Integrated Program Management Division

Planning & Scheduling Excellence Guide
- Summary of Changes -

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Agenda

- **PASEG Overview**

- **Summary of all changes**

- **Review of significant changes**

PASEG

"…provides the program management team, including new and experienced master planner/schedulers, with practical approaches for building, using, and maintaining an Integrated Master Schedule (IMS). It also identifies knowledge, awareness, and processes that enable the user to achieve reasonable consistency and a standardized approach to project planning, scheduling and analysis."

Joint Government/Industry Initiative

Disposition Summary

Accept	Reject	
11	0	Total Float Consumption Index (TFCI)
7	0	Schedule Margin
5	0	Relationships / Logic
4	1	Lead / Lag Time
3	2	Schedule Visibility Tasks (SVT)
4	1	Critical & Driving Path Analysis
2	2	Managing Using an IMS
3	1	Integration of Management Tools
2	2	Apportioned Effort
4	0	Schedule Rate Chart
3	0	Task Duration
3	0	Task Constraints
2	1	Level of Effort (LOE)
3	0	Statusing to Time Now
2	1	Current Execution Index (CEI)
2	0	IMS Architecture
2	0	Milestones
2	0	Intro to Schedule Execution Metrics

Accept	Reject	
2	0	Generally Accepted Scheduling Principles (GASP)
1	0	Earned Schedule (new section)
0	1	Agile Scheduling (new section)
1	0	Generally Accepted Scheduling Principles (GASP)
1	0	The IMS is a Tool, not Just a Report
1	0	Integrated Master Plan (IMP)
1	0	Baseline vs. Forecast Schedules
1	0	Summaries & Hammocks
0	1	Working Calendars
0	1	Resources in the Schedule
1	0	Subproject/External Schedule Integration
0	1	Task Coding
0	1	Schedule Acceleration Techniques
1	0	Schedule Health Assessment
1	0	Schedule Risk Assessment (SRA) – Setup & Execution
1	0	Desktop Procedures
1	0	Submittal of IMS Data
1	0	Scheduling in a Production Environment

Accepted – **78** (83%)
Rejected – **16** (17%)
94

Accepted Change

WAS	IS
"Avoid the use of hard constraints"	"Avoid the **inappropriate** use of hard constraints."

While rare, there are certain tasks that will almost never move even if the desired predecessors are delayed.

- Contractual POP End Date
- Opening Ceremony of the Olympics

Elapsed Days

WAS	IS
"programs should avoid using elapsed days and instead reduce the duration of tasks where work will be performed during non work times"	"programs should only use elapsed days when appropriate"

Continually adjusting durations to account for weekends and holidays is time consuming and error prone. If elapsed days are the most appropriate duration units, they should be used. This will alter Total Float values, which will need to be considered during schedule analysis.

Apportioned Effort

WAS	IS
"Apportioned Effort is somewhat difficult to explain and not widely used in the DOD"	< sentence deleted >

While it may be true that currently AE is not widely used in DOD, as EV tools evolve, its use could become more popular as an alternative to LOE. Also, the concept of AE is not particularly hard to explain.

Subcontractor Integration

WAS	IS
< no mention of Representative Model >	**Representative Model** – Method of integrating a summary (roll up) of the subcontractor's schedule

The PASEG described integrating the entire subcontractor schedule (full detail) and only major interface milestones (minimal detail), but nothing in-between.

The "Representative Model" approach is at an intermediate level between those two extremes.
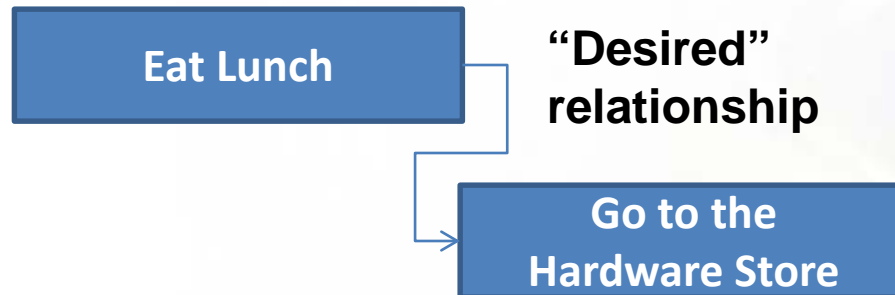
Logical Relationships

WAS	**IS**
"Each link should be **required** to complete the project"	"Each link should accurately represent how the work is **intended** to be accomplished on the project"

