

Emerging Snippet Topics



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DOE Snippets

- A DOE best practice to define and communicate emerging EVMS compliance topics and how these topics influence (and are influenced by) the Department's moved towards an automated, data driven EVMS compliance approach

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EVMS TRAINING SNIPPETS

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KEY RESOURCES

- PMCDP
- EVMS
- PARS Iie
- FPD Resource Center
- PM Newsletter
- Forms and Templates

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Top 8 Emerging EVMS Compliance Topics



Slide 3

1. Planning and Scheduling Implementation
2. Schedule Levels of Detail
3. Planning Horizons
4. Procurement Planning
5. Level of Effort Replanning
6. Late Date Baseline
7. Non-Baseline “ETC Only” Activities
8. Schedule Margin

Planning and Scheduling Implementation



Slide 4

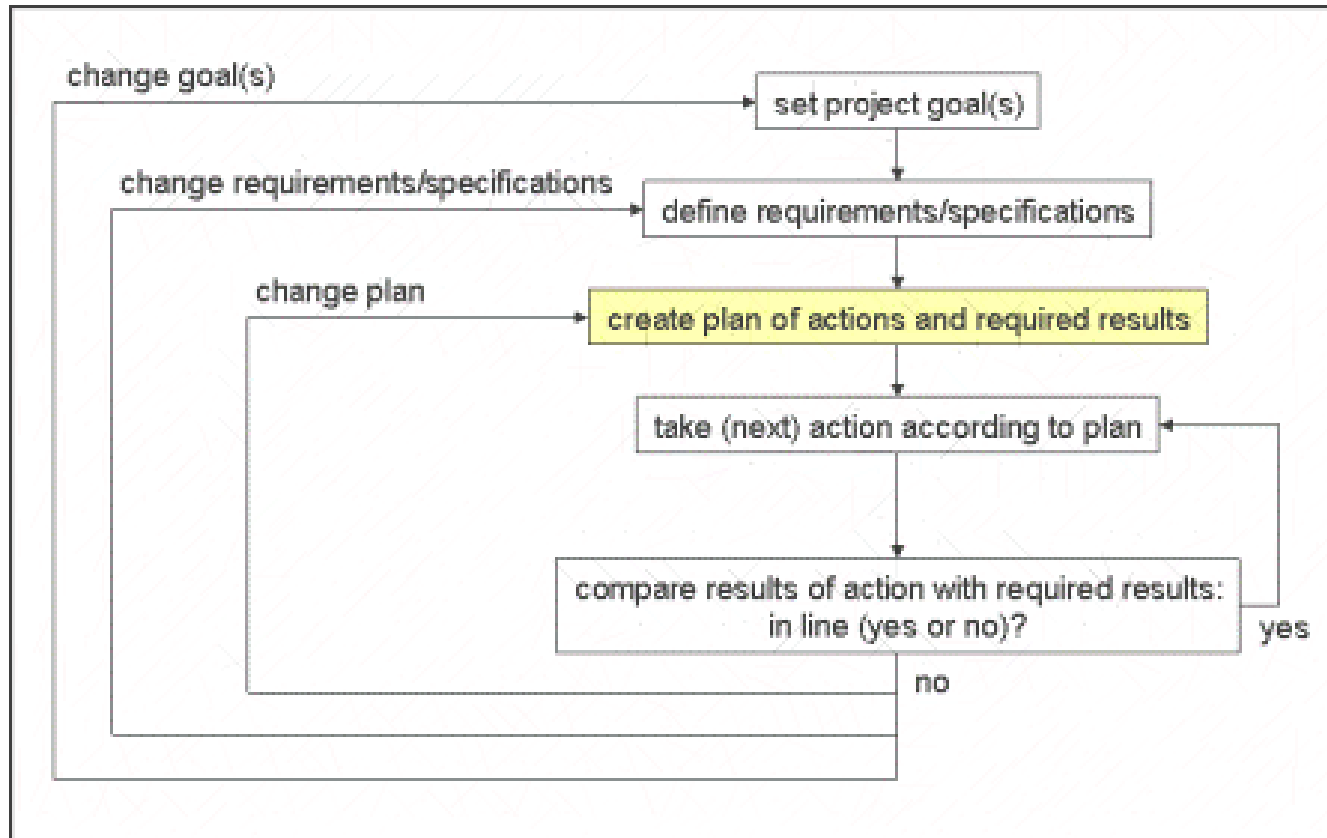
- Is it the same process? Certainly not!
- Planning is concerned with generating the sequence of actions
- Generated actions are often restricted by the various types of constraints
- Actions that compose the plan are known, but the time factor that determines the order or dependencies are unknown (...enter scheduling)
- Scheduling deals with the assignment of jobs to limited resources
- Scheduling considers the temporal restrictions of jobs and the capacity limitations of shared resources to determine the time necessary

