



**Office of the Assistant Secretary of the Army  
Acquisition, Logistics and Technology  
Financial Operations**

**Implementation Guidance  
Standardized Cost Reporting Structure Non-Defense  
Business System (Non-DBS)**

# September 2019

## Version History

VERSION	SUMMARY OF CHANGES	DATE
1.0	Initial Implementation Guidance	September 2019

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## 1. Overview

The Assistant Secretary of the Army, (Acquisition, Logistics and Technology), (ASA (ALT)) Deputy Assistant Secretary for Plans, Programs and Resources, initiated a business process reengineering effort to gain transparency and consistency in the way we program and fund acquisition programs across the planning, programming, budgeting and execution cycle. In December 2018, an ASA (ALT) established Integrated Product Team (IPT) included representatives from key Headquarters, Department of the Army (HQDA) organizations and Program Executive Offices (PEOs).

The IPT assessed the feasibility of different Cost Reporting Structures for the acquisition community –

- Custom Cost Reporting Structure specific to the acquisition community
- MIL-STD-881D DoD Standard Practice – Work Breakdown Structures for Defense Materiel Items
- Army Cost Estimating Structure (ACES) Non-Defense Business System (Non-DBS)

Custom Cost Reporting Structure: This was not considered a viable solution as it would ‘reinvent the wheel’ to define cost categories for inclusion in a cost reporting structure, and would require defining each cost category.

MIL-STD-881D: In a pilot effort, the fiscal data of 10 Acquisition Category (ACAT) I, II, and III programs were mapped to the MIL-STD-881D cost categories. Based on the results of the pilot, MIL-STD-881D was not considered a viable solution.

ACES Non-DBS: In lieu of MIL-STD-881D, the IPT studied the current ACES Non-DBS and determined additional cost categories may be needed to support the acquisition process.

The business process reengineering initiative resulted in an Army decision to implement the ACES + (the + referring to the addition of cost categories needed to support the acquisition community) as the Cost Reporting Structure (Non-DBS). The Cost Reporting Structure enables cost visibility and traceability across the Army’s financial and accounting systems. Implementation will be iterative and is set to begin in FY2020 with a focus on establishing business rules for implementing the Cost Reporting Structure (Non-DBS), use of cost objects, and use of attributes on cost objects within the General Funds Enterprise Business System (GFEBS). Compliance with FY20 Implementation using Free Text fields due no later than Q2 FY2020.

NOTE: The Army has implemented a separate Cost Reporting Structure for Defense Business System (DBS) programs.

### 1.1 References

- **Department of Defense (DoD) Financial Management Regulation (FMR)**  
<https://comptroller.defense.gov/FMR.aspx>
- **Department of Defense Cost Assessment and Program Evaluation**  
[https://www.cape.osd.mil/files/OS\\_Guide\\_v9\\_March\\_2014.pdf](https://www.cape.osd.mil/files/OS_Guide_v9_March_2014.pdf)
- **Deputy Assistant Secretary of the Army (Cost and Economics) Cost Management Handbook**  
<https://ssilrc.army.mil/wp-content/uploads/2018/06/ODASA-CE-CM-Handbook.pdf>
- **Federal Acquisition Regulation**  
<https://www.acquisition.gov/browse/index/far>
- **Instructions for Creating Cost Objects and Capturing Actual Costs of Defense Business Systems**  
<https://cpp.army.mil/>
- **Chief Financial Officer Operating Guidance No. 7: Standardized Cost Reporting Structure Non-Defense Business Systems**  
<https://spcs3.kc.army.mil/asaalt/zr/financialoperations/layouts/15/start.aspx#/WBS%20Standardization/Forms/AllItems.aspx>
- **GFEBs Upload Project User Procedure (ZSPPE\_DATALOAD\_PS)**  
[https://www.ako2.us.army.mil/content/armyako/en/mycommunities/Home/groups/hqda/Groups/BMA/Groups/GFEBs/Groups/DevMod/files.asset.html/content/user-generated/asi/mongo/content/armyako/en/mycommunities/Home/groups/hqda/Groups/BMA/Groups/GFEBs/Groups/DevMod/files/jcr:content/content/primary/library/gfebs\\_training\\_andj-05bN.html](https://www.ako2.us.army.mil/content/armyako/en/mycommunities/Home/groups/hqda/Groups/BMA/Groups/GFEBs/Groups/DevMod/files.asset.html/content/user-generated/asi/mongo/content/armyako/en/mycommunities/Home/groups/hqda/Groups/BMA/Groups/GFEBs/Groups/DevMod/files/jcr:content/content/primary/library/gfebs_training_andj-05bN.html)
- **Project Management Resource Tools (PMRT) MilSuite**  
<https://www.milsuite.mil/book/groups/army-pmrt>

## 1.2 Definitions

The **planning, programming, budgeting and execution** (PPBE) process allows the Army to allocate its resources. The Army utilizes the process to align a fiscal budget to national strategic guidance and DoD policy, strategy and goals.

A **Defense Business System** (DBS) is an information system that support business activities such as acquisition, financial management, logistics, strategic planning and budgeting, installations and environment and human resource management.

The **Project Management Resource Tools** (PMRT) is a suite of tools that incorporate financial and program management abilities to support key facets of the Defense acquisition process.

The **Program Objective Memorandum** (POM) is a recommendation from the Army to the Office of the Secretary of Defense concerning how the Army plans to allocate resources (funding) for a program(s) to meet the Service priorities and the National Defense Strategy.

## **2.0 Capturing Actual Costs of Non-DBS Programs**

### **2.1 Cost Reporting Structure (Non-DBS)**

The ACES was selected as the Cost Reporting Structure (Non-DBS) to capture actual costs of a program in GFEBS. The Cost Reporting Structure creates a standard model of how lifecycle costs should be captured across all Non-DBS programs.

The definitions of each cost category in the Cost Reporting Structure (Non-DBS) can be found in the Department of the Army Cost Analysis Manual (CAM) published by the Deputy Assistant Secretary of the Army - Cost and Economics (DASA-CE). Initially, with the exception of the addition of Live Fire Test and Evaluation to the 'Systems Test and Evaluation' cost categories, the Cost Reporting Structure (Non-DBS) will remain unchanged. The acquisition community is not recommending additional cost categories be added. However, after adopting the Cost Reporting Structure (Non-DBS) and utilizing it, the acquisition community may identify cost categories required to support additional information needs.

One of the benefits of utilizing the Cost Reporting Structure (Non-DBS) is it facilitates comparison of the program's execution to its cost estimate, Acquisition Program Baseline, etc. Additionally, as the Cost Reporting Structure (Non-DBS) is adopted as a model in other process areas to include the POM and PMRT, it will be possible to perform analysis across the PPBE process.

Cost objects and cost object attributes within GFEBS will be utilized to collect, report, and analyze Non-DBS program costs.

See Appendix A for the cost categories within the Cost Reporting Structure (Non-DBS).

## **2.2 Methodology**

### **2.2.1 GFEBS WBS Elements**

Cost objects are master data elements which collect planned and actual costs of a particular event, organization, or product. GFEBS uses three main cost objects: (1) Internal Orders, (2) Cost Centers, and (3) WBS Elements, and each has an intended

use. Internal Orders are intended to track the cost of short term special events or initiatives (e.g. training events), Cost Centers are intended to track the cost of organizational entities (e.g. divisions, units), and, lastly, WBS Elements are intended to track the cost of a program or project.

WBS Elements, therefore, will be required for use in GFEBs to collect Non-DBS program costs.

## 2.2.2 GFEBs WBS Element Attributes

GFEBs WBS Elements have attribute fields that, when populated, help further define the purpose and types of costs collected against the WBS Element cost object. These attributes allow users to generate different multi-dimensional views of the same cost.

For this effort to collect Non-DBS program costs, each WBS Element will have required attribute fields that will be populated for further identification and classification of the costs collected.

### 2.2.2.1 FY20 Implementation using Free Text Fields

Free Text fields on the GFEBs WBS Element will temporarily be used until the solution is fully developed and can be loaded in to the acquisition attribute fields. The “Text 3” and “Text 4” fields will house the Program Number (PNO) and the Cost Reporting category code (e.g. 1.1.2). If the program does not have an assigned PNO, the Program’s name, or another unique program identifier, should be used until a PNO is created in the Army Acquisition Program Master List (AAPML) and/ or the Data Access Program Reporting (DAPR) module of PMRT.

Program Managers (PMs) will need to isolate their program-specific WBS Elements and perform execution analysis on the costs associated with the WBS Elements in order to support identification of 1-to-1 and 1-to-N relationships between the costs and the Cost Reporting categories. Using the results of the execution analysis, the WBS Elements with 1-to-1 relationships should be updated by adding (1) the PNO to the “Text 3” field and (2) the Cost Reporting category code (e.g. 1.1.2) to the “Text 4” field. The WBS Elements with 1-to-N relationships should be updated by adding (1) the PNO to the “Text 3” field and (2) “ALLOC” in the “Text 4” field signifying the WBS Element contains costs of more than 1 Cost Reporting category.

