



EFCOG Risk Management Task Group – Initiative 2.4



Demolition at Hanford Site

Management of Schedule Reserve (Margin) within the Integrated Master Schedule

Presented by JR Thomas

May 02, 2018



Agenda



- Survey Development
 - Schedule Reserve (Margin) matrix
 - Survey/companion document development
- Summary of results
- Recommendations
- Survey results

Survey Development

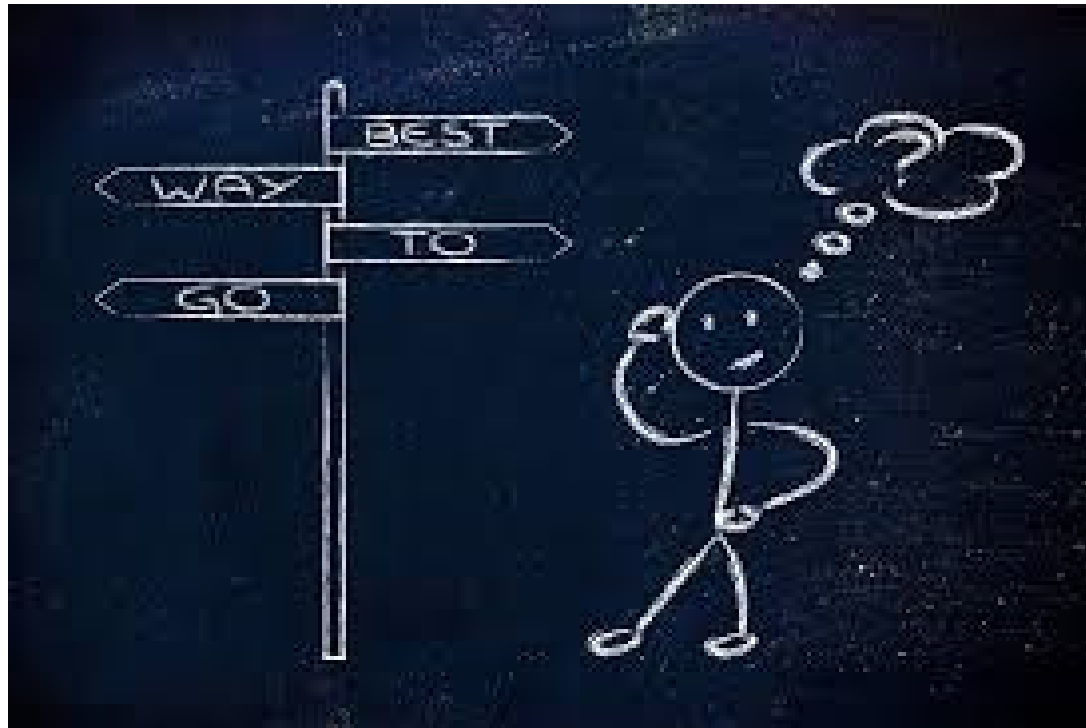


- Schedule Margin Matrix [\(Open\)](#)
- Survey
 - Terminology
 - Implementation
 - Monitoring
 - Documentation/Reporting
- Companion document [\(Open\)](#)

Summary of Results



“Consistently inconsistent”



Summary of Findings



- Risk Management references
- Implementation of Schedule Reserve (Margin) when SRA results extend past the contractor's Period of Performance (POP)
- Forecasting remaining Schedule Reserve (Margin) when challenged with extending past POP, or enforceable/incentivized milestones

Summary of Observations



- Terminology across DOE complex
- Establishing policy for Schedule Reserve (Margin) within the EVMSD
- Reporting requirements are not documented in DOE G 413.3-7A, Risk Management Guide
- Implementation of DOE Schedule Contingency into IMS
- Implementation of Schedule Reserve (Margin) for Non-Capital Projects
- Evaluation of Schedule Reserve (Margin)
- No budget associated with Schedule Reserve (Margin)

