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IPMR Implementation Guide

OUSD AT&L (PARCA)
July 31, 2012

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Foreword

The Integrated Program Management Report (IPMR) Data Item Description (DID) DI-MGMT-81861 contains data for measuring contractors' cost and schedule performance on Department of Defense (DoD) acquisition contracts. It is structured around seven formats that contain the content and relationships required for electronic submissions. This guide covers the application of the DID, how to tailor the DID in the Contract Data Requirements List (CDRL), and clarification on the intent of the DID.

This guide is applicable to all OSD contracts with a requirement for the Integrated Program Management Report (IPMR) Data Item Description (DID) DI-MGMT-81861.

Proposed changes to this document may be submitted to the PARCA, via the PARCA website (<http://www.acq.osd.mil/evm>), using the Issue Resolution link. This document may be changed with DoD PARCA approval at any time.

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1.0 Application of the IPMR DID.

1.1 Introduction.

The purpose of this guide is to provide insight on the Integrated Program Management Report (IPMR). The IPMR is the primary means of communicating program cost and schedule information between the prime contractor and the Government. The IPMR should always be carefully tailored to meet the needs of each individual program and should reflect how the contractor is implementing the seven formats as a program management tool to manage the contract’s performance.

The primary challenge for the Government is to tailor the format reporting so they provide actionable information for making program management decisions. Note: Careful attention is required during the solicitation/proposal and contract definitization stages to tailor the IPMR Data Item Description (DID) (DI-MGMT-81861).

1.2 Factors to be Considered.

The complexity of the program should be considered when determining the degree of tailoring that is appropriate for the IPMR data item for a given contract. The risk inherent to the program should be the prime consideration for tailoring of the IPMR. Other factors to consider are the size of the contract, complexity of integration with other contract efforts, reliance on Government Furnished Equipment/Government Furnished Property (GFE/GFP), technology maturity, and type of contract.

Applying the IPMR DID Based on Contract Value

Contracts >= \$50M	IPMR DID Requirements
	IPMR DID all formats are required IPMR DID may not be tailored or redacted except as defined in the DID or this document without additional approvals (See section 1.3.3)
Contracts >= \$20M but,<\$50M	IPMR DID Requirements
	IPMR Formats 1, 5, 6, and 7 are required IPMR Formats 2, 3, 4 are optional
Contracts <\$20M (At discretion of PM)	IPMR DID Requirements
	No Requirements Optional Application IPMR Formats 1 and 5 are recommended IPMR Format 6 may be recommended, see section 1.4.2

Figure 1-1 Applying the IPMR DID Based on Contract Value

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1.3 The IPMR CDRL DD 1423-1, Blocks 10, 12, 13 and 16.

1.3.1 Block 10 (Frequency).

Enter the frequency of the report. Normally, the IPMR should be delivered no less frequently than monthly. (NOTE: If the contractor is using weekly Earned Value Management (EVM), weekly performance data may be provided as an adjunct to the submission of the full report. Normally, weekly earned value data is for internal labor only and may be reported on Format 1. The contractor and Government should discuss data availability and delivery and tailor the CDRL as appropriate.

1.3.2 Block 12 (Date of first submission).

Enter "See Block 16 and describe further in Block 16. Note: The first submission is due within 12 working days after the end of the second full accounting period following the contract authority to proceed (ATP)."

1.3.3 Block 13 (Date of subsequent submissions).

Enter "See Block 16 and describe further in Block 16."

The IPMR DID specifies delivery of the IPMR no later than 12 working days after the end of the contractor's accounting period. The intent is to receive the report in a timely manner to be able to make effective programmatic decisions. Most programs are expected to negotiate the 12-day delivery. Unusual exceptions should be based on the subcontractor integration difficulties and should be reviewed by the service/agency EVM Focal Point.

Flash Report: A flash report is a quick look in contractor format of schedule and cost information before the full IPMR delivery. Flash reports contain Work Breakdown Structure (WBS) element preliminary EVM cost and schedule information, supported by a Format 6 (Integrated Master Schedule (IMS)) submission.

1.3.4 Block 16.

This block is used to tailor the requirements of the DID. Tailoring can include: Format 1 reporting levels, required formats, reporting frequencies, designation of time periods for Formats 3 and 4, variance reporting thresholds, and delivery options. These are described below in more detail.

1.3.4.1 Format 1 Reporting Levels. The default level for reporting is defined in MIL-STD-881 (current version in use at time of contract award). The CDRL may optionally define a lower level of reporting at the control account level for both the human readable and the electronic XML reporting. Note that the control account level, when applicable, is obtained at no additional cost to the Government.

Contract Cost Data Reporting (CCDR): Reporting of General and Administrative (G&A) indirect cost may differ between the CCDR and the IPMR. The IPMR allows for the allocation of G&A across the WBS elements.

1.3.4.2 Required Formats. Figure 1-2 can be utilized to help understand the content and uses of each IPMR format. It provides guidance on the selection of IPMR formats, per Office of the Secretary of Defense (OSD) policy.

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1.3.4.3 Reporting Frequencies. The normal reporting frequency for Formats 1-6 is monthly. However, this can be tailored as appropriate for contracts between \$20M and \$50M. For contracts under \$20M, the Government should consider the cost versus benefit of implementing the IPMR requirement. Some contractors may use weekly EVM data and offer to provide it to the Government, and this can be negotiated and specified in Block 16 as applicable. Certain formats may lend themselves to tailoring to less frequent reporting circumstances for contracts <\$50M. Refer to Figure 1-2 for guidance.

1.3.4.4 Designation of Time Periods for Formats 3 & 4. The IPMR DID requires the contractor to complete IPMR Formats 3 & 4, columns 10 through 14, by specified periods or periodic increments, as negotiated with the procuring activity. Format 3 and 4 time periods are specified in the CDRL. Typically, the CDRL specifies that the next six months are separately identified, followed by either quarterly, six month or annual increments to complete. If desired, specify that the Formats 3 and 4 projections be broken out by month until the end of the contract in the electronic format. Note: If the human readable submission is required, then the last column should be defined as the remaining periods to reconcile with the total column. The following paragraph provides an example of how the report periods might be specified in the CDRL.

EXAMPLE: Formats 3 and 4 should contain projections by month for columns 4 through 9, then by quarterly periods for columns 10 - 11, then by annual increments for the next two subsequent periods (columns 12 and 13), and the remainder of the contract for the last period (column 14). Format 3 columns 2-15 should sum to column 16 and in Format 4 columns 2-14 should sum to column 15.

1.3.4.5 Variance Reporting Thresholds.

1.3.4.5.1 Overview.

1.3.4.5.1.1 The process of identification and reporting of variances has changed significantly in the IPMR DID. The process is now designed to limit contractor costs while providing the Government complete flexibility to have meaningful and effective variance analysis. The key changes at a high level:

- A maximum of 15 WBS elements is reportable each month.
- The Government has the sole option to select the 15 WBS elements.
- The contractor has a defined method of selection if the Government waives the selection. The Government may modify this contractor definition method based on the phase or maturity of the program.

1.3.4.5.1.2 IPMR DID 3.6.1. It is highly recommended that all requirements for Format 5, section 3.6.1, elements contained in the IPMR DID be retained.

1.3.4.5.2 IPMR DID 3.6.10.1. All required cost and schedule variance analysis should contain (identify and describe each):

- Type and Magnitude of Variance
- Explanation of Significant Reasons
- Effect on the Immediate Task and those dependent upon it
- Effect on Total Contract
- Corrective Actions Taken or Planned

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Format Title	Frequency	Description	Usage of Format	Application
1 Work Breakdown Structure	At least monthly or as required in CDRL	Reports performance data (BCWS, BCWP and ACWP) by reporting WBS elements for the current reporting period as well as cumulative to date data. Cost and schedule variances are calculated and reported. Identifies any reprogramming adjustment, budget at completion, estimate at completion, and variance at completion by element. Also shows management reserve and undistributed budget. It can also show indirect costs if requested.	Isolate key cost and schedule variances, quantify the impact, analyze and project future performance. Performance issues isolated at lowest level and analyzed for impact to overall cost and schedule variances.	>=\$20M contracts: Mandatory. Recommended for small contracts <\$20M.
2 Organizational Categories	At least monthly or as required in CDRL	Reports the same data as Format 1 but identified by contractor functional labor categories, major subcontractors, and material.	Same uses as Format 1, but provides for analysis of internal (labor) variances or external (subcontractor/material) variances.	>\$50M contracts: Mandatory. >\$20M but <\$50M contracts: Optional, but recommended. Optional, but recommended, for development contracts or contracts with significant outsourcing. >\$50M contracts: Mandatory.
3 Baseline	At least monthly or as required in CDRL	Budgeted time-phased baseline costs to end of program. This format shows significant baseline changes authorized during the reporting period. Data includes contract budget base, total allocated budget, completion dates, and management reserve.	Data can be plotted to determine if there has been a shift in the baseline curve since the previous report. Analysis can focus on the distribution of cost for authorized changes to the baseline during the period. Used to determine if Over Target Baseline or Over Target Schedule has been incorporated into the program.	>\$20M but <\$50M contracts: Optional, but recommended for development contracts. Not useful for shorter duration contracts (less than two years).
4 Staffing	At least monthly or as required in CDRL	Staffing forecasts in months by functional category until the end of the contract.	Staffing data plotted over time and correlated to major milestones and activities on the contract schedule shows accuracy of labor estimates. Projected staffing levels should be analyzed for consistency with scheduled activities. Correlate this analysis with Formats 2 and 3.	>\$50M contracts: Mandatory. >\$20M but <\$50M contracts: Optional, but recommended for development contracts. Not useful for shorter duration contracts (less than two years).

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Format Title	Frequency	Description	Usage of Format	Application
5 Explanations and Problem Analyses	At least monthly or as required in CDRL	Narrative explanation of key cost, schedule, and variance at completion variances. Contractor describes underlying reasons, program impacts, and corrective action plans for significant drivers at the lowest specified level and at the total contract level. Includes analysis of MR, undistributed budget, and overall risk.	Correlated with data from Formats 1 and 2 to understand reasons for the variances. Understanding the underlying reasons and the contractor's get well plans help the analyst prepare an integrated assessment of past and future trends and analyze overall executability. PM can then make informed decisions.	>\$20M contracts: Mandatory. Recommended for small contracts <\$20M.
6 Integrated Master Schedule	At least monthly or as required in CDRL	Defines and contains the contractor's Integrated Master Schedule (IMS).	Used to schedule the project and determine the critical path. Integrates with Format 1 WBS, Format 2 OBS, Format 3 Baseline, and Format 5 Analysis. Contains both the baseline and forecast schedules and predicts the contract completion date and all interim milestones.	>\$20M contracts: Mandatory. Optional for small contracts <\$20M and contracts without a DFARS 252.234-7002
7 Electronic History and Forecast File	At least annually or as required in the CDRL	Defines the time-phased historical & forecast cost submission.	Provides supplemental historical and time-phased information in the DoD-approved electronic XML format, by WBS, provided at the same level as Format 1 unless otherwise specified in the CDRL.	>\$20M contracts; Mandatory <\$20M Optional but recommended

Figure 1-2 IPMR Formats 1-7

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1.3.4.6 Government versus Contractor Selection. The CDRL should allow for defining how each option is processed but allow flexibility monthly. For example the Government may choose the variance this month and let the contractor the following month. The intent of the limitation of 15 is to reduce the burden to the contractor. But the intent is that the Government has flexibility to adapt the analysis process to meet its needs within the overall limitation. Changes in approach within the overall 15 WBS element limitations should be at no cost to the Government and should not require modification of the CDRL.

