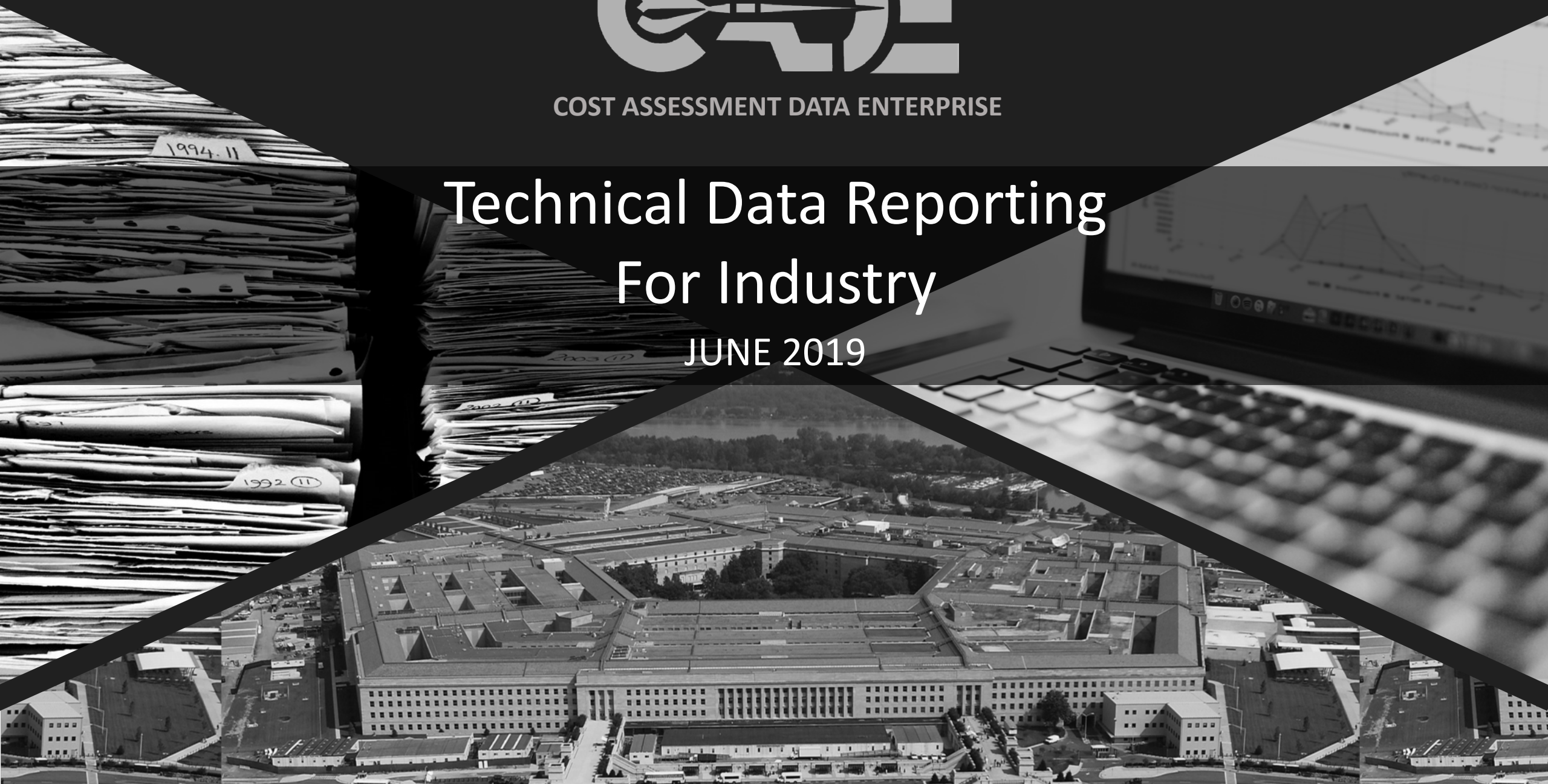




COST ASSESSMENT DATA ENTERPRISE

Technical Data Reporting For Industry

JUNE 2019



Technical Data Overview



Cost data has been delivered on DoD contracts for 60+ years, SW data has been provided for 12+ years. Technical Data has always been a requirement; however, not implemented effectively

Tech Data initiative:

- › Provides mechanism to systematically capture Tech Data on contracts
- › Complements DoD CARD process
- › Creates a common Tech Data Vocabulary
- › Defines core set of needed parameters
- › Leverages other Tech Data on contract

Results:

- › **Tech Data Plan** reported via WBS
- › Common **taxonomy** for both CARD and TDR - consistent with GOVT ENGR groups and Industry

