

# Program Management Systems Committee Program Management Working Group (PMWG) Predictive Measures Guide September 10, 2013

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#### **Predictive Measures Guide**



- Working Title "A Guide to Using Predictive Measures to Effectively Manage Programs"
- Guide Approach
  - Use of ICPM Predictive Measures (2008) presentation as the basis
  - Use Industry / Government practices
  - Measure is not affiliated with a contributor.
  - Make sure the measure is a predictor
  - Not intended as a new set of standards that would be required to assess program performance but instead provide "menu" of typical measures
- Intended Audience
  - Organizations, government and industry, looking for "best practice" approach to effectively manage programs
  - Each organization should decide which measure is appropriate for their environment and for the life cycle of the program

## **Template for Each Measure <= 4 pages**



- Commonly used in ACQ phases (MSA, TD, EMD, PD, O&S)
- Metric Definition Not an Exhaustive Description
- Calculations
- Output / Threshold
- Predictive Information Most Critical
- Possible Questions what a PM or LM could ask
- Caveats / Things to Watch For / Limitations / Cautions

# **Table of Contents [1]**

| Acronyms  |
|---|
| Introduction  |
| Schedule Metrics  |
| Trip Wire Metrics   |
| 2.1.1 Schedule Performance Index (SPI)                          |
| 2.1.2 Baseline Execution Index (BEI)                            |
| 2.1.3 Critical Path Length Indicator (CPLI)                     |
| Current Execution Index (CEI)                                   |
| Total Float Consumption Index (TFCI)                            |
| Earned Schedule   |
| 2.4.1 Time-based Schedule Performance Index (SPI <sub>t</sub> ) |
| 2.4.2 SPI <sub>t</sub> vs. TSPI <sub>ed</sub>                   |
| 2.4.3 Independent Estimated Completion Date – Earned            |
| ule (iECD <sub>es</sub> )                                       |
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3 **Cost Metrics** 3.1 Trip Wire Metrics 3.1.1 Cost Performance Index (CPI) 3.1.2 CPI vs. TCPI<sub>eac</sub> 3.2 Range of IEACs (Independent Estimates at Completion) **Staffing Metrics** 4 Critical Skills Key Personnel "Churn" / Dilution Metric 4.1 4.2 Critical Resource Multiplexing Metric 4.3 Staffing Profile

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Risk and Opportunity Metrics 5 5.1 Risk/Opportunity Summary Risk/Opportunity \$ vs. Management Reserve (MR) \$ 5.2 5.3 Schedule Risk Assessment (SRA) 5.4 Schedule Margin Burn Down Requirements Metrics 6. Requirements Completeness 6.1 6.2 Requirements Volatility 6.3 TBD/TBR Burn Down 6.4 Requirements Traceability

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| 7   | Technical Performance Measures (TPMs)       |
|-----|---|
| 7.1 | Technical Performance Measure Compliance    |
| 7.2 | TPM Progress/Regress Burn Down              |
| 7.3 | Defect Containment                          |
| 8   | Contract Health Metrics                     |
| 8.1 | Trip Wire Metrics                           |
|     | 8.1.1 Contract Mods                         |
|     | 8.1.2 Baseline Revisions                    |
| 8.2 | Program Funding Plan                        |
| 8.3 | Program Funding Status                      |
| 8.4 | Contract Change Value                       |
| 8.5 | RDT&E Actual Billings vs. Forecast Billings |

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9 Supply Chain Metrics 9.1 Parts Demand Fulfillment 9.2 Supplier Acceptance Rate Supplier Late Starts 9.3 9.4 Production Line of Balance Rayleigh Estimator 10 11 Contributors 12 References

Appendix A: Predictive Measures Commonly Used in the DoD Acquisition Phases

#### **Contributors**

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Metrics not associated with contributor

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#### **Schedule**



| ✓ Announce intent — Feb 201 | Announce Intent | Feb 2013 |
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| ✓ Develop Introduction& c | outline l | Mar 2013 |
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| Aug 2013 |
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- Second Draft
   Oct 2013
- Senior Review
   Nov 2013
- NDIA Workshop at IPMC
   Nov 2013
- Submit to Board for comment Jan 2013
- Submit to PMSC for comment Feb 2014
- PMSC Approval
   Jun 2014

### On Track