Planning and Scheduling Implementation

– Plan the Work and Work the Plan



Slide 5



Planning and Scheduling Implementation – EVMSIH 2.0 Requirements



Slide 6

- 6.A.2. Does the IMS contain project milestones, project events, key project decision points and external dependencies that are logically linked within the network schedule/IMS to support critical path analysis?
- 6.B.1. Does the network schedule/IMS describe the sequence of work (horizontal integration) and clearly identify significant interdependencies that are indicative of the actual way the work is planned and accomplished at the level of detail to support project critical path development?
- 6.B.2. Is there vertical schedule integration, (i.e., consistency of data between various levels of schedules (including subcontractor and field level schedules) and do all levels of schedules support the project schedule requirements?

Planning and Scheduling Implementation

– Horizontally and Vertically Traceability



Slide 7

- The traceability between the various levels of schedules is designed to ensure that milestones and activities which represent the completion of work are time integrated (aligned) at ascending schedule levels and terminate at a corresponding next higher level schedule
- The number of schedule levels (or tiers) is a function of project complexity and size



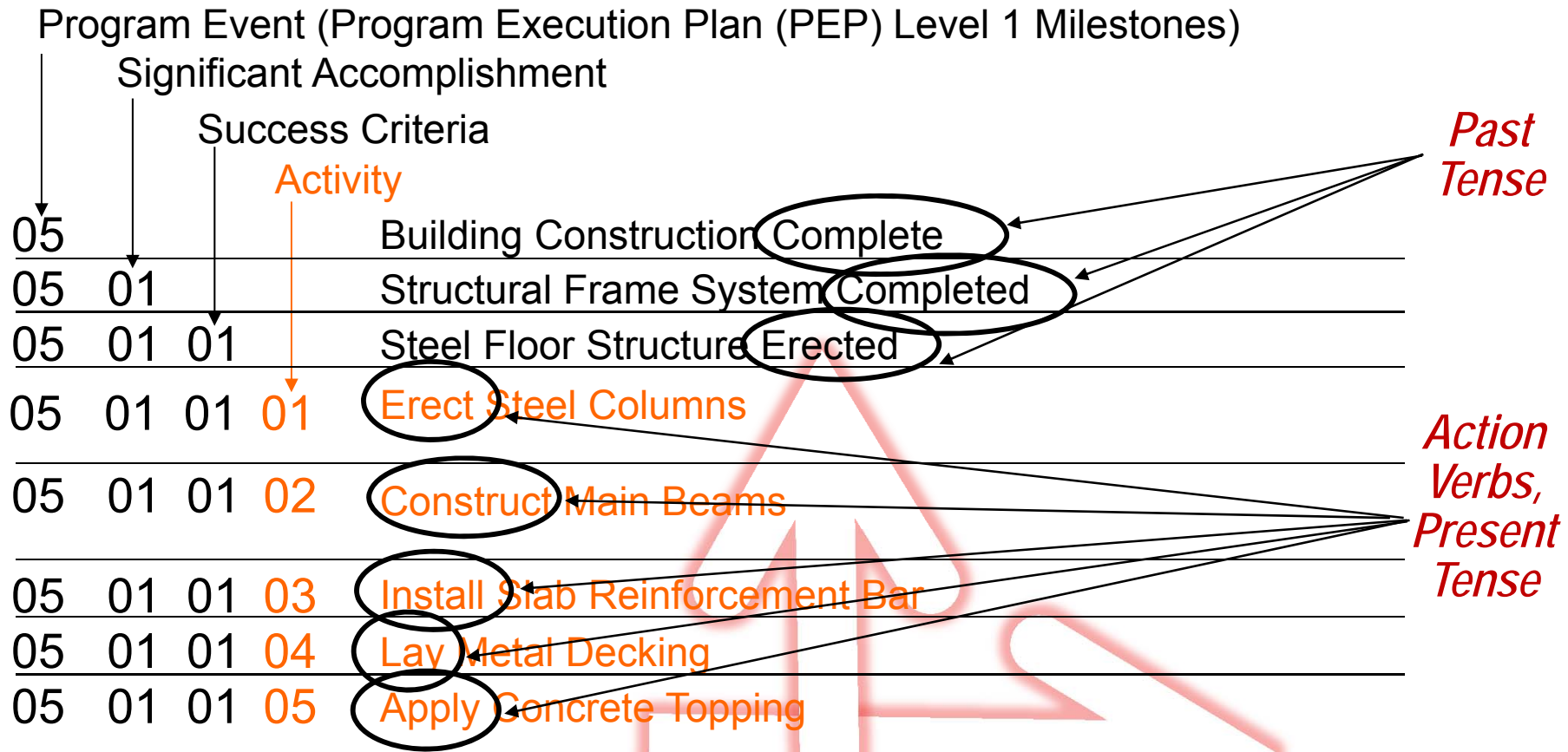
Planning and Scheduling Implementation – Horizontally and Vertically Traceability



