

## Welcome to Oversight and Review

This lesson addresses the various external influences and their impact that helped to develop and shape the product support plan. The Life Cycle Logistician (LCL) should be familiar with role of each organization or external influence and the various support strategies they use to support a product during the Engineering and Manufacturing Development (EMD) phase. A sub-effort of EMD is the Integrated System Design (ISD) effort which focuses on the Critical Design Review (CDR). As you know, the CDR is a key point in the Acquisition Cycle and is a multi-discipline technical review establishing the initial product baseline to ensure the system under review has a reasonable expectation of satisfying the requirements of the Capability Development Document.



## Objectives

Upon completion of this lesson, you will be able to:

- Identify the LCL's role in utilizing various outside organizations to finalize a Life Cycle Sustainment Plan.
- Identify the overarching principles that the LCL should use to govern development of the Life Cycle Sustainment Plan.
- Identify the LCL's role in creating and finalizing the Life Cycle Sustainment Plan.

This lesson will provide you with information regarding the LCL's role in Oversight and Review associated with the Life Cycle Sustainment Plan.

## Defense Acquisition Board Review

One key principle of the DoD acquisition system is the use of acquisition program categories, where programs of increasing dollar value and management interest are subject to more stringent oversight. Review of major defense acquisition programs (based on cost or special interest) is accomplished by the Defense Acquisition Board (DAB) in supporting, coordinating, and staffing venues. Review of lesser programs is accomplished by the Component Acquisition Executive or a designated representative. Appropriate decision authorities will review proposed Life Cycle Sustainment Plans at each milestone review.



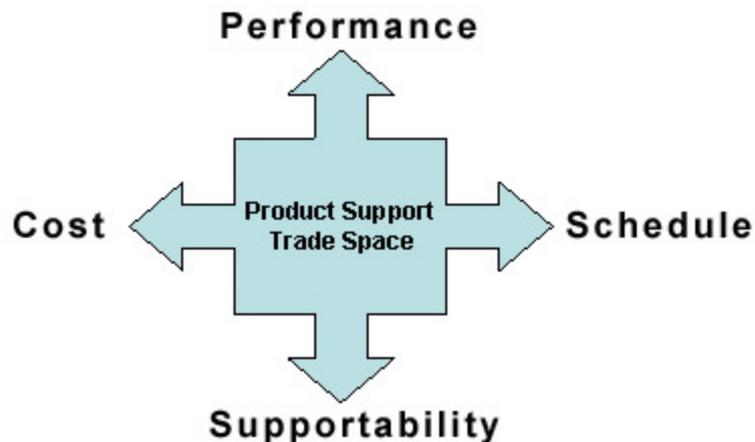
DAB analysis validating the Life Cycle Sustainment Plan will include:

- Elements of support currently provided (for a legacy system to be replaced);
- Current measures used to evaluate support effectiveness;
- Current costs of support capabilities
- All existing support performance data across the product support elements; and
- Assessment of existing technologies and associated support elements that impact the new system under development.

## Tradeoffs

As you know, acquisition management officials look for opportunities to improve performance, shorten schedules, reduce costs, and improve supportability. The best time to reduce life cycle costs and program schedule is early in the acquisition process. Seventy percent of a system's life cycle cost is determined by decisions made prior to Milestone A. Trade-offs are relevant to the following elements: cost, schedule, performance, supportability.

Trade-off analyses of these elements should've resulted in cost and schedule reductions without adverse impact on performance or supportability. These elements may have been traded within the "trade space" between the performance objectives and the cost thresholds without obtaining DAB/ Milestone Decision Authority approval. Trade-offs outside the trade space (i.e., not achieving threshold requirements) can require approval of the Milestone Decision Authority (MDA). Key performance parameter (KPP) values cannot be reduced without MDA and user approval. During the EMD phase, the finalization of the LCSP should demonstrate the success of trade-off decisions made earlier in the acquisition cycle.



### **Long Description**

A box titled "Product Support Trade Space" has four arrows emanating from it. The arrow emanating from the top points to "Performance". The arrow emanating to the right points to "Schedule". The arrow emanating from the bottom points to "Supportability". The arrow emanating from the left points to "Cost". LCL must balance these four elements when planning for product support.

