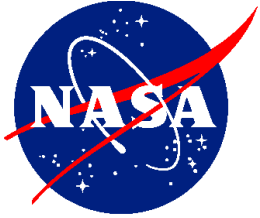NASA/2023

NASA IPMDAR Tailoring Supplement (NITS)

National Aeronautics and Space Administration
NASA Headquarters
Washington, D.C. 20546

June 2023

Electronic copies are available from

IPMDAR Teams Page (inside NASA firewall only)

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RECORD OF REVISIONS		
REV	**DESCRIPTION**	**DATE**
Rev 01	Initial draft (provided to Office of Procurement)	April 2023
Rev 02	Draft (provided to EV WG June)	June 2023

P.0 PREFACE

P.1 Purpose

The NITS is designed to assist NASA teams with implementing the IPMDAR on acquisitions with EVM requirements. The NITS is meant to be used in conjunction with the [DoD Acquisition and Data Analytics (ADA) IPMDAR Tailoring and Implementation Guide](#).   The NITS is also designed to aid NASA programs and projects to prepare and deliver the IPMDAR to customers when required.

P.2 Applicability

The NASA IMPDAR Tailoring Supplement (NITS) applies to both contractor and in-house projects.

P.3 Authority

This plan provides IPMDAR guidance for NASA Headquarters, NASA Centers, government partners, academic institutions, international partners, and suppliers to the extent specified in the contract or agreement.

- NASA Federal Acquisition Regulation Supplement (NFS)
  - NFS 1834.201, *Earned Value Management System Policy*
  - NFS 1852.234-2 *Earned Value Management System*
- NASA Procedural Requirements (NPR)
  - NPR 7120.5, *NASA Space Flight Program/Project Management Requirements*
- IPMDAR Data Item Description (DIMGMT 81861C), March 2020
- PIC 15-07 Guidance on the Integrated Program Management Data Analysis Report for Earned Value Management

P.4 References

- NASA EVM website https://www.nasa.gov/evm
- DoD IMPDAR Implementation and Tailoring Guide
- DoD Earned Value Management System Interpretation Guide (EVMSIG), 14 March 2019
- DoD Earned Value Management Implementation Guide (EVMIG), 18 January 2019
- EIA-748 EVMS Standard

P.6 Point of Contact

The primary point of contact for the NITS is NASA's EVM Program Executive, Jon Fleming, from the Office of the Chief Financial Officer (OCFO) Strategic Investment Division (SID) at NASA Headquarters, jon.f.fleming@nasa.gov.

Organizational EVM Focal Points (EVMFPs) may also be consulted for assistance with IPMDAR support. The listing of applicable EVMFPs is located on the NASA EVM website, https://www.nasa.gov/evm/evmwg.

1.0 INTRODUCTION

1.1 Background

With the IPMR, the deliverable was a set of five CPR, then Excel-based reports (Formats 1 – 5). However, this new paradigm in many ways simplifies the reporting process while at the same time giving the customer a more detailed set of data for analysis.

The products for each IPMDAR component are shown in Figure 1. The numbers (e.g., 1.2.1) reference the paragraph numbers in IPMDAR DI-MGMT-81861C (DID). The same DID paragraph numbering can be found in the DoD *IPMDAR Implementation and Tailoring Guide* as well as the APPENDIX: Sample NASA IPMDAR DRD with Notes and Recommendations.
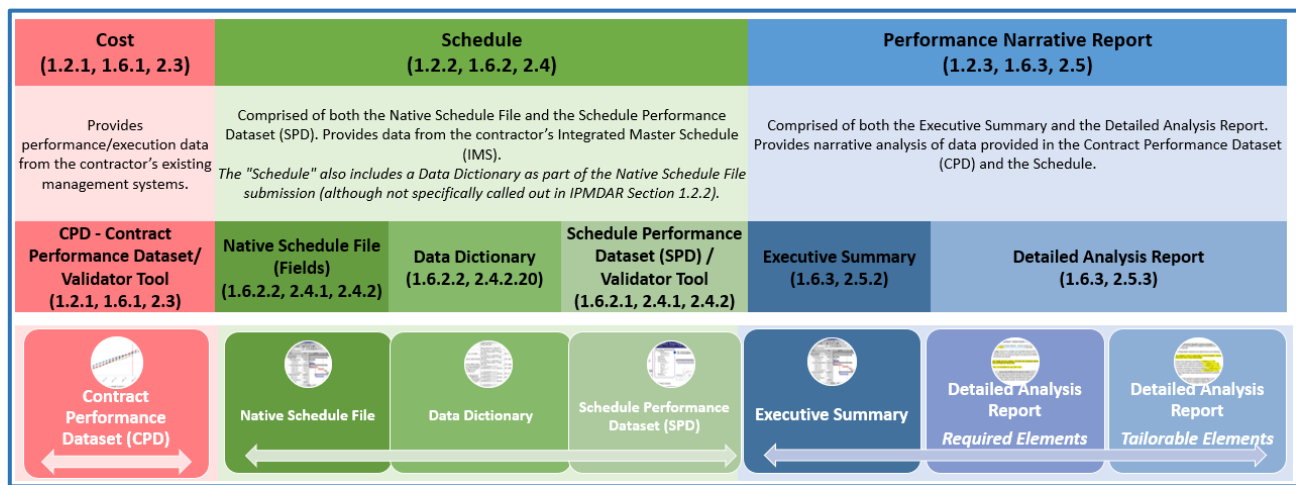

Figure 1 IPMDAR Products

This Supplement provides NASA information not available in the DoD *IPMDAR Implementation and Tailoring Guide*[1]. It is not intended to repeat information in that Guide.

1.2 Explanation of the IPMDAR Requirement

In March 2023, the following memo was provided by the NASA EVM Program Executive to the NASA Office of Procurement regarding the IPMDAR requirements. It provides context for the move to IPMDAR.

Integrated Program Management Data and Analysis Report (IPMDAR) Requirement

The implementation of the Integrated Program Management Data and Analysis Report (IPMDAR) requirement is a key acquisition priority for the Agency to deliver our missions with the Earned Value Management (EVM) requirement.

Several excerpts dealing with project management improvements from the NASA Chief Acquisition Officer's Intent Memo, 2022 include access to the most up-to-date tools, best practices, investments in tools and software, and for

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the agency to look at new ways to use the immense amount of data we gather to understand the marketplace and the performance of our vendors.

The IPMDAR is a contractually required data deliverable to the customer. It enhances and replaces the Integrated Program Management Report (IPMR) issued in 2015. Customers can perform their own data analysis on the cost and schedule data the contractor provides, or they can produce the familiar IPMR report formats 1 to 4 from the source data. The IPMDAR improves on the IPMR with tighter integration and traceability between cost and schedule, provides flexibility in reporting and data delivery, facilitates greater awareness and cost estimation, predictive analysis, focuses on future forecast data, and much more.

The primary purpose of the IPMDAR to the Government is to reflect current performance status and the forecast of future contract performance. It's the next evolution of reporting, replacing the paper-based formats to submitting cost and schedule performance datasets to the customer. The IPMDAR contains the data necessary to measure contract execution progress on NASA contracts that require EVM reporting.

As stated above, the IPMDAR evolution transitions the contract performance data submission requirement from primarily human readable formats to data native in the EVM System. It also transitions from a work breakdown structure (WBS) reporting level to the more refined level at the time-phased control account (CA) and work package (WP) level.

The IPMDAR is comprised of three components:

1. Contract Performance Dataset (CPD). Provides performance/execution data from the contractor's existing management systems.
2. Schedule (to include the Native Schedule File and the Schedule Performance Dataset (SPD)). Provides data from the contractor's Integrated Master Schedule (IMS).
3. Performance Narrative Report (PNR) (to include Executive Summary and the Detailed Analysis Report). Provides narrative analysis of data provided in the CPD and the Schedule.