Eat Lunch

"Desired" relationship

Go to the Hardware Store

Logic should not be limited to "required" relationships, but should instead model the current path forward (and change when the path is altered)
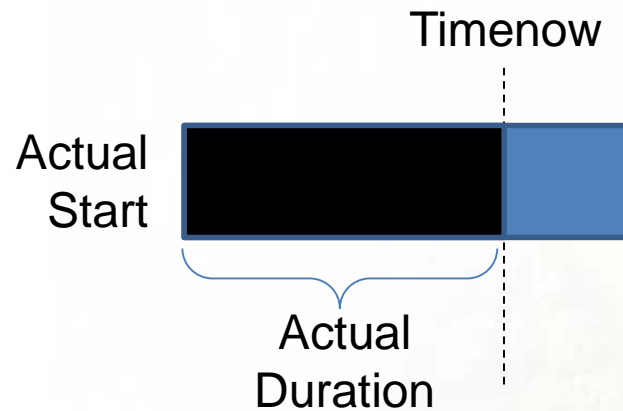
Actual Duration

WAS	IS
Actual Start =	**Actual Duration** =
Timenow − Actual Duration	Timenow − Actual Start

Timenow

Actual Start

Actual Duration

"Actual Start" is an input…not an output.
Actual Duration is the calculated value.

Current Execution Index

WAS

CEI calculation **includes** both discrete and LOE tasks

IS

CEI calculation **excludes** LOE tasks

Since, by definition, LOE tasks will never have a schedule variance, inclusion of LOE tasks could skew CEI calculations and potentially mask other execution issues.

NAVAIR is making the same change to their calculation.

Total Float Consumption Index

Multiple changes

- Corrections to descriptive wording

- Simplification of calculation process

- Clarification of analysis usage

- Additional guidance on TFCI limitations

Critical Path

WAS

"The (Total) Float calculation enables identification of the Critical and Driving Paths in the IMS."

IS

< sentence deleted >

There is no Total Float value that determines the Critical Path. The Critical Path may not be the path with the least Total Float.

	Task Name	Total Slack	Finish	Deadline							2016	
					Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
1	Requirement Definition	-20 days	Sep 7	NA								
2	Product A	-12 days	Dec 28	NA								
3	Design Product A	-12 days	Nov 2	NA								
4	Build Product A	-12 days	Dec 28	NA								
5	Deliver Product A	-12 days	Dec 28	Dec 10						12/28		
6	Product B	-20 days	Nov 30	NA								
7	Design Product B	-20 days	Oct 19	NA								
8	Build Product B	-20 days	Nov 30	NA								
9	Deliver Product B	-20 days	Nov 30	Nov 2					11/30			

Critical (Longest) Path -12 days

Most Delinquent Path -20 days

⬇ = Deadline

Schedule Margin

WAS	IS
"a buffer" (leftover time before contract date)	**a duration estimate of current schedule risk**

A **bumper** attempts to cushion a blow, but does not attempt to estimate the size of the problem

GPS attempts to quantify the size of the issue so that decisions can be made to lessen the impact or avoid it altogether

Schedule Margin

- **Multiple Changes**
  - Aligns PASEG with DI-MGMT-81861A (Sept 16, 2015)
  - Changes include:
    - SM is represented by a task (not a lag or gap)
    - SM duration should be justifiable
      - Traceable to the program's risk management system
    - An SRA can be used to estimate the risk/uncertainty remaining to a deliverable milestone
      - Duration from Deterministic Finish to PM chosen probability date
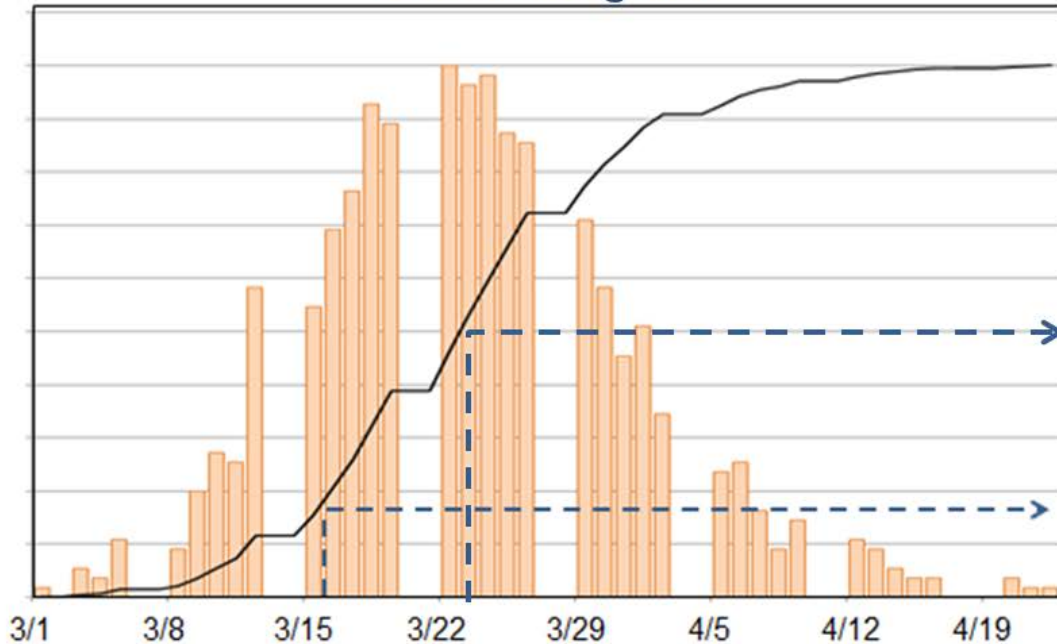
Schedule Margin

