

Principles of Integrated Logistic Support (ILS)

Overview

This course gives the delegate a broad understanding of the complex topic of Integrated Logistic Support [ILS] and the associated topics of Logistic Support Analysis [LSA] and Reliability and Maintainability (R&M). The course is aimed at those personnel becoming involved in an ILS programme for the first time and Project Managers requiring an overview.

The course is designed to enhance the delegate's awareness of ILS, why it is required, what it is, who will be involved, when it should be implemented and how, albeit at a very high level. The problems and potential pitfalls will be discussed as well as the potential benefits.

The course is founded on the basic principles of ILS and LSA and is not driven by any existing or planned standards, although these are introduced and their relationship to these basic principles is explored. The course has a pragmatic style; whilst it introduces some new concepts the aim is that the delegates should be able to relate these concepts to existing practices and to apply them in improving those practices.

Target Audience

This 2-day course is suitable for anyone who requires a comprehensive introduction to ILS, whether they will be working as an ILS Practitioner or Manager or if they need to interface effectively with any element of the ILS function.

It is appropriate for delegates who have experience in ILS related topics, such as Reliability, Safety or Human Factors Engineers or Managers, and who now require a better understanding of their role in relation to ILS.

The course also serves as a cost-effective mechanism for updating members of management teams.

The course is designed to meet the needs of UK MoD, Contractor and other Defence Department personnel.

Objectives and Utility

The delegate will understand the fundamental need for ILS and how this has led to the development of the ILS concept. The delegate will understand the relationship of this ILS Concept to the "ILS Elements" and hence gain an appreciation of the scope of ILS. The reasons for, and the nature of, the relationship between ILS and concepts of the "Total System", Systems Engineering and Logistic Support Analysis, [LSA], are explored.

This leads to an understanding of the magnitude and difficulties inherent in both the technical and managerial ILS tasks. The course will raise corporate awareness of ILS whilst dispelling many common misconceptions and enhance personal effectiveness when working in or interfacing with an ILS organisation.

The delegate will appreciate the relationship between the Reliability and Maintainability (R&M) tasks and the other ILS activities. The course will aid the delegate to consolidate past knowledge and experience and it will provide a sound framework for future development.

The Training Process

The course develops a logical argument which begins with the customers need for a cost effective system. i.e. we define WHY we do ILS. The argument culminates in a comprehensive definition of ILS. The scope of ILS is defined by the ILS elements, the ILS elements are addressed briefly from both a technical and programme management point of view.

The topics of Reliability and Maintainability (R&M) are introduced and discussed in the context of Defence Standard 00-40. The issues of programme integration from a technical and project point of view are addressed. This leads to a discussion of LSA and the need for Systems Engineering.

The course finishes with a discussion of the major issues relevant to the management of an ILS programme, for example the need to tailor and the approaches that may be taken to achieve true programme integration.

Being logical and not founded on a discussion of the relevant standards the material is more memorable and it will aid future understanding and critical interpretation of ILS standards and procedures.

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Course Programme

Day 01 - AM

001-P ILS Defined

A basic introduction to ILS that answers the Why, What, When, Where, Who, and How questions about Integrated Support.

Improving system cost effectiveness is presented as the primary aim of ILS. The need for ILS is defined through an analysis of the problems and risks which result in low system cost-effectiveness.

The requirement to integrate and then optimise both the ILS process and the "ILS Product" in order to overcome these problems, is identified. The module then develops a logical argument through an analysis of the relevant systems and processes. This analysis leads to the identification of the "Limiting Factors" and hence the ILS elements. The ILS elements are defined in terms of the; acquisition processes and the associated organisations and the relevant "products" which are defined in terms of processes, infrastructure, resources or system characteristics as appropriate. The concept of the "Total System" and System optimisation is introduced.

The session is summarised by presenting a comprehensive definition of ILS. The definition addresses; The aims of ILS, the basic ILS processes and when they are carried out, the ILS organisation responsible for these processes (including the customer and the contractor), the "ILS Products" (which includes the optimisation of the Total System design) and the role of LSA in the ILS methodology. The role of LSA will be introduced in this module.

Day 01 - PM

002-P Systems and the Systems Engineering Concept

The concept of a "System" and its associated characteristics are discussed. The discussion will address system connectivity, emergent properties and the concept of environment from a system viewpoint.

These will all be considered in the Supportability Engineering context, the consequences of these properties, in Supportability Engineering terms, for example their effect on Support Modelling requirements, and Life Cycle Cost analysis, will be addressed.

The concept of Systems Engineering is introduced and Supportability Engineering is defined in the context of the Systems Engineering process. The aims of the Systems Engineering Process are defined. This leads in a logical manner to an expansion of the need for and the role of Supportability Engineering analysis.

The aims of Supportability Engineering analysis and its place in the Systems Engineering process are explored. The "Generic Systems Engineering" process is introduced and related to the concept of system Life Cycle Phases as a mechanism for controlling a major system development programme and for managing risk.

The concept of Life Cycle phases is related to the UK MoD acquisition process and the acquisition phases are defined in terms of their aims, processes and products.

Day 02 - AM

011-P Quantifying the System

This module provides an introduction to the basic measures of Logistics and their place within Support related analyses.

The aims are to raise the delegate's level of awareness of the measures whilst providing an introduction to their statistical basis and to ensure that they have a grasp of the concepts that are a pre-requisite to an understanding of Logistics.

Day 02 - PM

003-P The Logistic Support Analysis (LSA) Process

An introduction to the Logistic Support Analysis (LSA) process. The need for LSA is discussed then the LSA tasks and the LSAR as defined by Def. Stan. 00-60 are introduced.

The delegates are given a brief introduction to parts 0, 1, 2, and 3 of the Standard, its structure and content. The tasks are discussed in the context of the System Engineering process. When applicable the relationship of the task results to the LSAR data is explained.

The analysis techniques, Failure Modes, Effects and Criticality Analysis (FMECA), Reliability Centered Maintenance (RCM), Level of Repair Analysis (LoRA) and Task Analysis are shown in the context of the LSA process.

025-S The Management of Integrated Logistic Support (ILS) - An Overview

The basic ILS management issues are explored in this module and related to the Systems Engineering process.

The management requirements are identified and the process of developing an ILS strategy and then developing the detailed ILS plan, is explored.

The module addresses the requirement for tailoring, integrated plan sets, scheduling, monitoring and control of an ILS programme and ILS costing. The content of the contractors Integrated Support Plan (ISP) is addressed in detail.

The relationship of ILS to Continuous Acquisition and Lifecycle Support (CALs), Total Quality Management (TQM) and Continuous Quality Improvement (CQI) are addressed.