The CPD is a collection of JavaScript Object Notation (JSON) encoded data tables capturing the contract metadata, the WBS, Organizational Structure, contractor reporting calendar, control account (CA) definitions, optional work package (WP) definitions, estimate to complete (ETC) forecast, reprogramming adjustments, custom fields, metrics, and many more.

The native schedule submission is a direct export from the contractor's scheduling tool. The SPD is a collection of JSON encoded data tables capturing the detailed task and schedule metrics, task relationships, and resource assignments tables. Since the CPD data report is now required at the CA or WP levels, the task definitions within the SPD must now be correctly encoded against the CA or WP data included in the corresponding CPD submission. This critical improvement enhances the ability to support integrated cost/schedule analysis.

The PNR consists of the Executive Summary and the Detailed Analysis Report. The Executive Summary is a program and contract performance overview, a top-level program managers' cost and schedule forecast, a high-level variance summary, facilitates better conversations, and optional content as needed or requested. The Detailed Analysis is a compilation of write-ups to describe the variances within a certain scope of the contract at the CA level.

There are also data validator tools offered from various entities that test the CPD and SPD files to ensure compliance with already existing code fields requirements that can also be found in the IPMR DID. So essentially the only change is data rather than a report, different file formats (JSON vs. UN/CEFACT XML) which is transparent to the users, and the ability to highlight if the fields pass a validator tool with a pass or check indicator. The validator tool may be used to enforce or check data fields, that was not available with the IPMR requirement. The data can still be brought into the systems, only this time there is more visibility into possible discrepancies or check points ensuring better data quality.

What are the current measures and what is in development?

To ensure the successful implementation of the IPMDAR, an Agency IPMDAR Transition Team was formed. The team meets weekly and consists of the Agency's EVM practitioners, software experts, and the Scheduling Community of Practice (SCoPe) lead.

The team is developing documentation to support the rollout to include sample Data Requirement Descriptions (DRDs)/ Contract Data Requirements List (CDRLs), a NASA IPMDAR Tailoring Supplement (NITS) to complement DoD's documentation, a Procurement Information Circular (PIC), an internal NASA Teams site to host documentation in a central location, testing validator tools, and training. The documentation is scheduled to be published by May 1, 2023.

What is NASA communicating and what will be briefed?

In addition to briefing the EVM Working Group, the EVM Steering Committee, SCoPe, and the Office of Chief Financial Officer (OCFO)/Strategic Investment Division (SID), we have been providing progress updates at multiple forums for over a year. Further, we are collaborating with the NASA Aeronautics Research Mission Directorate's (ARMD's) Electrified Powertrain Flight Demonstrator (EPFD) Project that implemented the IPMDAR in 2021. Future briefings are scheduled at the EVM Working Group meeting, NASA Cost & Schedule Symposium, NASA PM Symposium, and a webinar for the Office of Procurement prior to the June 1, 2023, roll-out.

Why does NASA want to implement the IPMDAR?

NASA is adopting the IPMDAR for five main reasons:
1. The IPMR is obsolete since 2020.
2. The IPMDAR requires data submission and enforces cost/schedule integration ensuring improved data integrity.
3. The IPMDAR promotes government/contractor communication and government-driven variance analysis reporting.
4. The IPMDAR offers the opportunity to tailor data deliveries, ensuring that the government gets the data as soon as possible.
5. The IPMDAR focus becomes data rather than reporting formats.

What is driving the June 1, 2023, effective date?

The IMPDAR Transition Team originally set the date as January 1, 2023, but we learned that the change requires more participation of many stakeholders than expected. DoD rolled out the IPMDAR in March of 2020, and the IPMR is considered obsolete as industry has transitioned to IPMDAR. NASA waited to benefit from their lessons learned in adopting this new federal reporting format.

The IPMDAR Transition Team will have all products available to the Office of Procurement (OP) by May 1, 2023. This will ensure proper socialization among the center's procurement communities to ensure they convey the change to program and projects. The effective date of the release of the IPMDAR requirement to the supplier community will be June 1, 2023. All contracts after that date will be required to flow-down the IPMDAR requirement instead of the IPMR. Any solicitations out for review or Requests for Proposals (RFPs) underway prior to the June 1, 2023, date will be exempt and continue to flow-down the previous IPMR requirement. Any questions are concerns should be directed to your local center EVM Focal Point and/or:

- OP EVM Focal Point, Mr. Edgar Lee: edgar.e.lee@nasa.gov
- OCFO-SID EVM Program Executive, Mr. Jon Fleming: jon.f.fleming@nasa.gov
- OCFO-SID Deputy EVM Program Executive, Ms. Kristen Kehrer: kristen.c.kehrer@nasa.gov

Resources:
[1] NASA Chief Acquisition Officer's Intent, 2022.
[2] IPMDAR Implementation and Tailoring Guide_Stamped.pdf (osd.mil)
[3] JSON is an open standard file format and data interchange format that uses human-readable text to store and transmit data objects consisting of attribute–value pairs and arrays (or other serializable values).
[4] IPMDAR Implementation and Tailoring Guide_Stamped.pdf (osd.mil)

2.0 TAILORING THE DRD

2.1 Tailoring Options

The APPENDIX: Sample NASA IPMDAR DRD with Notes and Recommendations provide the tailoring options and the Recommended Selections with notes to guide the DRD development.

2.2 Tailoring Options Highlighted in DoD's IPMDAR Implementation and Tailoring Guide

- Incremental vs single submission
- Level of Reporting (Control Account, Work Package)
- Units (Dollars, Hours or Both)
- Frequency (Monthly, Quarterly, Annually, Incremental or Upon Request)
- Variance Analysis Options (Government Identified Variances, Government Specified Variance Thresholds, Specific Number of Variances)
- Performance Narrative Report Tailoring

An IMS data item description (DID) is currently being developed. In the interim, utilize the sample DID in Appendix, removing references to the Contract Performance Dataset (CPD).

2.3 Procedure to get IPMDAR on Contract

When the many PP&C communitees including Project Management, Acquisition and Contract Management, Schedule Management, Earned Value Management, and Resource Management contribute to the IPMDAR both when put on contract and in-house, the data configuration will best serve the customer. For all communities, it is a new opportunity to have their recommendations considered and included.