The Government should require variance analysis to be limited to 15 WBS elements, except for coverage of emerging or significant trends. The emerging trends variance analysis is intended to be temporary in nature, normally a duration of six months or less. The contractor submits Format 5 in contractor's native electronic format. Formal or informal feedback to the contractor on a regular basis leads to continued improvement in the quality of the Format 5. The CDRL should be explicit as to how the Government is notified of the variance pool that exceeded the threshold, and optionally how the Government will notify the contractor of the reportable 15 WBS element variances in the following month.

1.3.4.7 IPMR DID 3.6.10.2.1. Block 16 should include a statement that cost and schedule variance analysis thresholds be reviewed periodically (normally semiannually) to determine if they continue to meet the Government's information needs. If they do not, the thresholds should be changed at no cost to the Government. The Government may specify thresholds that determine the reportable variance pool.

2.0 Tailoring the IPMR DID in the CDRL DD 1423-1.

2.1 Mandatory Specifications.

2.1.1 IPMR DID 3.5.1.

This section calls for the CDRL to specify the units reportable in Format 4. The options are hours, equivalent people, or total headcount. Hours is defined as the total hours charged/forecasted to be charged to the contract. Equivalent months are the total hours divided by the hours available in the contractor's accounting month. Total headcount is defined as the total number of people charging the contract regardless of the magnitude of their support (e.g. part-time, full-time).

2.1.2 IPMR DID 3.5.1.5.

The DID requires the CDRL to define thresholds for reporting Format 4 staffing changes. This may be linked with the IPMR DID section 3.4.2.2 defining the Format 3 significant changes requiring reporting in Format 5.

2.1.3 IPMR DID 3.7.1.3.6.4.

The CDRL must specify the frequency of the Schedule Risk Assessment (SRA) reporting. As a minimum, it is required before an Integrated Baseline Review (IBR), an Over Target Baseline/Over Target Schedule (OTB/OTS), or Single Point Adjustments, if any.

2.2 Optional Specifications.

The following risk factors should be considered carefully by the Government PM when tailoring the DID:

2.2.1 Complexity.

Complexity factors can usually be attributed to technical risk, schedule risk or cost risk.

2.2.2 Schedule.

The risk of schedule delays is often underappreciated for its contribution to driving contract performance and cost overruns. The IMS requirement supports schedule assessment and identification of critical path impacts. A thorough schedule risk assessment (SRA), with a focus on integration efforts (hardware/software, subcontractor effort, material, etc.), should identify those elements that require management attention. A formal SRA should be conducted by the PMO as early as possible in the planning phase to aid in refining the contract reporting requirements. (See IPMR DID paragraph 3.7.1.3.6.4. for related information on the requirement for the contractor to conduct SRA as part of the IMS.)

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2.2.3 Program Phase.

Generally speaking, development contracts contain more risk than production contracts. It is usually more difficult to accurately forecast labor hour requirements and a realistic schedule for development efforts. As a result, the IPMR Format 3 (Baseline) and Format 4 (Staffing) should take on more importance within development contracts to provide insight into the contract baseline and to help analyze performance and its relationship to future problems. On contracts of less than \$50M, the reporting frequency of Formats 3 and 4 may be tailored for lesser frequency (e.g., quarterly).

The type and number of risk elements typically differ depending on program phase. Technical risk, for example, is generally much higher during development than during production. It is critical for the PMO to identify any risk areas for the contract to ensure adequate reporting visibility. This should be done prior to tailoring the CDRL. Areas of risk should be specified in the CDRL for more detailed reporting.

2.3 Specific Tailoring Guidance for the IPMR.

Complexity of the program should be considered when determining the degree of tailoring that is appropriate for the IPMR data item for a given contract. The risk inherent to the program should be the prime consideration for tailoring of the IPMR. Other factors to consider are the size of the contract, complexity of integration with other contract efforts, reliance on Government Furnished Equipment/Government Furnished Property (GFE/GFP), technology maturity, and type of contract.

2.3.1 The IPMR CDRL, Blocks 10, 12, and 13.

Block 10 (Frequency): Enter the frequency of the report. Normally, the IPMR should be delivered no less frequently than monthly. (NOTE: If the contractor is using weekly EVM, weekly performance data may be provided as an adjunct to the submission of the full report. Normally, weekly earned value data is for internal labor only and may be reported on Format 1. The contractor and Government should discuss data availability and delivery and tailor the CDRL as appropriate.

Block 12 (Date of first submission): The first submission is due within 12 working days after the end of the second full accounting period following the contract authority to proceed (ATP).

Block 13 (Date of subsequent submissions): Enter "See Block 16" and describe further in Block 16.

The IPMR DID specifies delivery of the IPMR no later than 12 working days after the end of the contractor's accounting period. The default for negotiations should be 12 working days. This requirement may be tailored through contract negotiations to allow submission as late as 17 working days, provided that the contractor and Government agree that the program complexity and/or integration of subcontractor and vendor performance data warrants additional time and would yield more accurate performance data. Contractor justification should include reporting date integration as the primary reason for needing additional time. Contractors may also elect to attach subcontractor IPMRs and/or reference this analysis in the prime contractor's Format 5 for reporting to the Government in order to gain time efficiencies and meet submission dates.

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Flash Report: A flash report is a quick-look of advanced assessment of schedule and cost information before the final delivery. It omits Format 5 and, if desired by the Government and agreed to by the contractor, the CDRL may specify that Format 1 (and optionally Formats 2, 3, 4 and 6) be delivered as flash data within 7 working days with the remaining formats delivered no later than 17 working days. The Extensible Markup Language (XML) submission will not include the flash data; the flash report is in human readable format.

Final submission: Final submission should be specified within Block 16. Typically this is specified when the last significant milestone/deliverable as defined by the contract has been achieved and remaining risk areas have been mitigated with program office agreement/acknowledgement.

2.3.2 Block 16:

This block is used to tailor the requirements of the DID. Tailoring can include: Format 1 reporting levels, required formats, reporting frequencies, designation of time periods for Formats 3 and 4, variance reporting thresholds, and delivery options. These are described below in more detail.

2.3.2.1 Format 1 Reporting Levels. The default level for reporting is defined in MIL-STD-881 (current version in use at time of contract award). The CDRL may optionally define a lower level of reporting at the control account level for the electronic XML reporting. Note that the control account level, when applicable, is obtained at no additional cost to the Government.

Contract Cost Data Reporting (CCDR): Reporting of General and Administrative (G&A) indirect cost may differ between the CCDR and the IPMR. The IPMR allows for the allocation of G&A across the WBS elements.

2.3.2.2 Selection of Formats. Figure 1-1 can be utilized to help understand the content and uses of each IPMR format. It provides guidance on the selection of IPMR formats, per OSD policy.

2.3.2.3 Reporting Frequencies. The normal reporting frequency for Formats 1-6 is monthly. However, this can be tailored as appropriate for contracts under \$20M. Some contractors may use weekly EVM data and offer to provide it to the Government, and this can be negotiated and specified in Block 16. Certain formats may lend themselves to tailoring to less frequent reporting circumstances. Refer to Figure 1-1 for guidance.

2.3.2.4 Designation of Time Periods for IPMR Formats 3 & 4. The IPMR DID requires the contractor to complete IPMR Formats 3 & 4, columns 10 through 14, by specified periods or periodic increments, as negotiated with the procuring activity. Format 3 and 4 time periods are specified in the CDRL. Typically, the CDRL specifies that the next six months are separately identified, followed by either quarterly, six month or annual increments to complete. If desired, specify that the Formats 3 and 4 projections be broken out by month until the end of the contract in the electronic format. Note: If the human readable submission is required, then the last column should be defined as the remaining periods to reconcile with the total column. The following paragraph provides an example of how the report periods might be specified in the CDRL.

2.3.2.5 EXAMPLE: Formats 3 and 4 should contain projections by month for columns 4 through 9, then by three-month periods for columns 10 - 11, then by 12 month periods for the next two subsequent periods (cols 12 and 13), and the remainder of the contract for the last period (col 14).

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2.3.2.6 Format 5 Analysis Tailoring. It is highly recommended that all requirements for Format 5 section 3.6.1 elements contained in the IPMR DID (DI-MGMT-81861) be retained.

2.3.2.6.1 Cost and Schedule Contents.

2.3.2.6.1.1 All required cost and schedule variance analysis should contain (identify and describe each):

- Type and Magnitude Of Variance
- Explanation of Significant Reasons
- Effect on the Immediate Task and those dependent upon it
- Effect on Total Contract
- Corrective Actions Taken or Planned

The Government should require variance analysis to be limited to 15 WBS elements, except for short term trends. The contractor submits Format 5 in contractor's native electronic format. Formal or informal feedback to the contractor on a regular basis leads to continued improvement in the quality of the Format 5. The CDRL should be explicit as to how the Government is notified of the variance pool reportable, and optionally how the Government will notify the contractor of the reportable variance to the 15 WBS elements.

Block 16 should include a statement that cost and schedule variance analysis thresholds be reviewed periodically (normally semiannually) to determine if they continue to meet the Government's information needs. If they do not, the thresholds should be changed at no cost to the Government. The Government may specify thresholds that determine the reportable variance pool.

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Format Title	Frequency	Description	Usage of Format	Application
1 Work Breakdown Structure	At least monthly or as required in CDRL	Reports performance data (BCWS, BCWP and ACWP) by reporting WBS elements for the current reporting period as well as cumulative to date data. Cost and schedule variances are calculated and reported. Identifies any reprogramming adjustment, budget at completion, estimate at completion, and variance at completion by element. Also shows management reserve and undistributed budget. It can also show indirect costs if requested.	Isolate key cost and schedule variances, quantify the impact, analyze and project future performance. Performance issues isolated at lowest level and analyzed for impact to overall cost and schedule variances.	>=\$20M contracts: Mandatory. Recommend for small contracts < \$20M.
2 Organizational Categories	At least monthly or as required in CDRL	Reports the same data as Format 1 but identified by contractor functional labor categories, major subcontractors, and material.	Same uses as Format 1, but provides for analysis of internal (labor) variances or external (subcontractor/material) variances.	\$50M contracts: Mandatory. \$20M but <\$50M contracts: Optional, but recommended. Optional, but recommended, for development contracts or contracts with significant outsourcing efforts.
3 Baseline	At least monthly or as required in CDRL	Budgeted time-phased baseline costs to end of program. This format shows significant baseline changes authorized during the reporting period. Data includes contract budget base, total allocated budget, completion dates, and management reserve.	Data can be plotted to determine if there has been a shift in the baseline curve since the previous report. Analysis can focus on the distribution of cost for authorized changes to the baseline during the period. Used to determine if Over Target Baseline or Over Target Schedule has been incorporated into the program.	\$50M contracts: Mandatory. \$20M but <\$50M contracts: Optional, but recommended for development contracts. Not useful for shorter duration contracts (less than two years).