Recommendations

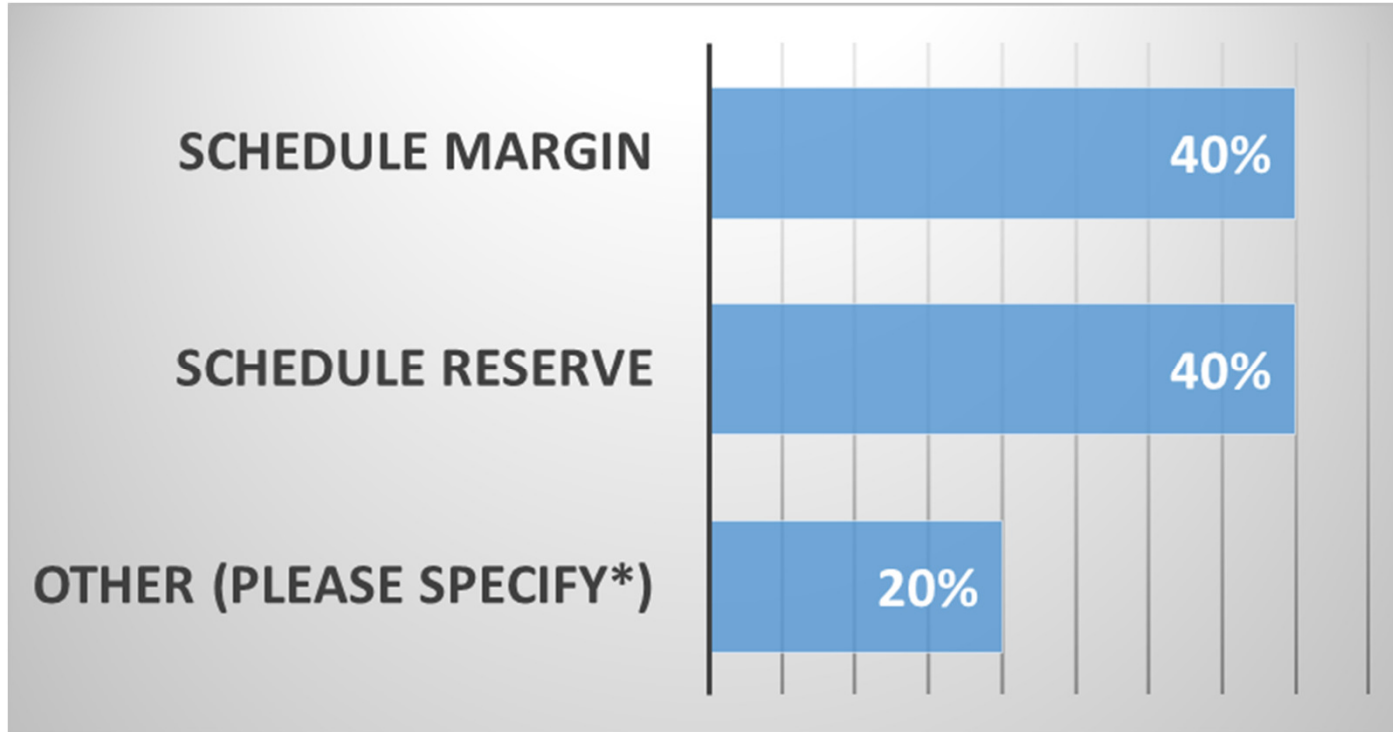


- Publish best practice initiative for management of schedule reserve (margin) within the IMS
 - Obtain consensus for path forward related to findings and observations (following slides)
- Initiate FY19 initiative to implement a comprehensive risk management best practices by functional areas for both CAP and Non-CAP
 - Estimating (change proposals, GAO twelve step process)
 - FAR part 15 (31.205-7 Contingencies)
 - Project Controls Implementation (WBS, coding, forecasting)
 - Reporting
- Identify DOE sponsor to champion a Risk Management Implementation Guide to supplement DOE G 413.3-7A

Survey Results



What term is used for Schedule Reserve (Margin)?



* Schedule contingency (contractor & federal)

* Terms are used interchangeably



Survey Question #1

What term is used for Schedule Reserve (Margin)?