**The free text fields in Table 1 will be required to be populated for all Non-DBS Program WBS Elements in FY20 –**

Free Text Field	Field Description	Example
Text 3	PNO, or other unique program identifier if a PNO does not exist	GE03
Text 4	Cost Reporting category code or, if 1-to-N	2.2.1 or ALLOC

	relationship exists between the WBS Element costs and the Cost Reporting categories, populate with text "ALLOC"	
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Table 1 Free Text Fields

General fields		Numeric fields	
Text 1		Quantity 1	0.000
Text 2		Quantity 2	0.000
Text 3	GE03	Value 3	0.00
Text 4	2.2.1	Value 4	0.00
Dates		Checkboxes	
Date 1		<input type="checkbox"/> Indicator 1	
Date 2		<input type="checkbox"/> Indicator 2	

Example 1 Free Text Fields populated as required for 1-to-1 Relationship

General fields		Numeric fields	
Text 1		Quantity 1	0.000
Text 2		Quantity 2	0.000
Text 3	GE03	Value 3	0.00
Text 4	ALLOC	Value 4	0.00
Dates		Checkboxes	
Date 1		<input type="checkbox"/> Indicator 1	
Date 2		<input type="checkbox"/> Indicator 2	

Example 2 Free Text Fields populated as required for 1-to-N Relationship

### 2.2.2.1 FY21 Transition to Acquisition Attributes

Upon finalizing the solution, all newly created, as well as existing WBS elements used to capture Non-DBS program costs, must have the following attribute fields populated to create multi-dimensional views of information: Acquisition Cost Structure (ACS), Weapon System, Weapon Sub System, Acquisition Category (ACAT), and Phase.

**The attributes in Table 2 will be required to be populated for all Non-DBS Program WBS Elements in FY21 –**

Acquisition Attribute Field	Field Description	Example
Acquisition Cost Structure (ACS)	The Acquisition Cost Structure (ACS) is the DASA-CE defined Cost Reporting Structure (Non-DBS). This structure defines the cost categories against which actual costs will be collected. This structure captures the Life Cycle Cost for Army Weapon Systems.	2.2.1 Recurring Engineering
Weapons System	<i>Determination In-Progress</i>	<i>TBD</i>
Weapons Sub-System	<i>Determination In-Progress</i>	<i>TBD</i>
Acquisition Category (ACAT)	For Non-DBS acquisitions, Acquisition Categorizations of an acquisition program are used to determine the level of review, decision authority, and applicable procedures. An acquisition program is categorized based on the criteria in DoDI 5000.02.	ACAT ID
Phase	<p>The Acquisition Process is broken into several phases with Milestone Decisions occurring between each phase.</p> <p>DoDI 5000.02 defines the following acquisition phases of the acquisition process for non-Defense Business Systems:</p>	ENG & MANF DEVELOPMENT

	1. Material Solution Analysis 2. Technology Maturation and Risk Reduction 3. Engineering and Manufacturing Development 4. Production and Deployment 5. Operations and Support	
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Table 2 Acquisition Attributes

### 2.2.3 Creating or Changing WBS Elements

All Non-DBS programs will be required to track costs via WBS Elements and use the WBS Free Text fields in Table 1 in FY2020. The WBS Elements may be created via a mass upload or manually in GFEBS. Also, if the WBS Elements have already been created, the WBS Element mass update program may be used to add entries to the Free Text fields.

#### 2.2.3.1 WBS Element Creation Mass Upload

The Project structure can be created in GFEBS using the WBS Element Creation Mass Upload tool. The tool works by populating a MS Excel template, with each row in the template representing a different WBS element. The file is loaded in GFEBS using transaction code ZSPPE\_DATALOAD\_PS to automatically create the Project structure.

In addition to basic data and funding data (Funds Center, Functional Area, and Fund), the GFEBS Free Text fields in Table 1 can be populated for each program-related WBS Element in the template. In the template, and in GFEBS Business Intelligence (BI) reports, the 'Text 3' and 'Text 4' fields are labeled 'User Field 3' and 'User Field 4'.

See GFEBS 'Upload Project User Procedure (ZSPPE\_DATALOAD\_PS)' for further instructions on how to create project structures in mass.

#### 2.3.3.2 Manual WBS Element Creation

WBS Elements can be created or updated using transaction code CJ20N in GFEBS.

#### 2.3.3.3 WBS Element Mass Update

The WBS Element Mass Update tool can be used to modify WBS Element fields in mass, where transaction code CJ20N would otherwise be used to individually modify the WBS Elements.

Access to the tool is limited and, therefore, a ticket must be submitted to the GFEBS Helpdesk. They will require the WBS Element(s) and the fields, along with the field entries, required to be updated as part of the ticket's information. It is recommended that these requests be coordinated with the ASA (ALT) WBS Standardization team prior to ticket submission. Ticket requests will be consolidated as necessary.

## **Appendix A Cost Reporting Structure (Non-DBS)**

### **Section I - Cost Reporting Structure (Non-DBS)**

- 1.0 RESEARCH, DEVELOPMENT, TEST, AND EVALUATION (RDT&E)-FUNDED ELEMENTS**
- 1.1 DEVELOPMENT ENGINEERING
  - 1.1.1 DEVELOPMENT ENGINEERING HARDWARE
  - 1.1.2 DEVELOPMENT ENGINEERING SOFTWARE
- 1.2 PRODUCIBILITY ENGINEERING AND PLANNING (PEP)
- 1.3 DEVELOPMENT TOOLING
- 1.4 PROTOTYPE MANUFACTURING
- 1.5 SYSTEMS ENGINEERING/PROGRAM MANAGEMENT
  - 1.5.1 SYSTEMS ENGINEERING/PROGRAM MANAGEMENT (GOVERNMENT)
  - 1.5.2 SYSTEMS ENGINEERING/PROGRAM MANAGEMENT (CONTRACTOR)
- 1.6 SYSTEMS TEST AND EVALUATION
  - 1.6.1 DEVELOPMENT TEST AND EVALUATION
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  - 1.6.3 MOCK-UPS/SYSTEM INTEGRATION LAB
  - 1.6.4 TEST AND EVALUATION SUPPORT
  - 1.6.5 TEST FACILITIES
  - 1.6.6 OTHER TESTING
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- 1.7 TRAINING
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- 1.9 SUPPORT EQUIPMENT
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  - 2.2.1 MANUFACTURING
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- 2.3 SYSTEMS ENGINEERING/PROGRAM MANAGEMENT

- 2.3.1 SYSTEMS ENGINEERING/PROGRAM MANAGEMENT  
(GOVERNMENT)
- 2.3.2 SYSTEMS ENGINEERING/PROGRAM MANAGEMENT  
(CONTRACTOR)
- 2.4** SYSTEMS TEST AND EVALUATION
- 2.5** TRAINING
- 2.6** DATA
- 2.7** SUPPORT EQUIPMENT
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  - 2.7.2 COMMON
- 2.8** OPERATIONAL/SITE ACTIVATION
- 2.9** FIELDING
  - 2.9.1 INTITIAL SPARES (REPARABLES)
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- 5.4.2 SUPPORT EQUIPMENT REPLACEMENT AND REPAIR
- 5.4.3 SUSTAINING/SYSTEMS ENGINEERING
- 5.4.4 PROGRAM MANAGEMENT
- 5.4.5 INFORMATION SYSTEMS
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- 5.4.6 DATA AND TECHNICAL PUBLICATIONS
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- 5.5.1 HARDWARE MODIFICATIONS
- 5.5.2 SOFTWARE MAINTENANCE
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- 5.5.2.4 CYBERSECURITY
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- 5.5.2.7 FIELD SOFTWARE ENGINEERING
- 5.5.2.8 FOLLOW-ON USER TRAINING
- 5.6 INDIRECT SUPPORT**
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    - 5.6.1.2 BASE COMMUNICATIONS
    - 5.6.1.3 FACILITIES SUPPORT
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## **6.0 DEMILITARIZATION**

## **Section II - Cost Reporting Structure (Non-DBS) Definitions**

### **1.0 RESEARCH, DEVELOPMENT, TEST, AND EVALUATION (RTD&E-FUNDED ELEMENTS)**

All RDT&E-funded costs associated with the research and development (R&D) of the materiel system, including development costs for system armament, training devices, ammunition, missiles, and modifications.

#### **1.1 DEVELOPMENT ENGINEERING**

Summary element of development engineering efforts.

##### **1.1.1 DEVELOPMENT ENGINEERING HARDWARE**

This element includes:

- The study, analysis, design development, evaluation, testing, and redesign of the hardware system component(s) during the system development efforts.
- Design efforts of preparing specifications, engineering drawings, parts lists, wiring diagrams, test planning and scheduling, analysis of test results, data reduction, report preparations and establishment of reliability, maintainability, and quality assurance control requirements.
- Raw and semi-fabricated materiel plus purchased parts consumed in the performance of component engineering efforts.
- Engineering test equipment and other equipment required to accomplish the engineering function for the specified system components. Examples include: oscilloscopes, transducers, recorders, radio transmitters, converters, discriminators, and receivers.
- Engineering efforts in support of pre-planned product improvements and development costs for any neutralization process designed to change the physical, chemical, biological character or composition of hazardous waste produced by the system.

This element excludes:

- Engineering efforts (producibility engineering and planning) to ensure producibility of the item or system prior to quantity procurement, which is included in 1.02.