Figure 2-1 IPMR Formats 1-7

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4 Staffing	At least monthly or as required in CDRL	Staffing forecasts in months by functional category until the end of the contract.	Staffing data plotted over time and correlated to major milestones and activities on the contract schedule shows accuracy of labor estimates. Projected staffing levels should be analyzed for consistency with scheduled activities. Correlate this analysis with Formats 2 and 3.	<p>\$50M contracts: Mandatory.</p> <p>\$20M but <\$50M contracts: Optional, but recommended for development contracts.</p> <p>Not useful for shorter duration contracts (less than two years).</p>
5 Explanations and Problem Analyses	At least monthly or as required in CDRL	Narrative explanation of key cost, schedule, and variance at completion variances. Contractor describes underlying reasons, program impacts, and corrective action plans for significant drivers at the lowest specified level and at the total contract level. Includes analysis of MR, undistributed budget, and overall risk.	Correlated with data from Formats 1 and 2 to understand reasons for the variances. Understanding the underlying reasons and the contractor's get well plans help the analyst prepare an integrated assessment of past and future trends and analyze overall executability. PM can then make informed decisions.	<p>\$20M contracts: Mandatory.</p> <p>Recommended for small contracts <\$20M.</p>
6 Integrated Master Schedule	At least monthly or as required in CDRL	Defines and contains the contractor's Integrated Master Schedule (IMS).	Used to schedule the project and determine the critical path. Integrates with Format 1 WBS, Format 2 OBS, Format 3 Baseline, and Format 5 Analysis. Contains both the baseline and forecast schedules and predicts the contract completion date and all interim milestones.	<p>>\$20M contracts: Mandatory.</p> <p>Optional for small contracts <\$20M and contracts without a DFAR 252.234-7002</p>
7 Electronic History and Forecast File	At least annually or as required in the CDRL	Defines the time-phased historical & forecast cost submission.	Provides supplemental historical and time-phased information in the DoD-approved electronic XML format, by WBS, provided at the same level as Format 1 unless otherwise specified in the CDRL.	This data is intended to enhance Government analysis beyond the information provided in Format 5.

Figure 2-1 IPMR Formats 1-7 Continued

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2.3.2.6.1.2 Percentage or Dollar Thresholds. Select variances to be analyzed based on percentage or dollar thresholds, or a combination of both. For example, all current month, cumulative or at-completion variances +/- 10% may be selected for analysis. If selecting variances based on dollar thresholds, specify the variances as plus or minus some dollar amount, e.g., +/- \$25K. The dollar amount selected should be appropriate for the value of the effort involved. A variation of this method is to select variances based on both percentage and dollar thresholds. For example, all current, cumulative or at-completion variances +/- 10% and +/- \$50K may be selected for analysis. The thresholds should be reviewed periodically to ensure they continue to provide a reasonable amount of useful information.

2.3.2.6.1.3 Reportable Variance Selection. The IPMR DID generally limits the number of formal variance analyses to 15 WBS Elements. In some cases, the thresholds established may identify more than 15 potential variances reportable. In these instances, there are two methods to determine which 15 variances will be addressed in Format 5.

The first option allows for the customer to choose which of the variances breaching the threshold will receive formal analysis. The second option allows for the contractor to determine which 15 of the variances breaching the threshold will be documented. The CDRL may also provide for a combination of these two methods.

2.3.2.6.1.3.1 Government Select Method of Identification of Reportable Variances. The contractor notifies the Government of which reportable WBS elements exceeded the threshold for the previous month. Once the Government has reviewed this performance data, it selects specific WBS elements for variance analysis by the contractor in the following month. This method may be the most efficient since the Government can pinpoint areas to be analyzed. It is also the most flexible because there may be some months when a review of the performance data yields few or insignificant variance analysis candidates. Note: The Government selection the previous month overrides the contractor's thresholds for the following month. The contractor the following month reports the 15 WBS elements identified by the Government without regard to the threshold. The dates for the notification and then the Government select should be specified in the CDRL in days before the IPMR submission date or contractor accounting close.

2.3.2.6.1.3.2 Contractor Method for identification of Reportable Variances. This method only applies if specific variances are not identified by the Government. The contractor is required to submit a total of 15 WBS Element variances. The determination of the 15 is a multi-step process. The default method in the DID is described below and is generally recommended.

2.3.2.6.1.3.3

- 1) Select and rank the variances by current month schedule variances. Pick the top three in dollar value.
- 2) Select and rank the variances by current month cost variances. Pick the top three in dollar value.
- 3) Select and rank the variances by cumulative schedule variances. Pick the top three in dollar value.
- 4) Select and rank the variances by cumulative cost variances. Pick the top three in dollar value.
- 5) Select and rank the variances by at-complete variances. Pick the top three in dollar value.
- 6) Re-sort the 15 variances above by WBS. Combine any WBS Elements that exceed multiple categories simultaneously.

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- 7) Are 15 identified? If not, the contractor may define additional variances to total 15 reportable.
Note: The Government may define a different contractor identification process. Examples may be to require the top 5 current cost and schedule variances while letting the contractor address the remaining 5 variances for cumulative and at-complete based upon their own criteria.

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2.3.3 IPMR Tailoring on Cost or Incentive Contracts Valued at Greater Than \$20M.

Overall, the IPMR DID is intended to be applied completely and not tailored unless as specified within the DID or Figures 1-1 and 1-2 for format applicability. This section will describe the complete tailoring available within the DID. Tailoring beyond this should be coordinated with service EVM Focal Point.

2.3.3.1 IPMR DID items requiring specification in the IPMR CDRL.

2.3.3.1.1 Paragraph 3.5.1 requires the CDRL to specify the units reportable in Format 4. The options are hours, equivalent people, or total headcount. Hours is defined as the total hours charged/forecasted to be charged to the contract. Equivalent people are the total hours divided by the hours available in the contractor's accounting month. And total headcount is defined as the total number of people charging the contract regardless of the magnitude of their support (e.g. part-time, full-time).

2.3.3.1.2 Paragraph 3.5.1.5 requires the CDRL to define thresholds for reporting Format 4 staffing changes. This may be linked with the IPMR DID section 3.4.2.2 defining the Format 3 significant changes requiring reporting in Format 5.

2.3.3.1.3 Format 5 paragraph 3.6.10.2.1 requires the variance analysis thresholds to be established. These are the current, cumulative, and At-Complete thresholds that define the reportable WBS elements pool from which the up to 15 WBS elements are selected.

2.3.3.1.4 Format 6 paragraph 3.7.1.3.6.4. The CDRL must specify the frequency of the Schedule Risk Assessment (SRA) reporting. As a minimum, it is required before an Integrated Baseline Review (IBR), an Over Target Baseline/Over Target Schedule (OTB/OTS), or Single Point Adjustments, if any.

2.3.3.2 IPMR DID items that may be tailored.

2.3.3.2.1 Format 1 paragraph 2.1.1.1. The default level of XML reporting is the reporting level usually defined by MIL-STD-881. Alternatively, the CDRL may specify that the XML reporting is below the WBS reporting level and may be as low as the contractor defined control account level. Normally lower level control account reporting option, if selected, will be supplemented WBS dictionary at the same level to understand the control account title and scope.

2.3.3.2.2 IPMR paragraph 2.2.1. The default reporting is XML only in dollars. Optionally a separate Format 1-4, 5, and 7 may be required in hours. As a minimum, Format 1 must be in dollars and hours, if this option is selected. Formats 2-4 and 7 may be separately submitted in hours and dollars or reported in hours or dollars uniquely.

2.3.3.2.3 IPMR paragraph 2.2.3 allows the default XML electronic format to be supplemented with human readable reports.

2.3.3.2.4 IPMR paragraph 2.2.5 specifies that the default is that Format 6 must be delivered in contractor's native IMS format. The related Format 6 XML delivery is still required.

2.3.3.2.5 IPMR paragraph 2.2.6/3.8.1. The default level of reporting in Format 7 is the same as Format 1. Optionally the Format 7 may be required at the control account level.

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2.3.3.2.6 IPMR paragraph 2.3. All IPMR requirements for delivery and marking are subject to security requirements unique to the contract. If required, the CDRL must specify security requirements that supersede DID requirements.

2.3.3.2.7 IPMR paragraph 2.4/3.7.1.1.2/3.8.2. The IPMR default is that subcontractor IPMR reports applicable are not reported to the Government. Optionally the subcontractor reports may be reportable to the Government; either directly or through the prime contractor to the requirements of the prime contract delivery.

2.3.3.2.8 IPMR paragraph 2.5.1. The IPMR reporting shall be required monthly. Optionally the reporting may be defined weekly or bi-weekly. Note that some contractors may only accrue labor cost monthly and therefore weekly EVM is reported on labor hours/non-labor costs only. The monthly submission is always reported with all costs included.

2.3.3.2.9 IPMR paragraph 2.5.2. The IPMR reporting for Format 7 default is annual. Optionally the CDRL may define more frequent reporting such as monthly or quarterly.

2.3.3.2.10 IPMR paragraph 2.6.1. The IPMR default reporting is within 12 working days after the contractor's accounting close. Optionally, this may be extended to 17 working days if the complexity of the contract will improve the integrity of the information.

2.3.3.2.11 IPMR paragraph 2.7. The IPMR default is the scope reported is consistent with the full contractual scope. If the Government selects reporting against a partial statement of work it shall be specified in the CDRL.

2.3.3.2.12 IPMR paragraph 2.8.2. This is a unique paragraph that is typically redacted unless it is applicable. DODI 5000.02 allows the IMS to be applied without DFARS 231.252-7002 EVM requirements. The IPMR DID merged the IMS into a single DID with the legacy CPR. Accordingly, this paragraph defines the only paragraphs applicable if the DFARS does not apply. In this special situation the remainder of the DID is redacted except the referenced paragraphs.

2.3.3.2.13 IPMR paragraphs 3.2.4.2/3.2.4.3. The default requirement is the contractor may choose to report G&A and COM as add or non-add. This means if WBS costs reported include G&A and/or COM or the costs exclude both. This defines if the report cross adds WBSs + G&A + COM equals PMB, or WBSs added together equal PMB and the G&A and COM totals are for reference only. Optionally the Government may specify G&A and/or COM to be reported as add or non-add. Typically this option is considered with a CSDR requirement.