When creating the data (e.g., in-house projects), the PP&C communities will be involved with each other to be sure the data is written to align and maximize the analysis opportunities. When receiving the data (e.g., from contactors), the PP&C communities will benefit by contributing to the tailoring of the DRD to have the data needed for analysis (e.g., Schedule Management request a customized field for the CLIN) included.
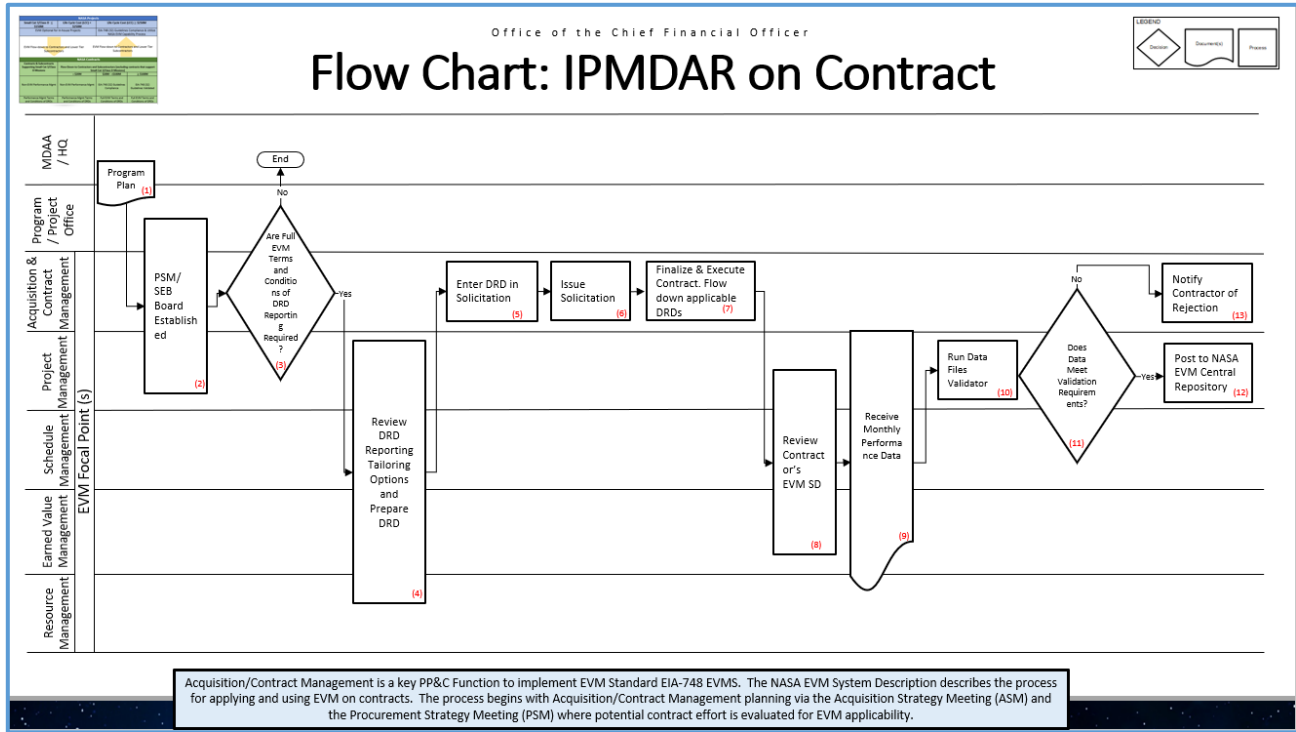
Figure 2 IPMDAR Storyboard

Role	Flow Chart Step	Action or Input / Output
MDAA\HQ - Program\Project Office	1	Program Plan
Program\Project Office - Acquisition and Contract Management - Project Managage-ment & Focal Points	2	Conduct Procurement Strategy Meeting (PSM)/ Establish Source Evaluation Board (SEB) Board. Determine which EVM requirements
Mission Mgmt.\Program Office - Acquisition and Contract Management - Project Managagement\EVM focal point	3	Decision: Are full EVM Terms and Conditions of the DRD reporting required?
	3 No	End process
	3 Yes	Move to Step 4
Focal Point(s) Project Management Schedule Management Earned Value Management Resource Management	4	Review DRD Reporting Tailoring Options and Prepare DRD
Acquisition and Contract Management	5	Enter DRD into Solicitation
Acquisition and Contract Management	6	Issue Solicitation
Acquisition and Contract Management	7	Finalize and Execute Contract, Flow down applicable DRDs
Focal Point(s) Project Management Schedule Management Earned Value Management	8	Review Contractor's EVM SD
Focal Point(s) Project Management Schedule Management Earned Value Management Resource Management	9	Receive Monthly Performance Data

Role	Flow Chart Step	Action or Input / Output
Focal Point(s) Project Management	10	Run Data File Validator. Validator ensures the SPD and CPD align.
Focal Point(s) Acquition and Contract Management Project Management Schedule Management	11	Decision: Does Data Meet Validation Requirements?
Focal Point(s) Acquition and Contract Management	11 No	Move to Step 13. Notify Contractor Rejection. Rejection will be accompanied by a report of explanation.
Focal Point(s) Project Management	11 Yes	Move to Step 14. Post to NASA EVM Central Repository. It is policy to post the data (https://www.nasa.gov/content/evm-and-schedule-repository-cap-memo)

3.0 COST

3.1 Cost Components

Utilize this section if you have a customer requirement to prepare and submit the IPMDAR.

The Cost portion of the IPMDAR is comprised of one component and referred to as the Contract Performance Dataset (CPD). It is easily produced from NASA's EV Engine, Deltek Cobra, through the export wizard. See Section 3.3 for the selection options.
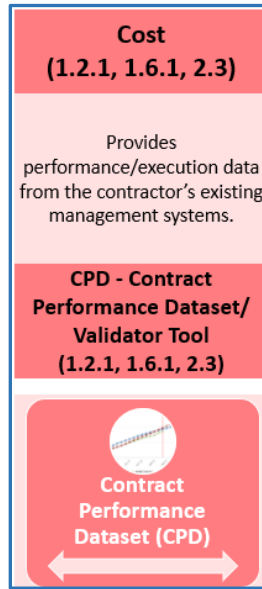

Figure 3 IPMDAR CPD Component

3.2 Key Configuration Considerations

A structure set up in Cobra with Control Accounts belonging to a single WBS will support exporting to the CPD (configuration of export below). The Resource Breakdown Structure can be configured as desired by the project. However, it must be mapped to the Element of Cost (EOC) used by the DID. That is: Labor, Other Direct Costs, Material and Subcontractor. The EOC column in Cobra's Resources table is native to it. Once mapped, it can be exported through the Cost Data Exporter described in Section 3.3.

