

DATA ITEM DESCRIPTION

Title: Contract Work Breakdown Structure (CWBS)

Number: DI-MGMT-81334B

Approval Date: 20050201

AMSC Number: D7548

Limitation:

DTIC Applicable:

GIDEP Applicable:

Preparing Activity: (D) OSD/PA&E/CAIG

Applicable Forms: Not Applicable; 35 hours

Use/relationship: This documents the Contract Work Breakdown Structure (CWBS) and its extension by the contractor using terminology and definitions, as applicable, in MIL-HDBK-881. The complete Program Work Breakdown Structure (PWBS) will serve as a basis for program and technical planning, scheduling, cost estimating, resource allocations, performance management where appropriate, configuration management, and status reporting.

This DID summarizes the format for the WBS and provides preparation instructions to support the specific data and frequency requirements specified in the contract. This DID is applicable to all contracts that require a WBS and is related to the two Contractor Cost Data Reporting (CCDR) formats: DD Form 1921, "Cost Data Summary Report" (DID number DI-FNCL-81565A), and DD Form 1921-1, "Functional Cost-Hour and Progress Curve Report" (DID number DI-FNCL-81566A). This DID can also be related to the formats contained in DD Forms 2734/1, 2734/2, 2734/3, 2734/4, and 2734/5, "Cost Performance Report" (DID number DI-MGMT-81466); DD Forms 2735, "Cost/Schedule Status Report, (DID number DI-MGMT-81467); and DD Form 1586, "Contract Funds Status Report" (DID number DI-MGMT-81468).

Routine reporting shall be at CWBS level 3 for prime contractors and key subcontractors. MIL-HDBK-881 serves as the basis for identifying the first three levels of the PWBS and for developing the CWBS. Extensions of the PWBS and CWBS can be tailored to the specific program but will be consistent with MIL-HDBK-881. Detailed reporting of the CWBS (i.e., below level 3) shall be required only for those lower-level elements that address high-risk, high-value, or high-technical-interest areas of a program. Identifying these additional elements is a critical early assignment for the Cost Working Level Integrated Product Team (CWIPT) for inclusion in the PWBS. The final CWBS must agree with the contract Cost and Software Data Reporting (CSDR) Plan approved by the OSD Cost Analysis Improvement Group (CAIG) Chair,

The reporting contractor shall prepare and submit the contract dictionary within 60 days of contract award. The reporting contractor shall maintain and update the WBS Dictionary throughout the life of the contract. The dictionary shall not be submitted more frequently than report submissions.

Requirements:

1. *Reference documents.* Detailed instructions for preparing the CWBS can be found in MIL-HDBK-881. WBS guidance is also contained in Chapter 2 of the CCDR Manual, DoD 5000.4-M-1.

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2. *Formats.* The CWBS shall be reflected in an electronic report that consists of two parts as shown in the sample attachments. Part I is for the CWBS Index and Part II is for the CWBS Dictionary. The index lists the individual elements. The dictionary describes the effort and tasks associated with every CWBS element shown in Part I.

Preparation Instructions:

1. *Contract Work Breakdown Structure Index:*
 - a. CWBS Code. Enter the code, if applicable.
 - b. CWBS Element Level. Enter the level of the CWBS element. Level 1 is the total contract. Levels 2, 3, etc., are successively lower levels of the program.
 - c. CWBS Element Name. Enter the title of the CWBS element using the specific name or nomenclature.
 - d. Contract Line Item(s). Enter the numbers of the contract line items associated with the CWBS element, if applicable.
2. *Contract Work Breakdown Structure Dictionary:*
 - a. CWBS Code.
 - b. CWBS Element. Enter the title of each CWBS element in the same order as given in Part I.
 - c. CWBS Definition. Enter a complete description of the technical and cost content of each CWBS element. The statement should be as descriptive as possible about the efforts, tasks, tests, components, etc., that are to be included in the CWBS element by the contractor. The CWBS Dictionary must be updated and maintained throughout the life of the contract. However, the updated dictionary shall be submitted no more frequently than the CCDR report submissions.