- Technical data is an enduring cost analysis need
- When tied to each contract WBS element, and coupled with cost, software, quantity and maintenance & repair data, it provides a complete contextual description of the subject program
- Estimating subsequent contracts on this program, or future programs, will use this technical data to identify appropriate cost drivers and define the technical and programmatic baseline
- Providing technical data now as a contract deliverable avoids subsequent data calls from CAPE, SCA, and other researchers seeking context to contract cost data

Providing technical data now as a contract deliverable avoids subsequent data calls

Repeatable Tech Data Process



Government CWIPT

- ✓ Start with Core Parameters by Commodity & Phase
- ✓ Refine Contract-Specific Parameters using Technical Data Vocabulary Database
- ✓ Review other Contractual CDRL Requirements to Minimize Duplication
- ✓ Finalize Requirements for the Contracting Process
 - Technical Data Reporting, DD 2794 Supplement & Submission Events
 - Revise generic Technical Data CDRL (DD 1423) to Program specifics
- ✓ Participate in pre / post award conferences to ensure Tech Data requirements are well understood

Industry

- ✓ Receive requirement via RFP
- ✓ Bid accordingly
- ✓ Participate in pre / post award conferences to ensure Tech Data requirements are well understood and can be effectively met
- ✓ Submit report(s) as required with cost reports

Government DCARC/TURF Team

- ✓ Validate Submission
- ✓ Place into CADE

Contractor submits technical data by WBS element per plan

ITEM TYPE	SUBTYPE	PARAMETER NAME	UNIT OF MEASURE	Core by Phase		
				Dev	Prod	O&S
ElecBox		Clock Speed	Megahertz	X	X	
ElecBox		ASIC - Gate Count	Quantity	X	X	
ElecBox		FPGA - Gate Count	Quantity	X	X	
ElecBox		Transmitter Power Output - Peak	Watts	X	X	
ElecBox		Number of Receiver Channels	Quantity	X	X	
ElecBox		Type of Modulation	List	X	X	

Standard CSDR Plans and CADE Technical Vocabulary

ElecBox	PhysicalElec	Weight - Structural	Pounds		X	
ElecBox	PhysicalElec	Weight - Electronics	Pounds		X	
ElecBox	Heritage	New Design	Percent	X		
ElecBox	Heritage	Technology Readiness Level (TRL)	List	X		
ElecBox	Identification	NSN	Name/Number		X	X
ElecBox	Operational	Maintenance Level	List		X	X
ElecBox	Operational	Mean Time Between Failure (MTBF)	Hours		X	X
ElecBox	Operational	Mean Time To Repair (MTTR)	Hours		X	X

27. WBS ELEMENT CODE	28. WBS ELEMENT NAME	29. ITEM TYPE	30. TECHNICAL PARAMETER					
			a. PARAMETER NAME	b. UNIT OF MEASURE	c. UNIT OF MEASURE QUALIFIER	d. REPEATABLE	e. REMARKS	
1.2	Air Vehicle	Air Vehicle	Crew Size	Quantity				
1.2	Air Vehicle	Air Vehicle	Number of Engines	Quantity				
1.2	Air Vehicle	PhysicalStruc	Volume	Cubic Inches				
1.2	Air Vehicle	PhysicalStruc	Weight	Pounds				
1.2	Air Vehicle	PhysicalOther	Material Mix 1..n	Descriptor				
1.2.2	Airframe	Heritage	Predecessor System	Year				

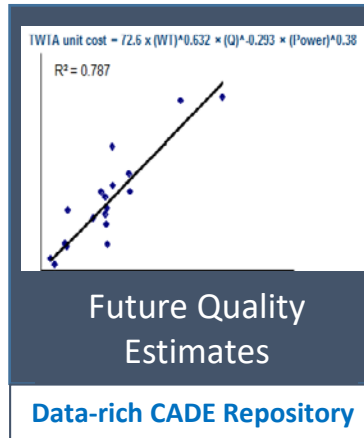
Contract CSDR Plan Technical Data Supplement

1.2.2.2	Fuselage	PhysicalStruc	Dimension - Description	Descriptor				
1.2.2.3	Wing	PhysicalOther	Material Mix 1..n	Descriptor				
1.2.2.3	Wing	PhysicalStruc	New Materials	List				
1.2.2.3	Wing	PhysicalStruc	Volume	Cubic Inches				
1.2.2.3	Wing	PhysicalStruc	Weight	Pounds				
1.2.2.4	Empennage	PhysicalOther	Material Mix 1..n	Descriptor				
1.2.2.4	Empennage	Heritage	New Materials	List				
1.2.2.4	Empennage	PhysicalStruc	Volume	Cubic Inches				
1.2.2.4	Empennage	PhysicalStruc	Weight	Pounds				
1.2.2.5	Nacelle	PhysicalOther	Material Mix 1..n	Descriptor				
1.2.2.5	Nacelle	Heritage	New Materials	List				
1.2.2.5	Nacelle	PhysicalStruc	Volume	Cubic Inches				
1.2.2.5	Nacelle	PhysicalStruc	Weight	Pounds				

