## Life Cycle Sustainment Plan (LCSP)

### F/A-XX Next Generation Fighter (PMA-XXX)

Version: 1.0

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**1.0 Introduction**

**1.1 Program Description**

The F/A-XX Next Generation Fighter is a carrier-based, multi-role, 6th-generation tactical aircraft designed to provide air superiority and precision strike capabilities in highly contested environments. As the designated replacement for the F/A-18E/F Super Hornet, the F/A-XX incorporates advanced technologies including adaptive cycle engines, advanced sensor fusion, and optionally manned capabilities. This program, managed by NAVAIR PMA-XXX, will deliver a survivable and lethal platform designed to meet the challenges of the 21st-century battlespace.

**1.2 Purpose and Scope**

This Life Cycle Sustainment Plan (LCSP) outlines the comprehensive strategy to ensure the F/A-XX program achieves and maintains the Warfighter's required readiness levels at an affordable life cycle cost. This is a living document that will be updated prior to each acquisition milestone and as the program's Product Support Strategy evolves. It documents the plan for developing, acquiring, and executing the Product Support Package (PSP) required to sustain the F/A-XX system throughout its operational life.

**1.3 Document Organization**

This LCSP is structured in accordance with the Department of Defense (DoD) LCSP Outline Version 3.0. It details the Product Support Strategy, governance, supportability analyses, IPS Element integration, life cycle cost management, and sustainment metrics.

**2.0 Product Support Strategy**

**2.1 Sustainment Performance Requirements**

The F/A-XX sustainment strategy is designed to meet the following key performance requirements as defined in the Capability Development Document (CDD):

* **Materiel Availability (Am):** 85%
* **Operational Availability (Ao):** 75%
* **Reliability (R):** 250 Mean Time Between Critical Failure (MTBCF)
* **Maintainability:** 3.5 Mean Time to Repair (MTTR)
* **O&S Cost KSA:** Not to Exceed $25,000 per flight hour (in FY25 dollars)

**2.2 Sustainment Concept**

The F/A-XX will be sustained via a two-level maintenance concept (O-Level and D-Level), optimized to reduce the forward logistics footprint. Organizational-level maintenance will be performed by uniformed personnel at the squadron level, focusing on on-equipment repair and component replacement. Depot-level maintenance will be performed through a Public-Private Partnership (PPP) between Fleet Readiness Centers (FRCs) and the prime contractor, [Prime Contractor Name], leveraging their respective core competencies for component repair, modifications, and airframe overhaul.

**2.3 Product Support Arrangements**

The Product Support Strategy will be executed through a hybrid approach. A Performance-Based Logistics (PBL) arrangement will be established with [Prime Contractor Name] for total system support, covering supply chain management, sustaining engineering, and depot-level repair. This arrangement will be structured around performance metrics tied directly to the KPPs. Government organizations (FRCs, NAVSUP) will retain inherent government responsibilities, including inventory control and engineering authority.

**2.4 Product Support Package Status**

The Product Support Package (PSP) is currently in development. The initial PSP will be delivered prior to Initial Operational Test and Evaluation (IOT&E) and will evolve throughout the life cycle. The status of each IPS Element is detailed in Section 5.0 of this document.

**3.0 Program Review and Governance**

**3.1 Governance**

The F/A-XX program is managed by NAVAIR PMA-XXX. The Product Support Manager (PSM) holds the primary responsibility for developing and executing the Product Support Strategy and this LCSP. The PSM chairs the Life Cycle Logistics Integrated Product Team (IPT), which includes representation from all stakeholder organizations and is the primary governance body for all sustainment-related matters.

**3.2 Integrated Product Support (IPS) Element Management**

Each of the 12 IPS Elements has an assigned government or industry lead responsible for managing their respective area. These leads report to the PSM through the Life Cycle Logistics IPT.

**3.3 Other Sustainment-Related Program Reviews**

N/A

**4.0 Supportability Analysis**

**4.1 Supportability Analysis and Design Integration**

A robust supportability analysis process is integrated into the Systems Engineering Plan (SEP). The program utilizes a digital twin and a collaborative virtual environment to conduct Failure Modes, Effects, and Criticality Analysis (FMECA), Reliability-Centered Maintenance (RCM) analysis, and Level of Repair Analysis (LORA) concurrently with design activities. This ensures that supportability requirements directly influence system design to minimize life cycle costs.

