flow concepts, new processes, manufacturing risk, equipment and facility utilisation for intended rates and volume, production in-process and acceptance test and inspection concepts (Efforts to maximise productivity in the above areas should be demonstrated.). 5. Management systems to be utilised will ensure that producibility and manufacturing considerations are integrated throughout the development effort. 6. The producibility and manufacturing concerns identified in the SRR and the SDR shall be updated and expanded to:    1. provide evidence that concerns identified in the manufacturing feasibility assessment and the production capability estimate have been addressed and that resolutions are planned or have been performed; and    2. make recommendations, including manufacturing technology efforts and provide a schedule of necessary actions to the Commonwealth to resolve open manufacturing concerns and reduce manufacturing risk. | 1. Highly Desirable |
|  | 1. Growth, Evolution and Obsolescence: 2. Have the likely areas for future system change or expansion over the LOT been considered and reviewed since SDR? 3. Have the allocated system and lower level requirements adequately captured the need for future change or expansion in the likely areas? 4. Have the appropriate standards for internal architecture been considered to ensure the solution is robust over the LOT? 5. Has the purchasing strategy been assessed to ensure that COTS elements of the solution subject to rapid change in the marketplace are acquired using just-in-time principles? 6. Has the robustness of the design with respect to areas of likely growth and change over the LOT, including likely changes to user requirements and changes to hardware or Software technology solutions been addressed? | 1. Mandatory |
|  | 1. Design Reliability: 2. Identify the quantitative reliability requirements and their allocations derived from the Mission System FBL. 3. Address the treatment and design for system failures that may be attributed to either hardware or Software failures. 4. Review results of Failure Mode, Effects and Criticality Analysis (FMECA), including any design implications. 5. Review failure rate sources, derating policies, and prediction methods. 6. Review the reliability mathematical models and block diagrams as appropriate. 7. Describe planned actions when predictions are less than specified requirements. 8. Identify and review parts or components that have a critical life or require special consideration, and general plan for handling. Agencies so affected shall present planned actions to deal with these components or parts. 9. Identify applications of redundant Hardware CI elements. Evaluate the basis for their use and provisions for "on-line" switching of the redundant element. 10. Review critical signal paths to determine that a fail-safe/fail-soft design has been provided. 11. Review safety margins for Hardware CIs between functional requirements and design provisions for elements, such as: power supplies, transmitter modules, motors, and hydraulic pumps. Similarly, review structural elements (eg, antenna pedestals, dishes, and radomes) to determine that adequate margins of safety shall be provided between operational stresses and design strengths. 12. Review Reliability design guidelines for Hardware CIs to ensure that design reliability concepts shall be available and used by equipment designers. Reliability design guidelines shall include, as a minimum, part application guidelines (electrical derating, thermal derating, part parameter tolerances), part selection order of preference, prohibited parts/materials, reliability apportionments/predictions, and management procedures to ensure compliance with the guidelines. 13. Review preliminary plans for verifying that Hardware CIs meet the reliability requirements: failure counting ground rules, accept-reject criteria, number of test articles, test location and environment, planned starting date, and test duration. 14. Review elements of the Integrated Reliability, Maintainability and Testability Plan (IRMTP) to determine that each reliability task has been based on achieving specified requirements. 15. Review Subcontractor/supplier reliability controls. | 1. Mandatory |
|  | 1. Design Maintainability: 2. Identify the quantitative maintainability requirements specified in the hardware Development and Software Requirements Specifications; if applicable, compare preliminary predictions with specified requirements. 3. Review Hardware CI Preventive Maintenance schedules in terms of frequencies, durations, and compatibility with system schedules. 4. Review repair rate sources and prediction methods. 5. Review planned actions when predictions indicate that specified requirements will not be attained. 6. Review planned designs for accessibility, testability, and ease of maintenance characteristics (including provisions for automatic or operator-controlled recovery from failure/malfunctions) to determine consistency with specified requirements. 