Accepted Change

Earned Schedule
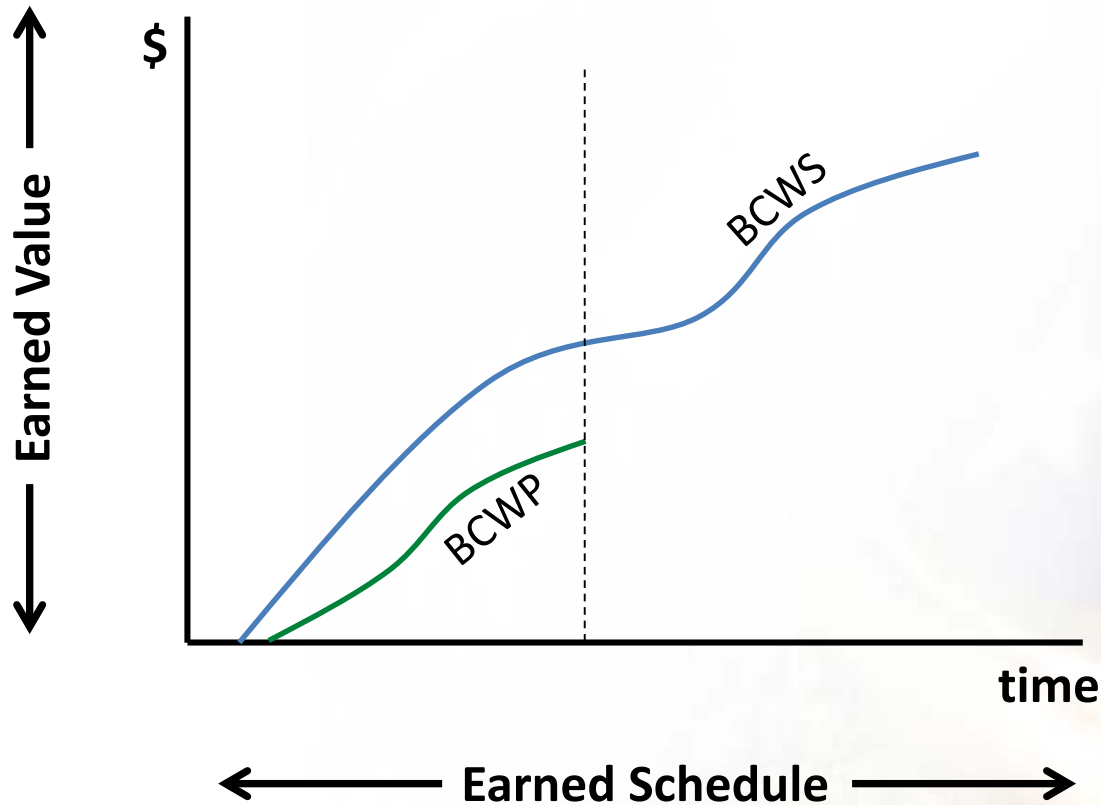
- SPI$_t$ does not return to 1.0
- SV$_t$ does not return to 0
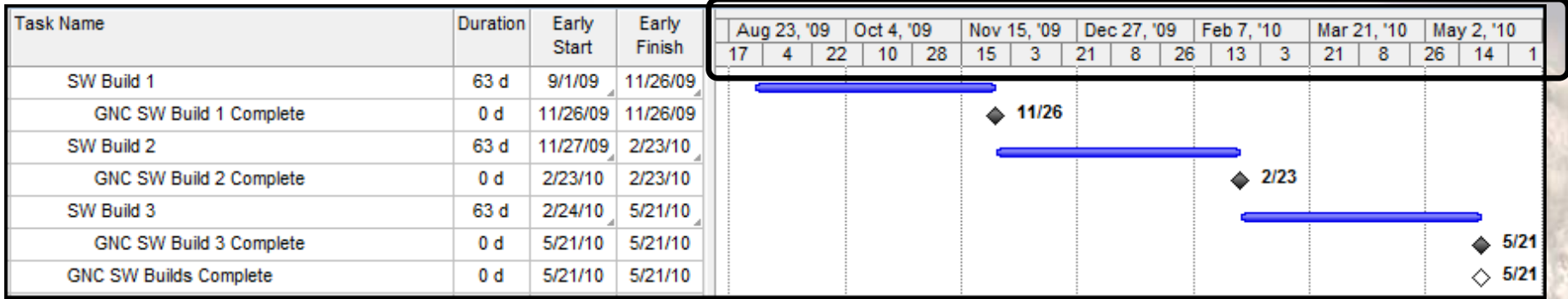
Earned Schedule

