

STATEMENT OF OBJECTIVES

for the

JSF ENGINEERING & MANUFACTURING DEVELOPMENT PROGRAM

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1.0. INTRODUCTION

The JSF Program's focus is on affordability, through the definition, development, verification, production and support of a family of strike fighter air systems, that significantly reduces lifecycle costs while meeting service requirements. The air system is composed of air vehicle and autonomic logistics systems and interfaces to mission planning and other systems external to JSF. The air system performance requirements are in the Joint Model Specification (JMS) and represent a balanced approach to the JSF pillars of affordability, lethality, survivability and supportability. Based upon this SOO, the JMS and the solicitation, Offerors should prepare and propose a work breakdown structure (WBS), contract specification, statement of work (SOW), integrated master plan (IMP), and resource plan (i.e., budget) that will be incorporated into any contracts resulting from the JSF EMD Call-for-Improvement (CFI).

2.0. OBJECTIVES

2.1. Develop an affordable family of strike fighter air systems, composed of air vehicle and autonomic logistics systems and interfaces to mission planning and other systems external to JSF, that meets service requirements and significantly reduce lifecycle cost.

2.2. Develop a multi-service Air System Lifecycle Plan that supports transition to low-rate and full-rate production, fielding of operational squadrons and operational support of JSF air systems and eventual disposal.

2.3. Demonstrate and implement affordability initiatives that support the JSF goal of an affordable air system and key JSF milestones.

2.4. Develop and implement streamlined management and control processes to ensure the government receives best value for the available EMD budget.

3.0. ENGINEERING & MANUFACTURING DEVELOPMENT

3.1. Objective. Develop an affordable family of strike fighter air systems, composed of air vehicle and autonomic logistics systems and interfaces to mission planning and other systems external to JSF, that meets service requirements and significantly reduces lifecycle cost. The efforts proposed should employ a block approach to balance development and verification risk and exploit, to the maximum extent practicable, concepts and technology maturation demonstrations and Modeling, Simulation and Analysis (MS&A) capabilities funded by the JSF and other programs.

3.2. Air System Development, Integration & Systems Engineering. The objective is to develop, integrate, verify and deliver the required air system warfighting capability. The efforts proposed should be commensurate with Total System Performance and Integration Responsibility (TSPIR) for the complete air system. Specific efforts should include: integration of an IPT-managed propulsion system; development and integration of air vehicle, support and training software and hardware that support all variants of the air system; weapons integration; system safety; Diminishing Manufacturing Sources (DMS) management; development and integration of a mission planning interface capability compatible with existing and planned joint systems; incorporation of program protection and system security engineering in accordance with DoD Directive 5000.2-R, DoD Directive C-5200.5 and the JSF Program Protection Development Plan; compliance with environmental, safety and health (ESH) laws, applicable DoD Directives and ESH requirements in the CFI (including UK ESH laws and regulations applicable to the delivered JSF Air System); development and integration of the autonomic logistics systems; and overall air system integration. The effort proposed should include engineering support for the development and integration of a fully interchangeable alternate engine for production competition, to include developing and implementing a plan for flight test and verification of the air system with an alternate engine to be completed in a parallel test & evaluation period.

3.3. Air Vehicle Manufacturing and Planning for Production. The objective is to demonstrate sufficient air vehicle maturity to transition to low-rate initial production (LRIP) and enter full-rate production. The efforts proposed should include a manufacturing plan and required data for the fabrication and assembly of the EMD aircraft. Efforts proposed are expected to include manufacturing and production demonstrations required to achieve the overall JSF program affordability objectives and plan for transition to LRIP. The efforts proposed should support key program review milestones with applicable cost and performance data.

3.4. Air System Block Development. The objective is a phased block development that addresses air system and weapons integration and provides verified and validated air systems that support service Initial Operational Capability (IOC) requirements. The efforts proposed should include producing and implementing a block development plan and associated processes, methods, tools and infrastructure that permit the cost-effective development of the air systems during EMD. The air system should enable easy upgrades for required post-EMD capability improvements. The block development plan should phase in capabilities needed to execute mission vignettes, employ stores listed in JMS, meet training and support requirements and meet information exchange requirements. The efforts proposed should support key program review milestones with applicable cost and performance data.

3.5. Air System Performance Verification. The objective is to provide verified production representative air systems leading to operational test & evaluation (OT&E) validation of requirements and statutory compliance for each air system variant. The efforts proposed should include developing and implementing a plan to verify compliance with all performance requirements stated in the JMS and the contract specification. MS&A should be used to the maximum extent practicable to augment the required ground and flight test efforts and provide a cost-effective verification program. The verification plan should provide processes that support clearance of additional capabilities and store configurations throughout the life of the air system.