| CONTRACT WORK BREAKDOWN STRUCTURE INDEX | | | PROGRAM: Missile X LRIP Surface-to-Air Interceptor | | REP NO: <u>XXXXXX</u> CONTRACT NO: <u>XXXXXX-98-C-XXX</u> | | CONTRACT PLAN NO: <u>XXXXXXXX</u> | | DATE: 06/30/02 | |
|--|-------|---|---|---|--|---|--------------------------------------|--|-------------------|--|
| CWBS CODE | LEVEL | | | | | CWBS ELEMENT NAME | CONTRACT LINE ITEM(S) | | | |
| | 1 | 2 | 3 | 4 | 5 | | | | | |
| 1.0 | ✓ | | | | | Missile System | | | | |
| 1.1 | | ✓ | | | | Air Vehicle | | | | |
| 1.1.1 | | | ✓ | | | Propulsion | | | | |
| 1.1.2 | | | ✓ | | | Airframe | | | | |
| 1.1.3 | | | ✓ | | | Warhead | | | | |
| 1.1.4 | | | ✓ | | | Post Boost System | | | | |
| 1.1.5 | | | ✓ | | | Guidance And Control Equipment | | | | |
| 1.1.5.1 | | | | ✓ | | Guidance Section | | | | |
| 1.1.5.1.1 | | | | | ✓ | Seeker | | | | |
| 1.1.5.1.2 | | | | | ✓ | Guidance Electronics | | | | |
| 1.1.5.2 | | | | ✓ | | Control Devices | | | | |
| 1.1.5.3 | | | | ✓ | | Structure | | | | |
| 1.1.5.4 | | | | ✓ | | Power and Networks | | | | |
| 1.1.6 | | | ✓ | | | Ordnance Initiation Set | | | | |
| 1.1.7 | | | ✓ | | | Airborne Test Equipment | | | | |
| 1.1.8 | | | ✓ | | | Airborne Training Equipment | | | | |
| 1.1.9 | | | ✓ | | | Auxiliary Equipment | | | | |
| 1.1.10 | | | ✓ | | | IAT&C | | | | |
| 1.2 | | ✓ | | | | Integration, Assembly, Test, and Checkout | | | | |
| 1.3 | | ✓ | | | | Systems Engineering/Program Management | | | | |
| 1.4 | | ✓ | | | | Systems Test and Evaluation | | | | |