- SME Interpretations

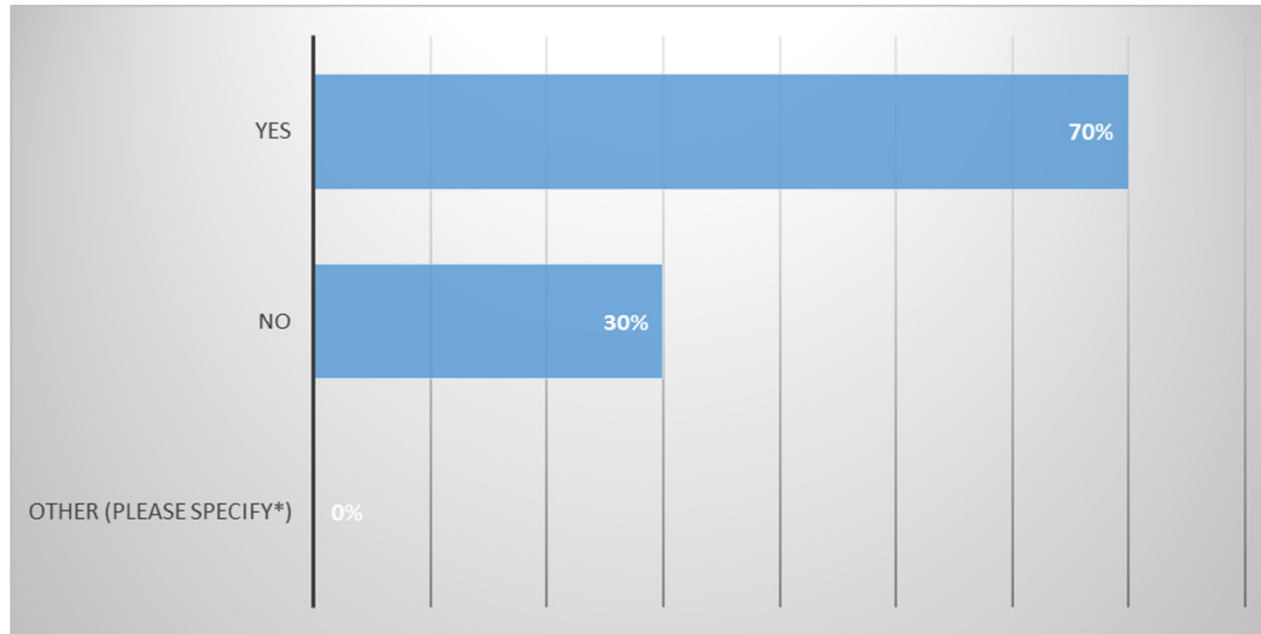
- Often time, terms such as, “Schedule Reserve”, “Schedule Margin” “Schedule Contingency”, “Reserve”, “buffer”, “Margin” etc. are used interchangeably, which can lead to confusion. Based on PM-30 compliance protocols the guideline is looking for a specific naming convention “Schedule Margin”.

- SME Recommendations

- To avoid confusion and to establish consistency across the complex, it is recommended that a single term (Schedule Margin or Schedule Reserve) be implemented across all governing documents. Based on 413.3-7A, Risk Management Guide, for cost the term “management reserve” is used to indicate contractor risks and “contingency” for DOE held risks. It would make sense to follow the same naming convention for schedule risk by using “schedule reserve” for contractor schedule risks and “schedule contingency” for DOE schedule risks.



Does the Earned Value Management System Description (EVM SD) establish the policy for the development and maintenance of Schedule Reserve (Margin)?



* Planning and Scheduling Guidance, subordinate document to the EVM SD



Survey Question #2

Does the Earned Value Management System Description (EVM SD) establish the policy for the development and maintenance of Schedule Reserve (Margin)?