3.6. Autonomic Logistics. The objective is an autonomic logistics capability that meets JMS requirements at a much-reduced total ownership cost compared with support and training capabilities for legacy weapon systems. This capability is composed of four elements: high reliability and maintainability with prognostics and health management (PHM) capability in the air vehicle, common logistics infrastructure, an integrated flight and maintainer training system, and the Joint Distributed Information System. The autonomic logistics capability proposed should maximize the transparency

between JSF and systems external to JSF, be available to support OT&E and grow over time as required to support fielded JSF air systems. The efforts proposed should make maximum practicable use of MS&A and address logistics and training manpower requirements and allocations, courseware, support equipment, initial and long-term spares allocations, infrastructure investments and other applicable logistic parameters. The Offeror should propose a plan to execute--in the context of the DoD/MoD system in which it will operate--the JSF autonomic logistics organization and processes. This plan should identify common best value solution alternatives and be substantiated with cost benefit analyses. The efforts proposed should support key program review milestones with applicable cost and performance data.

4.0. AIR SYSTEM LIFECYCLE PLAN

4.1. Objective. Develop a multi-service Air System Lifecycle Plan that will support transition to low-rate and full-rate production, fielding of operational squadrons and operational support of the JSF air system and eventual disposal. The plan will guide the air system production and capability improvements consistent with a balanced approach to the JSF pillars of affordability, lethality, survivability and supportability.

4.2. Air System Lifecycle Plan. The objective in EMD is for the Offeror to prepare a plan that baselines the products of EMD and provides a plan for processes and procedures that will support cost-effective air system capability improvements over the lifecycle of the air system. The plan should contain, for example: the operational air system description, operational employment concepts, air system functional allocations, air vehicle features and characteristics, autonomic logistics capability features and characteristics (e.g., reliability, maintainability and PHM allocations, predictions and performance), training capability features and characteristics, DMS management, software development and support plans, full-rate production manufacturing plans, hazardous materials reduction/elimination initiatives and demilitarization/disposal plans. Efforts proposed should be based on "cradle-to-grave" air system management and support concepts and should include technical and cost analysis necessary to support key JSF milestones.

5.0. AFFORDABILITY INITIATIVES

5.1. Objective. Demonstrate and implement affordability initiatives that will support the JSF goal of an affordable air system and key JSF milestones.

5.2. Affordability Initiatives. The objective during EMD is to continue lifecycle cost analysis using Cost-as-an-Independent-Variable (CAIV) principles applied to the development, production and operations and support costs. Industry and government will continue cooperative development of the Joint Common Cost Model (JCCM) toward the objective of having a single set of mutually agreed upon life cycle cost estimates to support key program milestones. The JCCM must account for affordability benefits from innovative tooling concepts, design and manufacturing approaches, support concepts, training concepts and acquisition process improvements to reduce procurement and operations and support costs.

6.0. STREAMLINED MANAGEMENT AND CONTROL

6.1. Objectives. Develop and implement streamlined management and control processes, which use Integrated Product and Process Development (IPPD), Simulation Based Acquisition (SBA) practices, earned value, technical performance measures and risk management tracking systems as management tools to ensure the government receives best value for the available budget. The JSF Program Office

(JPO) intends to participate in an Integrated Product Team (IPT) management process established between government activities and industry.

6.2. Management and Control Processes. The objective is for the Offeror to develop a contract specification, WBS, SOW and IMP for streamlined management of EMD. The Offeror should propose only essential data items, in contractor format, that meets government-stated needs to provide insight during execution of any contracts resulting from the CFI. A JSF program goal is to further apply electronic methods to facilitate communications and improve efficiency and affordability of the program. The Offeror shall make available an enterprise-wide information system which facilitates the management, access, exchange, and lifecycle archiving of data generated during the JSF EMD phase. This system shall interface with the JSF Virtual Enterprise. The Offeror should propose efforts in support of this objective that include providing JSF government program office sites, to include an on-site program office contingent located at the Offeror's prime facility, with direct access to the Offeror's real-time management information systems.

6.3. Simulation Based Acquisition. The objective in EMD is to develop and implement a robust, collaborative simulation capability that substantially reduces the time, resources and risk associated with the EMD acquisition phase. The Offeror should propose efforts for development of SBA tools, and their integration with the systems engineering process, to increase the affordability, military worth and supportability of fielded JSF air systems.