**Sustainment Concept Template**

**1. Introduction**

* **Purpose**: State the primary purpose of this document: to define the strategy, processes, and resources for maintaining, supporting, and extending the operational life of the system. It ensures the system remains effective, supportable, and cost-efficient from deployment to disposal. It aims to ensure the system continues to provide its intended services and capabilities effectively and efficiently over its entire operational lifetime.
* **Scope**: Define the boundaries of this sustainment concept, specifying what aspects of support and maintenance are covered (e.g., specific operational environments, phases of sustainment).
* **System Identification**: Clearly identify the system or system element that is the subject of this sustainment concept.

**2. Background and Context**

* **Operational Vision**: Briefly reference the overarching operational vision (e.g., from the ConOps or OpsCon) that this sustainment concept supports, explaining why the system needs to be sustained. The sustainment concept is closely linked with the operational concept, which describes how the system will be used.
* **Problem/Opportunity Addressed**: Reiterate the high-level problem or opportunity that the system, upon being sustained, continues to address.
* **Current State of Support**: Describe any existing support infrastructure, legacy maintenance approaches, or challenges that the new sustainment concept will integrate with or improve upon.

**3. Sustainment Strategy**

* **Overall Approach**: Describe the overarching strategy for sustaining the system (e.g., reactive maintenance, proactive maintenance, condition-based maintenance, evolutionary sustainment).
  + **Maintaining Operational Capability**: Detail how the system will achieve, restore, and maintain its operational capability.
  + **Cost-Effectiveness**: Explain how the system will be sustained in the most cost-effective manner, often by optimizing operations and support (O&S) costs.
  + **Addressing Evolution**: Outline how the deployed system will continue to meet needs in an evolving threat environment, including planning for future upgrades and technology insertion.
* **Key Milestones and Schedule**: Identify major sustainment milestones and a high-level schedule, aligning with the overall project master schedule.

**4. Maintenance and Logistics**

* **Maintenance Strategy**: Define how the system's maintenance will be performed.
  + **Design for Maintainability**: Incorporate built-in diagnostics, prognostics, and condition-based maintenance to minimize downtime.
  + **Corrective Actions**: Outline processes for identifying, assessing, and resolving deficiencies (e.g., root-cause analysis, design changes).
  + **Scheduled and Unscheduled Servicing**: Describe procedures for routine servicing, fault detection, isolation, and replacement.
* **Logistics and Resource Planning**: Detail the desired support infrastructure and staffing considerations.
  + **Supply Chain Management**: Ensure availability of spare parts, tools, and support equipment.
  + **Logistics Footprint Reduction**: Strategies to minimize support infrastructure and personnel requirements.
  + **Packaging, Handling, Storage, and Transportation (PHS&T)**: Principles to ensure equipment reaches its destination with minimal damage.
* **Deficiency Management**: Describe the process to collect and triage service/maintenance data, perform root-cause analysis, develop design changes, and implement corrective actions.

**5. Modernization and Upgrades**

* **Technology Insertion**: Plan for integrating new technologies to counter obsolescence or enhance capabilities. This includes managing diminishing manufacturing sources and material shortages (DMSMS).
* **Service Life Extension**: Outline methods to prolong system viability (e.g., hardware refreshes, software updates).
* **Evolution Plan**: Describe how the system will adapt to changing threats, technologies, and mission needs.

**6. Performance Monitoring and Control**

* **Health Metrics**: Specify how reliability, maintainability, and availability trends will be tracked.
* **Supportability Analysis**: Describe how operational data will be used to refine sustainment plans.
* **Operational Planning and Control**: Outline how operational planning (e.g., commanding, uploads) will be performed and assumptions on continued support from design teams.

**7. Personnel and Training**

* **Staffing**: Identify, plan for, and acquire personnel with the necessary training, experience, and skills to operate, maintain, and support the system throughout its life cycle. The training concept is crucial here.
* **Training Plan**: Reference or summarize the Training Concept, ensuring personnel have the knowledge, skills, and attitudes to operate, maintain, and support the system.

**8. Knowledge Management and Documentation**

* **Information and Data**: Ensure availability of technical data and computer resources needed for sustainment.
* **Preserving Knowledge**: Describe how system understanding from the development phase will be maintained to avoid relearning costs for future upgrades and repairs. System models and digital artifacts can be crucial for capturing this understanding.

**9. Decommissioning and Disposal Considerations**

* **End-of-Life Planning**: Provide initial considerations or cross-references to the Disposal Concept for how the system will eventually be decommissioned and disposed of. This highlights that disposal planning begins early.

**10. Risks and Assumptions**

* **Key Sustainment Risks**: Identify major risks associated with sustainment (e.g., obsolescence, funding issues, changing threat environments, operational performance, user interaction, system faults).
* **Mitigation Strategies**: Outline plans to mitigate identified sustainment risks, ensuring traceability to requirements and design.
* **Assumptions**: Document any underlying assumptions that the sustainment concept relies upon (e.g., stable funding, availability of skilled personnel, continued supplier support).

**11. Traceability and References**

* **Traceability**: (Optional but Recommended) A matrix to map sustainment activities to system requirements, operational scenarios, and other related concepts.
* **References**: List all source documents, standards, related concepts (e.g., Operational Concept, Deployment Concept, Retirement Concept, Risk Management Concept, Cost and Schedule Concept), and other artifacts that inform this Sustainment Concept.

**Recommended Representations**

The Sustainment Concept can be effectively represented through a combination of:

* **Narrative Text**: For providing detailed descriptions, rationale, and context.
* **Tables**: For summarizing plans like maintenance strategies, logistics footprints, or modernization roadmaps.
* **Diagrams**: Such as supply chain diagrams or resource maps, to visually represent sustainment flows and infrastructure.
* **Models**: System models can support training by simulating various aspects of the system, aiding in capturing knowledge for future reuse and system evolution.

This template ensures all essential aspects of system sustainment are captured, facilitating stakeholder alignment and ensuring the long-term effectiveness and viability of the system.