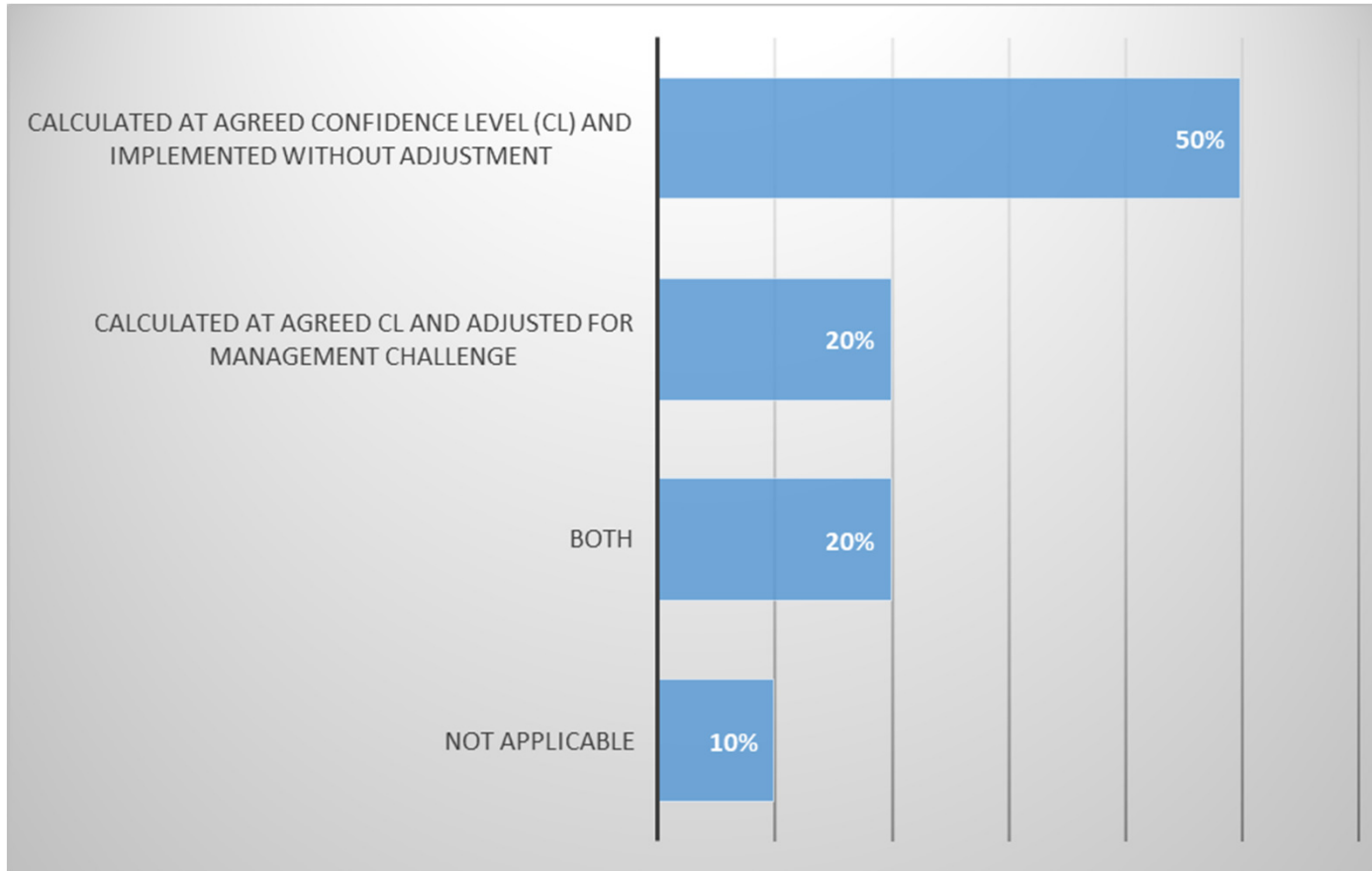
- SME Interpretations

- Based on the PM-30 EVMS COMPLIANCE PROTOCOLS DESKTOP INSTRUCTION, Section 6.A.2, the contractor EVM SD should establish the policy for the development and maintenance of SM. Based on the term "should" this introduces subjectivity into the guidance.