##### **1.1.2 DEVELOPMENT ENGINEERING SOFTWARE**

This element includes:

- The development for system software to include all increments and/or spirals need to meet the requirement as well as activities under Software Support Processes.
  - Activities include: software requirements analysis, software architectural design, software detailed design, software construction, software integration, software qualification testing, and software support processes.

#### **1.2 PRODUCIBILITY ENGINEERING AND PLANNING (PEP)**

This element includes:

- Ensuring the producibility of the developmental materiel system, item, or component.
- Engineering tasks necessary to ensure timely, efficient, and economic production of essential materiel, primarily of a planning nature.
- Efforts related to the development of the Technical Data Package (TDP), quality assurance (QA) plans, and special production processes to assess producibility.
- The development of unique processes essential to the design and manufacture of the materiel and details of performance ratings dimensional and tolerance data; manufacturing assembly; sequences; schematics; mechanical and electrical connections; physical characteristics including form, fit, and finishes; inspection test and evaluation requirements; calibration information; and quality control procedures.

### 1.3 DEVELOPMENT TOOLING

This element includes:

- Planning, design, fabrication, assembly, installation, modification, maintenance, and rework of all tools, inspection equipment, and test equipment supporting the development of a specified system component.
- Time expended in determining tool, inspection, and test equipment requirements; planning of fabrication and testing operations; maintaining tool records; scheduling and control of all tools orders; and programming and preparing software for all numerically controlled machine tools used in development of a system component.
- New materials used in the fabrication, assembly, installation, modification, and maintenance and rework of dies, jigs, fixtures, inspection equipment, handling equipment, work platforms, and test equipment used to develop each system component.
- Tools normally purchased in final form or that require negligible effort to assemble.

### 1.4 PROTOTYPE MANUFACTURING

This element includes:

- Fabrication, processing, subassembly, final assembly, reworking modification, and installation of parts and equipment, power plants, boosters, electronic equipment, explosives, and other items (including Government-Furnished Equipment [GFE]), and the proving of such equipment and instruments for the specified system prototype element.
- Construction of piece parts from raw materials—the cutting, forming, stretching, and blanking operations performed on materials to make individual parts.
- Bench assembling of all minor and major assemblies, mating or joining of primary sections, installation of special and general equipment, instruments, and accessories performed after the mating, as well as all other preparation and/or processing and preflight and production service operations.

- Raw and semi-fabricated material plus purchased parts used in the manufacture of the specified system prototype item. The costs of prototype spare assemblies and parts are also included within this element.

## **1.5 SYSTEMS ENGINEERING/PROGRAM MANAGEMENT**

Summary element of RDT&E system engineering & program management efforts.

### **1.5.1 SYSTEMS ENGINEERING/PROGRAM MANAGEMENT (GOVERNMENT)**

This element includes:

- Government PM's office (civilian, SETA, and matrix personnel for system engineering and technical control, as well as the business management, and of the system/program to support RDT&E efforts. This encompasses overall planning, direction, and control of the definition, development, and production of the system/program, including functions of logistics engineering and integrated logistics support (ILS) management (e.g., maintenance support, facilities, personnel, training, testing, risk management, and activation of a system).

This element excludes:

- System engineering/program management efforts that can be associated specifically with the individual hardware/software element(s).

Military personnel costs will be captured in 4.04.04.

### **1.5.2 SYSTEMS ENGINEERING/PROGRAM MANAGEMENT (CONTRACTOR)**

This element includes:

- Prime contractor(s) PM's office for system engineering and technical control, as well as the business management of the system/program to support RDT&E. This encompasses the overall planning, direction, and control of the definition, development, and production of the system/program, including functions of logistics engineering and integrated logistics support (ILS) management (e.g., maintenance support, facilities, personnel, training, testing, and activation of a system).

This element excludes:

- System engineering/program management efforts that can be associated specifically with the individual hardware/software element(s).

## **1.6 SYSTEMS TEST AND EVALUATION**

Summary element of RDT&E system test and evaluation.

### **1.6.1 DEVELOPMENT TEST AND EVALUATION**

This element includes:

- Test and evaluation efforts to demonstrate that the engineering design and development process is complete, the design risks have been minimized, the system will meet specifications, and whether the engineering design is supportable (practical, maintainable, safe, etc.). All Government and contractor

efforts from test planning to submitting the final test report should be included in this element.

#### 1.6.2 OPERATIONAL TEST AND EVALUATION

This element includes:

- Test and evaluation efforts to assess the prospective system's military utility, operational effectiveness, operational suitability, logistics supportability (including compatibility, inter-operability, reliability, maintainability, logistic requirements, etc.), and need for any modifications. All Government and contractor efforts from test planning to submitting the final test report should be included in this element.

#### 1.6.3 MOCK-UPS/SYSTEM INTEGRATION LAB

This element includes:

- The design engineering and production of system or subsystem mock-ups that have special contractual or engineering significance or that are not required solely for the conduct of one of the above elements of testing. SILs are often used in lieu of (or in addition to) mock-ups. SILs are risk reduction facilities where software and hardware can be developed, integrated, tested and evaluated for both standalone functionality and/or interoperability prior to being fielded.
- Efforts associated with Hardware/Lab Equipment, SIL Software (written to simulate the operating environment or written to operate the SIL), contractor support (e.g., technical assistance, maintenance, labor, materiel, etc.) consumed during this phase of testing, and logistics testing efforts to evaluate the achievement of supportability goals and the adequacy of support for the system (e.g., deliverable maintenance tools, test equipment, technical publications, maintenance instructions, personnel skills and training requirements, and software support facility/environment elements).

#### 1.6.4 TEST AND EVALUATION SUPPORT

This element includes:

- Efforts necessary to operate and maintain (during test and evaluation) systems and subsystems which are not consumed during the testing phase and are not allocated to a specific phase of testing. This includes reparable spares, repair of reparables, repair parts, consumables, warehousing and distribution of spares and repair parts, test and support equipment, test bed vehicles, drones, surveillance aircraft, tracking vessels, contractor technical support.

#### 1.6.5 TEST FACILITIES

This element includes:

- The special test facilities required for performance of the various developmental tests necessary to prove the design and reliability of the system or subsystem. Efforts include test tank test fixtures, propulsion test fixtures, white rooms, test chambers, and range/targeting facilities.

#### 1.6.6 OTHER TESTING

This element includes:

- All other test efforts in RDT&E not covered in the above elements.

#### 1.6.7 LIVE FIRE TEST AND EVALUATION

This element includes:

- Live-Fire Test and Evaluation (LFT&E) is an assessment of the vulnerability and lethality of a system as it progresses through Developmental Test & Evaluation (DT&R) prior to Full-Rate Production (FRP). LFT&E typically includes testing at the component, subassembly, and subsystem level, and may also draw upon analyses, modeling and simulation, combat data, and related sources such as analyses of safety and mishap data.

#### 1.7 TRAINING

This element includes:

- Services, devices, accessories, aids, equipment, facilities, and parts used to facilitate instructions through which personnel acquire sufficient concepts, skills, and aptitudes to operate and maintain the system with maximum efficiency.
- Efforts associated with the design, development, and production of prototype training equipment, and the execution of training services.
- Training initial service test crews and maintenance personnel, including temporary duty of Government personnel, involved in the testing and training needed on handling hazardous materials and proper use of personal protection equipment.

#### 1.8 DATA

This element includes RDT&E efforts for:

- Government-peculiar data: acquiring, assembling, reproducing, packaging and shipping the data.
- Transforming data into Government format, reproducing and shipping data identical to that used by the contractor but in a different format.
- Technical data providing instructions for installation, operation, maintenance, training, and support, formatted into a technical manual. Data may be presented in any form regardless of the form or method of recording. Technical orders that meet the criteria of this definition may also be classified as technical manuals.
- Recorded scientific or technical information (regardless of the form or method of recording) including computer software documentation. Engineering data defines and documents an engineering design or product configuration (sufficient to allow duplication of the original items) and is used to support production, engineering and logistics activities.
- The data items necessary for configuration management, cost, schedule, contractual data management, program management, etc., required by the Government.
- The data items designed to document support planning in accordance with functional categories.

- The activity and enterprise data storage entity (or sometimes entities) for Government approved documents that are the property of the Government in which data has been specifically partitioned for an analytical or reporting purposes. As custodian for the Government, the repository, authorized by approved change orders, maintains master documents at the latest approved revision level.
- Government's license rights of valuable intellectual property including technical data of any recorded information of a scientific or technical nature (e.g., product design or maintenance data, computer databases, and computer software documentation); and computer software including executable code, source code, code listings, design details, processes, flow charts, and related material.

## 1.9 SUPPORT EQUIPMENT

Summary element of support equipment efforts.

### 1.9.1 PECULIAR

This element includes:

- The design and development of those deliverable items and associated software required to support and maintain the system or portions of the system while not directly engaged in the performance of its mission, and that have application peculiar to the given system. For example: vehicles, equipment, tools, etc. unique to the system used to fuel, service, transport, hoist, repair, overhaul, assemble, disassemble, test, inspect, or otherwise maintain the mission equipment.

### 1.9.2 COMMON

This element includes:

- The design and development of those deliverable items and associated software required to support and maintain the system or portions of the system while not directly engaged in the performance of its mission, and that have application common to systems other than the given system. For example: vehicles, equipment, tools, etc. not unique to the system used to fuel, service, transport, hoist, repair, overhaul, assemble, disassemble, test, inspect, or otherwise maintain the mission equipment.

