

## **THE TWELVE INTEGRATED PRODUCT SUPPORT ELEMENTS**

These twelve IPS Elements were created to define the specific roles, responsibilities and activities of the Product Support Manager (PSM), a key leadership position created in 2010 by Congress under Public Law 111-84 in 2011. The IPS Elements are identified in Appendix A of the [Product Support Manager Guidebook](#) and they are further defined and expanded upon in the [Integrated Product Support Element Guidebook](#).

The IPS Elements, while encompassing the traditional ten Integrated Logistics Support (ILS) Elements, are more broad in scope and interdisciplinary than logistics support. The migration of these elements are shown in the figure below and the enhancements to the traditional ten ILS elements are described as follows:

- The Product Support Management IPS Element has been introduced to address the more enterprise role of the Product Support Manager over that of the traditional ILS Manager and includes contract development and management, budget planning, IPT management, and other business, financial, contract and operational responsibilities.
- The second new Product Support Element is Sustaining Engineering, intended to carry forward systems engineering and design interface activities to product support during sustainment. The Maintenance Planning and Management Product Support Element now includes Management activities such as executing the planning strategies during fielding and deployment and continuing through the Operations & Sustainment (O&S) phase.
- Training and Training Devices is now Training and Training Support. The whole concept of training is no longer fragmented into classroom training with special devices such as simulators to add realism. Distance learning and the whole immersion of the student within the simulation area now makes the concept of training a continuous and more realistic experience.
- Facilities has been expanded to Facilities and Infrastructure. Due to trends such as globalization and reliance on information technologies, product support operations are no longer just "brick and mortar" facilities.
- Finally, Computer Resources Support is simply Computer Resources to account for the significant role that information technology and the necessary computer infrastructure plays to develop strategies for and to execute Life Cycle Product Support.

**Design Interface** is the relationship of logistics-related design parameters to readiness and support resource requirements. Logistics-related design parameters include the following:

- Reliability and Maintainability (R&M)
- Human factors
- System safety
- Survivability and vulnerability
- Hazardous material management
- Standardization and interoperability
- Energy management
- Corrosion
- Nondestructive inspection
- Transportability

These logistics-related design parameters are expressed in operational terms rather than inherent values and specifically relate to system readiness objectives and support costs of the system. Design interface really boils down to evaluating all facets of an acquisition, from design to support and operational concepts for logistical impacts to the system itself and the logistics infrastructure.

**Maintenance Planning and Management** establishes maintenance concepts and requirements for the life of the system. It includes, but is not limited to, levels of repair, repair times, testability requirements, support equipment needs, manpower skills, facilities, Interservice, organic and contractor mix of repair responsibility, site activation, etc. This element has a great impact on the planning, development, and acquisition of other logistics support elements.

**Supply Support** consists of all management actions, procedures, and techniques necessary to determine requirements to acquire, catalog, receive, store, transfer, issue and dispose of spares, repair parts, and supplies. In layman terms, this means having the right spares, repair parts, and supplies available, in the right quantities, at the right place, at the right time, at the right price. The process includes provisioning for initial support, as well as acquiring, distributing, and replenishing inventories. Keep in mind that an aircraft can be grounded just as quickly for not having the oil to put in the engine as it can for not having the engine.

**Manpower and Personnel** involves the identification and acquisition of personnel (military & civilian) with the skills and grades required to operate, maintain, and support systems over their lifetime. Early identification is essential. If the needed manpower is an additive requirement to existing manpower levels of an organization, a formalized process of identification

and justification must be made to higher authority. Add to this the necessity to train these persons, new and existing, in their respective functions on the new system, and the seriousness of any delays in the accomplishment of this element becomes apparent. In the case of military requirements, manpower needs can, and in many cases do, ripple all the way back to recruiting quotas.

**Training and Training Support** consists of the policy, processes, procedures, techniques, training devices, and equipment used to train civilian and military personnel to acquire, operate and support a system. This includes individual and crew training, new equipment training, initial, formal, and on-the-job training. Though the greatest amount of training is accomplished just prior to the fielding of a system, it must be remembered that in most programs, a large number of individuals must also be trained during system development to support the system test and evaluation program.

**Support Equipment** is made up of all equipment (mobile or fixed) required to support the operation and maintenance of a system. This includes ground handling and maintenance equipment, tools, metrology and calibration equipment, and manual and automatic test equipment. During the acquisition of systems, program managers are expected to decrease the proliferation of support equipment into the inventory by minimizing the development of new support equipment and giving more attention to the use of existing government or commercial equipment.

**Packaging, Handling, Storage, and Transportation (PHS&T)** is the combination of resources, processes, procedures, design, considerations, and methods to ensure that all system, equipment, and support items are preserved, packaged, handled, and transported properly, including environmental considerations, equipment preservation for the short and long storage, and transportability.

**Computer Resources and Software Support** encompasses the facilities, hardware, software, documentation, manpower, and personnel needed to operate and support mission critical computer hardware/software systems. As the primary end item, support equipment, and training devices increase in complexity, more and more software is being used. The expense associated with the design and maintenance of software programs is so high that one cannot afford not to manage this process effectively. It is standard practice to establish some form of computer resource working group to accomplish the necessary planning and management of computer resources support.

**Technical Data Management** represents recorded information of scientific or technical nature, regardless of form or character (such as manuals and

drawings). Computer programs and related software are not technical data; documentation of computer programs and related software is. Technical manuals and engineering drawings are the most expensive and probably the most important data acquisitions made in support of a system. It is the technical manuals that provide the instructions for operation and maintenance of a system.

**Facilities and Infrastructure** consists of the permanent and semi-permanent real property assets required to support a system, including studies to define types of facilities or facility improvements, location, space needs, environmental requirements, and equipment. Certainly the non-availability of facilities can be just as damaging to a system as would be the lack of spare parts, trained personnel, or support equipment. A last minute decision to deploy a system to a different locale may require extraordinary efforts to correct facility delays.

**Product Support Management** includes a variety of oversight, leadership, and management responsibilities, including warfighter and maintainer requirements capture, alliance management, product support contract development and management, product support performance management, product support budgeting and funding, total ownership cost (TOC) management, product support planning management, logistics policy implementation, Configuration Management (CM), Performance-Based Life Cycle Product Support (PBL), Continuous Process Improvement (CPI), and integrated product support (IPS) element requirements development.