## Audit Agency Oversight

Congress's Government Accountability Office (GAO) found the following causes for the high costs of operations and support over planned levels:

- Little or no attention to the trade-offs between readiness goals and the cost of achieving them when setting the key performance and schedule parameters for weapon systems;
- The use of immature technologies during product development and delays in acquiring knowledge about the design and its reliability until late in development, or in some cases, not until production; and
- Insufficient data on current operations and maintenance costs and actions for fielded systems that would allow improvements in products currently in development.

LCLs should ensure that Life Cycle Sustainment Plans take these past "lessons learned" into account for future support development.



## Contractor Support

LCLs should ensure that any planned contractor logistics support is integrated into their total life cycle sustainment planning strategy. Integration should include the areas below:

Click on each area for further explanation.

COMPLIANCE

VISIBILITY

DETERMINATION

SUPPORT

GOVERNMENT  
INVOLVEMENT

REQUIREMENTS

## **Popup Text**

### **Compliance**

Compliance with public laws, e.g., Title 10 USC 2464, Core Logistics Capabilities and Title 10 USC 2466, Limitations on the Performance of Depot-level Maintenance of Materiel (50/ 50)

### **Visibility**

Visibility of contractor costs for each type of logistics support material and service that is being provided (e.g., material management, configuration management, data management, supply, distribution, repair, calibration, depot maintenance, organizational maintenance and operating support)

### **Determination**

Determination of whether contract support will be temporary or permanent.

### **Support**

Programming and budgeting approaches for contractor support.

### **Government Involvement**

Interfaces between contractor and government information systems  
Government furnished property (GFP) and/or Government furnished information (GFI) and Government furnished facilities (e.g., facility maintenance, utilities, security)

### **Requirements**

- Metrics and reporting for assessing the accomplishment of objectives and outcomes

- Contractor-provided training requirements

## Public-Private Partnerships

A government-industry partnership focuses on creating a long-term "business alliance" between two or more entities with diverse but complementary competencies. Partnerships are most effective when initiated and developed at the beginning of life cycle sustainment planning to enable all participants to maximize benefits of the partnering relationship.

The objectives of public-private partnerships are to:

- Maximize the utilization of maintenance depot capability;
- Reduce or eliminate the cost of ownership by the DoD in such area as operations and maintenance;
- Reduce the cost of products and services to the DoD;
- Include the use of public sector facilities and employees to perform work or produce goods for the private sector;
- Private sector use of public sector equipment and facilities to perform work for the public sector; and
- Promote work-sharing arrangements using both public and private sector facilities and/or employees.

## Knowledge Review

Which of the below choices is a responsibility of the Life Cycle Logician?

- Assessment of existing technologies and associated support elements.
- Determination of whether contract support will be temporary or permanent.
- Listing current measures used to evaluate support effectiveness.
- Choosing level of support for a legacy system that already exists.

Check Answer



**Determination of whether contract support will be temporary or permanent** is a responsibility of the Life Cycle Logician.

## Knowledge Review

The Life Cycle Logistician provides an assessment of existing technologies and associated support elements that impact the new system under development.

True

False

Check Answer

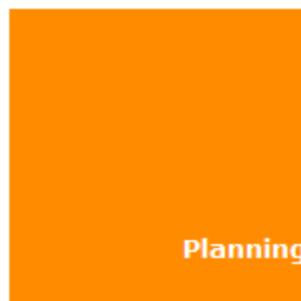


The statement is **false**. The Defense Acquisition Board provides an assessment of existing technologies and associated support elements that impact the new system under development.

## Perspective of Theater Commanders and Warfighters

LCLs should develop their Life Cycle Sustainment Plan based on a clear understanding of the customer's support needs. While the customer clearly wants specific material and services, product support includes a broader vision of support requirements. This vision includes timing and planning.

Click on each area for further explanation.



## **Popup Text**

### **Timing**

- Timely availability of current, accurate, and timely logistics information (inventory, status, performance and costs)
- Timely training, modeling, and simulations using actual support operations based on actual historical data

### **Planning**

- Planning, forecasting, and prioritizing logistics support requirements based on an effective joint decision support tools
- Integrated management of logistics processes from source of supply to foxholes, ships, and flight lines

### Perspective of Theater Commanders and Warfighters, Cont.

In addition, practical considerations need to be included in the Life Cycle Sustainment Plan:

- The need to significantly reduce the theater logistics footprint (that is, the physical mass of material, personnel, and facilities associated with in-theater logistics);
- The need to transition from separate component operations to a joint and combined environment;
- The need for organizational, service component, and international interoperability; and
- The need for significantly improved logistics mobility in deployment, intra-theater, and redeployment operations.