Figure 4 Cobra EOC Assignment
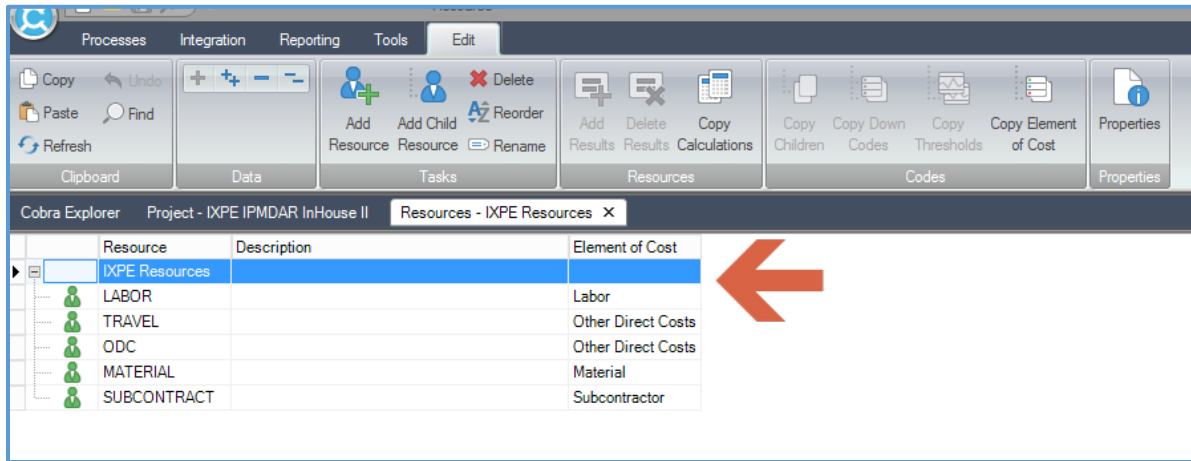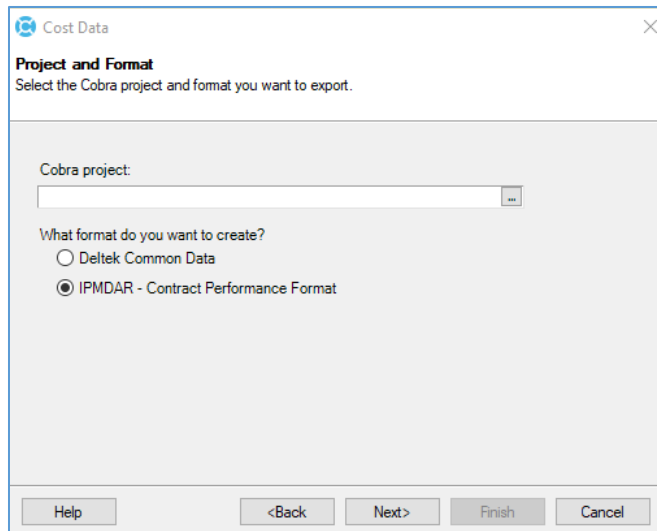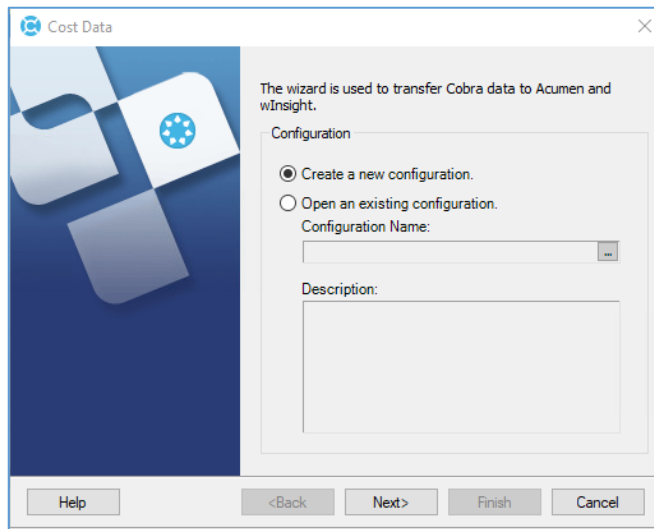
To select the options for export, see Section 3.3.

3.3 Wizard Options To Produce the CPD in Cobra

Cobra has an option to export the CPD. It is a selection from the Cost Data menu and referred to as the IPMDAR – Contract Performance Format.
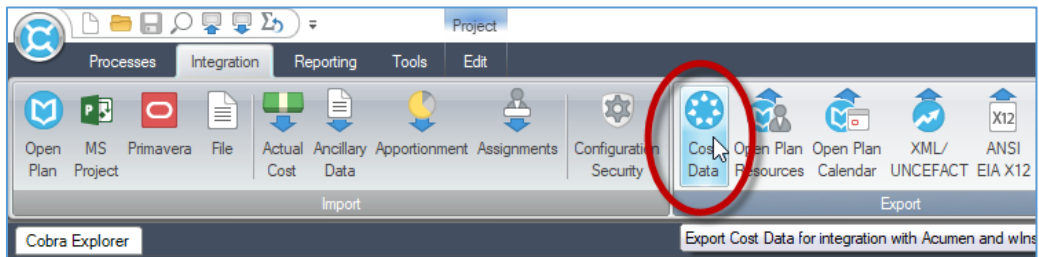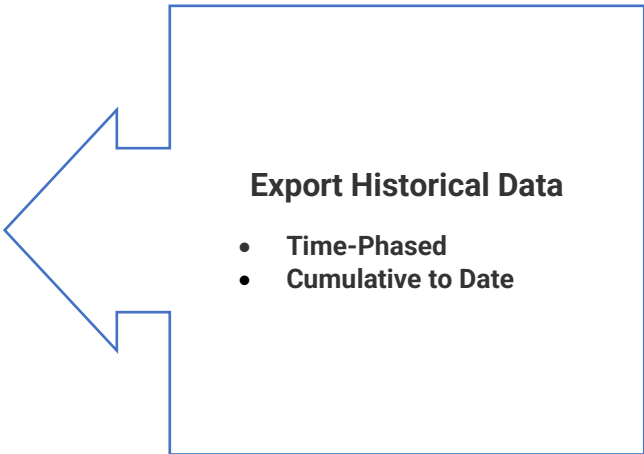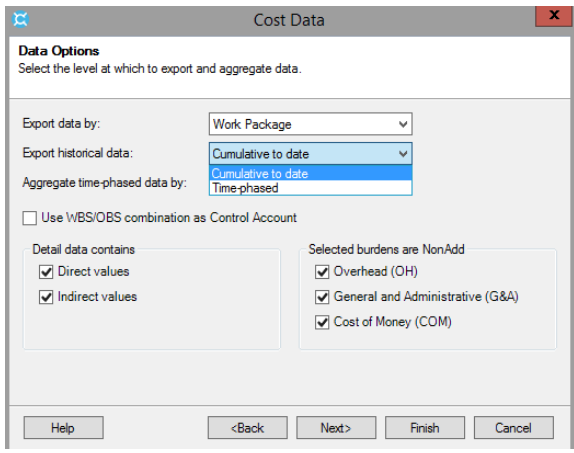
IPMDAR requires monthly delivery of Time-Phased To Complete Data. To-Complete data shall be provided for both BCWS and ETC as time-phased non-cumulative values. Time-Phased to Complete Data below:
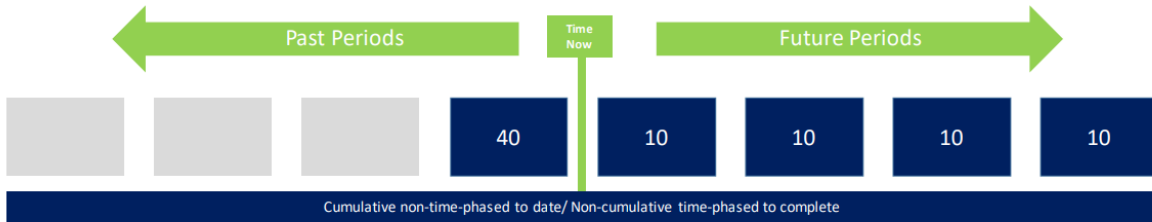
The customer may request Historical Contract Performance Data. This refers to a CPD delivery with time-phased historical data from ATP. The purpose of this delivery is usually to provide insight into retroactive changes. Historical Contract Performance Data below:
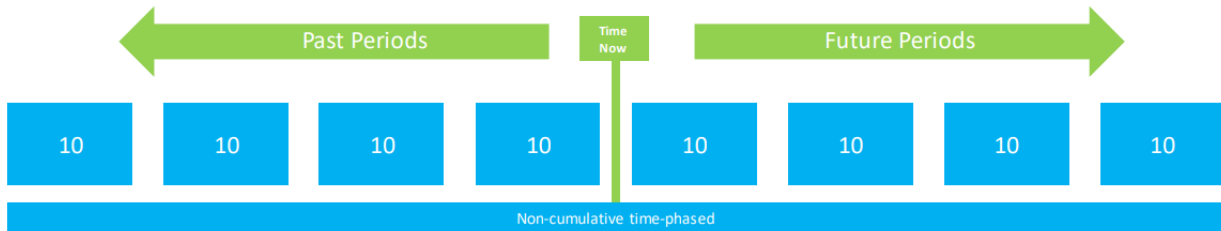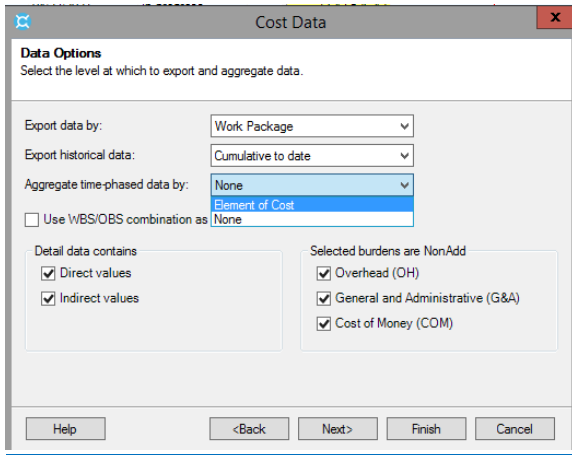
Aggregate time-phased