2.3.3.2.14 IPMR paragraph 3.4.2.2. The Format 3 significant changes may be defined in the CDRL. For example, the Government may specify changes greater than 5% must be reported in Format 5. If the Government does not specify in the CDRL, the contractor will define the meaning of "significance" for reporting Format 3 changes.

2.3.3.2.15 IPMR paragraphs 3.4.5/3.5.1.4. Format 3 and 4 reporting periods may be defined by the Government.. If this option is selected it is recommended the Government require the last field to report the cost/hours remaining to completion so the total column reconciles with the summation of the periods. Note the XML delivery may require reporting through the end of the project by period.

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2.3.3.2.16 IPMR paragraph 3.5.1.1. The default is that Format 4 is reported consistent with Format 2 Organizational Categories. The Government may define different Format 4 organizational categories.

2.3.3.2.17 The Format 5 Variance Analysis process is defined in section 3.6.10.2. Section 3.6.10.2.4 also allows the Government to define an alternate method of Government and/or contractor selection of the 15 reportable WBS elements.

2.3.3.2.18 IPMR paragraph 3.6.10.2.4.1 In the Government selection of reportable variance option, the Government is required to notify the contractor NLT two days after the accounting month end. Optionally the date may be specified before this date.

2.3.3.2.19 IPMR paragraph 3.6.10.2.4.6 allows for the Government reduction of variances that are reportable. This paragraph is typically redacted and the paragraph is used in the last 20% of the contract performance.

2.3.3.2.20 The IPMR paragraph 3.7.1.3.5.8 requires reporting of the Format 6 driving path. The CDRL may define the driving path target. It is recommended that typically this be defined as the next program event that is not completed.

2.3.4 IPMR Tailoring on Cost or Incentive Contracts Valued at Less Than \$20M.

If an EVM reporting requirement is applied on cost or incentive contracts valued at less than \$20M tailoring may be more flexible than for contracts required to comply with ANSI/EIA 748. IPMR Formats 1, 5, 6 are recommended and variance analysis can be scaled down to include the top 5 or 10 variances. Variance analysis for the current period is also an option. The level of reporting is dependent on the contract risk regardless of value.

2.3.5 IPMR Tailoring Guidance for Firm-Fixed-Price (FFP) Contracts.

Only the MDA can grant a waiver allowing application of EVM to a FFP contract (see DODI 5000.02 Enclosure 5). Once granted, only the minimal EVM requirements necessary to provide the Government team with the desired visibility into program performance should be applied. Since cost exposure is minimized in a FFP environment, the Government may elect to receive only Format 6 in order to manage schedule risk. In addition to the tailoring guidance described in the preceding paragraphs, the following guidance should aid in tailoring the IPMR for FFP contracts. Note: No waiver is required for Format 6 without the DFARS 252.234-7002 requirement.

2.3.5.1 Formats 1 and 2. The contractor may wish to preserve the company's competitive edge for future contracts by not divulging the costs (and therefore profit margin) of an FFP contract. The Government may consider allowing the contractor to report Format 1 and 2 internal costs by labor hours (not dollars), and may further roll up reporting to a high level of WBS reporting. Note: Reporting of labor hours would preclude inclusion of material dollars on either format. Alternatively, the Government may consider performance reporting at the price level (fees included) for Formats 1 and 2. Under this option, the contractor develops a cost to price factor and applies it evenly across all data in all reporting periods. The CDRL should specify that independent checks of the correct application of this factor be conducted at various points throughout the contract. The CDRL should also specify that the cost to price factor be baselined, uniformly applied, and not modified during execution, in order to prevent front loading or restriction of actual costs to the capped price level.

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2.3.5.2 Format 3. This format is optional for FFP contracts, but may be required when there is a high potential for significant changes in requirements or sequence of activities. It may be important for the PMO to understand the changes to time phased resources in the baseline.

2.3.5.3 Format 4. This format is optional on FFP contracts. In some instances, the contractor may feel that visibility into Format 4 hours and Format 2 dollars could infringe upon their competitive advantage. In cases where Formats 1 or 2 are requested in hours, it may be appropriate to request the staffing forecast in Format 4. Usually, technical risk is low on FFP contracts. Schedule risk is greater, often driven by staffing availability.

2.3.5.4 Format 5. In addition to the standard recommendations for selection of significant elements, the Government should consider the nature of the contract work and the rationale for applying EVM to the FFP contract. Completion of the business case analysis should help the PM target the risky elements of the contract for variance reporting.

If concerned more about schedule performance than cost performance, the Government may limit or eliminate variance analysis of the significant cost and VAC, focusing attention on schedule variances.

Format 5 may even be considered optional if the contractor and Government agree on alternate methods of understanding performance, e.g., weekly team status meetings, online access to contractor internal reports, statused assembly or line of balance schedules. Note: Format 5 section 3.6.7 is still required if the remainder of Format 5 is tailored. The Format 6 (IMS) narrative is contained in section 3.6.7 and is applicable for a fixed-price contract.

2.3.5.5 Format 6 (IMS). Generally, Format 6 is applicable to fixed-price contracts with deliverables. The Government typically must manage the schedule risks of the program.

2.3.6 Format of IPMR Delivery.

2.3.6.1 Contractor Format. The IPMR DID contains suggested formats for IPMR Formats 1 through 4. These sample formats would apply to the human readable copy of the report. Note that Formats 5 and 6 are always in contractor format and Format 7 is electronic format only.

2.3.6.2 Electronic File Submission. All formats, except Format 5, must be submitted in XML in accordance with the XML schemas located at the EVM Central Repository. Refer to the PARCA EVM website (<http://www.acq.osd.mil/evm>) for a link to the EVM Central Repository schemas. The requirement for XML reporting requirements may NOT be tailored out in the CDRL.

2.3.6.3 Additional Submittal Formats. "Human Readable" files are files meant to be read by a person, vice a computer program. Examples of "human readable" file formats would be PDF, word processor files, or spreadsheets.

2.3.6.3.1 Format 5 will be submitted as a "human readable" and has no requirement to be submitted in XML. The CDRL may specify other formats to be submitted in "human readable" files. Format 7 cannot be submitted as a "human readable" file.

2.3.6.3.2 Format 6 is required to be submitted as an XML file; however, it should also be submitted in the contractor's scheduling tool's native file format.

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2.3.7 Tailoring Guidance for Format 6, the Integrated Master Schedule (IMS).

2.3.7.1 Introduction. The IPMR CDRL Format 6 submission should focus on the requirements needed for schedule management. These schedules contain an integrated network of tasks, subtasks, activities, and milestones with sufficient logic and durations to perform the SOW. The IMS is developed by the contractor in conjunction with the contract WBS and if applicable, the Integrated Master Plan (IMP).

The IMS is intended to show “how” and “when” the IMP is accomplished. It should be an extension of the information contained within the IMP or high-level program plan; reflecting the events, significant accomplishments, and criteria identified in the IMP. The network should determine the flow of the IMS.

The IMS is an integrated, networked schedule containing all the detailed discrete work packages (WP) and planning packages (PP) (or lower level tasks/activities) necessary to support the events, accomplishments, and criteria of the IMP, if applicable. The IMP events, accomplishments, and criteria are duplicated in the IMS. Detailed tasks are added to depict the steps required to satisfy each criterion. The IMS should be directly traceable to the IMP and should include all the elements associated with development, production, and/or modification and delivery of the total product and/or program high level plan. Durations are entered for each discrete WP and PP (or lower level task/activity), along with predecessor/successor relationships, and any constraints that control the start or finish of each WP and PP (or lower level task/activity). The result is a fully networked “bottom up” schedule that supports critical path analysis. It should be noted that although durations are assigned at the work package and planning package (or lower level task/activity) level, these durations roll up to show the overall duration of any event, accomplishment or criterion. When LOE work packages or tasks/activities are included in the IMS they should be clearly identified as such. LOE should never drive the critical or driving path(s).

2.3.7.2 Specific Tailoring Guidance for Format 6. The complexity factors apply to tailoring of Format 6. The risk inherent to the program should be the prime consideration for tailoring of the IMS. Factors include:

- Is the scope schedule driven effort? Generally effort dependent upon discrete milestones may indicate the need for Format 6 (IMS) requirement.
- What is the Government risk? Generally a high Government risk of delivery indicates the need for Format 6.
- What is the type of work? 1.4.3 IMS, Blocks 10, 12 and 13

Format 6 (IMS) is reported consistent with Formats 1-5.

2.3.7.3 Statusing Format 6.

The IMS is statused at least as often as the IPMR is generated. It is time-synchronized in accordance with all stakeholder updates/status (e.g. vendors, subcontractors, and customer activities). The IMS status cycle should consider all organizational calendars and a common status date with all IPMR formats as applicable.

2.3.7.4 Analyzing and Reporting the IMS.

The IMS is analyzed and reported on a monthly basis (as a minimum) in accordance with the DID as tailored by the CDRL. Analysis should be performed at the lowest level, i.e. the level at which tasks are

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linked, constrained, and where durations are estimated. The primary focus of the analysis is on the critical path and near critical paths to identify schedule risk and opportunity. All progress and exceptions (missed baseline starts and finishes) to date should be reported by WBS to facilitate traceability to other formats of the IPMR. The “lowest level” must be defined and has to link to the WBS.

The analysis should explain changes to critical path, driving path, or near critical/driving path from submission to submission as well as any changes to the IMP. The Government will define the driving path typically as the next program event (e.g. PDR, CDR). The impact of critical path changes on major program milestones or other major schedule risk areas should also be discussed. Work around and/or recovery schedules/plans and associated impacts due to program changes should also be provided. The schedule narrative in Format 5 should address progress to date and discuss any significant schedule changes, any significant logic revisions, and any/all changes in programmatic schedule assumptions.

Finally, the analysis should be able to forecast future potential delays and/or potential problems. This type of analysis should be done as needed and provided to the customer and the program team in order to assist in the schedule risk mitigation process.

2.3.7.5 LOE in Format 6.

LOE activities may be included or excluded in the network as appropriate. This determination should be made based on contractor standard procedures. LOE activities may never drive the critical path; and this can be avoided by including LOE activities on the IMS without network logic. If LOE activities are included within the IMS, they are clearly identified as such.

2.3.7.6 Schedule Risk Assessment (SRA).

The IMS DID contains a requirement for the SRA, which is a proven risk reduction scheduling practice. It is to be completed in accordance with the CDRL requirements (which can be used to tailor DID requirements) and in conjunction with the Integrated Baseline Review (IBR) if applicable. The SRA should be completed on a recurring basis at key points in a development contract, for example, quarterly, semi-annually, and/or prior to selected critical milestones like PDR, CDR, etc. LRIP contracts may only need to have an SRA performed at the start of the contract. The DID also requires the SRA to be accomplished whenever an OTB/OTS, Single Point Adjustment to insure an executable plan.