## 1.10 DEVELOPMENT FACILITIES

This element includes:

- Any new building, conversion or expansion of facilities or sites, and the acquisition of real estate for development and testing of the system.
- Facilities to handle or store hazardous materials or waste including underground storage tanks.
- Construction efforts for modification and testing of systems already in the Army inventory if necessary for the advancement of the R&D program.

### 1.11 OTHER RTD&E

This element includes:

- Any RDT&E-funded costs not included in the previous elements. Costs must be system specific and clearly identified.

## **2.0 PROCUREMENT-FUNDED ELEMENTS**

Summary element of all procurement-funded elements.

### **2.1 NON-RECURRING PRODUCTION**

Summary element of all non-recurring production efforts.

#### **2.1.1 PRODUCTION FACILITIES**

This element includes:

- The construction, conversion, or expansion of industrial facilities for production, inventory, and contractor depot maintenance required when that service is for the specific system.
- Maintenance of these facilities or equipment directory charged to the Government.
- Facilities for hazardous waste management to satisfy environmental standards charged to the Government.

#### **2.1.2 PRODUCTION EQUIPMENT**

This element includes:

- Initial hard tooling and production line setup to support low-rate and full-scale production of the system: fabrication, assembly, and installation of tools (including modification and rework of development tools for production purposes), dies, templates, patterns, form block manufacture, jigs, fixtures, master forms, inspection equipment, handling equipment, load bars, work platforms (including installation of utilities thereon), and test equipment (such as checkers and analyzers) to support the manufacture of the specified system.
- Initial and duplicate sets of tools necessary to reach full-rate production plus modification of LRIP tool records, establishment of make-or-buy and manufacturing plans on nonrecurring tools and equipment, scheduling and control of tool orders, and programming and preparation of software for numerically controlled machine equipment.

#### **2.1.3 DEPOT MAINTENANCE PLANT EQUIPMENT**

This element includes:

- The initial procurement of depot maintenance equipment needed to perform the maintenance activities for the full systems density.

#### **2.1.4 ENGINEERING SERVICES**

This element includes:

- This element includes any engineering services needed to support the production of the system that is not accounted for anywhere else in the WBS. The costs must be system specific and clearly identified.

## 2.1.5 OTHER NON-RECURRING PRODUCTION

This element includes:

- Any procurement-funded, non-recurring production costs not included in the above sub-elements. Costs must be system specific and clearly identified, e.g., warranty cost for a specific item.

## 2.2 RECURRING PRODUCTION

Summary element of all recurring production efforts.

### 2.2.1 MANUFACTURING

This element includes:

- Materiel, labor, and other expenses incurred in the fabrication, checkout, and processing of parts, subassemblies, and major assemblies/subsystems needed for the final system.
- Government-furnished equipment and materiel and subcontractor's purchased parts/equipment.
- Integration and assembly of various subassemblies into a working system.
- Installation special and general equipment.
- Paint and package the system for shipment to its acceptance destination.
- Preplanned product improvements.
- Moves in order to assemble into a final system.

### 2.2.2 RECURRING ENGINEERING

This element includes:

- Engineering efforts performed in support of production, including maintainability/reliability engineering, maintenance engineering, value engineering, and production engineering costs associated with the system.
- Redesign, evaluation, and other support engineering efforts (either in-house, contract, or separate contractor) directly involved with production of the components/end item (e.g., maintenance of the TDP, preparation of engineering change proposals (ECPs), engineering change orders (ECOs), and analysis of test results).

### 2.2.3 SUSTAINING TOOLING

This element includes:

- Maintenance, replacement, or modification of tools and test equipment after the start of production.
- Replacement of initial tools that break down, and modification, maintenance, and rework of initial and duplicate sets of tools occurring after production begin.

### 2.2.4 QUALITY CONTROL

This element includes:

- Implementing controls necessary to ensure that a manufacturing process produces a system that meets the prescribed standards.
- Receiving, in-process, and final inspections of tools, parts, subassemblies, and complete assemblies.
- Tasks such as reliability testing, establishment of acceptable quality levels (AQLs), statistical methods for determining performance of manufacturing processes, preparation and review of reports relating to these tasks, stockpile reliability testing, and the performance of production acceptance tests (PATs).

## 2.2.5 OTHER RECURRING PRODUCTION

This element includes:

- Any procurement-funded recurring production costs not included in the above sub-elements. Costs must be system specific and clearly identified (e.g., warranty cost for a specific item).

## 2.3 SYSTEMS ENGINEERING/PROGRAM MANAGEMENT

Summary element of system engineering & program management efforts.

### 2.3.1 SYSTEMS ENGINEERING/PROGRAM MANAGEMENT (GOVERNMENT)

This element includes:

- Government PM's office (civilian, SETA, and matrix personnel) for system engineering and technical control, risk management as well as the business management of the system/program to support procurement efforts. This encompasses the overall planning, direction, and control of the definition, and production of the system/program, including functions of logistics engineering and ILS management (e.g., maintenance support, facilities, personnel, training, testing, and activation of a system).

This element excludes:

- System engineering/management efforts that can be associated specifically with the individual hardware/software element(s). Military personnel as those will be captured in 4.04.04.

### 2.3.2 SYSTEMS ENGINEERING/PROGRAM MANAGEMENT (CONTRACTOR)

This element includes:

- Prime contractor(s) PM's office for system engineering and technical control, as well as the business management of the system/program to support procurement efforts. This encompasses the overall planning, direction, and control of the definition, development, and production of the system/program, including functions of logistics engineering and integrated logistics support (ILS) management (e.g., maintenance support, facilities, personnel, training, testing, and activation of a system).

This element excludes:

- System engineering/program management efforts that can be associated specifically with the individual hardware/software element(s).

## 2.4 SYSTEMS TEST AND EVALUATION

This element includes:

- System-related production test activities that are identifiable with the evaluation of the system.
- Hardware to obtain or validate data.
- Planning, conduct, support, data reduction, and reports from such testing.
- Test items consumed in the conduct of such operations, design, production, handling, storage, and disposal of models, specimens, fixtures, instrumentation, and hazardous materials or waste in support of the test program.
- Articles for testing that are complete production units should be captured under recurring production.
- Production acceptance tests (PATs) should be excluded as they are captures in 2.02.04

## 2.5 TRAINING

This element includes:

- Efforts associated with deliverable training services, devices, accessories, aids, equipment, and parts used to facilitate instruction through which personnel will learn to operate and maintain the system with maximum efficiency.

## 2.6 DATA

This element includes procurement efforts for:

- Government-peculiar data: acquiring, assembling, reproducing, packaging and shipping the data.
- Transforming data into Government format, reproducing and shipping data identical to that used by the contractor but in a different format.
- Technical data, providing instructions for installation, operation, maintenance, training, and support, formatted into a technical manual. Data may be presented in any form regardless of the form or method of recording. Technical orders that meet the criteria of this definition may also be classified as technical manuals.
- Recorded scientific or technical information (regardless of the form or method of recording) including computer software documentation. Engineering data defines and documents an engineering design or product configuration (sufficient to allow duplication of the original items) and is used to support production, engineering and logistics activities.
- The data items necessary for configuration management, cost, schedule, contractual data management, program management, etc., required by the Government.
- The data items designed to document support planning in accordance with functional categories.
- The activity and enterprise data storage entity (or sometimes entities) for Government approved documents that are the property of the Government into which data has been specifically partitioned for an analytical or reporting purposes.

As custodian for the Government, the repository, authorized by approved change orders, maintains master documents at the latest approved revision level.

- Government's license rights of valuable intellectual property including technical data of any recorded information of a scientific or technical nature (e.g., product design or maintenance data, computer databases, and computer software documentation) and computer software including executable code, source code, code listings, design details, processes, flow charts, and related material.

## 2.7 SUPPORT EQUIPMENT

Summary element of support equipment efforts.

### 2.7.1 PECULIAR

This element includes:

- Production of those deliverable items and associated software required to support and maintain the system or portions of the system while not directly engaged in the performance of its mission, and that have application peculiar to the given system. It includes, for example, vehicles, equipment, tools, etc. unique to the system used to fuel, service, transport, hoist, repair, overhaul, assemble, disassemble, test, inspect, or otherwise maintain the mission equipment.

This element excludes:

- Any initial support equipment costs.

### 2.7.2 COMMON

This element includes:

- Production of those deliverable items and associated software required to support and maintain the system or portions of the system while not directly engaged in the performance of its mission, and that have application common to other than the given system. It includes, for example, vehicles, equipment, tools, etc. not unique to the system used to fuel, service, transport, hoist, repair, overhaul, assemble, disassemble, test, inspect, or otherwise maintain the mission equipment.

This element excludes:

- Any initial support equipment costs.

## 2.8 OPERATIONAL/SITE ACTIVATION

This element includes:

- Real estate, construction, conversion, utilities, and equipment to provide all facilities required to house, service, and/or launch prime mission equipment at the organizational and intermediate levels.
- Conversion of site, ship, and vehicle, as well as system assembly, checkout, and installation into the site facility to achieve operational status. It also includes contractor support in relation to operational/site activation.