DD FORM 2794 (Page 4) TECHNICAL PARAMETER REQUIREMENTS, JUNE 2017 PREVIOUS EDITION IS OBSOLETE

Mapping ID	Item Type	Technical Parameter Name	Group Key	Value	Unit of Measure	Unit of Measure Qualifier	Estimate/Actual	Margin	Remarks
1.1	Air Vehicle	Combat R							
1.1	Air Vehicle	Absolute							
1.1	Air Vehicle	Weight							
1.1.1.2	ElecBox	Clock Speed							
1.1.1.2	ElecBox	ASIC - Gate							
1.1.1.2	ElecBox	FPGA - Gate Count		245811	Quantity	Gates	Actual		
1.1.1.2	ElecBox	Volume		1	Cubic feet		Actual		
1.1.1.2	ElecBox	Weight		20	Pounds		Actual		
1.1.1.2	ElecBox	Power - Maximum Consumption Rate		18	Watts		Actual		Bench Test Results May 2021
1.1.1.2	ElecBox	New Design		100	Percent		Actual		Abandoned reuse of prior design, TIM Jun 2021

Contractor TDR Submission

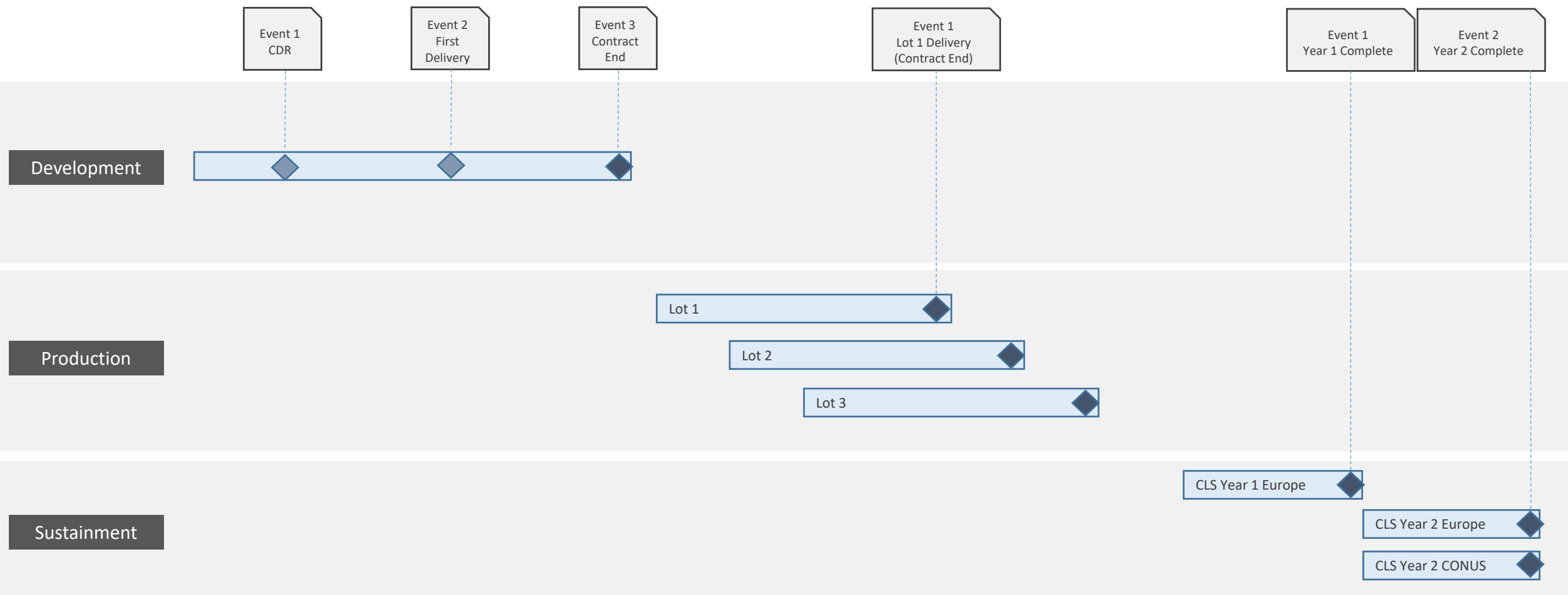


With the CADE goal of providing the best quality data to the cost estimating community, Technical Data enhances the cost, software, quantity, and sustainment data placed into CADE.



When must Technical Data be Submitted?

DD2794 Page 2 will cite contract submission events. These will typically vary by phase.