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| CONTRACT WORK BREAKDOWN STRUCTURE DICTIONARY | | PROGRAM: Missile XLRIP Surface-to-Air Interceptor | RFP NO: _____ CONTRACT NO: XXXXX-98-C-XXXX | DATE: 11/1/00 |
|---|--|---|---|------------------|
| CWBS CODE | CWBS ELEMENT | CWBS DEFINITION | | |
| 1.0 | Missile System | The missile is a cylindrical body with four fixed fins attached to the aft end of the Solid Rocket Motor case. The control surfaces are located behind the fixed fins. The missile angular orientation is zero degrees at top center, with increasing angles positive in a clockwise direction (standing at the aft end looking forward). The outside surface of the missile body is coated for thermal protection of the structure from aerodynamic heating and rain erosion. Electrical interface between the launcher and the missile is provided by an umbilical cable connecting the missile Aft-Section to the Aft-Section of the Canister. | | |
| 1.1 | Air Vehicle | This element refers to the means for delivering the destructive effect to the target, including the capability to generate or receive intelligence to navigate and penetrate to the target area and to detonate the warhead. This element includes the design, development, and production of complete units (prototype and operationally configured units, which satisfy the requirement of their applicable specifications(s)) regardless of their use. | | |
| 1.1.1 | Propulsion | The propulsion system consists of the booster and the interstage. A single-stage, solid propellant rocket motor provides all of the boost impulse for the missile. The deployable flares and aft rate gyro package (RGP) are positioned at the aft end of the booster in the BUG configuration. | | |
| 1.1.2 | Airframe | This element refers to the structural framework that provides the aerodynamic shape, mounting surfaces and environmental protection for the missile components. It includes the wings, fins, and structural body assemblies. | | |
| 1.1.3 | Warhead | Warhead includes the assembly containing the kill mechanism of the round and its associated high explosives, chemicals, biological agents, nuclear devices, and pyrotechnics. | | |
| 1.1.4 | Post Boost System | This element provides the roll rate control and the final velocity to adjust and deploy the payload as well as the external protection material, velocity control system, and deployment group. | | |
| 1.1.5 | Guidance and Control Equipment | This element refers to the missile's ability to acquire and track targets, receive guidance data from various sensors and execute the necessary flight path to intercept the target. | | |
| 1.1.5.1 | Guidance Section | This element refers to the missile's ability to receive guidance data from various sensors. | | |
| 1.1.5.1.1 | Seeker | The seeker assembly is attached to the kill vehicle via the forward ring of the forecone. The assembly consists of four elements; a seeker basecone, an IR sensor, a gimbal set, and a Seeker Electronics Assembly (SEA). The seeker basecone is a conical assembly cast from magnesium. It is used as the main structure to mount the IR sensor and gimbals to the KV, and to dampen structural resonances. | | |
| 1.1.5.1.2 | Guidance Electronics | This element includes all the electronic components and their structural items needed to perform all the seeker tracking functions. | | |
| 1.1.5.2 | Control Devices | This element includes all the electronic components and support structure needed to perform the electronic processing done outside, but near the detector assembly. This may include detector biasing electronics, preamplification, gain control processing, A/D conversion and multiplexing of the detector outputs when many detector outputs are present. | | |
| 1.1.5.3 | Structure | This element refers to the metal or composite materials that provide external housing, bulkheads, attach points and connectors for guidance and control equipment. | | |
| 1.1.5.4 | Power and Networks | This element refers to the subsystem that starts the missile and maintains electrical power prior to launch, upon release from the launch platform, and during flight. Additionally, it consists of power supply devices and power converters. | | |
| 1.1.6 | Ordnance Initiation Set | The ordnance initiation set initiates all ordnance events throughout the missile and ground system (except reentry system components). Upon receipt of an electrical signal from the missile guidance and control system, the ordnance initiation set firing units convert the signal into ordnance outputs to the detonating cords. Among these ordnance events are slage separation, motor ignition, gas generator ignition, shroud separation, etc. Includes through bulkhead initiators, ordnance test harnesses, and firing units/exploding bridge wires. | | |
| 1.1.7 | Airborne Test Equipment | The airborne test equipment element refers to an exercise warhead that is interchangeable with the live warhead and suitable for developmental firing. This element includes destruct systems, recovery systems, special instrumentation, and telemetry equipment. | | |
| 1.1.8 | Airborne Training Equipment | The airborne training equipment element refers to an exercise warhead that is interchangeable with the live warhead and suitable for training firing. This element includes destruct systems, recovery systems, special instrumentation, and telemetry equipment associated with the training mission. | | |
| 1.1.9 | Auxiliary Equipment | The auxiliary equipment element refers to that additional equipment generally excluded from other specific elements. This element includes the environmental control, safety and protective subsystems, and destruct system. It also includes equipment of a single purpose and function that is necessary for accomplishing the assigned mission. | | |
| 1.1.10 | Integration, Assembly, Test and Checkout | The IAT&CO of the hardware will be conducted at the contractor's assembly facility. Subsystem components will be assembled and tested, then shipped to company YYYY for final assembly and testing. | | |

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| CONTRACT WORK BREAKDOWN STRUCTURE DICTIONARY | | PROGRAM: Missile X LRIP Surface-to-Air Interceptor | RFP NO: _____ CONTRACT NO: XXXXXX-98-C-XXXX | DATE: 11/1/00 |
|---|---|--|--|------------------|
| CWBS CODE | CWBS ELEMENT | CWBS DEFINITION | | |
| 1.2 | Integration, Assembly, Test, and Checkout | The IAT&CO of the missile will be conducted at a Company YYYY assembly facility. For flight vehicles, the guidance and control unit is tested and installed, the units are fueled, and the ordnance is installed. The missile is then installed in the canister and shipped to the testing range. | | |
| 1.3 | Systems Engineering/Program Management | The system engineering and technical control as well as the business management of the project. System Engineering/Project Management effort that can be associated specifically with the hardware element is excluded, unless this management effort is of special contractual or engineering significance (e.g., associated contractor). | | |
| 1.4 | Systems Test and Evaluation | Four prototypes of the missile will be tested at WWWW testing range over a period of 3 months. The testing facility will evaluate both missile performance and accuracy, along with the launching platform capabilities. | | |

End of DI-MGMT-81334B