- Procurement reimbursement costs for system-specific initial base operations (BASOPS)/real property maintenance activities (RPMA)—such as utilities, repair of real property, minor construction, fire prevention, supply operations, maintenance of materiel, and transportation—for site activation equipment installation and one-time BASOPS.

This element excludes:

- Any MC-funded efforts under operational/site activation construction or O&M-funded efforts under transportation, system testing and evaluation, training, or system-specific base operations.

## 2.9 FIELDING

Summary element of fielding efforts.

### 2.9.1 INITIAL SPARES (REPARABLES)

This element includes:

- Initial spare components, assemblies, and subassemblies (reparable items) necessary to fill initial ASL/PLL stockage to support end-item fielding throughout the system life cycle.

This element excludes:

- Any items costed as part of manufacturing, such as engines.

### 2.9.2 INITIAL REPAIR PARTS (CONSUMABLES)

This element includes:

- Consumables necessary to fill initial ASL/PLL stockage to support end-item fielding.
- Consumable (non-reparable) individual parts, assemblies, or subassemblies required to support end-item fielding.

This element excludes:

- Consumables used in depot maintenance overhaul, repair, or modifications covered in redistribution of displaced equipment.

### 2.9.3 INITIAL SUPPORT EQUIPMENT

This element includes:

- One-time, system-specific fielding effort (both labor and materiel) for special equipment, tools, and processing of new equipment, to include deprocessing. Normally, initial support equipment is packaged with equipment end items prior to delivery of the equipment to Army units.

### 2.9.4 TRANSPORTATION FIRST DESTINATION

This element includes:

- The cost of shipping final end items from the manufacturer to the first receiving organization.
- Transportation costs for shipments, which may be interrupted for test or modification before acceptance.
- Temporary duty (TDY) of crews from duty station to manufacturing plant, to delivery point, and return to duty station; supplies, minor repairs, and fuel during delivery; transporting hazardous materials, and other costs.

This element excludes:

- Transportation costs paid by a vendor as prescribed in procurement contracts for manufacturing,
- All one-time costs of retrograding equipment that is being replaced by the materiel system.

## 2.9.5 NEW EQUIPMENT TRAINING

This element includes:

- System-specific costs of training services for new equipment training through which personnel will acquire sufficient concepts, skills, and aptitudes to operate and maintain the system with maximum efficiency.
- Materiel fielding team (both labor and materiel), who support the new materiel intro briefing (NMIBs), receive equipment at the unit, inventory it, set it up, test it, and hand it over to the acquiring unit.
- TDY of Government personnel, of training initial-service test crews, maintenance personnel, instructors, initial crew, maintenance personnel and NET teams.
- Establishment of system-specific individual training programs, including all services and manuals.

This element excludes:

- Replacement training.

## 2.9.6 CONTRACTOR LOGISTICS SUPPORT

Summary element of contractor logistics support.

### 2.9.6.1 OPERATIONS

This element includes:

- Effort associated with contractor manpower required to operate a system during the procurement phase of the program.

### 2.9.6.2 UNIT-LEVEL MAINTENANCE

This element includes:

- Effort associated with contractor manpower that performs unit-level maintenance on the primary system during the procurement phase of the program.

- Efforts for organizational maintenance manpower (often resident in the system operating unit) and unit-level intermediate maintenance personnel.
- For cases in which individuals maintain more than one system, manpower costs should be allocated among the systems on a relative workload basis.

### 2.9.6.3 OTHER UNIT-LEVEL

This element includes:

- The cost contractor manpower that performs administrative, security, logistics, safety, engineering, and other mission support functions at the unit level during the procurement phase of the program. Manpower positions that exist to wholly or predominantly support the system whose costs are being estimated. For systems that deploy, these costs include the costs of manpower positions that routinely deploy to support the system. Some examples are:
  - Staff. Manpower required for unit command, administration, supervision, operations control, planning, scheduling, safety, quality control of crew training and operational proficiency, etc. This may also include staff in a parent organization above the unit level where appropriate (i.e., staff is primarily dedicated to the system).
  - Security. Manpower required for system security. Duties may include system-level entry control, close and distant boundary support, and security alert operations (does not include base level access control unless the entire facility exists solely to support the weapon system).
  - Ordnance Support. Includes manpower providing munitions handling, weapons assembly, etc. Excludes any ordnance support manpower included in unit-level maintenance.
  - Other Support. Manpower required to provide system-specific fixed and mobile communications, information, intelligence, photo interpretation, and other special mission support.

For cases in which unit-level individuals support more than one system, manpower costs should be allocated among the systems on a relative workload basis.

### 2.9.6.4 CONSUMABLE MATERIALS AND REPAIR PARTS

This element includes:

- This element captures the CLS cost the operating unit incurs for consumable materials and repair parts used to operate and maintain the primary system at the unit level.
- Consumable materials refers to materials consumed in the maintenance or support of the primary system. Examples include: coolants and deicing fluids.
- Repair parts refers to items used to in the repair of the primary system. Examples include: transistors, capacitors, gaskets, and filters.
- The cost includes the costs of goods sold, as well as transportation, storage, inventory management and overhead charged the contractor.

## 2.10 WAR RESERVE AMMUNITION/MISSILES

This element includes:

- War reserve (WR) ammunition/missiles required to sustain combat operations of approved forces through the prescribed period.
- All system-specific WR ammunition and basic load.

## 2.11 SOFTWARE MAINTENANCE

This element includes the procurement-funded effort associated with software maintenance. Efforts include software specific SE/PM not included in 2.04.02.

### 2.11.1 SOFTWARE CHANGE PRODUCT

This element includes:

- Efforts associated with defining, allocating, generating, integrating, and testing software changes for an operational software product or system.
- Efforts associated with changing code to address defects, enhancements and IAVAs, as well as effort associated with integration baseline and test, Airworthiness/Safety/Networthiness certification, and Independent Verification and Validation for the software.

### 2.11.2 SUSTAINING/SYSTEMS ENGINEERING

This element includes:

- Efforts associated with software specific sustaining engineering activities such as studies/investigations for SW specific issues.
- Sustaining Engineering does not include any effort or cost for either maintenance (corrections) or capability enhancements; these are included in the release data. User support should not include Field Software Engineering, nor data in other sub-categories.

### 2.11.3 LICENSES

This element includes:

- The costs of Commercial-Off-The-Shelf (COTS) software licenses.

### 2.11.4 CYBERSECURITY

This element includes:

- Efforts associated with activities such as software Cybersecurity and Information Assurance Vulnerability Management (IAVM).
- Cybersecurity, formerly Information Assurance (IA), and the Risk Management Framework (RMF) for DoD Information Technology, formerly DoD Information Assurance Certification and Accreditation (C&A) Process (DIACAP), are processes that verify the software system against externally defined domain performance criteria.

### 2.11.5 SOFTWARE PROGRAM MANAGEMENT

This element includes:

- Efforts associated with system specific software maintenance project and technical management associated with system specific license management for procurement and renewal of software licenses for operational software.
- The license management activities include managing licenses for the maintenance facility as well as deployed systems.

#### 2.11.6 FACILITIES

This element includes:

- Efforts associated with establishing and operating software maintenance related development including development assets/workstations, integration, and test facilities, and support equipment and tools. Note: only report hours that are direct charge to the Government.

#### 2.11.7 FIELD SOFTWARE ENGINEERING

This element includes:

- Efforts associated with the on-site support of a deployed software product or system in its operational environment. FSE duties include on- site technical assistance, problem troubleshooting, software installation, operational assistance, and on-site training.

#### 2.11.8 FOLLOW-ON USER TRAINING

This element includes efforts associated with follow-on user training. This includes new release training/periodic training events driven by a software change.

#### 2.12 TECHNICAL REFRESH

This element includes the effort associated with the procurement of system components identified during that system engineering process that will require a cyclical replacement schedule in order to keep the system operational effectiveness, operational suitability, and logistics supportability.

#### 2.13 HELP DESK

This element includes:

- Efforts associated with providing software specific help desk support for end users. For MAIS, the following applies:
  - This includes Levels I through III. This support will include user account management. The Help Desk/Operations Support Team (OST) will provide Tier I level support for problems related to systems administration and monitoring, event management, and database administration including restart, recovery, backups, and restorations. The help desk support staff is the initial focal point for answering questions and providing status information for the hosted site. The typical support hours are 24 X 7 X 365.

#### 2.14 OTHER PROCUREMENT

This element includes:

- Any procurement-funded costs not included in the above elements. The costs must be system specific and clearly identified.
- This may include any procurement-funded services to address environmental litigation and liabilities.

### **3.0 ACQUISITION OPERATIONS AND MAINTENANCE**

Summary element of all Acquisition Operations and Maintenance funded elements.

#### **3.1 SYSTEMS ENGINEERING/PROGRAM MANAGEMENT GOVERNMENT RDT&E EFFORTS**

This element includes:

- Government PM's office (civilian, SETA, and matrix personnel) for system engineering and technical control, risk management as well as the business management of the system/program to support procurement efforts. This encompasses the overall planning, direction, and control of the definition, and production of the system/program, including functions of logistics engineering and ILS management (e.g., maintenance support, facilities, personnel, training, testing, and activation of a system). These effort are funded with acquisition O&M but support RDT&E efforts.