7. Determine if planned Hardware CI design indicates that parts, assemblies, and components will be so placed that there is sufficient space to use test probes, soldering irons, and other tools without difficulty and that they are placed so that structural members of units do not prevent access to them or their ease of removal. 8. Review provisions for diagnosing cause(s) of failure; means for localising source to lowest replaceable element; adequacy and locations of planned test points; and planned system diagnostics that provide a means for isolating faults to and within the CI. This review shall encompass on-line diagnostics, off-line diagnostics, and proposed technical orders and/or commercial manuals. 9. Evaluate for Hardware CIs the preliminary plans for verifying that the items meet maintainability requirements, including number of maintenance tasks that shall be accomplished; accept-reject criteria; general plans for introducing faults into the Hardware CI and personnel involved in the demonstration. 10. Review elements of the IRMTP to determine that each maintainability task has been initiated towards achieving specified requirements. 11. Ensure that consideration has been given to optimising the system/item from a maintainability and maintenance viewpoint and that it is supportable within the maintenance concept as developed. Also, for Hardware CIs, ensure that Level Of Repair Analysis (LORA) considerations have been addressed. | 1. Mandatory |
|  | 1. Logistics Engineering (Transportability): 2. Review Hardware CIs (for both the Mission System and any Support System Components that may need to be deployed with the Mission System) to determine if design meets Contract requirements governing size and weight to permit economical handling, loading, securing, transporting, and disassembly for shipment within existing capabilities of military and commercial carriers. Identify potential outsized and overweight items. Identify system/items defined as being hazardous. Ensure Packaging afforded hazardous items complies with Hazardous Chemicals and Dangerous Goods regulations. 3. Identify Hardware CIs requiring special temperature and humidity control or those possessing sensitive and shock susceptibility characteristics. Determine special transportation requirements and availability for use with these Hardware CIs. 4. Review transportability analyses to determine that transportation conditions have been evaluated and that these conditions are reflected in the design of protective, shipping, and handling devices. In addition to size and weight characteristics, determine that analysis includes provisions for temperature and humidity controls, minimisation of sensitivity, susceptibility to shock, and transit damage. | 1. Mandatory |
|  | 1. Logistics Engineering (Parts Standardisation and Interchangeability):    1. Review procedures to determine if maximum practical use will be made of parts built to approved standards or specifications. The potential impact on the overall program is to be evaluated when a part built to approved standards and specifications cannot be used for any of the following reasons:       1. performance;       2. cost;       3. schedule and timing considerations;       4. weight;       5. size;       6. RAM;       7. Supportability; and       8. survivability (including accidental damage, nuclear, biological, chemical, and battle damage).    2. Identify potential design changes that will permit a greater use of standard or preferred parts and evaluate the trade-offs.    3. Review specific trade-offs or modifications that may be required of existing designs if existing items are, or will be, incorporated in the Hardware CI.    4. Ensure that appropriate actions will be implemented for hardware items identified as engineering or logistics critical. | 1. Mandatory |
|  | 1. Human Engineering: 2. Review the evidence that substantiates the functional allocation decisions to Hardware and Software CIs, including all operational and maintenance functions of the CI. In particular, ensure that the approach to be followed emphasises the functional integrity of the human with the machine to accomplish a system operation. 3. Review design data, design descriptions and drawings on system operations, equipment, and facilities to ensure that human performance requirements of the Hardware Development and Software Requirements Specifications are met. Examples of the types of design information to be reviewed are:    1. operating modes for each display station, and for each mode, the functions performed and the displays and control used;    2. the format and content of each display, including data locations, spaces, abbreviations, the number of digits, all special symbols and alert mechanisms (eg,, flashing rates);    3. the control and data entry devices and formats including keyboards, special function keys, cursor control;    4. the format of all operator inputs, together with provisions for error detection and correction; and    5. all status, error, and data printouts - including formats, headings, data units, abbreviations, spacings, columns, etc. 4. These should be presented in sufficient detail to allow:    1. Commonwealth Representative personnel to judge adequacy from a human usability standpoint,    2. design personnel to know what is required,    3. test personnel to prepare tests, and    4. logistics personnel to undertake task analysis and performance needs (Training) analysis and development. 