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2.3.7.6.1 Purpose and Method. The purpose of a SRA is to provide the program management team with an understanding of the potential schedule impacts associated with existing/emerging program risks. These assessments compute the probability of completing key milestones, events, WPs, PPs or tasks/activities by specific dates.

The SRA employs software that uses Monte Carlo simulations for each of the work package and planning package (or task/activity) given the range of remaining duration, for the purpose of determining a cumulative confidence curve. The software performs simulated “runs” of the entire program schedule many times while randomly varying the remaining durations according to a probability distribution. The results indicate a “level of confidence” for completing key milestones, events, WPs, PPs (or tasks/activities) by specific dates.

2.3.7.6.2 SRA for Assessments. A SRA may be specified in the CDRL as either a submittal to the customer or as a review by the customer or both. It also documents the expectations for a SRA review by both the prime contractor and the Government. The results of each assessment should be tracked to demonstrate whether overall schedule risk is increasing or changing over time.

As part of their SRA requirement, the prime contractor reports optimistic, pessimistic, and most likely remaining durations for each task/activity on the program critical path and near critical/driving paths to selected major milestone(s) with documentation of the assumption and rationale of the three point estimates.

2.3.8 IMS Tailoring Guidance for Contracts Valued at Less than \$20M.

The intent was that below \$20M it should be a Program Manager’s decision if Format 6 (IMS) is required. Below \$20M, the Program Manager may apply a separate IPMR Format 6 requirement. Format 6 is applied separately by application of paragraph 2.8.2. General decision criteria:

- Is the scope schedule driven effort? Generally, effort dependent upon discrete milestones may indicate the need for Format 6 requirement.
- What is the Government risk? Generally, a high Government risk of delivery indicates the need for Format 6.
- What is the type of work? Studies, Prototypes, and Best Efforts without formal deliveries are types of effort that DO NOT indicate the need for an IMS.

2.3.9 IMS Tailoring Guidance for Firm-Fixed-Price Contracts.

The Government may wish to monitor the progress of the FFP contract with the IMS. In these cases, the level of detail, reporting frequencies, variance reporting, and SRA tailoring should be considered. The statusing and reporting of progress may be less frequent than that of cost type contracts. The contractor may wish to eliminate the requirement to perform a SRA or perform them on a less frequent basis.

3.0 IPMR DID Intent Clarification

3.1 Introduction.

In general, the DID is a high level document. The objective of this section is to expand on the intent of the DID with more discussions and examples. This guide is not intended to change the IPMR DID and may be referred to by the contractor or Government only to help understand the DID requirements.

3.2 Clarifications by IPMR DID Paragraph.

3.2.1 Clarification Regarding XML Level of Reporting.

3.2.1.1 IPMR DID Reference.

“2.1.1.1. Formats 1-4 shall be submitted using the DoD-approved Cost XML guideline and schema. Formats 1-4 shall be submitted in whole units (no decimals) in the XML. Format 1 data in XML shall be provided at the reporting level per the guidance in section 2.2.2, unless specified at a lower level, such as to the control account level, in the CDRL.”

3.2.1.2 Intent Regarding Level of Reporting. The intent is that reporting level is linked to the lowest level WBS as reported in Format 1. Optionally, reporting is permitted to be defined at the control account level or above. Specifically “such as” was not intended to apply below the control account level.

3.2.2 Clarification Regarding Application of MIL-STD-881 and the Reporting Level.

3.2.2.1 IPMR DID Reference.

“3.2 The submission of Format 1 data shall utilize a product-oriented WBS at the level established by tailoring the appropriate MIL-STD-881 (current version in use at time of contract award) appendix by the Program Office and approved by an office(s) designated by OSD policy. WBS levels below MIL-STD-881 are defined by the contractor and reported in accordance with the DoD Cost XML Guideline.”

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3.2.2.2 Intent Regarding Application of MIL-STD-881.

The MIL-STD-881 provides flexibility for the Government to define a reportable WBS that is meaningful to the program. The typical contract level WBS is limited to level 3 or 4. The applicable MIL-STD-881 appendix depends on the program specifics. The following example is Figure 7 from MIL-STD-881 illustrates three different contracts that use the same program appendix. The Prime Mission Aircraft program has the four levels defined in Appendix A as its contract WBS. Another contract could be the Fire Control at level 4 of Appendix A. The first number in the right box is the contract WBS level and the number in parentheses is the implied Prime Mission WBS level. This creates a 1-4 level Fire Control Subsystem WBS. The box on the left illustrates the same process for the Aircrew Training Device contract. All three contracts have WBSs to level 3 or 4 and are consistent with MIL-STD-881. Accordingly the levels below the illustration below are defined by the contractor.

Appendix B is used for the additional WBS structure for subsystems (in the example Appendix A Aircraft System).

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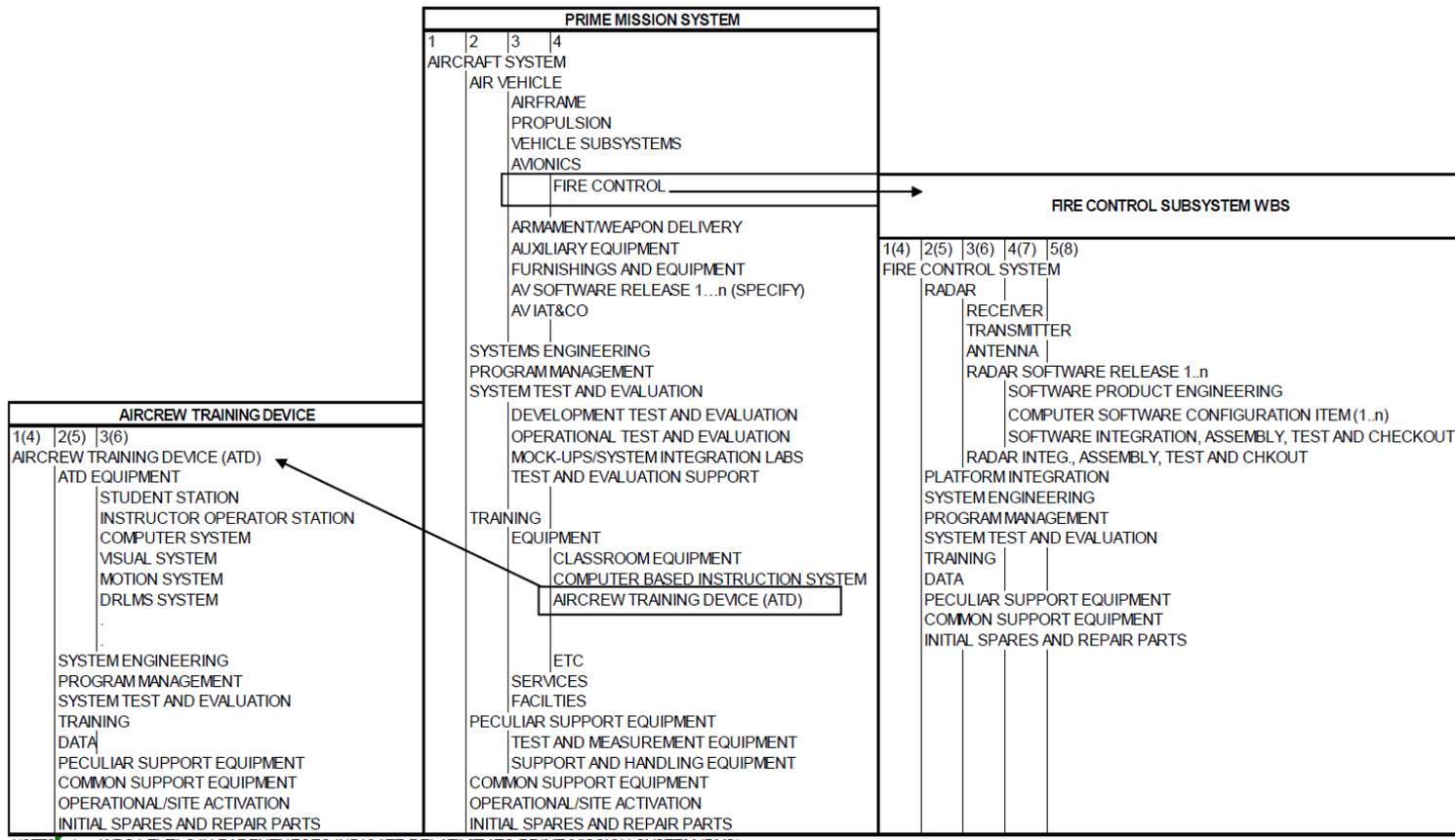


Figure 3-1 Applying MIL-STD-881 and Reporting Level

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MIL-STD-881C APPENDIX B

B.3 WORK BREAKDOWN STRUCTURE LEVELS

WBS #	Level 1	Level 2	Level 3	Level 4
1.0	Electronic System			
1.1		Prime Mission Product (PMP) 1...n (Specify)		
1.1.1			PMP Subsystem 1...n (Specify)	
1.1.1.1				PMP Subsystem Hardware 1...n
1.1.1.2				PMP Subsystem Software Release 1...n
1.1.1.3				Subsystem Integration, Assembly, Test and Checkout
1.1.2			PMP Software Release 1...n (Specify)	
1.1.2.1				Software Product Engineering
1.1.2.2				Computer Software Configuration Item (CSCI) 1...n
1.1.2.3				Subsystem Integration, Assembly, Test and Checkout
1.1.3				PMP Integration, Assembly, Test and Checkout
1.2		Platform Integration, Assembly, Test and Checkout		
1.3		System Engineering		
1.4		Program Management		
1.5		System Test and Evaluation		
1.5.1			Development Test and Evaluation	

Figure 3-2 MIL-STD-881 Appendix B

MIL-STD-881C APPENDIX L

L.3 DEFINITIONS OF COMMON ELEMENTS

L.3.1 Integration, Assembly, Test and Checkout. In those instances in which an integration, assembly, test, and checkout element is used (Appendices A through K), this element includes all effort of technical and functional activities associated with the design, development, and production of mating surfaces, structures, equipment, parts, materials, and software required to assemble the Level 3 equipment (hardware/software) elements into a Level 2 mission equipment (hardware/ software) as a whole and not directly part of any other individual Level 3 element. (Reference Section L.4.1 for space systems application)

Figure 3-3 MIL-STD-881 Appendix L Screenshot

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3.2.2.3 In summary, the steps to develop a contract WBS within an overall program structure:

- 1) Determine the program appendix that is applicable (e.g. Aircraft, Sea, etc.).
- 2) Find the WBS level that describes the contract top level (e.g. Aircraft System or Fire Control).
- 3) Are there three to four levels in the appendix below this level?
- 4) If not, use Appendix B and Appendix L to define additional levels.
- 5) Stop developing the contract level WBS when three to four WBS levels have been defined.
Allow the contractor to define additional levels.