Slide 8

- **The Integrated Master Plan (IMP) and IMS Concept**
 - IMP is a top down, event-driven plan that documents the key events, accomplishments, and criteria in the design and construction of a project
 - IMP is the ‘What’ and ‘How’
 - IMP is expanded in Integrated Master Schedule (IMS) to incorporate all detailed activities required to accomplish individual IMP criteria
 - IMS is the ‘When’ and ‘Who’
 - The event driven plan answers the question: ‘What does done look like, rather than what work has been done’

Planning and Scheduling Implementation – Horizontally and Vertically Traceability



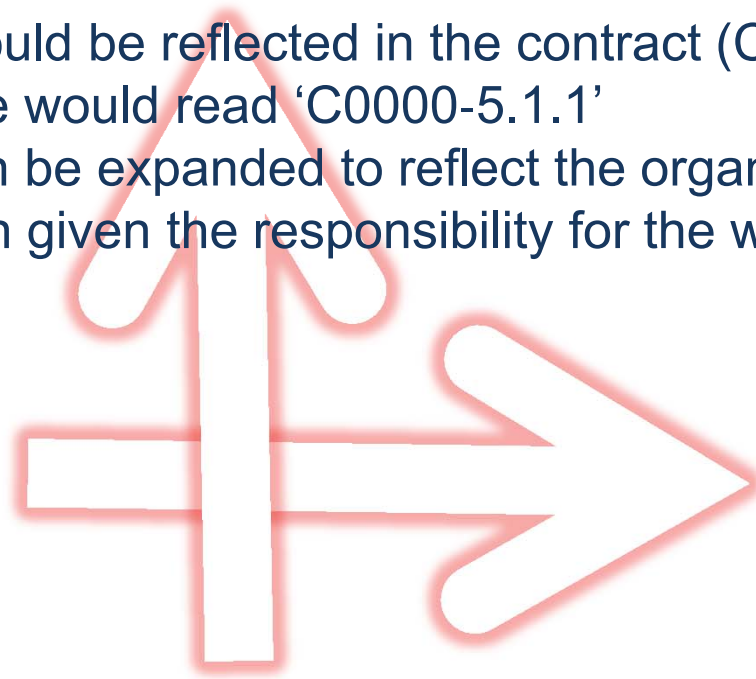
Planning and Scheduling Implementation

– Horizontally and Vertically Traceability



Slide 10

- Combining the IMP alpha-numeric numbering system with the WBS creates a single numbering schema that enables traceability through the project schedule (IMS)
 - Work package activities pertaining to the Success Criteria ‘Steel Floor Structure Erected’ for the start of the Project Event ‘Building Construction Complete’ with a WBS identifier ‘5.1.1’ would contribute to a single numbering code that would be reflected in the contract (C0000).
 - The alpha-numeric code would read ‘C0000-5.1.1’
 - This coding scheme can be expanded to reflect the organization or trade group ‘AA’ that has been given the responsibility for the work and would read ‘C0000-AA-5.1.1’



Top 8 Emerging EVMS Compliance Topics



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1. Planning and Scheduling Implementation
2. **Schedule Levels of Detail**
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8. Schedule Margin

Schedule Levels of Detail

– EVMSIH 2.0 Requirements



Slide 12

- Activity names contain noun-verb combinations, are descriptive, and are clear enough to identify their associated product
- Scope of work must be clear, activity durations realistic, and resources assigned for accomplishing the work must be appropriate
- Shorter-term work packages (i.e., no more than 44 work days) are preferred because they provide a clearer understanding of the critical path, more accurately measure work accomplishment
- Dependencies and logic (CAM strategy) between activities provides visibility as to how delays in one activity could impact future activities, and potentially the entire project to be delayed
- Alternative work strategies and workarounds should be modeled in the forecast IMS to produce a valid and realistic (calculated) critical and near critical paths