5. Make recommendations to update the System/Subsystem, or Software Requirements Specification and Interface Requirements Specification(s) in cases where requirements for human performance need to be more detailed. 6. Review human/machine functions to ensure that each human's capabilities are used but not exceeded. 7. Have biomedical considerations (eg, life support and crew station requirements) been addressed? | 1. Mandatory |
|  | 1. Electromagnetic Environmental Effects: 2. Review Hardware CI design for compliance with electromagnetic compatibility / electromagnetic interference (EMC/EMI) requirements. 3. Review Mission System design for EMC with the Support System Components that are either embedded within the Mission System or interface with it. 4. Review preliminary EMI test plans to assess adequacy to confirm that EMC requirements have been met. | 1. Mandatory |
|  | 1. System Safety: 2. Have all Mission System Materiel Safety issues that affect the requirements and design of the Mission System and Support System, including those identified through hazard analyses, been addressed? 3. Has an analysis of failure modes been undertaken to determine the safety implications of those modes? 4. Review results of CI safety analyses, and quantitative hazard analyses (if applicable). 5. Have the identified hazards and their risk classifications been agreed by the Commonwealth Representative? 6. Review results of system and intra-system safety interfaces and trade-off studies affecting the CI. 7. Review safety requirements levied on Subcontractors. 8. Review known special areas of safety, peculiar to the nature of the system (eg, fuel handling, fire protection, high levels of radiated energy, high voltage protection, safety interlocks, etc). 9. Review results of preliminary safety tests (if appropriate). 10. Generally review adequacy and completeness of CI from design safety viewpoint. 11. Review compliance of commercially available CIs or CI components with Materiel Safety requirements and identify modifications to such equipment, if required. 12. Ensure the safety authority has reviewed the evidence supporting the draft Safety Case Report. | 1. Mandatory |
|  | 1. System Security: 2. Have all Mission System security issues that affect the requirements and design of the Mission System and Support System been addressed, including in relation to physical security, Emanation Security (EMSEC), Information and Communications Technology (ICT) security and cyber security? 3. Have appropriate security evaluations, Certifications and Safety Authorisations been programmed into Contract plans and schedules? 4. Review unique security requirements and the techniques to be used for implementing and maintaining security within the Hardware and Software CIs. | 1. Mandatory |
|  | 1. Regulatory: 2. Have appropriate Mission System regulatory issues been addressed in the design of both the Mission System and the Support System? For example, consider:    1. Australian Communications and Media Authority (ACMA) regulatory requirements,    2. environmental requirements,    3. EMI/EMC regulatory requirements,    4. Materiel Safety requirements,    5. system security requirements (eg, for Certifications and System Authorisations), and    6. ADF regulatory / assurance framework requirements. | 1. Mandatory |
|  | 1. Environmental: 2. Review Contractor's planned design approach toward meeting climatic conditions (eg, operating and non-operating ranges for temperature, humidity, etc). 3. Ensure that the Contractor clearly understands the effect of, and the interactions between, the natural environment and Hardware CI design, including the implications associated with temperature, humidity, vibration, shock, pressure, wind, salt, spray, sand, and dust. In cases where the effect and interactions are not known or are ambiguous, ensure that studies are in progress or planned to make these determinations. 4. Have the ranges and extremes of environmental requirements been specified and addressed in the Hardware CI designs? 5. Have thermal design aspects been addressed? 6. Have corrosion prevention/control considerations been addressed? | 1. Mandatory |
|  | 1. Assignment of Official Nomenclature: 2. Ensure understanding of procedure for obtaining assignment of nomenclature and approval of nameplates. 3. Determine that agreement has been reached with the Commonwealth Representative on the level of nomenclature (ie, system, set, central, group, component, sub-assembly, unit, etc). | 1. Mandatory |