- SME Recommendations

- Based on the term "should" referenced in the EMVS protocol, it is recommended that the contractors EVMSD provide a summary level of the SM process and reference Risk Management governing documents for additional information.

How is Schedule Reserve (Margin) determined for Capital Asset Projects?



Survey Question #3

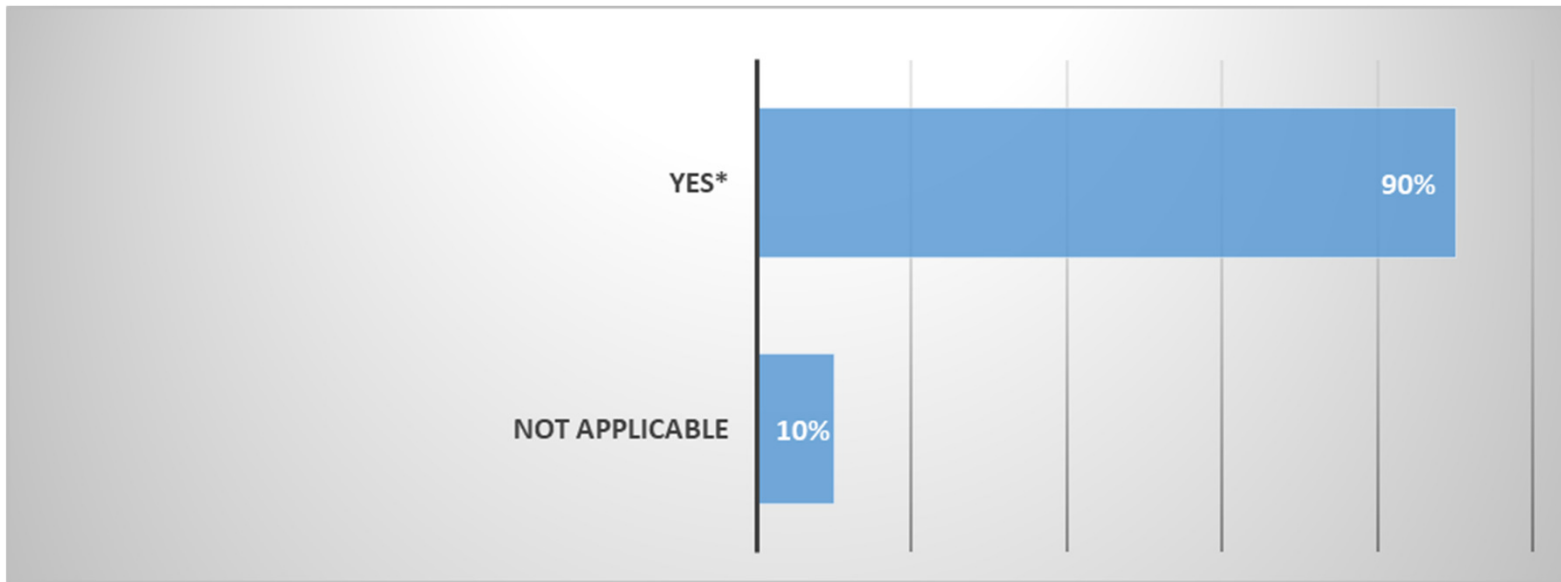
How is Schedule Reserve (Margin) determined for Capital Asset Projects?



- SME Interpretations
 - Since SM is contractor owned to account for risk/uncertainties for the work scope identified in the statement of work, it is the Project Managers responsibility to choose the percentile that represents the organization's risk tolerance.
- SME Recommendations
 - Since the SM is allowed to be adjusted, based on the organizations risk tolerance it is recommended that projects adhere to the DOE Risk Management Guide (DOE G 413.3-7A) and demonstrate a higher confidence level of success. Any adjustments made to the SRA results need to be addressed in the appropriate contractors governing documents (i.e. PEP, Risk Analysis Report).



Is Schedule Reserve (Margin) Implemented in the baseline AND forecasted IMS for Capital Asset Projects?