Schedule Levels of Detail

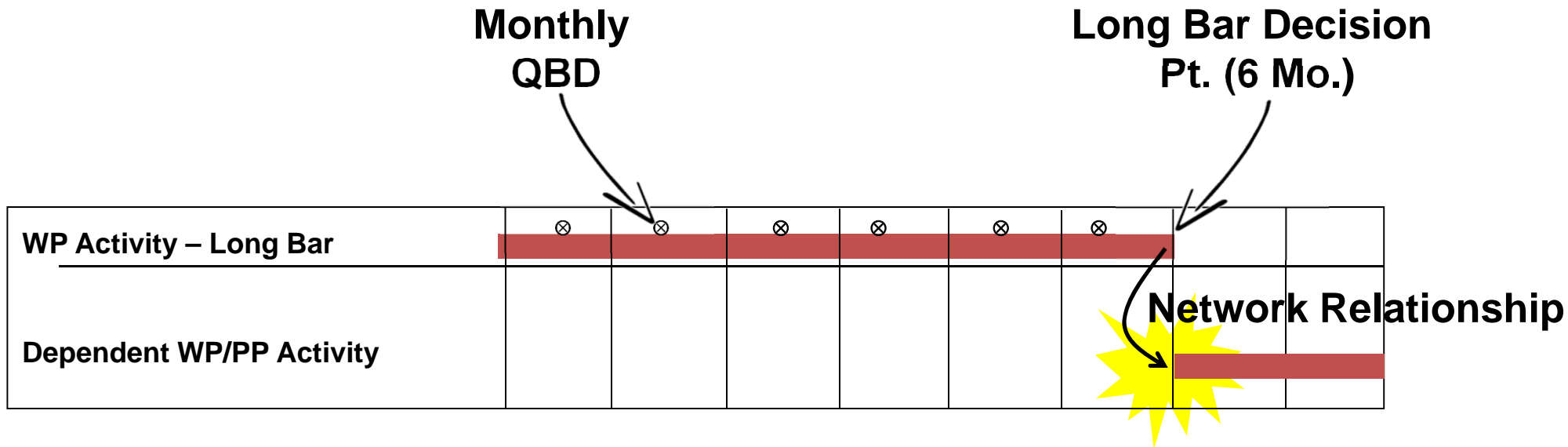
– EVMSIH 2.0 Requirements



Slide 13

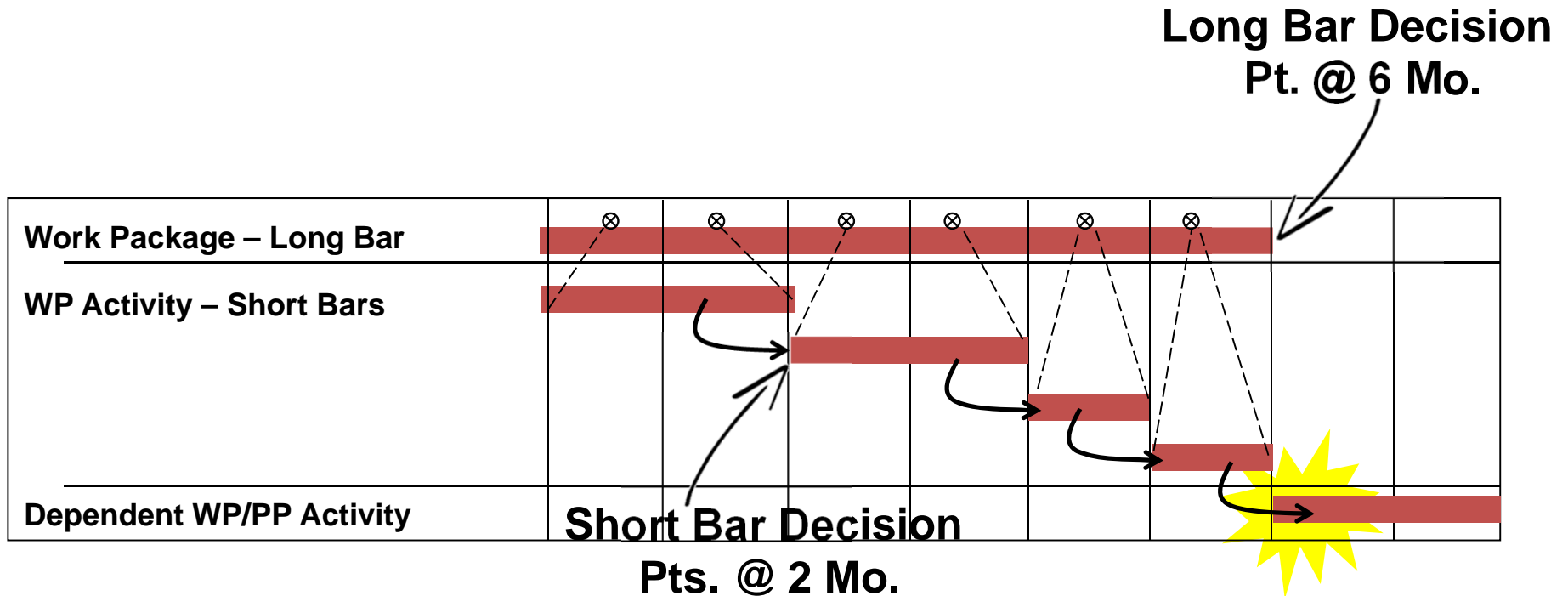
- 6.A.2. Does the IMS contain project milestones, project events, key project decision points and external dependencies that are logically linked within the network schedule/IMS to support critical path analysis?
- 6.B.1. Does the network schedule/IMS describe the sequence of work (horizontal integration) and clearly identify significant interdependencies that are indicative of the actual way the work is planned and accomplished at the level of detail to support project critical path development?
- 6.B.5. Is the schedule broken into short baselined discrete activities in the detailed planning period?