- **Element of Cost**: Select this option to aggregate time-phased data at the element of cost level.
- **None**: Select this option to exclude lower level data aggregation.
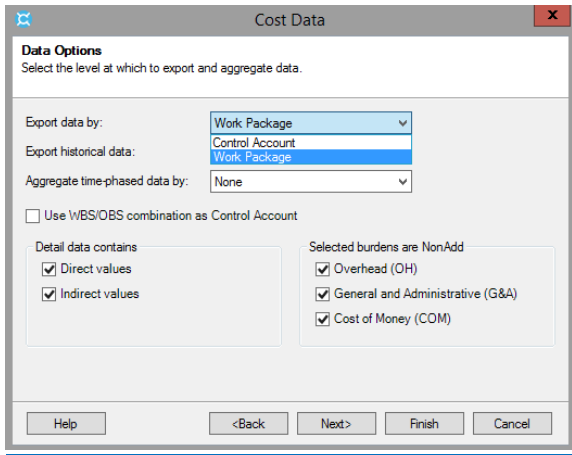
Export Data

- **Work Package**: If selected, the to-date, current period, and to complete values of Budget, Progress, and Actuals will be exported at the work package level.

- **Control Account**: If selected, the to-date, current period, and to complete values of Budget, Progress, Actuals, and Forecasts will be exported at the control account level.

4.0 SCHEDULE

4.1 Schedule Components

Utilize this section if you have a customer requirement to prepare and submit the IPMDAR.

The Schedule portion of the IPMDAR is comprised of three components, see Figure 5. The components are: The Native Schedule File, the Data Dictionary and the Schedule Performance Dataset (SPD).

Figure 5 Schedule Components of the IPMDAR

4.2 Schedule Data Dictionary

Note that 7120.5F Section 3.1 Technical, Schedule and Cost Control Plan calls for the project to "Describe the process for monitoring and controlling the IMS." This section of the Control Plan can contain the the Schedule Data Dictionary and provide further context for how the the schedule is configured.

Native Schedule File (DID 2.4): The Native Schedule File, or IMS, is an integrated, logically driven, network-based schedule that is vertically and horizontally traceable. The IMS is populated with the nece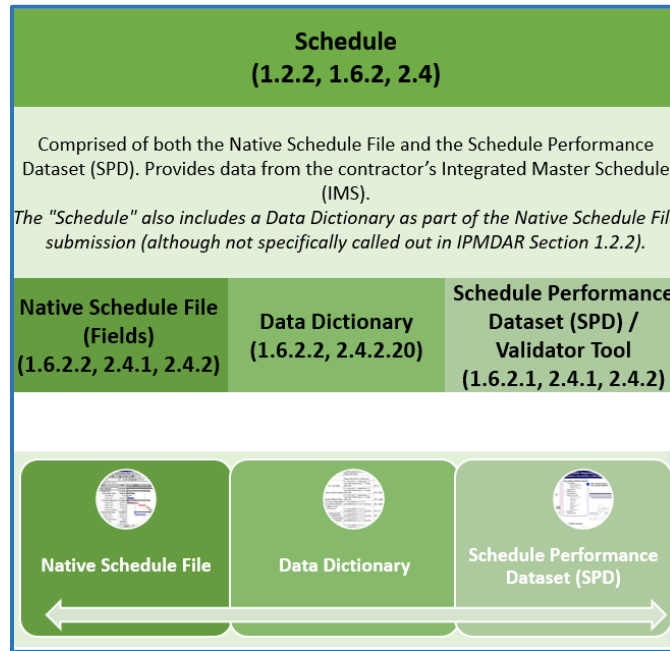ssary fields and associated data as described in the FFS and DEI documents to create the SPD (JSON) file. For instance, the IMS has traceability to the project EVM work breakdown structure (WBS), project Organizational Breakdown Structure (OBS), contractor control accounts (CAs), and contractor work packages (WPs), if applicable to provide transparency for execution. These fields are mapped from the IMS to the SPD, such that the SPD coding is consistent with the contract performance dataset (CPD). The IMS may include custom fields for internal-use-only that are not identified or defined in the Data Dictionary.

4.3 Key SPD Configuration Considerations

Analysis of the IPMDAR data depends on having a key field to uniquely map the SPD and CPD data. That key field is the Control Account (CA). Although the CA (by definition) is the intersection of the WBS and OBS, it is common to represent it by the WBS only. The data configuration allows for that. Testing via the Validator is recommended to ensure the mapping between the SPD and CPD is achieved.

4.4 Wizard Options to Export SPD in Deltek Fuse

The SPD can not be exported directed from the Native Schedule file (e.g., MS Project). It requires the use of a tool such as Deltek Fuse (NASA has a site-wide license), forProject, SSI Tool, Steelray