- ## New Section includes:

  - ## SPI_t
    - ### Time-based Schedule Performance Index

  - ## SPI_t vs. TSPI
    - ### Comparison of past vs. projected schedule efficiency
    - ### Similar to CPI vs. TCPI

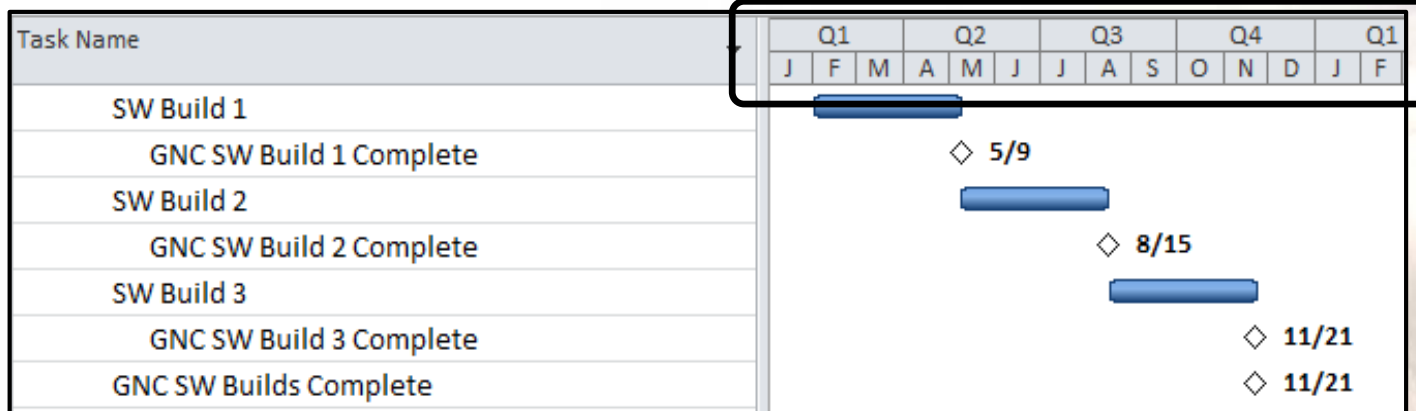 - ## $IECD_{es}$
    - ### Independent estimated completion date

Graphics

Accepted Change

WAS

Dates as early as 2009

Task Name	Duration	Early Start	Early Finish
SW Build 1	63 d	9/1/09	11/26/09
GNC SW Build 1 Complete	0 d	11/26/09	11/26/09
SW Build 2	63 d	11/27/09	2/23/10
GNC SW Build 2 Complete	0 d	2/23/10	2/23/10
SW Build 3	63 d	2/24/10	5/21/10
GNC SW Build 3 Complete	0 d	5/21/10	5/21/10
GNC SW Builds Complete	0 d	5/21/10	5/21/10

IS

Year references removed

Task Name
SW Build 1
GNC SW Build 1 Complete
SW Build 2
GNC SW Build 2 Complete
SW Build 3
GNC SW Build 3 Complete
GNC SW Builds Complete

Questions???