3.2.3 Clarification Regarding Contractual Changes and the use of AUW and UB.

3.2.3.1 IPMR DID References.

“3.2.1.3. Estimated Cost of Authorized, Unpriced Work (AUW). Authorized, Unpriced Work is approved work scope that has not been definitized .The total dollar value (excluding fee or profit) of AUW shall be entered in Block 5.c.

3.2.1.3.1. AUW value shall represent the Procuring Contracting Officer’s (PCO) best estimate of the authorized scope for inclusion in the baseline.

3.2.1.3.2. AUW can never be a negative value. For effort de-scoped and not yet reflected in the Contract Budget Base (CBB), report the estimated value in Format 5 (see 3.6.11.3).”

“3.2.4.4. Undistributed Budget (UB). Enter the amount of budget applicable to contract effort that has not yet been distributed to WBS elements at or below the reporting level. Budgets that have been distributed to WBS elements at or below the specified reporting level shall be included in the total budgets shown for the WBS elements in Block 8.a and shall not be shown as UB. UB characteristics:

- UB is used to accommodate temporary situations where time constraints prevent adequate budget planning or where contract effort can only be defined in very general terms.*
- UB shall not be used as a substitute for adequate contract planning. Budgets shall be allocated within the PMB to responsible organizations at the earliest possible time, preferably within the next reporting period.*
- UB can never be negative. If a contractual de-scope change occurs and the effort has not been removed from time-phased PMB, the amount shall be discussed in Format 5. Discuss when the de-scope will be removed from the PMB and placed into UB.*

Enter in Column (15) of Block 8.d the EAC for the scope of work represented by the UB in Column (14) of Block 8.d. Enter in Column (16) of Block 8.d any variance. The content of UB and changes in the period shall be described in Format 5.”

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3.2.3.2 Intent Regarding Contractual Changes and AUW/UB.

Contractual scope may be added or removed from the contract. The type of authorization does not change the approach to updating the PMB. The negotiated cost plus authorized unpriced work total must always equal the contract cumulative authorization.

EVM budgets are goals or metrics for work performance. The EVM budgets must be sufficient to represent a realistic plan to capture all work on contract. Funding is the amount of real dollars allocated to the contract and relates to the budget definition often used in the financial community.

EVM budgets can be applied without the constraint of funding limitations. Just as incrementally funded contracts should establish an EVM baseline for the entire scope of work, AUW baselines should represent all authorized work.

3.2.3.2.1 Example with additional authorization not yet incorporated in the contract (Authorized Unpriced Work).

In the first example below, \$2M is the amount of funding made available for the contractor to expend. The scope of work is the entire ECP. Therefore, the baselined budgets align with the entire ECP scope, valued at \$100M. Funding limitations still exist, so the contractor cannot spend more than \$2M on the ECP.

The AUW value is increased consistent with the scope. The typical not-to-exceed value is not to be used as AUW amount unless it reconciles with the scope.

Examples:

Authorization for ECP 1234 subject to a Not-To-Exceed \$22M; where ECP is \$100M at cost. No scope was mentioned other than a general reference to the ECP. AUW is increased \$100M consistent with the ECP total scope.

Authorization for ECP 1234 long lead parts WBS XYZ only, subject to a Not – To – Exceed of \$2M; where the long lead was proposed at \$2M. AUW is increased \$2M, consistent with the long lead authorization.

The AUW change (scope, schedule, and budget) is added to UB until the effort is allocated to MR or the time phased PMB. At all times the scope and budget are moved together.

3.2.3.2.2 Contractual scope that is removed is typically called a de-scope. De-scoped work often begins with a contractual action called a stop-work order. It may be for the total contract or more typically a subcomponent. The difficulty of this scenario is that stop-work order rarely has budget associated with it. The contractor must then stop work immediately on that portion of effort.

At this point, the CBB and TAB should be reduced. Theoretically, all of the scope and budget are removed in the same month that the de-scope is processed. In this case, there would be no disconnect between the contract value and the EVM baseline.

However in practice when a de-scope occurs, the contractor may need one or two accounting cycles to remove the budget for the work from the baseline. In this case, the CBB temporarily will be greater than

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the Negotiated Contract Cost. AUW and UB cannot be negative at any time. The proper procedure is to report the stop-work in Format 5 discussions until the work has been removed from the PMB.

When de-scoping, the amount of budget returned should be based on several factors. BCWP to date is the key factor. The reason is the scope of work is being removed, and BCWP represents the scope of work completed. Percent complete is defined as BCWP/BAC. Work remaining is defined as BAC – cumulative BCWP. The work remaining represents the deleted scope.

Additionally, Management Reserve is created from proposal work proposed, therefore the proposed de-scope may have some MR components. The percentage of MR removed at the time a baseline establishment should be considered.

Likewise, ETC is based on the contractor's assessment of remaining work. The de-scoped value generally is not affected by ETC. The negotiated value of the original scope and work performed to date are the primary drivers.

3.2.4 Allocation and Use of Management Reserve.

3.2.4.1 IPMR DID References.

"IPMR DID 3.2.4.6. Management Reserve (MR). MR is an amount of the overall contract budget held for management control purposes and for unplanned events. MR characteristics:

- *MR shall not be used to offset cost variances.*
- *MR shall never be a negative value (Column (14) of Block 8.f).*
- *If MR includes the contractor and subcontractor amounts together, the breakout shall be discussed in Format 5.*

Enter in Column (14) of Block 8.f, the total amount of budget identified as MR as of the end of the current reporting period. The value shown as MR in Formats 1, 2, and 3 shall agree. Amounts from MR applied to WBS elements during the reporting period shall be listed in Block 6.b of Format 3 and explained in Format 5."

3.2.4.2 Intent Regarding Allocation and Use of Management Reserve.

All MR transactions must be based on scope. MR is created at the time of baseline establishment through aggressive targets at the time phased PMB level. Ultimately it is reallocated to unplanned scope in the Time Phased PMB. MR cannot be used for cost overruns.

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3.2.5 Format 3 Significant Changes.

3.2.5.1 IPMR DID References.

“3.4.2.2. Block 6.b - Baseline Changes Authorized During Report Period. In Block 6.b, list all significant baseline changes that have occurred during the reporting period in their respective timeframes in columns (2)-(16).

- This list shall include the contract changes and AUW authorized during the reporting period, transactions involving MR and UB, and any significant re-phasing of budgets.
- All significant authorized baseline changes shall be listed individually, whether priced or unpriced; all other changes shall be summarized and titled “Other.”
- Block 6.b, when added to Block 6.a, equals Block 6.c.
- The term “significant” will be defined in the CDRL or determined by the contractor if undefined.
- The reasons for the significant changes shall be discussed in Format 5.”

3.2.5.2 Intent Regarding Format 3 Significant Changes.

It is recommended the Government define “significant” in the CDRL and consider the following guidance:

Significant is defined as: The individual baseline changes shall comprise 50-70% of the total change for the month.

3.2.6 Format 5 Variance Analysis.

3.2.6.1 IPMR DID References.

“3.6.10. Cost and Schedule Analysis.

3.6.10.1. General. Explain variances that exceed specified thresholds which are reportable. Explanations of variances shall clearly identify the nature of the problem, significant reasons for cost or schedule variances (i.e., root cause), effects on immediate tasks, impacts on the total contract, and the corrective actions taken or planned.

3.6.10.1.1. Corrective Actions. Include explanations of the progress status of the corrective actions if not completed during the reporting period and/or cannot be accomplished as planned.

3.6.10.1.2. Cost Variances. Identify separately amounts attributable to the following:

- Base labor rate changes from amounts applicable to hours worked,
- Material price changes from amounts applicable to material usage,
- Overhead rate changes from amounts applicable to overhead base changes or overhead allocation changes.

3.6.10.1.3. Schedule Variances. Include the change in total float of the critical task(s) for the associated WBS elements and the impact to the contract driving and/or critical path(s), if any.

3.6.10.2. Variance Analysis Selection and Reporting Overview.

The purpose of this section is to implement a process of selecting candidates for variance reporting. This is accomplished first by the contractor establishing a pool of potential variances and then using a defined approach to limit the actual number of reportable variances to 15. The Government or the contractor shall select the 15 reportable variances based on the criteria specified below.

3.6.10.2.1. Setting Variance Analysis Thresholds. The Government may specify the reporting variance thresholds; they will be defined in the CDRL. Without Government specified thresholds, the contractor shall apply thresholds consistent with the company-documented ANSI/EIA-748 compliant process, as applicable. Thresholds shall be based on both cost and schedule, including at completion. Variance analysis thresholds shall be reviewed periodically and adjusted as necessary to ensure they continue to provide appropriate insight and visibility to the Government. Thresholds shall not be changed without Government approval.

3.6.10.2.2. Variance Analysis Reporting Level. The Reporting level for variance analyses is determined according to the MIL-STD-881 appendix applicable to the type of acquisition. Each month the variances for the reporting level (see 2.2.2.) are compared to the thresholds, and WBS elements at the reporting level that exceed the threshold are selected as candidates for the pool of reportable variances that are reportable. The pool consists of those elements that have exceeded the threshold for cost, schedule, or at completion variances, if any.

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3.6.10.2.3. Determining the Pool of Reportable Variances. WBS elements are candidates for selection for variance analysis reporting if they are at the reporting level and they exceed the variance analysis threshold. If this pool of reportable variances yields fewer than 15 variances, only these variance analyses shall be required. If this pool yields more than 15 variances, the process described in section 3.6.10.3 applies.

3.6.10.2.4. Reportable Variance Analysis. The reporting variance categories are:

- Current and cumulative for cost;
- Current and cumulative for schedule;
- At completion variances.

The categories are used to determine the pool of WBS elements in section 3.6.10.2.3 above. The Government may decide on an alternate method of the selection of 15 variance report categories or reported WBS elements.

3.6.10.2.4.1. Reporting Variances With Government Selection. The Government may select the reportable variances based on information such as contract risk. This Government notification may be informally provided to the contractor and does not require a CDRL modification. Notification will be provided no later than 10 working days prior to the CDRL delivery date. The total WBS variances reported will be limited to a maximum of 15, except where noted in 3.6.10.2.4.3 and 3.6.10.2.4.4.

3.6.10.2.4.2. Reporting Variances Without Government Selection. If the Government does not select the 15 reportable WBS variances, then the contractor's pool of reportable variances, per 3.6.10.3, will be used for reportable variance selection. If fewer than 15 WBS elements exceed the threshold, then the number that actually exceeds is reportable. If more than 15 have been identified, see sections 3.6.10.3.2.1 and 3.6.10.3.2.2 for filtering to the 15 that are reportable.

3.6.10.2.4.2.1. Top Three Variances by Category. Where 15 or more reportable variances exist from the variance pool, the contractor shall select the top three variances in each category, based on dollar value of reportable WBSs, that exceeds the established threshold for current schedule (3) and cost (3); cumulative schedule (3) and cost (3); and at completion (3), as applicable.