**4.2 Results of Analyses**

The initial LORA indicates that approximately 70% of repairable components will be candidates for depot-level repair, with the remaining 30% being candidates for O-Level repair or discard-on-failure. RCM analysis has identified initial preventive maintenance tasks and inspection intervals, which will be validated during developmental testing.

**5.0 Product Support Package Development and Integration**

**5.1 Product Support Management:** Managed by the PMA-XXX PSM. The LCSP serves as the primary management plan.

**5.2 Design Interface:** Achieved through the integration of the Logistics IPT within the Systems Engineering process and the use of a digital engineering environment.

**5.3 Sustaining Engineering:** A joint Government/Contractor Sustaining Engineering team will be established to manage DMSMS, resolve technical deficiencies, and oversee software maintenance.

**5.4 Supply Support:** A PBL arrangement with the prime contractor will manage the supply chain, leveraging predictive analytics to optimize sparing levels and reduce inventory costs.

**5.5 Maintenance Planning and Management:** The two-level maintenance concept is defined. Detailed maintenance tasks will be developed based on RCM and validated during IOT&E.

**5.6 Packaging, Handling, Storage, and Transportation (PHS&T):** PHS&T requirements are being developed in accordance with MIL-STD-2073 and will be finalized prior to production.

**5.7 Technical Data:** An Interactive Electronic Technical Manual (IETM) will be developed in accordance with GEIA-STD-0007. The government will maintain data rights for all essential technical data.

**5.8 Support Equipment:** A Support Equipment Rationalization effort is underway to maximize the use of common support equipment and minimize the need for new, peculiar equipment.

**5.9 Training and Training Support:** A comprehensive training system, including full-fidelity simulators and courseware, will be developed for both operators and maintainers.

**5.10 Manpower and Personnel:** A Human Systems Integration Plan (HSIP) has been developed to define manning and skill requirements.

**5.11 Facilities and Infrastructure:** A site survey is in progress to identify necessary upgrades to hangars, runways, and maintenance facilities to accommodate the F/A-XX.

**5.12 Computer Resources:** All mission-critical software will be managed by a dedicated Software Support Activity (SSA) with a focus on cybersecurity and agile software updates.

**6.0 Life Cycle Cost**

**6.1 O&S Cost Estimates**

The current O&S cost estimate, as documented in the program's Cost Analysis Requirements Description (CARD), projects a total O&S cost of [Enter realistic dollar amount, e.g., $XXX Billion] over a 30-year service life. The program is tracking to meet its O&S Cost KSA of $25,000 per flight hour.

**6.2 Cost Analysis and Control**

O&S costs are a primary focus of the program. Cost-reduction initiatives, such as implementing Condition-Based Maintenance Plus (CBM+) and optimizing the supply chain, are actively being pursued. The program will track O&S costs against the established affordability caps and report progress at all major program reviews.

**7.0 Management**

**7.1 Organization and Responsibilities:** A detailed Responsibility Assignment Matrix (RAM) is maintained as an appendix to this LCSP.

**7.2 Risk Management:** Sustainment-related risks are identified, analyzed, and mitigated through the program's overall Risk Management process. Key sustainment risks currently being tracked include potential supply chain disruptions and DMSMS issues for key microelectronics.

**7.3 Issues:** N/A

**8.0 Supportability and Sustainment Metrics**

**8.1 Metrics**

The program will track performance against the KPPs and KSAs listed in Section 2.1. Additional lower-tier metrics, such as supply chain response time and maintenance man-hours per flight hour, will be monitored to assess the health of the Product Support Strategy.

**8.2 Data Management and Collection**

An integrated data environment will be used to collect, store, and analyze all sustainment-related data. This system will provide real-time visibility into fleet health and allow for predictive analysis to anticipate and resolve potential sustainment issues.

**9.0 Tables and Figures**

N/A

**10.0 Appendices**

N/A