This element excludes:

- System engineering/management efforts that can be associated specifically with the individual hardware/software element(s). Military personnel as those will be captured in 4.04.04.

#### **3.2 SYSTEMS ENGINEERING/PROGRAM MANAGEMENT GOVERNMENT PROCUREMENT EFFORTS**

This element includes:

- Government PM's office (civilian, SETA, and matrix personnel) for system engineering and technical control, risk management as well as the business management of the system/program to support procurement efforts. This encompasses the overall planning, direction, and control of the definition, and production of the system/program, including functions of logistics engineering and ILS management (e.g., maintenance support, facilities, personnel, training, testing, and activation of a system). These effort are funded with acquisition O&M but support procurement efforts.

This element excludes:

- System engineering/management efforts that can be associated specifically with the individual hardware/software element(s). Military personnel as those will be captured in 4.04.04.

#### **3.3 OTHER ACQUISITION OPERATIONS AND MAINTENANCE**

This element includes:

- Any acquisition O&M funded costs not included in the above elements. The costs must be system specific and broken out to a lower level. The lower level elements align to elements from 1.0 or 2.0. This may include any procurement-funded services to address environmental litigation and liabilities.

#### **4.0 MILITARY CONSTRUCTION (MILCON)-FUNDED ELEMENTS**

Summary element of all MILCON funded elements. Military construction projects associated with a materiel system are defined as either system specific or not system specific. System-specific requirements and projects are defined as those that meet the following test:

- The materiel system cannot be fielded without the construction; and
- The need for the construction is generated by the decision to acquire and field a given materiel system or, conversely, if and when a materiel system acquisition is terminated prior to fielding, the need for the construction ceases and the construction project is automatically canceled along with materiel system program; and
- Stationing and organizational requirements such as barracks, dining facilities, unit headquarters building, and the like oriented toward forces' support will be excluded from materiel system cost estimates, unless approved for inclusion as an exception to policy. An example of an exception that would be system specific is the construction of a new fielding location not contiguous to an existing Government facility (i.e., basic site construction for PATRIOT).

Examples of system-specific construction projects are: simulator buildings, missile bunkers, and billets associated with the fielding of new organizations for the new systems. All other military construction projects related to the materiel system, either directly or indirectly, is not considered system specific.

##### **4.1 DEVELOPMENT CONSTRUCTION**

This element includes:

- Only the MILCON funded costs of any new building, conversion or expansion of facilities or sites, and acquisition of real estate, construction, conversion, utilities, and equipment for development and testing of the system.
- Any construction costs for modification and testing of systems already in the Army inventory if necessary to the furtherance of the development program.
- Any MILCON funded environmental remediation costs for preparation and cleanup of structures and real estate before, during, and after system specific development or testing.

##### **4.2 PRODUCTION CONSTRUCTION**

This element includes:

- Only the MILCON funded costs of real estate, construction, conversion, utilities, and equipment to achieve initially the total production capability for the materiel system.

- This includes planning, acquisition of real estate, minor construction, and other MILCON funded supporting activities.
- Any MILCON funded environmental remediation costs for preparation and cleanup of structures and real estate before initial total production capability is achieved.

#### 4.3 OPERATIONAL/SITE ACTIVATION CONSTRUCTION

This element includes:

- Only the MILCON funded costs of real estate, construction, conversion, environmental remediation, utilities, and equipment to provide all facilities required to house, service, and/or launch prime mission equipment at the organizational and intermediate level.
- Planning, acquisition of real estate, minor construction, and other MILCON funded supporting activities.

#### 4.4 OTHER MILCON

This element includes any MILCON costs not included in the previous elements. The costs must be system specific and clearly identified.

### 5.0 OPERATING AND SUPPORT ELEMENTS

Summary element of all O&S efforts.

#### 5.1 UNIT-LEVEL MANPOWER

The cost of operators, maintainers, and other support manpower assigned to operating units. This may include military, civilian, and/or contractor manpower.

##### 5.1.1 OPERATIONS

The costs of all military, civilian, and contractor manpower required to operate a system. For example:

- Aircraft and Helicopters. Aircrews including pilots, navigators, mission specialists, load masters, etc.
- Ships. Command staff, combat information center personnel, fire control (if operations, maintenance, and other support categories are estimated separately).
- Electronic Systems. Console operators.
- Armored Vehicles. Crew chief, tank commander, gunner, driver, loader.
- Space Systems. Operators at the ground station or similar facility.

For cases in which individuals operate more than one system, manpower costs should be allocated on a relative workload basis.

##### 5.1.2 UNIT-LEVEL MAINTENANCE

The costs of all military, civilian, and contractor manpower that performs unit-level maintenance on the primary system. This element includes:

- The costs of organizational maintenance manpower (often resident in the system operating unit) and unit-level intermediate maintenance personnel.
- The costs of intermediate-level maintenance personnel resident in a support organization that is not unit-level relative to the operating unit, such as a Navy shore-based Intermediate Maintenance Activity, are included in element 4.03.03 (Intermediate Maintenance (External to Unit-Level)).

For cases in which individuals maintain more than one system, manpower costs should be allocated among the systems on a relative workload basis.

### 5.1.3 OTHER UNIT-LEVEL

The cost of all military, civilian, and contractor manpower that performs administrative, security, logistics, safety, engineering, and other mission support functions at the unit level. These costs include:

- Only the costs of manpower positions that exist to wholly or predominantly support the system whose costs are being estimated.

For systems that deploy, these costs include:

- The costs of manpower positions that routinely deploy to support the system. Some examples are:
  - Staff. Manpower required for unit command, administration, supervision, operations control, planning, scheduling, safety, quality control of crew training and operational proficiency, etc. This may also include:
    - Staff in a parent organization above the unit level where appropriate (i.e., staff is primarily dedicated to the system).
  - Security. Manpower required for system security. Duties may include:
    - System-level entry control, close and distant boundary support, and security alert operations (does not include base level access control unless the entire facility exists solely to support the weapon system).
  - Logistics. Manpower required for logistics support. Functions may include:
    - Supply, transportation, inventory control, fuel handling, etc.
  - Ordnance Support. Includes:
    - Manpower providing munitions handling, weapons assembly, etc.
    - Excludes any ordnance support manpower included in element 1.2 (unit-level maintenance).

- Other Support. Manpower required to provide system-specific fixed and mobile communications, information, intelligence, photo interpretation, and other special mission support (Note: manpower associated with operations or maintenance of simulators or training devices are captured in element 4.7).

For cases in which unit-level individuals support more than one system, manpower costs should be allocated among the systems on a relative workload basis.

## 5.2 UNIT OPERATIONS

The cost of unit operating material (e.g., fuel and training material), unit support services, and unit travel. This excludes material for maintenance and repair.

### 5.2.1 OPERATING MATERIAL

Summary element of all Operating Material funded efforts.

#### 5.2.1.1 ENERGY

The costs of FUEL, PETROLEUM, OIL AND LUBRICANTS [POL], ELECTRICITY, propulsion fuel, and fuel additives used by systems in performing their normal peacetime missions. For fuel purchased from the Defense Logistics Agency (DLA), these costs include a surcharge for DLA overhead and operating expenses (transportation, storage, and inventory management). These costs may also include the cost of field-generated electricity and commercial electricity necessary to support the operation of a system.

#### 5.2.1.2 TRAINING MUNITIONS AND EXPENDABLE STORES

The costs of the unit-level consumption of training munitions, rockets, missiles, and expendable stores in the course of normal peacetime training missions for the system being estimated. This includes:

- The cost of live and inert ammunition, bombs, rockets, training missiles, sonobuoys, and pyrotechnics expended in training and non-combat firings such as firepower demonstrations.
- Other expendable stores such as chaff, flares, fuel tanks, travel pods, and other items that lose their identity in use and may be dropped from stock record accounts when issued or used.

#### 5.2.1.3 OTHER OPERATIONAL MATERIAL

The costs of operating materiel other than energy, training munitions, or expendable stores. The costs identified must be related to the system whose O&S requirements are being assessed. Illustrative examples include:

- Computer supplies, paper, diskettes, ribbons, charts, maps, and administrative supplies used for housekeeping and health and safety.

### 5.2.2 SUPPORT SERVICES

The costs of support services purchased at the unit level specifically to support the system. These services may vary greatly from one unit to another. They may include but are not limited to:

- FSRs that support non-maintenance activities (such as training, data collection, and IT support) that are not accounted for in cost element 1.3 (Other Unit-Level Manpower).
- Unreimbursed food services, rations, postal services (postage/box rental), or laundry services.
- Lease or rental of administrative, computational, or support equipment or software.
- Lease costs of special facilities or land (e.g., for the storage of warheads and missiles).
- Unit-funded service contracts for administrative, computational, or support equipment.
- Communications services (e.g., data/voice links, dedicated lines, microwave channels), port services, and other unit-funded utilities not part of base operating support costs.

### 5.2.3 TEMPORARY DUTY

For system specific personnel, costs of TAD/TDY pay and allowances costs, including unit personnel travel for training, administrative, or regularly scheduled training away from the unit's permanent operating location that are associated with a unit's concept of operations and support.

TAD/TDY costs include:

- Military and commercial transportation charges, rental costs for passenger vehicles, mileage allowances, and subsistence expenses (e.g., per diem allowances and incidental travel expenses).