## The LCL's Strategy

The Life Cycle Sustainment Plan is a management tool that simultaneously integrates all essential acquisition support activities through the use of multidisciplinary teams to optimize supportability processes. The Life Cycle Sustainment Plan facilitates meeting cost and performance objectives for the total life cycle from product concept through production and the operations and support phase.

Five overarching principles should govern the development of the Life Cycle Sustainment Plan.

Click on each area for further explanation of each Principle.



**Popup Text**

**Principle 1**

Focus on the customer

**Principle 2**

Concurrent development of products and their supporting processes

**Principle 3**

Early and continuous life cycle product support planning

**Principle 4**

Proactive identification and management of risk

**Principle 5**

Maximum flexibility for use of both organic and contractor supportability approaches

## The Approach to Life Cycle Logistics Management

The LCL should take a comprehensive and outcome-oriented approach to development of the Life Cycle Sustainment Plan. This approach includes the activities below.

Click on each area for further explanation.



## **Popup Text**

### **Management**

Acting as the single point of accountability; taking responsibility for program sustainment performance and overall supportability of the weapon system or product for the planned life cycle.

### **Development**

- Developing and implementing an iterative product support strategy to ensure that all technology, acquisition, workload assignment, and sustainment decisions optimize the planned capabilities of the system or product
- Developing and implementing sustainment strategies that optimally use public and private sector capabilities through partnering or other collaboratory arrangements

### **Support**

- Ensuring that validated operational requirements drive the support planning process
- Ensuring that initiatives such as Supply Chain Management, Performance Based Logistics, Condition Based Maintenance+ are considered in the support strategy
- Ensuring that the individual system or product support strategy process is linked to all other related product support strategies to ensure selected support strategies are synchronized across the Service and with other Services
- Ensuring the planning process used to develop the Life Cycle Sustainment Plan works effectively within the PPBE;
- Ensuring the product support strategy is coordinated with all stakeholders (e.g. Operational commands, sustainment support providers, other Services and Agencies, etc.)

### Determining Sources of Support: Supply

DoD policy gives the LCL latitude in selecting a source of supply support, including support management functions, that maximizes service to the user, while minimizing cost.

The LCL should:

1. Select sources of supply support that give sufficient control over financial and support functions to effectively make trade-off decisions that maximize system readiness and reduce costs.
2. Use a competitive selection process that provides contracts with commercial sources and/or an agreements with an organic source that prescribe levels of capabilities in terms of operational performance and "best value" support over the life cycle.
3. Ensure supply requirements are determined in coordination with the maintenance and operational planning processes to ensure delivery of an integrated product support capability.

The LCL must effectively select sources for each product support element considering the long-term implications of maintaining performance, cost, and customer satisfaction objectives.

### Determining Sources of Support: Maintenance

A source of repair analysis should be accomplished based on the following conditions:

- The acquisition of any weapon system, item, component, system, subsystem, or software that will result in a requirement for depot-level maintenance;
- Depot maintenance workloads generated as a result of a modification installation;
- Permanent changes in the officially designated source of repair, or source of modifications, when such change involves an organic depot;
- Any new, modified, or shift in depot maintenance workload that involves the accomplishment of depot-level maintenance by a source outside of the United States; and
- Prior source of repair decisions impacted by major changes that could potentially effect major changes in the length of a program's life cycle, major modifications, significant increases in cost, quantities of fielded systems or similar changes.

Source of repair analysis is not required for changes from one contractor to another.

## Life Cycle Sustainment Plan Structure and Contents

The physical structure of the Life Cycle Sustainment Plan may vary with the weapon system/equipment characteristics and organizational differences. LCLs should consult individual component guidance for specific structure. However, each plan should address several basic logistics elements, including:

- Design Interface
- Maintenance Planning
- Supply Support
- Support Equipment
- Technical Data
- Manpower & Personnel
- Computer Resources
- Packaging, Handling, Storage & Transportation
- Facilities
- Training

**Note:** The LCL is responsible for developing, coordinating, and monitoring execution of the product support strategy documented in the Life Cycle Sustainment Plan.



## Other Life Cycle Sustainment Plan Considerations

Click on each image to read detailed information about product support plan considerations.



## **Popup Text**

### **Parts Cataloging**

Identification and cataloging of spare parts in accordance with the Federal Catalog System provide a framework for data integration and interoperability of logistics support during sustainment and serve as useful tools in systems engineering decisions and reducing logistics footprint.