For additional information, see:
[DD 2794 Overview](#)

TDR Submission Events and Frequency Varies by Life Cycle Phase

Pre/Post Award Conference



- Pre/Post Award discussions with industry can cover the following topics:
 - Review of “Scope Definition: Order/Lots/End Items” (DD 2794 Items 17, 18, 19)
 - Clarify the desired breakout of Delivery Orders, Lots, Builds, as well as all applicable Variant or End Item reporting
 - Reach consensus on the TDR requirement for “Mapping ID” to tie the reported technical parameter to applicable WBS, Lot, and End Item
 - Review “Submission Events” (DD 2794, Item 15)
 - Clarify frequency of reporting
 - Discuss the evolution of parameter values from Estimates to Actuals over the lifecycle of the contract/program
 - Review availability of desired parameters listed in the Technical Data Supplement (DD 2794, Items 27-30)
 - Clarify you can obtain and report the parameter values according to WBS element
 - Identify other CDRLs that may meet these reporting requirements (With due consideration that those CDRLs are organized by WBS element and their submission timing is suitably paired with cost report submissions.)
 - Ensure that other CDRLs that meet the TDR requirements are submitted along with the TDR in CADE
 - Review security or classification concerns
- If required, submit a revised Technical Data Supplement to the DCARC, along with revised plan for review and approval

Participate in pre/post award conferences to ensure Tech Data requirements are well understood and can be effectively met

Additional Considerations



- SRDR Reporting:
 - If SRDR Development, Maintenance, or ERP reporting is required for the contract, ensure that the Technical Data Reporting parameters do not duplicate SRDR DID reporting requirements
 - If SRDR Development, Maintenance, or ERP reporting is NOT required, the Technical Data Reporting parameters allow for software parameters to be required
- Sustainment & Contractor Logistics Support (CLS) Reporting:
 - When Maintenance and Repair Reporting is planned, plan the Technical Data Report to capture the fielded item being supported such as fleet size and OpTempo by location
 - Leverage the O&S phase Core parameter list to implement sustainment-specific parameters, such as quantities
- Legacy & FlexFile Reporting:
 - The DD 2794 Technical Data Supplement can be added to contracts that require either 1921, legacy reporting requirements, OR FlexFiles
 - Ensure the submission event tables reflect appropriate forms

Approved Technical Data Report Requirements



Data Group A

Report Metadata

Approved Plan Number
Submission Event
Period of Performance
Reporting Organization
As of Date
Date Prepared
more in the DID...

Same as FlexFile

Data Group B

DD Form 2794 Data Elements

WBS Element
Order/Lot
End Item

Same as FlexFile

Data Group C

Technical Data Parameters

Mapping ID
Item Type
Technical Parameter Name
Value
Unit of Measure
Estimate/Actual
more in the DID...

Data Group D

Technical Data WBS Mapping ID

Mapping ID
WBS Element Code
End Item
Order/Lot
Remarks

Mapping ID is the key to paring technical data with the cost data

The Technical Data Report ties cost drivers and other relevant metrics to FlexFile dollars and hours.

- Technical data (when organized by WBS Element, Oder/Lot, and End Item) provide for a contextual undemanding of the reported costs.
- Identification and quantification of cost drivers
- Supports analogy estimating
- Fine tunes parametric estimates



Submission Considerations

- Submit in Excel-compatible format.
- The data model is located here:
<https://cade.osd.mil/policy/techdata>
- A JavaScript Object Notation (JSON) Data Model is not presently necessary.
- Upon submitting in an Excel-Compatible format, the DCARC, supplemented by a TURF team, will verify and validate it. This may require some coordination between the DCARC and contractor. *The submitted and approved report then resides in CADE alongside the FlexFile as a supplemental file.*

Validation Considerations

- **DCARC** will ensure compliance with
 - DID
 - Approved CSDR plan
- **The TDR Unified Review Function (TURF)** The TURF team and DCARC analyst will assess the TDR submission jointly; the TURF team will supplement the identified DCARC analyst's review at the time of the TDR submission.
 - Approved CSDR plan
 - Reporting events and units of measure
 - Demographic and common heading information
 - Pedigree and variability of values
 - Completeness

Technical Data Reporting Status



- The Technical Data DID is approved and available for any CWIPT to use as they deem useful on a contract-by-contract basis.
- A DoD-wide or Service-wide "roll-out" of Technical Data Report policy is not foreseen.
- There is no default expectation on how TDR responsibility may be split between primes and subs. The Tech Data responsibility will likely be on the prime and not on the subs (at least not to the extent cost data requirements are directly laid onto the subs). If the CWIPT wishes to seek tech data directly from the subs they can certainly do so. If the prime wishes to buy tech data from the subs they can certainly do so.
- Given that a sound WBS is product oriented, collecting measurable, observable tech data by product should offer few obstacles to completion.
- The technical vocabulary and core parameter lists are available to you for your future planning purposes. We are happy to engage on a working-level to collaborate further if and when you make tech data SMEs available to do so.