3.6.10.2.4.2.2. Multiple Categories. If a reportable WBS has variances that exceed two or more categories simultaneously, then the WBS variances count against each individual category. A total of 15 WBSs are required, where applicable, according to the threshold (see 3.6.10.2.2). The WBS that exceeds multiple categories only counts as one WBS variance. The purpose of the categories is to make sure the different elements are addressed. Once the top three variances in each category are met, then the contractor shall determine the additional variances to reach the 15 WBS variances required, where applicable.

3.6.10.2.4.3. Contractor Additional Analysis. The contractor is not prohibited from providing more analysis than required to cover an emerging trend. This additional variance information is intended to be temporary per the emerging trend aspect.

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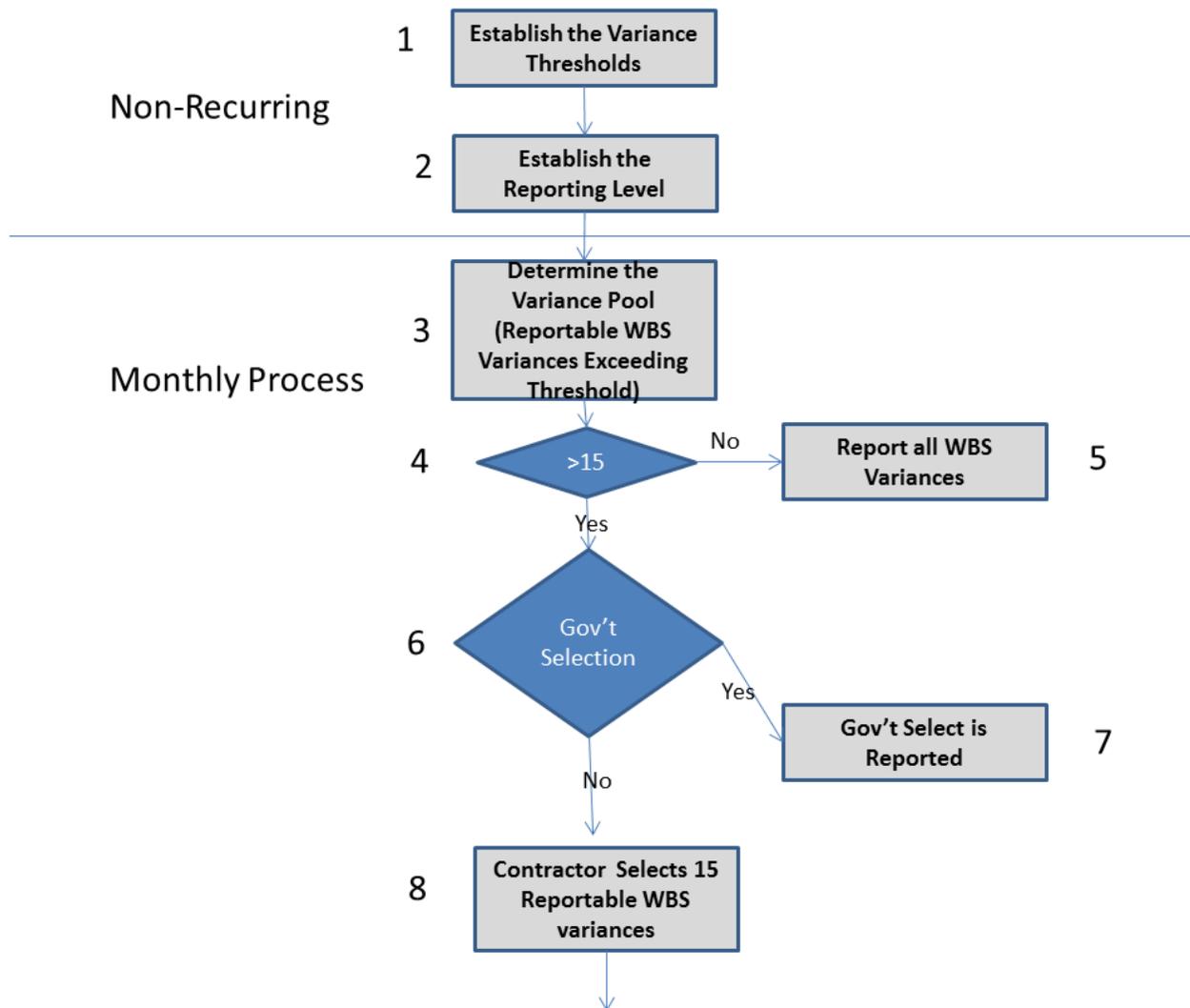
3.6.10.2.4.4. Government Additional Analysis. The Government is not prohibited from requesting more analysis than required by the 15 WBS elements, per 3.6.10.2.3, to cover an emerging or significant trend. This additional variance information is intended to be temporary.

3.6.10.2.4.5. CDRL Modification for Additional Analysis. Since the additional analysis covered in sections 3.6.10.3.3 and 3.6.10.3.4 is intended to be temporary, a formal modification to the reporting requirement defined in the CDRL is not required. Notification is recommended via e-mail.

3.6.10.2.4.6. Reduction of Variances. The Government may reduce the amount of variance reporting, at any time, if it is deemed no longer meaningful. This shall be done via a change to the CDRL.”

3.2.6.2 Intent Regarding Format 5 Variance Analysis.

The objective of the revised variance analysis process is best described in the flowchart below:



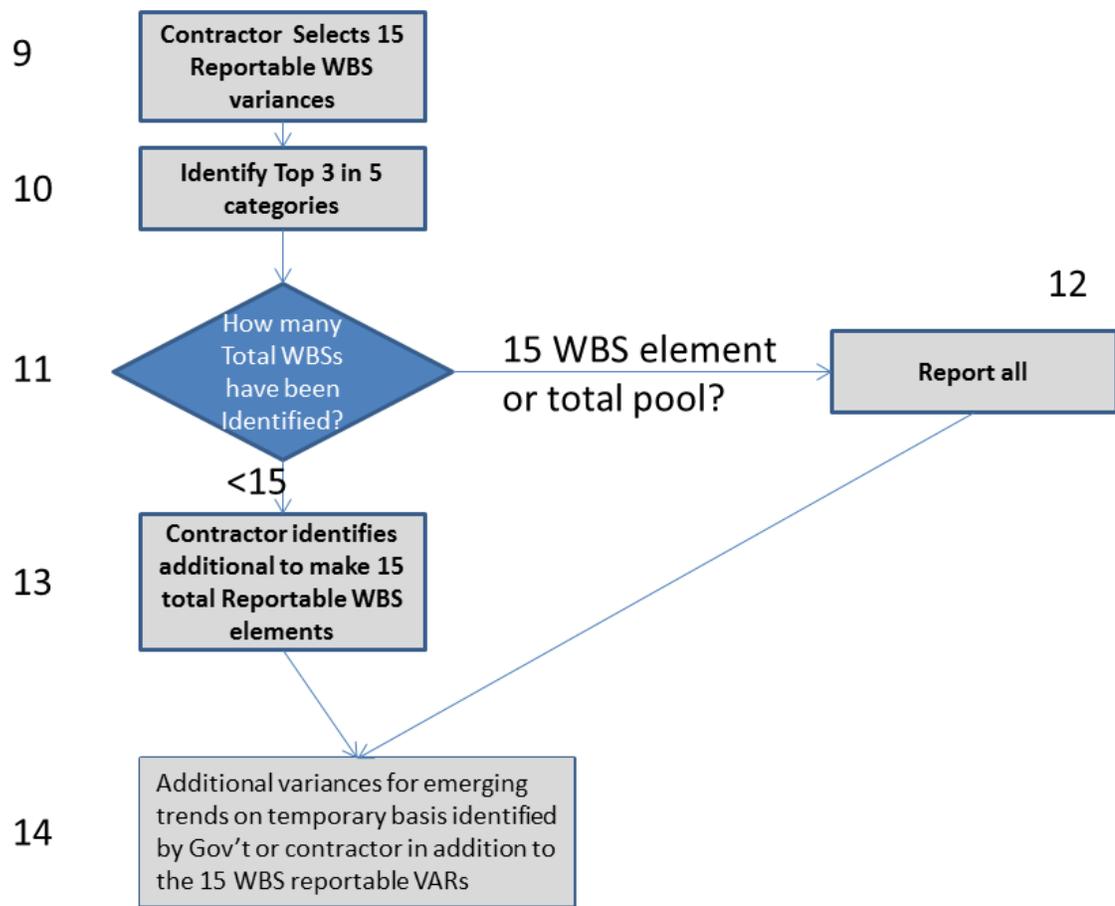


Figure 3-4 Variance Analysis Decision Tree

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- 1) Determining the variance threshold. This is typically defined by the Government in the CDRL. A threshold determines the “trigger” when a reportable WBS must be reported. For example, a common threshold for cumulative cost and schedule is 10% and \$100K. A variance of 10% and 50K would not be reportable. Use caution and avoid “OR” type thresholds. For example, with a threshold of 10% or \$100K, a variance of 10% and \$1K would be reportable. Cost and percentage thresholds should be reviewed periodically, recommended at program events. For example, a threshold of 10% and \$100K may be adjusted to 5% and \$250K after 50% on an ACAT 1 program.
- 2) Determine the reporting level. This is typically defined by the Government in the CDRL as MIL-STD-881, as tailored in the contract. The reporting level WBS performance is compared against the threshold each month to determine the potential variances that are reportable. Steps 1-2 are typically non-recurring and should be specified in the CDRL.
- 3) The first monthly step is to compare the current month, cumulative, and at-complete variances for reportable WBSs against the threshold. This determines the pool that may be reportable in the following steps. Note: If the Government defines the 15 WBSs in the previous month that are reportable in the current month, then these WBSs are reportable without regard to the threshold and skip to step 6.
- 4) Did step 3 determine more than 15 reportable WBSs?
- 5) If less than 15 reportable WBSs exceed a threshold, then all the variances are reported in the current period.
- 6) Optional step. The Government may select some or all of the reportable WBSs to include in the analysis. The WBSs the Government selects count as a component of the 15 total. The Government may specify these are the only reportable WBSs and the process stops at step 7. Alternately the Government may select a subset and require the contractor to follow the remaining steps to select the remainder WBS variances to report. The Government option to select reportable WBS variance is based on the previous month’s reporting. If this option is selected no later than the 2nd day after the contractor’s month end (with a 12 day reporting requirement), the Government notifies the contractor which WBSs require reporting. The contractor reports these WBSs without regard to the thresholds. If the contractor selection option is exercised, the contractor uses the current thresholds to determine the potential pool and then selects the reportable variances following the process as described in 3.6.10.2.4.2.1 and 3.6.10.2.4.2.2. The following diagram summarizes this process.