Excludes:

- Temporary duty associated with contingencies or wartime operations.

### 5.2.4 TRANSPORTATION

The costs of transportation funded by the unit for the system being estimated.

Typically includes:

- The transportation costs for moving equipment, personnel, and supplies to and from training areas, remote operating sites, or test ranges.

This excludes:

- The transportation costs inherent in cost elements 4.02.01.01 (Energy), 4.03.01 (Consumable Materials and Repair Parts), and 4.03.02 (Depot Level Repairables)

Transportation costs for these elements are reflected in surcharges of various Defense Working Capital Funds (DWCFs) and normally would not be estimated separately. The DWCF is a reimbursable arrangement where logistics providers (such as maintenance depots) sell goods or services to customers (operating forces such as squadrons or

brigades), and prices are set for these transactions based on a full cost (direct labor, direct material, and overhead) recovery principle of transportation funded by the unit.

### 5.3 MAINTENANCE

The cost of all system maintenance other than maintenance manpower assigned to operating units. This consists of organic and contractor maintenance, to include labor and materials.

#### 5.3.1 CONSUMABLE MATERIALS AND REPAIR PARTS

This element captures the cost the operating unit incurs for consumable materials and repair parts used to operate and maintain the primary system at the unit level. Consumable materials refers to materials consumed in the maintenance or support of the primary system; examples include coolants and deicing fluids. Repair parts refers to items used to in the repair of the primary system; examples include transistors, capacitors, gaskets, and filters. The cost includes the costs of goods sold, as well as transportation, storage, inventory management and overhead reflected in the DWCF surcharge.

#### 5.3.2 DEPOT LEVEL REPARABLES

The DLR element captures the cost the operating unit incurs for DLR items used to maintain the primary system at the unit level. The cost includes direct labor and material for item repairs, attrition, as well as transportation, storage, inventory management, and overhead reflected in the DWCF surcharge.

#### 5.3.3 INTERMEDIATE MAINTENANCE

The costs of labor, material, and any other costs expended at intermediate maintenance locations (such as Navy afloat or ashore Intermediate Maintenance Activities) in support of the primary system (EXTERNAL TO UNIT-LEVEL). This cost element excludes any manpower or material costs that are considered unit-level as described earlier (traditional Army support concepts does not include I-level maintenance).

##### 5.3.3.1 INTERMEDIATE-LEVEL CONSUMABLE MATERIALS AND REPAIR PARTS

This element captures the costs for consumable materials and repair parts used at intermediate maintenance locations in support of the primary system.

##### 5.3.3.2 INTERMEDIATE-LEVEL GOVERNMENT LABOR

This element captures the costs of military and government civilian manpower that performs intermediate-level maintenance on the primary system. For cases in which individuals maintain more than one system, manpower costs should be allocated on a relative workload basis.

##### 5.3.3.3 INTERMEDIATE-LEVEL CONTRACTOR MAINTENANCE

The costs for labor, material, and overhead incurred by contractors providing intermediate-level maintenance services.

#### 5.3.3.4 OTHER INTERMEDIATE-LEVEL MAINTENANCE

Any other intermediate-level maintenance costs not otherwise accounted for. If this cost element is used, the cost estimate documentation should describe the nature of the costs being presented.

#### 5.3.4 DEPOT MAINTENANCE

Depot maintenance is the cost of labor, materiel, and overhead incurred in performing major overhauls or any other depot-level maintenance on a system or any of its major end items (e.g., aircraft engines) at centralized repair depots, contractor repair facilities, or onsite by depot teams.

Some overhaul activities occur at time intervals ranging from several months to several years. For primary systems (e.g., aircraft, tracked vehicles, ships), these costs should be included in the estimate for the years in which they are expected to occur, accompanied by documentation on the cost per event and the time interval between overhaul events.

Costs of major end items that have different overhaul cycles (i.e., structural subsystems such as hull, frame, or airframe; power subsystems such as engines or drive train; and electronic/mechanical subsystems such as fire control system, armaments, guidance, or command and control equipment) should be estimated and identified separately within this element. In some cases, the interval between end item overhauls may be expressed in terms of system operating hours (and not calendar time).

#### 5.3.5 OTHER MAINTENANCE

This element is used to capture any other system specific maintenance costs not otherwise accounted for. If this cost element is used, the cost estimate documentation should describe the nature of the costs being presented. For example, this element may include:

- Transportation costs associated with periodic overhauls not funded by the unit (element 2.4) and not reflected in a DWCF surcharge.

#### 5.4 SUSTAINING SUPPORT

The cost of system support activities that are provided by organizations other than the system's operating units.

##### 5.4.1 SYSTEM SPECIFIC TRAINING

The cost of system-specific specialty training activities for individuals who need to be replaced due to attrition and normal rotation. Training costs should include the costs of instructors, training support personnel, as well as all the costs of trainees, per diem, and travel directly associated with the training. These three elements below capture costs for training individuals prior to their first assignment in a system operating unit. For individuals already assigned to a system operating unit, any expenses for the travel of individuals from operational units to training assignment, and return, are included in element 5.02.03 (Temporary Duty). The costs of maintenance or periodic refresh of the training equipment or devices is accounted for in element 5.04.07.

Note: This element includes the costs of recurring training activities, however, the costs of initial training equipment and training course materials are regarded as investment costs, not as O&S costs.

#### 5.4.1.1 SYSTEM SPECIFIC OPERATOR TRAINING

The costs for training conducted in units designated as primary training sites for individuals to become proficient in specific system knowledge. This includes units such as Air Force wings assigned a primary mission of weapon-specific aircrew training, Navy air readiness training units, Navy Afloat Training Groups, and the Army Armor Center. These costs do not include skill training not related to a specific system, such as undergraduate aviation training. Training of a more general nature is captured in element 5.06.03.02 (General Skill Training).

#### 5.4.1.2 SYSTEM SPECIFIC MAINTENANCE TRAINING

The costs of advanced system-specific training associated with maintenance functions in units designated as primary training facilities.

#### 5.4.1.3 SYSTEM SPECIFIC OTHER SUPPORT TRAINING

The costs of advanced system-specific training associated with other support functions in units designated as primary training facilities.

#### 5.4.2 SUPPORT EQUIPMENT REPLACEMENT AND REPAIR

The costs incurred to replace or repair support equipment associated with the primary system or its major subsystems at all levels of maintenance. The support equipment (e.g., tools and test sets) may be peculiar to the system or it may be common to a number of systems, in which case the costs must be allocated among the respective systems. In some cases, replacement of organic depot support equipment of a general nature may be included in the overhead costs associated with DLRs or depot maintenance.

Note: This element includes replacement and repair of equipment, however, the cost of initial support equipment procurement is regarded as an investment cost, not as an O&S cost.

#### 5.4.3 SUSTAINING/SYSTEMS ENGINEERING

Costs reported in this element capture the government and contractor sustaining engineering to ensure the continuing viable operation of the system in the deployed environment. Most of the sustaining engineering effort will be a continuation of the earlier systems engineering effort that took place during program development and production. Sustaining engineering activities may be resident in the system program office organization, and/or they may be resident in external organizations. Examples of sustaining engineering activities might include: aircraft structural integrity monitoring or corrosion monitoring; planning and control of technical program efforts; continuing system requirements definition; safety and human systems integration engineering; obsolescence engineering; configuration management; and continuing specialty engineering, such as R&M Engineering. Specific modifications to hardware or software are included in element 5.0 (Continuing System Improvements). Sustaining engineering

costs provided through a system support contract should be identified separately from costs associated with organic sources, if possible.

#### 5.4.4 PROGRAM MANAGEMENT

This element includes government and contractor costs for management activities associated with the administrative, business, and financial management of the program. Program management activities are, in most cases, a continuation of those performed during development or production. Program management activities may be resident in the system program office organization, and/or they may be resident in external organizations. Program management provided through a support contract should be identified separately from program management provided by organic sources, if possible.

#### 5.4.5 INFORMATION SYSTEMS

This element consists of the costs associated with ancillary automated systems hardware and software which directly supports the system, such as mission planning systems. This excludes costs of modifications and upgrades for the embedded hardware and software associated with the primary system.

##### 5.4.5.1 TECH REFRESH

This element captures the costs of periodic replacement of workstations, computers, and peripherals.

##### 5.4.5.2 LICENSE FEES

This element captures the costs of software licenses, whether program-wide, unit-wide, or seat-based.

##### 5.4.5.3 MAINTENANCE

This element captures the costs of maintenance and support for the ancillary automated systems.

#### 5.4.6 DATA AND TECHNICAL PUBLICATIONS

The costs associated with maintaining and updating deliverable data and technical publications and manuals concerning the operation, maintenance (at all levels of maintenance—organizational, intermediate, and depot), and support of the system.

Note: This element addresses only data and publications maintenance. The cost of developing the data and publications is normally regarded as an investment cost, not as an O&S cost.

#### 5.4.7 SIMULATOR OPERATIONS AND REPAIR

The costs to operate and repair simulators and other training devices for the primary system or its major subsystems. This consists of the costs of labor, materiel, and overhead for simulator operations and repair. This also includes the cost of periodic simulator hardware and software replacement.