|  | 1. Verification & Validation (V&V): 2. Review information to be provided by the Contractor regarding concepts for V&V (both informal and formal). Information shall include the progress/status of the test effort since the previous reporting milestone. 3. Ensure that all test planning documentation has been updated to include new test support requirements and provisions for long-lead time support requirements. 4. Review Contractor test data from prior testing to determine if such data negates the need for additional testing. 5. Describe the required test-unique support Software, hardware, and facilities and the interrelationships of these items. 6. Describe how, when, and from where the test-unique support items will be obtained. 7. Describe requirements for V&V-related Government-provided Software, hardware, facilities, data, and documentation. | 1. Mandatory |
|  | 1. Maintenance and Maintenance Data (Hardware CIs): 2. Describe Maintenance concepts for impact on design and S&TE. Review adequacy of Maintenance plans. Coverage shall be provided for on-equipment (organisational), off-equipment – on-site (intermediate), and off-equipment – off-site (depot) Maintenance levels. 3. Determine degree of understanding of the background, purpose, requirements, and usage of Maintenance (failure) data collection and historical/status records. 4. Describe method of providing Maintenance, failure, reliability and maintainability data to the Commonwealth Representative. 5. Review the requirements for Corrective Maintenance tasks, which have been identified through FMECA, to ensure consistency with Maintenance concepts. 6. Review the results of Reliability Centred Maintenance (RCM) analyses for:    1. possible implications on the design of the Mission System and the requirements for Support System Components; and    2. consistency with the concepts for Preventive Maintenance. | 1. Mandatory |
|  | 1. Spares and Government Furnished Material (GFM): 2. Review logistics and provisioning planning to ensure full understanding of scope of requirements in these areas and that a reasonable time-phased plan has been developed for accomplishment. Of specific concern are the areas of: provisioning requirements, GFM usage and spare parts, and support during installation, checkout, and test. 3. Review provisioning actions and identify existing or potential provisioning problems – logistic critical and Long Lead Time Items (LLTIs) are identified and evaluated against use of the interim release requirements. 4. Review progress toward determining and acquiring total installation, checkout, and test support requirements. 5. Review the range and quantity of Spares identified to be held in the Mission System (eg, on a ship) to determine that the Spares will fit into the allocated space. | 1. Mandatory |
|  | 1. Packaging/Special Design Protective Equipment (SDPE): 2. Analyse all available specifications (System/Subsystem, Hardware CI development, Software requirements, interface requirements, and critical items) for Packaging requirements for each product fabrication and material specification. 3. Evaluate user/operational support requirements and maintenance concepts for effect and influence on package design. 4. Establish that time-phased plan for Packaging design development is in consonance with the development of the equipment design. 5. Review planned and/or preliminary equipment designs for ease of packaging and simplicity of Packaging design, and identify areas where a practical design change would materially decrease cost, weight, or volume of Packaging required. 6. Review requirements for SDPE necessary to effectively support CI during transportation, handling and storage processes. Ensure SDPE is categorised as a CI utilising specifications conforming to the types and forms as prescribed in the Contract. Review SDPE development/product specifications for adequacy of performance/ interface requirements. 7. Determine initial Packaging design baselines, concepts, parameters, constraints, etc., to the extent possible at this phase of the CI-development process. 8. Ensure previously developed and approved Packaging design data for like or similar CIs is being utilised. 9. Establish plans for trade studies to determine the most economical and desirable Packaging design approach needed to satisfy the functional performance and logistic requirements. 10. Verify the adequacy of the prototype Packaging design. 11. Identify Packaging specification used for Hazardous Chemicals and Dangerous Goods. | 1. Mandatory |