### **Diminishing Manufacturing Sources and Material Shortages (DMSMS)**

The loss or potential loss of manufacturers or suppliers of parts, raw materials, or other items needed to support and maintain a system. DMSMS is particularly troublesome for systems that rely on commercial electronics, which often have a product life cycle of 18 months or less. DMSMS obsolescence can occur in any program phase and can severely impact the program schedule, system availability, capability, or cost.

### **Corrosion Control**

Corrosion control can contribute significantly to the total cost of system ownership and is a key element of system supportability. Corrosion is a long-term issue that usually impacts system operation after the system is procured, but the optimal time to address the impact of corrosion is early in system development. Proper consideration of corrosion in the design phase of a system will lead to significant cost savings over the life of the system.

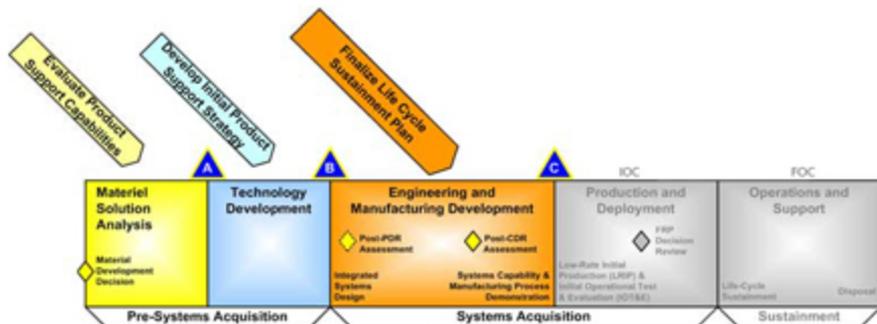
### **Management of Aging Systems**

DoD tends to retain weapons and equipment in the inventory considerably longer than private sector counterparts. The life cycle product support plan should make provisions for long term material support, technology refreshment, parts-demand forecasting, on-demand manufacturing, life extension modifications and other factors related to extended system retention.

## Product Support Changes over the Life Cycle

The LCL is responsible for maintaining and updating the Life Cycle Sustainment Plan as required. Inevitably, the original product support strategy must be reassessed due to System modifications, including:

- Service-initiated weapon system modifications as needed to improve warfighting capability, to enhance weapon system safety, and/ or to reduce system ownership costs;
- Modifications to weapon system configurations due to evolutionary acquisition; Operational tempo (OPTEMPO) revisions;
- Mission or capability changes;
- Revisions in funding; and
- Revisions in support organizations.



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## **Long Description**

"The Acquisition Life Cycle. Five end-to-end blocks, from left to right: Material Solution Analysis phase; Technology Development phase; Engineering and Manufacturing Development (EMD) phase; Production & Deployment phase; and Operations & Support phase. An arrow labeled "Evaluate Product Support Capabilities" pointing at the block labeled Material Solution phase and indicates that life cycle sustainment planning starts in the Material Solution Analysis phase. An arrow labeled "Develop Initial Product Support Strategy" pointing at Technology Development phase Block and indicates that the final LCSP is based on the Initial Product Support Strategy developed in the Technology Development phase. Finally there is an arrow labeled "Finalize Life Cycle Sustainment Plan" and is pointing at the Engineering and Manufacturing Development phase and indicates that the LCSP is an exit requirement of EMD phase and is validated as a viable Product Support Strategy during EMD. "

## Knowledge Review

Which of the below provides a framework for data integration and interoperability of logistics support during sustainment and serve as useful tools in systems engineering decisions and reducing logistics footprint?

- Corrosion Control
- Parts Cataloging
- Management of Aging Systems

Check Answer



**Parts cataloging** provides a framework for data integration and interoperability of logistics support during sustainment and serve as useful tools in systems engineering decisions and reducing logistics footprint.

### Knowledge Review

The LCSP does need to be reassessed if funding or support organizations are revised.

True

False

Check Answer



The statement is **true**. The LCSP does need to be reassessed if funding or support organizations are revised.

## Oversight and Review Summary

You have completed Oversight and Review and should now be able to:

- Identify the LCL's role in utilizing various outside organizations to finalize a Life Cycle Sustainment Plan.
- Identify the overarching principles that the LCL should use to govern development of the Life Cycle Sustainment Plan.
- Identify the LCL's role in creating and finalizing the Life Cycle Sustainment Plan.

## Lesson Completion

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