#### 5.4.8 OTHER SUSTAINING SUPPORT

The costs of any significant sustaining support not otherwise accounted for. This cost element may be used to identify expenses such as those listed below, if they apply to the system for which the estimate is being made:

- Test and evaluation in support of deployed systems, such as range costs, test support, data reduction, and test reporting.
- Air, sea, and land support not funded by the unit and provided by other activities to verify the proper operation of an electronic communication, sensor, or other similar system.
- Centrally provided technical assistance, such as Help Desks, that provide DoD-wide or Service-wide support.
- Communication services (e.g., data/voice links, dedicated lines, microwave channels), hardware, and software leases purchased on a DoD-wide or Service-wide basis for direct system-specific support of a system. Note that communications services purchased at the unit-level are contained in element 5.02.02 (Support Services).
- Centrally funded purchases for transportation of system materiel (end items and secondary items) not otherwise accounted for in the cost element structure. Note that costs of unit-funded purchases of transportation are contained in element 5.02.04 (Transportation), and that costs of any transportation reflected in DWCF surcharges are contained in elements 5.02.01.01 (Energy), 5.03.01 (Consumable Materials and Repair Parts), 5.03.02 (Depot Level Repairables), and 5.03.04 (Depot Maintenance).
- Any government/contractor software center (e.g., Software Integration Laboratory (SIL)) ongoing facilities and license costs required by the system. Excludes any costs accounted for in element 5.05.02 (Software Maintenance).

## 5.5 CONTINUING SYSTEM IMPROVEMENTS

The cost of system hardware and software modifications.

### 5.5.1 HARDWARE MODIFICATIONS

The cost of development, procurement, and installation of modification kits. Modification kits will consist of both kits of equipment to be installed (Group B) and kits for provisions such as cables, brackets, or other interface devices (Group A). May also include costs associated with the modifications for support equipment, training equipment, technical publications/data, and initial spares and repair parts (consistent with the approved modification content). This element may also include minor software costs associated with the modifications that are not considered software maintenance. This cost element only includes those modifications needed to achieve acceptable safety levels, overcome mission capability deficiencies, improve reliability, or reduce maintenance costs. It excludes modifications undertaken to provide additional operational capability not called for in the original system design or performance specifications; such modifications costs are treated as modernization (and not O&S) costs, as most of these modifications will be considered ACAT programs in their own right.

## 5.5.2 SOFTWARE MAINTENANCE

This element includes the O&S efforts associated with software maintenance. Efforts include software specific SE/PM not included in 5.04.03 or 5.04.04.

### 5.5.2.1 SOFTWARE CHANGE PRODUCT

This element includes:

- Efforts associated with defining, allocating, generating, integrating, and testing software changes for an operational software product or system.
- Efforts associated with changing code to address defects, enhancements and IAVAs, as well as effort associated with integration baseline and test, Airworthiness/Safety/Networthiness certification, and Independent Verification and Validation for the software.

### 5.5.2.2 SUSTAINING/SYSTEMS ENGINEERING

This element includes:

- Efforts associated with software specific sustaining engineering activities such as studies/investigations for SW specific issues.
- Sustaining Engineering does not include any effort or cost for either maintenance (corrections) or capability enhancements; these are included in the release data. User support should not include Field Software Engineering, nor data in other sub-categories.

### 5.5.2.3 LICENSES

This element includes:

- The costs of Commercial-Off-The-Shelf (COTS) software licenses.

### 5.5.2.4 CYBERSECURITY

This element includes:

- Efforts associated with activities such as software Cybersecurity and Information Assurance Vulnerability Management (IAVM).
- Cybersecurity, formerly Information Assurance (IA), and the Risk Management Framework (RMF) for DoD Information Technology, formerly DoD Information Assurance Certification and Accreditation (C&A) Process (DIACAP), are processes that verify the software system against externally defined domain performance criteria.

### 5.5.2.5 SOFTWARE PROGRAM MANAGEMENT

This element includes:

- Efforts associated with system specific software maintenance project and technical management associated with system specific license management for procurement and renewal of software licenses for operational software.
- License management activities include managing licenses for the maintenance facility as well as deployed systems.

#### 5.5.2.6 FACILITIES

This element includes:

- Efforts associated with establishing and operating software maintenance related development including development assets/workstations, integration, and test facilities, as well as support equipment and tools. Only report hours that are direct charge to the Government.

#### 5.5.2.7 FIELD SOFTWARE ENGINEERING

This element includes:

- Efforts associated with the on-site support of a deployed software product or system in its operational environment. FSE duties include on-site technical assistance, problem troubleshooting, software installation, operational assistance, and on-site training.

#### 5.5.2.8 FOLLOW-ON USER TRAINING

This element includes:

- Efforts associated with follow-on user training. This includes new release training/periodic training events driven by a software change.

### 5.6 INDIRECT SUPPORT

The installation and personnel support costs that cannot be identified directly to the units and personnel that operate and support the system being analyzed, but can be logically attributed to the system and its associated manpower. These costs are often allocated on a per capita or other basis, and are more relevant in situations in which total DoD manpower would change significantly or when installations are affected (expanded, opened, closed) due to the new system.

#### 5.6.1 INSTALLATION SUPPORT

The costs of services funded and provided by the host installation that support the day-to-day operations of the system's force unit. Excludes the costs of personnel support services purchased by the unit that are reflected in element 4.02.02 (Support Services).

##### 5.6.1.1 BASE OPERATIONS SUPPORT

The costs of services for functions such as base physical security, base administration, maintenance of installation equipment, base transportation, and other base and personnel support services.

##### 5.6.1.2 BASE COMMUNICATIONS

The costs of local communication services provided by the host installation. May be combined with 4.06.01.01 (Base Operations Support) if it cannot be identified separately.

### 5.6.1.3 FACILITIES SUPPORT

The costs of facilities sustainment, restoration, and modernization (formerly known as real property maintenance).

## 5.6.2 PERSONNEL SUPPORT

The costs for the management, acquisition, initial training, and quality of life programs necessary to maintain a quality force.

### 5.6.2.1 PERSONNEL ADMINISTRATION

The costs of programs that acquire and administer the DoD workforce.

#### 5.6.2.1.1 PERSONNEL MANAGEMENT

The costs of programs to administer the DoD military and civilian workforce. Major activities include reassigning on-board personnel and managing end strength and occupational skills to the levels needed.

#### 5.6.2.1.2 ACQUISITION OF NEW PERSONNEL

The costs for recruiting, examining, and processing individuals into the military service as well as advertising in support of recruiting activities.

#### 5.6.2.1.3 PERSONNEL NOT AVAILABLE FOR DUTY

The costs for military personnel placed in the personnel holding account because they are not available for assignment to a unit for medical or disciplinary reasons, or are about to be discharged (TRANSIENTS, PRISONERS, PATIENTS, STUDENTS). Includes military personnel not assigned to a unit because they are in transit to the next permanent duty station, schooling, or other training.

### 5.6.2.2 PERSONNEL BENEFITS

The costs for operation and maintenance of family housing, dependent and family support programs, and DoD commissaries and exchanges.

#### 5.6.2.2.1 FAMILY HOUSING

The operating and maintenance costs of dwelling units, community facilities, roads, driveways, walkways, and utilities for use by family housing occupants.

#### 5.6.2.2.2 DEPENDENT SUPPORT PROGRAMS

The costs of child development centers, youth development programs, family centers, family advocacy programs, counter-drug demand reduction programs, and other similar programs necessary to support the families of service members. Includes the education of dependents of federal employees in overseas assignments and for eligible dependents of federal employees residing on federal property where an appropriate

public education is unavailable in the nearby community. These education costs are primarily funded by the DoD Education Activity (DoDEA).

#### 5.6.2.2.3 COMMISSARIES AND EXCHANGES

The appropriated costs of employee salaries and other expenses at defense commissaries. These costs are primarily funded by the Defense Commissary Agency (DeCA).

#### 5.6.2.3 MEDICAL SUPPORT

The costs for medical care for active duty personnel and their dependents. Includes provisions for in-house patient care in regional defense facilities, station hospitals, medical clinics and dental facilities, as well as care in non-defense facilities. This also includes costs for private-sector care such as TRICARE or other similar activities. Medical care is funded by a combination of the military departments and the Defense Health Program. The active-duty composite rates described earlier also provide an acceleration factor to account for the costs of medical support.

#### 5.6.3 GENERAL TRAINING AND EDUCATION

The costs for institutional or schoolhouse training and education not associated with a specific weapon or other system.

##### 5.6.3.1 RECRUIT AND INITIAL OFFICER TRAINING

The costs of programs that provide basic military training and indoctrination to enlisted recruits, and of programs that provide basic military training and indoctrination to officer candidates (through college commissioning programs, officer candidate/training schools, and the three service academies).

##### 5.6.3.2 GENERAL SKILL TRAINING

The costs of programs that teach (1) entry-level job skills after completion of initial military training, and (2) intermediate and advanced job skills later in the career.

##### 5.6.3.3 PROFESSIONAL MILITARY EDUCATION

The costs of programs that provide (1) professional military education at each level of career progression, and (2) advanced academic degrees needed for work in specific organizations and tasks.

## 6.0 DEMILITARIZATION

Summary element of all demilitarization efforts. This element includes manpower authorizations, peculiar and support equipment, necessary facilities, and associated costs specifically identifiable to end-item demilitarization activities.