|  | 1. Support and Test Equipment (S&TE) and Training Equipment: 2. Review the range and quantity of S&TE identified to be held in the Mission System (eg, on a ship) to determine that the S&TE will fit into the allocated space. 3. Review considerations applicable to Hardware CI and Software CI as appropriate. 4. Verify testability analysis results. For example, on repairable integrated circuit boards are test points available so that failure can be isolated to the lowest level of repair? 5. Review progress of S&TE and Training Equipment LLTIs. 6. Review progress toward determining total S&TE and Training Equipment requirements. 7. Review the reliability/maintainability/availability of S&TE and Training Equipment items. 8. Identify logistic support requirements for S&TE and Training Equipment items and rationale for their selection. 9. Review calibration requirements for S&TE. 10. Describe technical manuals and data availability for S&TE and Training Equipment items. 11. Verify compatibility of proposed S&TE and Training Equipment items with support concepts. 12. For existing S&TE, review Maintainability data resulting from the field use of this equipment. Review the cost difference between systems using single or multipurpose S&TE vs proposed new S&TE. Examine technical feasibility in using existing, developmental, and proposed new S&TE. For mobile systems, review the mobility requirements of S&TE. 13. Review the relationship of the computer resources in the system/subsystem with those in Automatic Test Equipment (ATE). Relate this to the development of Built In Test Equipment (BITE) and try to reduce the need for complex supporting S&TE. 14. Verify on-equipment versus off-equipment maintenance task trade study results, including S&TE impacts. 15. Review updated lists of required S&TE and Training Equipment. | 1. Mandatory |
|  | 1. Technical Data: 2. Review the suitability of available commercial manuals and/or proposed modifications. 3. Review the application of Technical Data standards in the development of Technical Data including, when applicable, definition documents (eg, business rules and schema) for Interactive Electronic Technical Publications. 4. Review the range and scope of proposed publications (hardcopy and/or electronic) to determine their suitability in enabling the support concepts to be met. 5. Review the proposed availability of publications and other Technical Data for verification and validation activities. | 1. Mandatory |
|  | 1. Have all risks identified prior to PDR been reported against? | 1. Mandatory |
|  | 1. Does the Contractor’s proposed solution for both the Mission System and Support System represent a minimised LCC solution, as demonstrated in accordance with the Approved governing plan for LCC (eg, LCC Management Plan (LCCMP))? | 1. Mandatory |
|  | 1. Have any Contractor-provided proposals to reduce LCC been addressed (eg, as documented in the LCC Report and Model (LCCRM))? | 1. Highly Desirable |
|  | 1. Are Contract plans and schedules (including the Performance Measurement Baseline) consistent with the system requirements and design? | 1. Highly Desirable |
|  | 1. Does the Contractor's management of technical requirements with subcontractors and vendors allow the Contract needs to be achieved? | 1. Mandatory |
|  | 1. Does the Contractor's management of subcontractors and vendors allow visibility of objective progress to be reported in the Earned Value Management System? | 1. Mandatory |

1. Review Exit Criteria

|  |  |  |
| --- | --- | --- |
| Item | Exit Criteria | Status |
|  | 1. All checklist items have been addressed to the satisfaction of the Contractor and the Commonwealth Representative. | 1. Mandatory |
|  | 1. All major problem and risk areas in relation to the preliminary design for the Mission System, including in relation to the required design maturity to achieve the objectives of the PDR, have been identified and resolved and, for minor problems and risks, corrective action plans have been recorded and agreed by the Commonwealth Representative. | 1. Mandatory |
|  | 1. The preliminary designs for the Mission System is consistent with the requirements, balanced, achievable, and able to support the design and test activities of the next phase. | 1. Mandatory |
|  | 1. The implications of the Mission System preliminary design for the Support System design have been identified and incorporated into the applicable Contract plans. | 1. Mandatory |
|  | 1. Plans for the next phase are deemed to be realistic and achievable by both the Contractor and the Commonwealth Representative. | 1. Mandatory |
|  | 1. Plans for the measurement and analysis program for the next phase have been agreed by the Commonwealth Representative, including the measures to be collected, associated collection methods, and analysis techniques. | 1. Mandatory |
|  | 1. The plan for achievement of work for the next phase is reflected in the Performance Measurement Baseline and the reporting levels and variance analysis thresholds have been agreed and documented in the Earned Value Management Plan. | 1. Mandatory |
|  | 1. All risks identified during the course of PDR have been documented and analysed. | 1. Mandatory |
|  | 1. The risks with proceeding to the next phase are acceptable to the Commonwealth Representative. | 1. Mandatory |
|  | 1. All major action items have been closed. | 1. Mandatory |
|  | 1. All minor action items have been documented and assigned with agreed closure dates. | 1. Mandatory |
|  | 1. Review Minutes have been prepared, Approved, and distributed in accordance with the Contract. | 1. Mandatory |