Project Exporter and others. After schedule is imported into Fuse, here are the steps to export from Fuse.
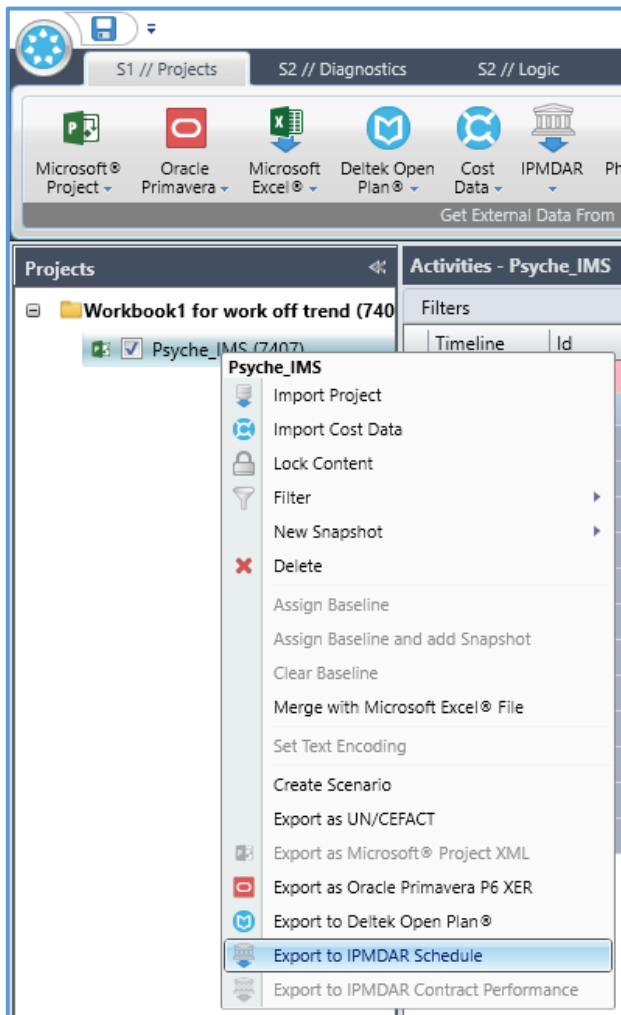
Figure 6 Click left for dialog box, select Export to IPMDAR Schedule
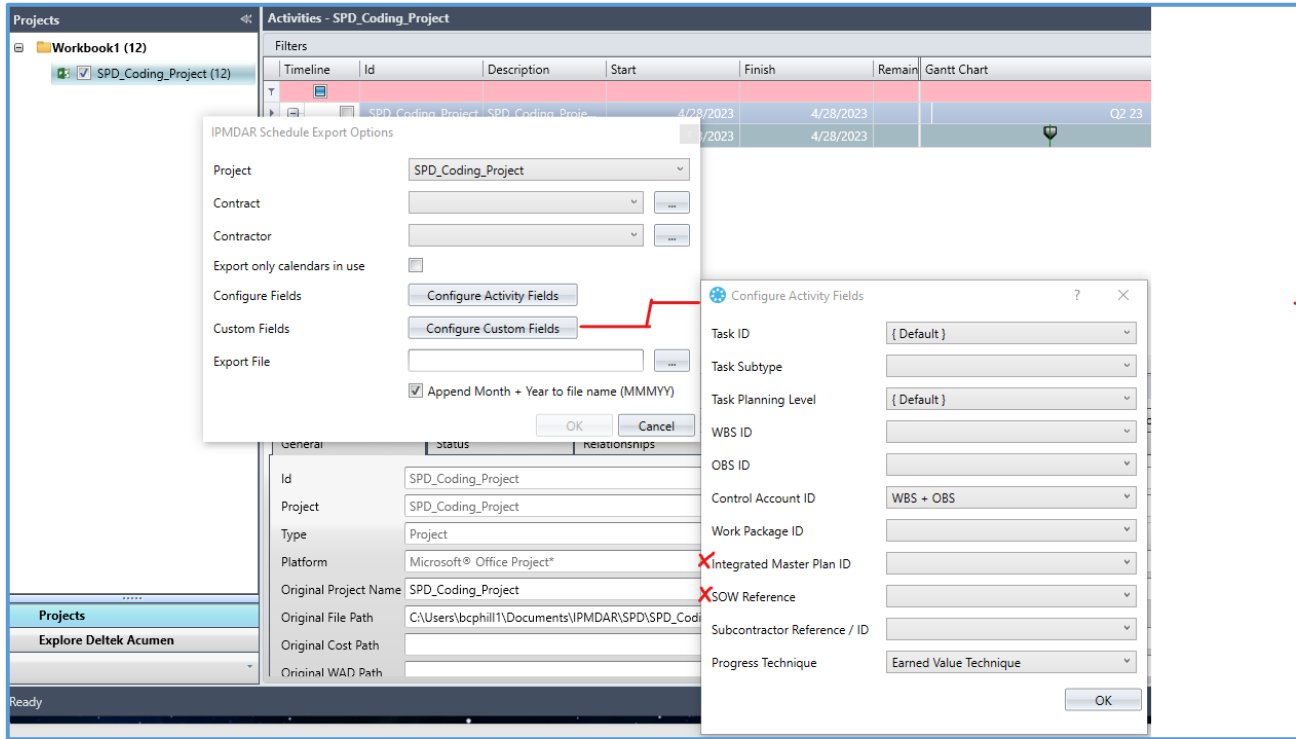
Figure 7 Fuse Export Configuration

5.0 PERFORMANCE NARRATIVE REPORT (PNR)

5.1 Key Configuration Considerations

The IPMDAR (DI-MGMT-81861C) paragraph 1.6.3 states:

> 1.6.3 The Performance Narrative Report (Executive Summary and Detailed Analysis) shall be provided electronically in the contractor's human-readable file structure (e.g., DOCX, PDF), containing searchable text.

Executive Summary - A program and contract performance overview contains:

- Top-level PM cost and schedule forecast
- High-level variance summary
- Undistributed budget (UB) and management reserve (MR) analysis
- Optional content as needed or requested

Detailed Analysis Report:

- Compilation of write-ups to describe the variances within a certain scope of the contract at the control account **level.**

5.2 Tips and Tricks

Table 2-2 of the DID is the Detailed Analysis Table – Tailorable Elements. The customer may require additional reports or data to support monthly analysis. If additional deliverables are required, add to the Statement of Work (SOW).

APPENDIX: Sample NASA IPMDAR DRD with Notes and Recommendations

NASA Sample IPMDAR

DATA REQUIREMENTS DESCRIPTION (DRD)

¶	DRD Contents	Recommended Selections	Notes
1.	**DATA PROCUREMENT DOCUMENT (DPD) NO**: ISSUE: **(Draft, RFP, or Basic)**		
2.	**DRD NO:**		
3.	**DATA TYPE:**		
4.	**DATE REVISED:**		
5.	**PAGE:**		
6.	**TITLE:** Integrated Program Management Data Analysis Report (IPMDAR)		
7.	**DESCRIPTION/USE:** The IPMDAR contains data for measuring contract execution progress on NASA contracts. The IPMDAR's primary purpose to the Government is to reflect current contract performance status and the forecast of future contract performance. The IPMDAR consists of the following three components:		
	Contract Performance Dataset (CPD). Provides performance/execution data from the contractor's existing management systems.		
	Schedule (Comprised of both the Native Schedule File and the Schedule Performance Dataset (SPD)). Provides data from the contractor's Integrated Master Schedule (IMS).		
	Performance Narrative Report (Comprised of both the Executive Summary and the Detailed Analysis Report). Provides narrative analysis of data provided in the CPD and the Schedule.		
8.	**OFFICE OF PRIMARY RESPONSIBILITY (OPR):**		

¶	DRD Contents	Recommended Selections	Notes
9.	<u>DATA MANAGER</u>:		
10.	<u>DISTRIBUTION</u>: Per Contracting Officer's letter. All IPMDAR files must be validated through an IPMDAR Validator Tool or equivalent prior to submittal to NASA. The ADA Validator Tool is located through the OSD IPM website at (https://www.acq.osd.mil/asda/ae/ada/ipm/index.html).		
11.	<u>INITIAL SUBMISSION (DID 1.8.1)</u>: The IPMDAR CPD, Schedule (Native Schedule File and SPD) and Performance Narrative (Executive Summary and Detailed Analysis) shall be submitted through **incremental delivery/single submission** [choose, delete as appropriate] [**Choose Number**] of business days* after the end of the first full accounting period following Authorization to Proceed (ATP). Data is not considered authoritative until the final submission and signature.	**incremental delivery** If single delivery, **NLT 16** government business days	**If selecting incremental delivery, delete the wording "of business days"**
12.	<u>SUBMISSION FREQUENCY (DID 1.8.1)</u>: IPMDAR CPD, Schedule (Native Schedule File and SPD) and Performance Narrative (Executive Summary and Detailed Analysis) shall be submitted through **incremental delivery/single submission** [choose, delete as appropriate] [**Choose Number**] of business days* after the close of the contractor's monthly accounting period.	**incremental delivery** If single delivery, **NLT 16** government business days	**If selecting incremental delivery, delete the wording "of business days"**
12.1	[Insert this section only if selecting incremental delivery for IPMDAR components, delete as appropriate] Incremental Delivery (DID 1.8.1.1):		
	• Native Schedule/ SPD - [**Choose Number**] of Days after accounting period closes	**5** government business days	NLT 16 business days after the close of the contractor's monthly accounting period
	• CPD and Executive Summary - [**Choose Number**] of Days after accounting period closes	**10** government business days	NLT 16 business days after the close of the contractor's monthly accounting period
	• Performance Narrative Report (PNR) - [**Choose Number**] of Days after accounting period closes	**16** government business days	NLT 16 business days after the close of the contractor's monthly accounting period