Schedule Levels of Detail – Long Bars



Typical finding – ‘Punch List Management’ - Long work packages (or activities) make it difficult to accurately assess the schedule (time) impacts caused by work delays, and how those delays alter the project critical path and near critical paths.

Schedule Levels of Detail – Long Bars



Top 8 Emerging EVMS Compliance Topics



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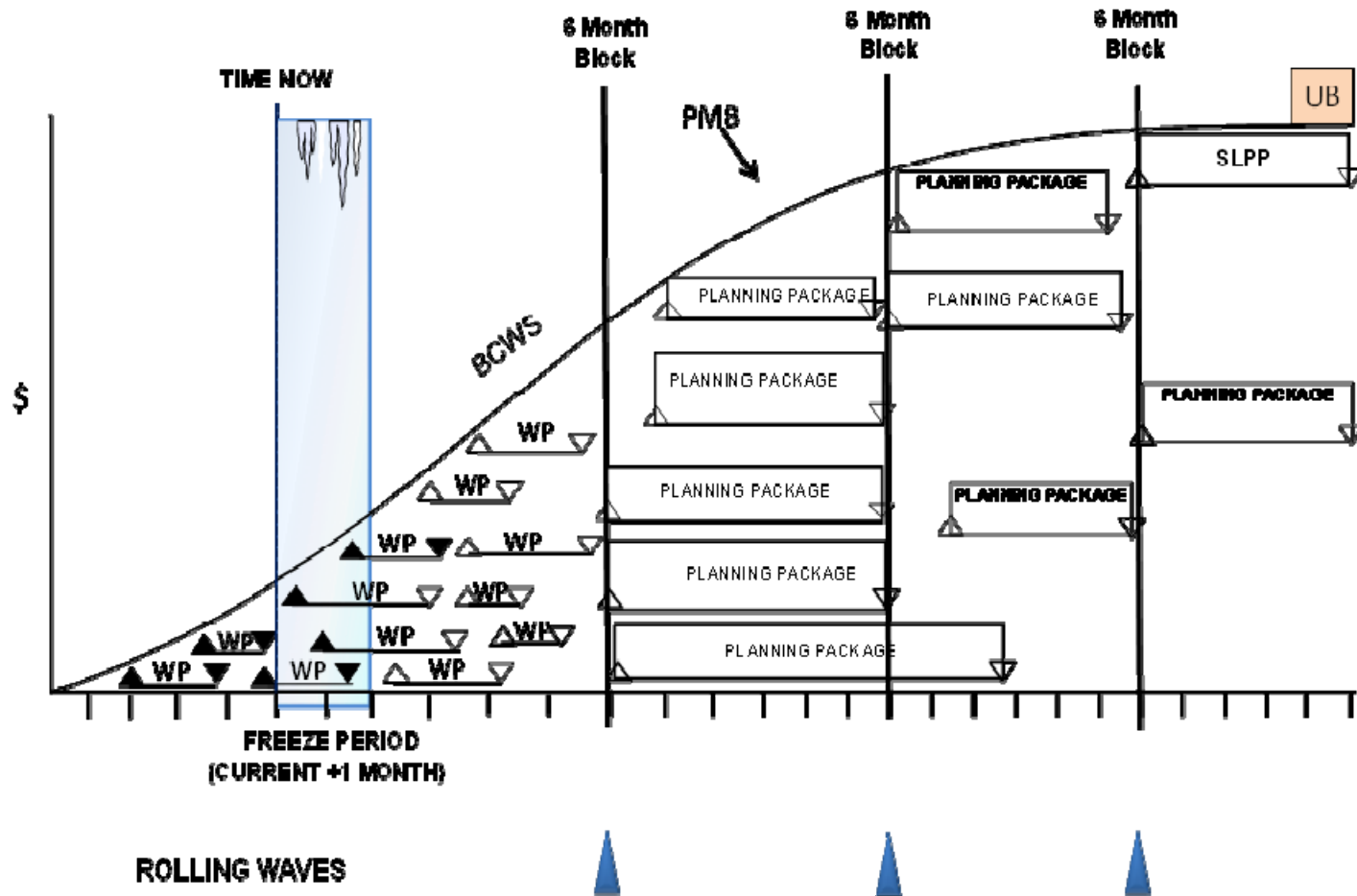
Planning Horizons