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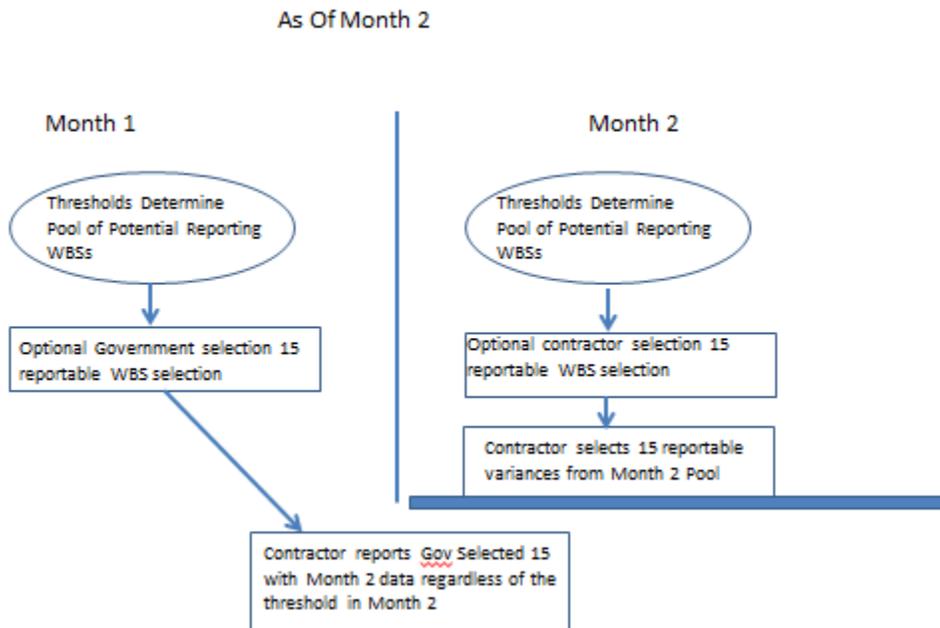


Figure 3-5 Government/Contractor WBS Element Selection

- 7) If more than 15 reportable WBSs exceed a threshold then additional steps are required to select the 15 WBS elements.
- 8) Optional step depending on step 7. Remaining example assumes the Government did not specify any in step 6.
- 9) Contractor selection of reportable WBS variances. Create a table with all of the reportable WBSs exceeding the threshold at the lowest reportable WBS level. Sort the table by current period schedule variance and write down the top three WBSs in dollar magnitude (either positive or negative). Re-sort by current period cost variance and write down the top three WBSs in dollar magnitude (either positive or negative). Re-sort by cumulative schedule and repeat. Re-sort by cumulative cost and repeat. Re-sort by VAC and repeat. The output WBS elements that comprise the top three in each category.. However it is likely that there are duplicates in the list. For example,

Reportable WBS Variance \$M										
	CURSV		CURCV		CUMSV		CUMCV		VAC	
WBS 1	-1000	*	-2000	*	-100000	*	-200000	*	1000000	*

Figure 3-6

The same WBS may exceed multiple categories simultaneously, as shown above; the asterisk indicates this element exceeded a threshold. This WBS exceeded all 5 categories in the current

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month. Therefore when duplicates have been consolidated, there may be less than 15 WBS Elements.

- 10) Does step 9 result in more than 15 WBS elements? This will rarely be the case as typically a WBS element will trigger several thresholds simultaneously.
- 11) If 15 have been identified, then all 15 are reported.
- 12) If less than 15 are reported according to the top 3 in 5 category approach, then the contractor selects additional reporting WBSs that exceeded a threshold that are added to equal 15 total. The intent of this process is just to make sure that the overall variance process with limits is addressing current, cumulative and at-complete variances that are meaningful to the trends.
- 13) Optional. The Government or the contractor may add additional variance analysis requirements over the 15 limit, to cover significant trends. These are normally reportable variances exceeding a threshold, but may vary based on a significant risk or importance to the program. The intent of the additional variance analysis requirement is temporary and should be limited to six months.

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3.2.7 IMS Format 6 Relationship Clarifications.

3.2.7.1 IPMR DID Reference.

“IPMR 3.7.1.3.5.6. Relationships/Dependencies. Identify how predecessor and successor tasks/activities and milestones are logically linked. All non-constrained discrete tasks/activities/milestones, except the start and end of the contract or interim delivery, shall have at least one predecessor and successor.”

3.2.7.2 Intent Regarding IMS Format 6 Relationship Clarifications.

The objective is all schedule activity/tasks and milestones have a predecessor and/or successor. Tasks that are not constrained or interim deliveries must have both a predecessor and successor. Unless there is a Non-PMB scope task, such as customer or other contract milestone, there are no schedule “orphans,” without PMO concurrence. This requirement excludes LOE which may be in the IMS.

3.2.8 Constraints with Examples by Common IMS Tools.

3.2.8.1 IPMR DID References.

“IPMR 3.7.2.3. Constraints. Constraints are limits applied to network start and finish dates (e.g., “Finish No Later Than,” “Finish On or Before”). Constraints shall be minimized if they affect “late” dates or both “late and early” dates. The constraints that require justification include:

- *All constraints that affect “late” dates or both “late and early” dates as defined by the schedule tool.*
- *All constraints that affect “early” dates beyond 20 working days from the current status period.*

Constraints requiring justification shall be justified in an associated notes field provided within the scheduling software application. If a coding field is used for justification of constraints the definitions shall be defined in the data dictionary (see 3.7.3).”

3.2.8.2 Intent Regarding Constraints with Examples by Common IMS Tools.

Constraints do not allow the schedule to project future events based on the logical relationships in the IMS. Hard constraints, those that prevent tasks from slipping, especially limit the IMS’s forecasting ability. Hard constraints must include a note field that explains why the constraint was used. This helps users of the IMS to understand which scenarios may cause distorted forecast dates or the assumptions under which the schedule is based. Rationale and constrained dates for these tasks should not change often, if at all. Therefore, maintenance of these tasks should be minimal.

Constrained tasks within 20 days of the status date do not require justification. Some scheduling tools automatically apply hard constraints to tasks that are not statused properly and “ride the status date”. Also, some organizations will constrain tasks for the upcoming status cycle as a method to reflect resource availability. These should be a minority of the current tasks in each delivery and would have little impact on downstream activities. The tables below show the constraint wording and description for the most common scheduling tools. The constraints affecting the Late Dates are the ones that require justification.

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MS Project Specifics

Must Start/Finish On	Affects early and the late dates
Start/Finish No Later Than	Affects the late dates
Start/Finish No Earlier Than	Affects the early dates
Deadlines	Affects late dates

Open Plan Specifics

On Target/Fixed Target	Affects early and the late dates
Not Later Than	Affects the late dates
Not Earlier Than	Affect the early dates

Primavera Specifics

Start/Finish On; Mandatory Start/finish	Affects early and the late dates
Start/Finish On or Before	Affects the late dates
Start/Finish On or After	Affects the early dates

Artemis Specifics

Fix Early Start/Fixed Early Finish/Fixed Late Finish/Fixed Late Start	Affects early and the late dates
Start/Finish No Later Than	Affects the late dates
Start/Finish No Earlier Than	Affects the early Dates

Figure 3-7

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3.2.9 Summary of IMS Field and Title Requirements.

3.2.9.1 IPMR DID References.

“3.7.1.3.7.3. Required IMS Fields. The following fields shall be identified as applicable and described in the Data Dictionary (see 3.7.3). The purpose is for Government understanding or usability of the IMS as an effective tool.

1) Control Account/Work Package. Identify effort associated with the work package or control account. This may be an individual field or via unique task identifier.

2) Subcontractor. Identify the tasks that are unique to the scope of a major supplier, if any. Subcontractors with an EVM flowdown shall be identified separately, if applicable.

3) Justification of Lead, Lag, Constraint. Provide a field that contains a summary justification of lead, Lag, or constraint. This requirement may be met with a code defined in the definition table or by individual notes on each applicable task.

4) Earned Value Technique (EVT). Identify the EV BCWP technique if the schedule is used to directly status the EVM tool. As a minimum, if either Level of Effort (LOE) or Planning Packages (PP) are in the schedule, they must be identified within a field.

5) Risk Mitigation Tasks. Items that came from the risk register and include authorized risk mitigation activities shall be identified, as applicable.

6) Critical Path and Driving Paths. The Critical Path and Driving Path shall be identified. These identifiers are either automatically created by the scheduling software or custom fields that indicate/flag each task on a driving or critical path.

3.7.2.4. Schedule Margin. Any schedule margin planned as a task shall be clearly labeled “SCHEDULE MARGIN.”

3.7.2.1. Schedule Visibility Task (SVT). Any SVT shall be identified with the title “SVT.””

3.2.9.2 Intent Regarding Summary of IMS Field and Title Requirements.

It is not the intent of the DID to dictate to the contractor how to compose their schedule. However, the title or field language requirements in the DID allow the Government to filter or sort the data easily to find the required information. Fields may be combined or placed within the task name structure as long as this requirement is met. Should the task name structure or combination approaches be used, the Data Dictionary shall clearly define the components of the structure and how to filter or sort this field.

3.2.10 Schedule Margin Clarification and Examples.

3.2.10.1 IPMR DID References.

“3.7.2.4. Schedule Margin. Schedule margin is an optional management method for accommodating schedule contingencies. It is a designated buffer within the schedule. Schedule margin shall be identified separately as part of the baseline and be under the control of the contractor’s program manager. Schedule margin, if any, shall only be placed as the last task/activity/gap before a contract event or end item deliverable. Any schedule margin planned as a task shall be clearly labeled “SCHEDULE MARGIN.” Discuss in Format 5 the status of schedule margin, including reasons and impacts for changes, if any.”

3.2.10.2 Intent Regarding Schedule Margin Clarification and Examples.

Schedule margin is a method of handling schedule contingencies. Schedule margin, if used, is typically established at the time of baseline establishment and set with the Baseline and Forecast duration equal. The purpose of schedule margin is to increase the probability of completion within the planned period of performance. A baseline schedule without Schedule Margin typically is not achievable. It is expected, based on performance, that some baseline tasks will vary. The Schedule Margin duration may be changed to remove the negative float from within the critical/driving path. The difference between baseline Schedule Margin and forecast is the amount of margin that has been used to mitigate actual task variation. The change in Schedule Margin duration is a risk indicator when compared to the percent complete (e.g. 10% complete and a 50% Schedule Margin duration reduction would indicate increasing schedule risk). Schedule margin is limited to being placed directly before a contract event or end item deliverable as a predecessor. Schedule Margin cannot have successor logic ties to discrete work, either directly or indirectly.

3.2.11 Format 7 Reporting Level Clarification.

3.2.11.1 IPMR DID References.

IPMR DID 3.8.1 “General. Provide supplemental historical and time-phased information in the DoD-approved electronic XML format, by WBS, provided at the same level as Format 1 unless otherwise specified in the CDRL. This data is intended to enhance Government analysis beyond the information provided in Format 5.”

3.2.11.2 Intent Regarding Format 7 Reporting Level Clarification.

The phrase, “same level as Format 1” was not intended to imply a hierarchical structure requirement. The intent is, as a minimum, that the lowest level of Format 1 data shall be the default level of Format 7 reporting.