¶	DRD Contents	Recommended Selections	Notes
13.	**REMARKS**: The Integrated Program Management Data and Analysis Report (IPMDAR) contains data for measuring contract execution progress on NASA acquisition contracts. The IPMDAR's primary purpose to the Government is to reflect current contract performance status and the forecast of future contract performance.		
14.	**INTERRELATIONSHIP**: To ensure an integrated approach to risk management, the information within the data provided by this IPMDAR DRD shall be integrated with the following DRDs when required: DRDs STD/MA-WBS, *Work Breakdown Structure (WBS) and Dictionary*, STD/MA-RMP, *Risk Management Plan*, and STD/MA-FMR, *Financial Management Reports* (533M and 533Q). The *Financial Management Reports* (DRD STD/MA-FMR) shall include reconciliation between the (533M/533Q and the IPMDAR, which shall be submitted as an attachment to the 533M/533Q reports and shall also be included in Performance Narrative Report of the IPMDAR.		
15.	**DATA PREPARATION INFORMATION**:		
	SCOPE: Data reported shall reflect all negotiated contract work and include the total scope of Authorized Unpriced Work (AUW) efforts.		
	APPLICABLE DOCUMENTS: Data Item Description, Integrated Program Management Data Analysis Report, DI-MGMT-81861 (latest version at time of contract award), available at the following web site: ASSIST-QuickSearch Document Details (dla.mil).		
	CONTENTS:		
15.1	The IPMDAR shall be submitted in accordance with Data Item Description (DID) DI-MGMT-81861C, Integrated Program Management Data and Analysis Report (IPMDAR), except as modified in this DRD.		
15.2	Provide IPMDAR validator tool results		Requiring the results ensures the provider runs the validator
15.3	Disregard paragraphs of DI-MGMT-81861C requiring data to be submitted to the Office of the Under Secretary of Defense (OUSD) Acquisition, Data and Analytics (ADA) Integrated Program Management (IPM) Division the Earned Value Management Central Repository (EVM-CR). IPMDAR is to be submitted per instructions in Section 10 of this DRD.		
15.4	**Non-Cumulative Time Phased to Date (DID 1.6.1.1)**: A Historical Contract Performance Data file will be required in place of the normally provided CPD **monthly/annually/upon request [choose, delete as**	**at least semi- annually**	

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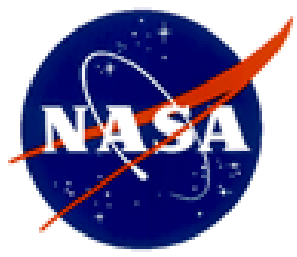| ¶	DRD Contents	Recommended Selections	Notes
	appropriate]. The Government reserves the right to request out of sequence, informal Historical Contract Performance Data deliveries following major retroactive changes including directed changes, internal replans, etc.		
15.5	**Performance Data (DID 2.3.2)**: The CPD shall be submitted in dollars and hours down to the **control account/work package** level [**choose level, delete as appropriate**].	**work package**	Optimal to get the lowest data available.
15.6	**Schedule Data Dictionary (DID 1.6.2.2)**: A description of the how/where the critical path is captured in the Native Schedule File, as well as a mapping to the SPD's OnCriticalPath field. If the critical path is something other than what is calculated in the Native Schedule File, the Data Dictionary provides justification/rationale for the alternate identification of the critical path.		
15.7	**Critical Path (DID 2.4.2.13)**: The schedule tool shall automatically calculate the longest path in the Native Schedule File. If multiple critical paths are identified, the Native Schedule File also includes a custom field for Critical Path ID.		
15.8	**Constraints (DID 2.4.2.18)**: Identify the constraints (including any deadlines) applied to tasks. Provide justification for all constraints **in the PNR/in the Native Scheule File** [**choose one, delete as appropriate**]	**in the PNR**	
15.9	**Lead/Lags (DID 2.4.2.17)** : Justify the lead/lag duration **in the PNR/in the Native Schedule File** [**choose one, delete as appropriate**]. If external to the Native Schedule file, provide justification in the PNR. If internal, provide a description of how to filter the Native Schedule File to identify the lead/lag relationships, as well as a description of the tool/process used to capture the durations of all the lead/lag relationships.	**in the PNR**	
15.10	**Schedule Risk Assessment (SRA) (DID 2.4.2.21)**: In addition to IPMDAR DID requirements for SRAs and the reporting of any SRAs conducted internally by the Contractor, the Contractor shall perform and report the results of additional SRAs on a **quarterly/semiannual/annual** [**choose one, delete as appropriate**] basis against any such milestones as the Government may direct, and with such inputs and participation as the Government requests. The PM will identify the driving/critical path(s) at least 30 days prior to the start of the SRA. The fully statused Native Schedule File used for the SRA is provided at OTB/OTS at a minimum. SRA inputs (e.g., 3-point estimates for task duration uncertainties, risk activities with risk likelihoods and 3-point estimates for risk consequence distributions, number of Monte Carlo iterations) are captured in custom fields in the Native Schedule File. If the SRA will be delivered as a separate file, the SRA input fields can be captured in the SRA file.	**quarterly or semi-annual**	
15.11	**SPD Custom/User-Defined Fields (DID 2.4.3.1)**: Contractor will reserve [**x number**] schedule fields as defined below for the purpose of helping the Government navigate, analyze, and health-check the IMS.		

¶	DRD Contents	Recommended Selections	Notes
	[x1 field definition/description]		Consider adding CLIN
	[x2 field definition/description]		
	[xn field definition/description]		
15.12	**Resources (DID 2.4.3.2)**: The submission of a resource loaded **native schedule and/or SPD [choose one or both, delete as appropriate] is/is not required [choose one, delete as appropriate]**.	**native schedule and SPD is not required**	Resources are in the CPD
15.13	**Executive Summary (DID 2.5.2)**: The entirety of this section shall be a part of the required submission as outlined in the DID. The Executive Summary shall include all items contained in the Required Elements Detailed Analysis Table (Table 2.1).		
	Detailed Analysis (DID 2.5.1.3, 2.5.3, Table 2.1, Table 2.2):		
15.14	**Variance Analysis Selection (DID 2.5.3.4)**: Variance analysis shall be presented using **dollars / hours [choose, delete as appropriate]** as the basis. If there are no changes to the reported element problem analysis, expected impacts, or corrective action status, the contractor may specify "no changes since the last reported analysis" and reference the IPMDAR date when the narrative was reported.	**dollars**	
15.15	**SELECT FROM THE FOLLOWING OPTIONS FOR VARIANCE REPORTING. DELETE OPTIONs NOT SELECTED:**	**OPTION 1**	
	OPTION 1 [Option 1 is only available for incremental delivery submission]	**OPTION 1**	Preferred
	Government Identified Control Account Variance (DID 2.5.3.4.1): Based on review of interim submissions, the government shall identify up to [**X number**] variances for the contractor to report. The Government shall notify the contractor of the variances to be included no later than [**X day**] after the end of the contractor's accounting month.	**20 13th government business day**	
	OPTION 2		Not recommended
	Government-Specified Variance Analysis Thresholds (DID 2.5.3.4.2): Control account variances that exceed the category thresholds identified below are selected and reported: Pool of Reportable Variances are determined by the following thresholds:		
	PLEASE CONSULT WITH YOUR PROGRAM OFFICE TO DETERMINE VARIANCE THRESHOLDS FOR YOUR CONTRACT.		
	1) Current cost variances exceeding +/- $XXK or +/- Y%		
	2) Current schedule variances exceeding +/- $XXK or +/- Y%		
	3) Cumulative cost variances exceeding +/- $XXK and +/- Y%		
	Variance thresholds shall be reviewed periodically to ensure the threshold levels are commensurate with the changing program risks and may be adjusted by contract modification with no change in contract price.		
	OPTION 3		Not recommended