Slide 17

- Planning horizon strategy must define the frequency for which ‘future’ work efforts are planned and scheduled
- Planning horizons following a rolling wave or block plan are often performed on a regular set basis i.e. 6 months, year, next major milestone or event
- Schedule is systematically updated by adding greater levels of detail to reflect changes of project circumstances and strategies
- Schedule and time phased PMB must be in sync and reflective of current project circumstances in order to maintain the accuracy and usefulness of the baseline
- Periodically review the planning horizon over the life of the project to determine if the methodology still meets the needs of the project
- Consider using different planning horizons on different aspects of the project

Planning Horizons – Illustrative Example



Planning Horizons

– EVMSIH 2.0 Requirements



Slide 19

- 6.B.6. Has a planning horizon methodology been implemented within the prior 12 months or to the next major project technical milestone or critical decision gate?
- 29.B.2. Are internal changes fully authorized consistent with the contractors change control/SD process?



Top 8 Emerging EVMS Compliance Topics



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Procurement Planning



Slide 21

- Like any construction activity, procurement activities must be planned and coordinated with suppliers and accurately reflected in the schedule for coordination purposes
- Timely identification of problems and delays on the procurement of key materials and equipment can have a domino effect on successor construction activities
- Material must be segregated from other elements of cost as performance is earned differently

Procurement Planning



Slide 22

- Baseline reflective of final negotiated delivery dates
- Leading up to final negotiations the need date should be used
- If a negotiated delivery date occurs prior to the actual need date, the baseline project schedule should reflect the negotiated delivery date
- If the construction installation successor activity is not immediately needed to be completed, the procurement activity should report a positive float value leading to its successor installation activity
- The procurement activity should not be arbitrarily planned and baselined inconsistent with the negotiated delivery date and procurement system

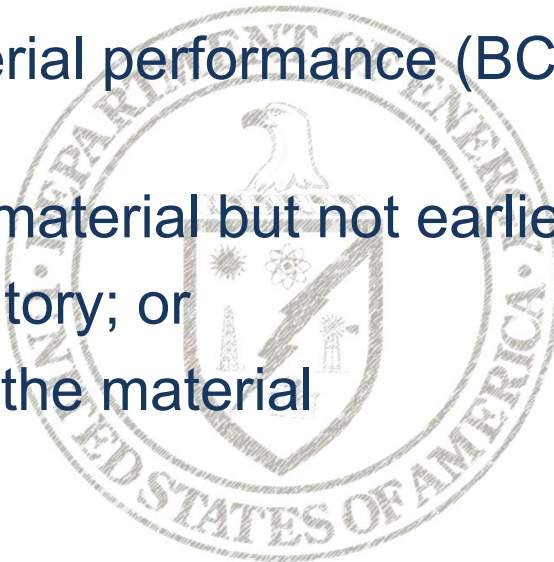
Procurement Planning

– EVMSIH 2.0 Requirements



Slide 23

- 10.A.9. Are the EVT's for material consistent with the manner in which material is planned?
- 21.A.2. Is HDV material performance (BCWP) recorded in one of the following ways:
 - Upon receipt of material but not earlier;
 - Issue from inventory; or
 - Consumption of the material

