RESONABLE TOTAL FLOAT[1]

Statement of Issue:

Resolving issues tied to reasonableness of Total Float for projects subject to DOE O 413.3B *chg.* 6 is inconsistent throughout DOE. One outcome of planning and executing activities with unreasonable Total Float is masking performance variances that provide project managers important insights for utilizing limited resources in the most effective manner. Also, schedules reporting unreasonable Total Float often result from poor assumptions for allocating resources, introduce new risks, and increase the likelihood and impact of existing risks. In DOE specifically, the planning of resources is crucial, given the often-unique combination of the limited availability of specialized resources, limited facility access and significant operational constraints including security and safety considerations.

Reasonable Total Float Threshold:

To assess the reasonableness of total float, a metric is utilized to isolate the population of activities in the Integrated Master Schedule (IMS) exceeding a defined threshold. The reasonable Total Float metric threshold is dynamic, with the total float threshold equal to or greater than 10% of the project's remaining duration. To calculate the threshold:

- Calculate the length of the remaining duration of the project considering all work calendars, by subtracting the current data status date[2] from the last activity/milestone in the IMS. The period should align with the time-phased Performance Measurement Baseline (PMB). 10% of the remaining duration of the project, is used as the threshold for identifying activities that have Total Float above the threshold.[3]

Assessing and Resolving Unreasonable Total Float in an IMS:

The existence of Total Float more than the threshold described above does not automatically constitute poor planning and scheduling, or an invalid IMS. However, while Total Float of an activity more than the threshold can on occasion be acceptable and signify those activities that do not have to be completed within 10% of remaining duration before they impact an event or milestone or the completion date of the project, it should be assessed from the standpoint of optimizing the allocation of resources.[4]

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[1] Total float is the amount of time that a schedule activity can be delayed from its early start date without delaying the project finish date or impacting a schedule constraint.

[2] Status Date is the date to which the project schedule (i.e., Oracle Primavera P6 file) has been updated.

[3] Illustrated Example of 10% Sliding Scale Calculation:
3 Year Project using 5-day calendar (365 days x 3 years = ***1,095 days***) – (104 days Saturday and Sundays x 3 years = ***312 days***) = ***783 total working days***
Scenario 1: Status through M/E May 2022 or 120 days of 783 total days.
783 – 120 = 663 days remaining
10% Total Float metric value applied to all incomplete activities = ***66 days***
Scenario 2: Status through M/E December 2023 or 522 days of 783 total days.
783 – 522 = 261 days remaining
10% Total Float metric value applied to all incomplete activities = ***26 days***

[4] The planning and scheduling process could identify the availability of resources to execute workflow, generating resourcing plans that are iteratively developed until aligned with budget levels and resource constraints.

Activities having Total Float more than the threshold should be judiciously planned and transparently communicated. It is noted that Total Float more than the threshold is sometimes used as a risk mitigation strategy. However, using Total Float as risk mitigation without regard to the integration with all other facets of project management, specifically a project's risk management process, can lead to avoidable planning, scheduling, and budgeting issues caused when there is a divergence in the planned progression.

During planning and scheduling, and routine surveillance, the following methodology below is suggested as a general process to assess, resolve, and manage activities with high Total Float.

1. Identify, document, and report activities with total float more than the threshold of 10% of a project's remaining duration.
2. Activities with Total Float more than the threshold should be analyzed via a "schedule walkdown" (schedule review) by the PM, CAM(s), PCE(s), risk manager(s), and technical SME(s) to mitigate silo planning and merge bias and ensure appropriate workflow and corrections to logic links and durations are made as needed via established change control procedures. Results should be documented. Key things to assess include:
   - **i.** workflow relationships,
   - **ii.** resource constraints,
   - **iii.** preferential logic where appropriate, and
   - **iv.** activity durations.

Schedule walk-downs (reviews) should also engage and consider the risk management process. If the activities which have Total Float more than the threshold are identified as risk mitigation actions, then review integration with the project's risk register. These activities should be thoroughly evaluated, including an assessment of the risk trigger dates. Additionally, a population of similar types of activities that have Total Float more than the threshold such as procurements can manifest as a workflow bow-wave and introduce additional risks such as those associated with material management system discrepancies as well as quality and physical degradation due to inappropriate storage.

Justification for activities that have Total Float greater than the threshold should be documented and routinely reviewed in future schedule walk-downs to determine if adjustments can be made to workflow, logic links, and/or durations, or ensure that the documented justification remains valid. The primary goal of planning and scheduling should never be to build schedules to meet metric thresholds, but should be to ensure logic, durations, and overall workflow of the project is accurate. This active and ongoing management process[5] to understand and manage the risks associated with high Total Float should be documented and assessed as part of a contractor's self-governance program.

System Description Differences:

Some definitions of high total float were previously defined as total float value greater than 44 days in some contractor's certified EVM System Descriptions. Since PM will use the current definition tied to 10% of remaining project duration in its EVMS Reviews and External Independent Reviews (EIR). Contractors are encouraged to update their EVM System Description accordingly.

[5] Alternate metrics and controls may be applicable to verify the process is still in control and risk is managed. An alternate method for work that can be done in any sequence might be used to demonstrate the activities with total float more than the threshold are being managed and not overlooked.