¶	DRD Contents	Recommended Selections	Notes
	Specific Number of Control Account Variances (DID 2.5.3.4.3): The contractor will report the variance analysis according to the requirement below (notional per program risk):		
	1) Current cost variances: top X variances*		
	2) Current schedule variances: top X var variances*		
	3) Cumulative cost variances: top X variances*		
	4) Cumulative schedule variances exceeding: top X variances*		
	5) Variances at completion exceeding top X variances*		
	*by dollar value or %		
15.16	**DID Table 2-1 – Detailed Analysis Table – Required Elements**		
	Critical Path Report – This report must be an extract or set of views from the contract IMS and identify the critical path, secondary path, and tertiary path, including all associated tasks and milestones along the path. The report must be submitted in a waterfall format and organized in a manner such that the path with the least amount of slack/float is delineated first, followed by each successive path according to total slack values. This report must contain a narrative explaining changes and impacts to the critical, secondary, and tertiary paths.		If need more defi-nition for this area, include it.
	Driving Path Report – This report must be an extract or set of views from the contract IMS and identify the driving path(s) to the agreed to discrete task/activities or milestones, including all associated tasks and milestones along the path. The report must be submitted in a waterfall format and organized in a manner such that the path with the least amount of slack/float is delineated first, followed by each successive path according to total slack values.		If need more defi-nition for this area, include it.
	Schedule Margin - Display in a trend format the accounting of planned and remaining schedule mar-gin with explanations for changes during the month reported		If need more defi-nition for this area, include it.
	Schedule Risk Analysis (SRA) – The contractor must provide the probabilistic SRA in its native file for-mat. The results of the SRA must include the probability of meeting contractual deliveries and mile-stones in histogram/S-curve formats. The SRA results must also include rank order "tornado diagrams" of both the risks and tasks affecting the completion of contractual milestones and delivera-bles.		If need more defi-nition for this area, include it.
15.17	**DID Table 2-2 – Detailed Analysis Table – Tailorable Elements**		
	Staffing Changes and Rates – shall be reported if either element has or can be reasonably expected to have a major impact (+/- 5% or greater in the reported organizational level staffing as compared to the previous IPMDAR submittal) on the effort's cost and/or schedule forecast.		If need more in-sight for this area, include it.

¶	DRD Contents	Recommended Selections	Notes
	Major Subcontractors - shall be reported if there were any changes in the reported period or expected in the following three months.		If need more in-sight for this area, include it.
	Rates - Identify impact of rate changes to EAC and/or MR at the contract level		If need more in-sight for this area, include it.
	Schedule Health Metrics shall include: High Durations, Incomplete Task Status, High Float, Missed Tasks, Invalid Actual Dates, Invalid Forecast Dates, Activities Improperly Reflected as Milestones, Tasks without Baseline and Progress Status, Inconsistent Vertical Integration of Tasks, Tasks with Missing Field Information, LOE Tasks on Critical Paths, Missing Logic/Open Ends, Logic Relationships other than Finish-to-Start, Logic Applied to Summary Activities, Improper/Reverse Logic, Redundant Logic, Out-of-Sequence Logic, Improper Leads/Lags, Hard/Soft Constraints, Negative Float, High Float, Milestones Improperly Reflected as Activities, Missed Milestones, Missing Resources (if applicable), Baseline Execution Index (at WBS Levels 1-3), Current Execution Index (at WBS Levels 1-3). See definitions for these metrics in the NASA Schedule Management Handbook. The rationale or corrective actions for health check results that do not meet "green" (tool standard) metric criteria must be explained. Provide any planned or actual corrective actions taken to resolve schedule errors.		If need more in-sight for this area, include it.
15.18	Supplemental Information –		
	Summary Master Schedule – A one-page, top level, Gantt-type schedule chart in contractor format traceable to the Native Schedule File that summarizes the contract effort including period of performance and major milestones, critical path, schedule margin, schedule baseline, and current forecast-to-complete.		If need more in-sight for this area, include it.
	Weekly I&T Schedule – Beginning one month prior to the start of system I&T activities, a weekly I&T schedule must be submitted in contractor format. The I&T schedule must be delivered on Friday of each week beginning with the start of I&T through completion of the contractor's I&T effort. The I&T schedule must be utilized as the I&T manager's daily working schedule and must contain details of the activities accomplished in the previous week (with the exception of the first delivery) and details of work planned for the next two weeks. The I&T schedule must be organized by shift when appropriate (if more than one standard shift). The weekly I&T schedule deliverable is separate from, and in addition to, the monthly IMS deliverable. The weekly I&T schedule must be submitted in electronic format (Adobe portable document file is acceptable).		If need more in-sight for this area, include it.
	Schedule Basis of Estimate (BOE) – A BOE for schedule, in contractor format, must be provided with the baseline IMS and whenever a replan of the IMS is implemented. The schedule BOE documents the rationale or justification for the overall contract schedule duration estimate, as well as for supporting element duration estimates including subsystems, system I&T, and funded schedule		If need more in-sight for this area, include it.

¶	DRD Contents	Recommended Selections	Notes
	margin. The schedule BOE should be documented at a level of detail sufficient to provide reasonable assurance to the Government that the contract schedule baseline can be accomplished in the time planned.		
	Schedule Revision Log – The contractor must maintain and deliver a Schedule Revision Log, in contractor format, documenting baseline changes to the IMS. At a minimum, the log should contain the following information: Baseline Change Request (BCR) number, originator, origination date, approval date, date of implementation into the IMS, BCR description and rationale for revision, CWBS affected, and impact of the revision on the overall contractual deliverable.		If need more insight for this area, include it.
	Control Milestone (CM) Trend Report – A CM cumulative trend chart must be submitted. This report must consist of the baseline CMs and their corresponding early finish dates, actual CMs completed to date, and forecast CMs for the remaining effort and their corresponding late finish dates. The CM baseline, actual, and forecast dates must trace directly to the IMS. A listing of the CMs that have not been completed in accordance with the schedule baseline must be included with this report.		If need more insight for this area, include it.
	Free Slack/Float Report – A report in contractor format must display the free slack/float for each major hardware and software deliverable to system I&T and between one subsystem/element and another. The free slack at the time the schedule baseline was set, the current reporting period's free slack, and the two prior period's free slack/float must be included.		If need more insight for this area, include it.
16.	**Major Subcontractors:** Major subcontractors with EVMS flow-down requirements **shall/shall not [choose, delete as appropriate]** submit the IPMDAR directly to NASA. This requirement is in addition to deliverables agreed to between the major subcontractor and the prime. The prime contractor is expected to reflect all scope within their IPMDAR submissions as per their system description.	**shall**	
17.	**MAINTENANCE**: Change shall be incorporated by complete reissue.		
	NOTE TO DRD PREPARER (*Not to be included in DRD*).		
	This report shall be required for contracts when EVM is required in accordance with NPR 7120.5 and NFS 1834.201.		
	This report is not required for grants, or contracts of less than 12 months duration, non- developmental level-of effort engineering support services, steady-state operations, basic and applied research, and routine services such as janitorial services or grounds maintenance services; however, application is at the discretion of the program/project manager per NPR 7120.5.		
	Special tailoring to this DRD shall be coordinated with the responsible office of primary responsibility (OPR). See the NASA IMPDAR Tailoring Supplement (NITS) and the DoD Integrated Program Management Data Analysis Report (IPMDAR) Implementation & Tailoring Guide at Policy and Guidance (osd.mil) for more instructions and tailoring options.		

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