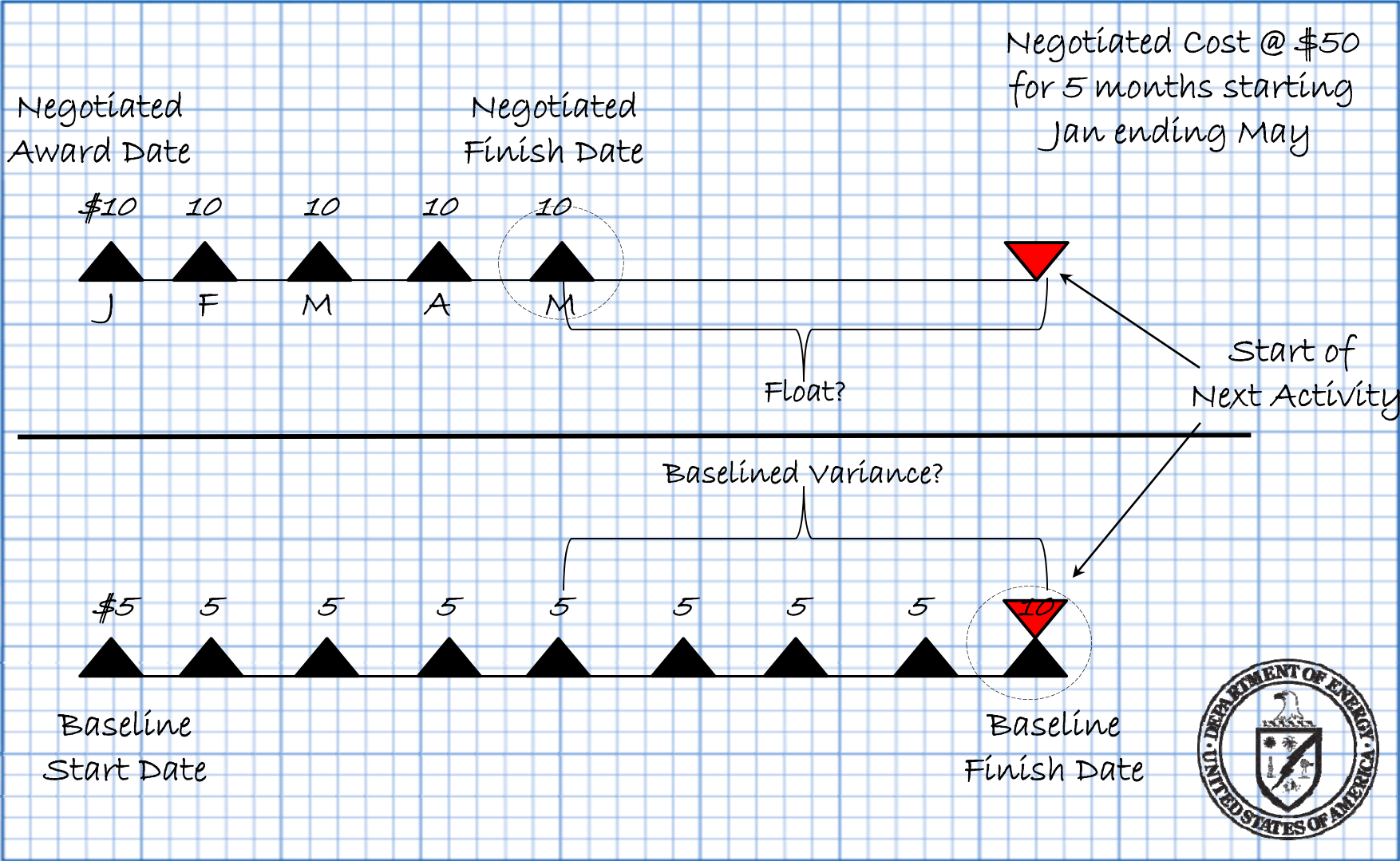


Procurement Planning – Illustrative Example



Fabrication of Kev Component
 NAME: M. Franklin DATE: 12-15-2000

EEWeb



Top 8 Emerging EVMS Compliance Topics



Slide 25

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- The contractor should provide a documented methodology (i.e., process flow) for how LOE work is distinguishable from that of discrete and apportioned work
- LOE support activity can be replanned should the discrete work it's associated to start early or slip out to a later date (whether baseline planned or just a forecast slip)
- Replan future LOE to correlate to the changes in the discrete work
- LOE has additional flexibility and may be adjusted within the current accounting period, without government approval, provided no actual costs (ACWP) have been charged to the LOE
- Notify your customer if you must change prior period data so they know what you are doing and the reason you may have BCWP with no ACWP or ACWP with no BCWP for LOE support tasks



- Include the notice in your CPR/IPMR Format 5 where applicable.
- No prior notification or government approval is required to replan LOE work if:
 - the replanning is applicable to the next accounting period onward,
 - does not cause the TAB to exceed the CBB, and
 - does not cause or constitute a slippage of a contractually required milestone
- Prior government approval is required if:
 - changes to open work packages that affect or change performance measurement data (BCWS, BCWP) in the current or prior accounting periods,
 - changes to LOE data in prior accounting periods or changes to current LOE when the accounts have incurred charges (ACWP)

LOE Replanning

– EVMSIH 2.0 Requirements



Slide 28

- 12.A.1. Is the LOE EV technique only used for effort where measurement is impractical or work that does not produce a definable end product?
- 29.C.1. Are changes to BCWS in open work packages beyond the freeze period limited to time phasing the existing budget?
- 29.C.2. Are open LOE work packages with insignificant cumulative ACWP reviewed for purposes of replanning to reduce false variances?

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Late Date Baseline



Slide 30

- Schedule baseline must reflect management's execution plan and produces consequential performance metrics consistent with the program time phased performance measurement baseline plan
- Schedule baseline represents the original configuration (early dates) of the program budget plan and signifies the consensus of all stakeholders regarding the required sequence of events, resource assignments, and acceptable dates for key deliverables

Late Date Baseline

– EVMSIH 2.0 Requirements



Slide 31

- 6.B.1. Does the network schedule/IMS describe the sequence of work (horizontal integration) and clearly identify significant interdependencies that *are indicative of the actual way the work is planned and accomplished* at the level of detail to support project critical path development?



Top 8 Emerging EVMS Compliance Topics



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Non-Baseline ETC Only Activities

- Occasionally, it may be necessary to insert additional activities in the forecast schedule that are not reflected in the baseline
- Non-budgeted activities required to be placed into the forecast IMS for visibility and management control purposes should have unique and separate designations
- ETC tasks must be separately identified in either the activity name or activity code field
- IMS network must be expanded (and calculated) to consider the logic with ETC Tasks
- Use of ETC tasks in the forecast schedule be limited in use and is not a substitute for the absence of an adequate level of detail and fidelity in the baseline schedule
- ETC tasks should not exceed 5% of the forecast schedule



Non-Baseline ETC Only Activities

- The addition of: emerging work activities, work around' s, or “ETC only” activities etc., to the forecast schedule which are not in the baseline is not currently permitted by EVMSIH 2.0
- 6.B.1. Does the network schedule/IMS describe the sequence of work (horizontal integration) and clearly identify significant interdependencies that are indicative of the actual way the work is planned and accomplished at the level of detail to support project critical path development?
 - 6.B.1: 4.A and 4.B

4. Verify alignment between the baseline and forecast IMS	a. X = Count of activities and milestones in the baseline IMS but not represented in the forecast IMS b. X = Count of incomplete activities and milestones in the forecast IMS but not represented in the baseline IMS.
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ETC DISCUSSION

• PROS

- Concept endorsed by GAO and PASEG
- Provides separation from DOD - establish DOE credibility
- Promotes EVM as mgt tool vs just a reporting tool
- Promotes better variance analysis and corrective actions
- Considers contractors' best mgt practices over gov audit preference

• CONS

- Departure from conventional DoD/CSCSC thinking
 - Set precedence for OMB EVMS § between agencies
- Opens door for contractor manipulation
- Contributes to lack of understanding and appreciation for the BASELINE
 - Mgt by forecast (or targets w/no tie back to baseline)
- Contradicts PM message for greater detail in the IMS
- Promotes a loosening of EVMS discipline

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Slide 36

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8. **Schedule Margin**

Schedule Margin



Slide 37

- The duration of the SM in the baseline and forecast schedule should be equal at the start of the project, or the start of the CD phase it supports
- As time progresses and the IMS forecast is updated, the SM may be changed at the direction of the contractor PM
- SM may be consumed (over time) in the forecast schedule with monthly changes documented in the IPMR/CPR Format 5 report
- Analysis should take into account the rate of consumption of SM compared to the percent complete of the project
- It may be reduced to zero days of duration over the course of the project based on risk impacts and managerial actions

Schedule Margin



Slide 38

- 6.A.3. Is schedule margin (if any) identified, logically planned, and in the baseline and forecast IMS?
 - If schedule margin is used in the IMS, whether modeled using a SVT activity or constrained milestones creating a gap, it must be clearly identified in the IMS
 - To ensure clarity, the activity name contains the text “Schedule Margin”
 - It should also be assigned to a code field to support filtering requirements of schedule analysis
 - SM is baselined in the IMS to represent the project’s schedule reserve to meet the schedule completion date



DOE PM Website - ENERGY.GOV/PM

Please find the full set of slides presented at the IPMW DOE Track on the DOE PM Website EVM Page <http://www.energy.gov/projectmanagement/earned-value-management>

EARNED VALUE MANAGEMENT

- Project Management
- Earned Value Management**
- EVMS Guidance
- EVM SMEs
- Training
- Glossary of Terms & Acronyms
- Career Development (PMCDP)
- Policy Development
- Information Systems



KEY RESOURCES

- PMCDP
- EVMS
- PARS IIe
- FPD Resource Center
- PM Newsletter
- Forms and Templates

The mission of the DOE Earned Value Management website is to educate and train on theory and practice of Earned Value Management, and use it as an integrated Project Management process.

Earned Value Management (EVM) is a systematic approach to the integration and measurement of cost, schedule, and technical (scope) accomplishments on a project or task. It provides both the government and contractors the ability to examine detailed schedule information, critical program and technical milestones, and cost data.