* Schedule Reserve vs. Schedule Margin



Survey Question #4

Is Schedule Reserve (Margin) Implemented in the baseline AND forecasted IMS for Capital Asset Projects?



- SME Interpretations

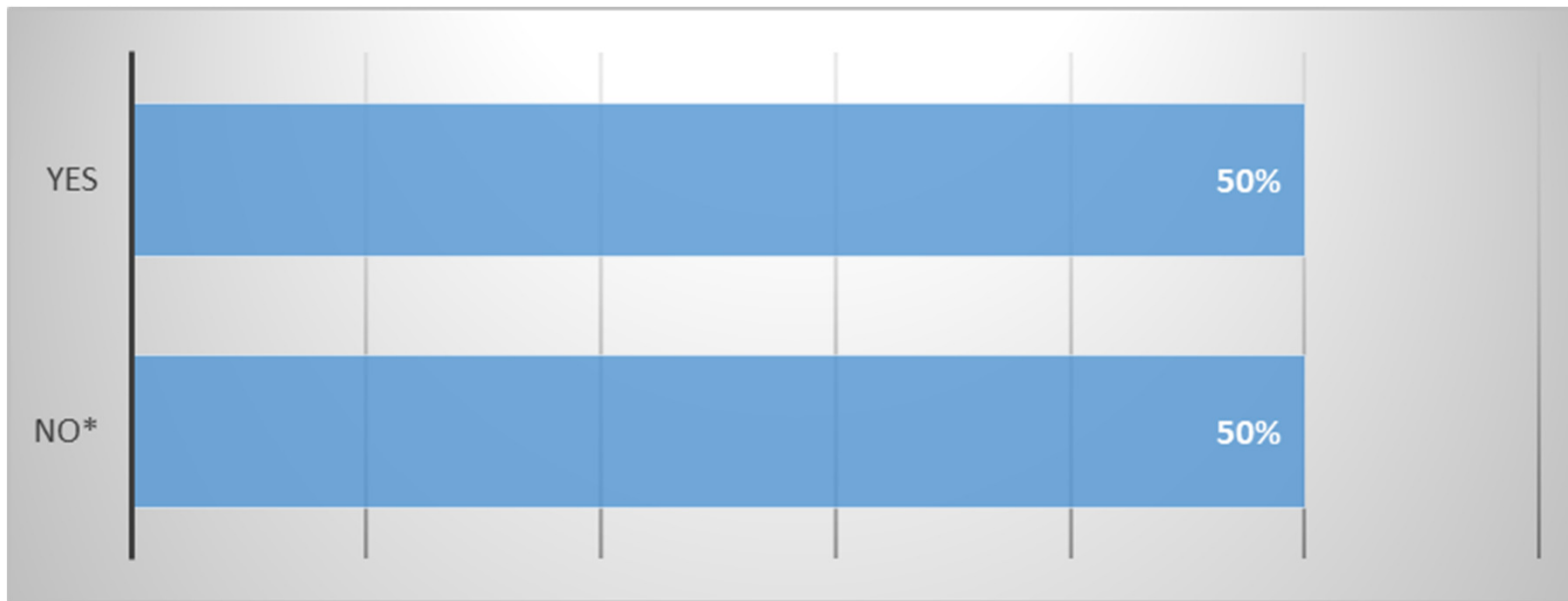
- S.M. should be a single activity that is visible to management to mitigate known or discovered risks throughout the CD process. In addition, it shall have the name “SCHEDULE MARGIN” in the text, and a code field assigned to support filtering of schedule analysis, and logically tied to the last discrete activity in a critical decision phase, and a critical decision milestone (such as CD-3 or CD-4).

- SME Recommendations

- Provide additional guidance in DOE 413.3-7A, Risk Management Guide, for naming convention and coding.



Is Schedule Contingency implemented in the baseline AND forecasted IMS for Capital Asset Projects?



* DOE Client has elected to not implement Schedule Contingency into the contractor's IMS.



Survey Question #5

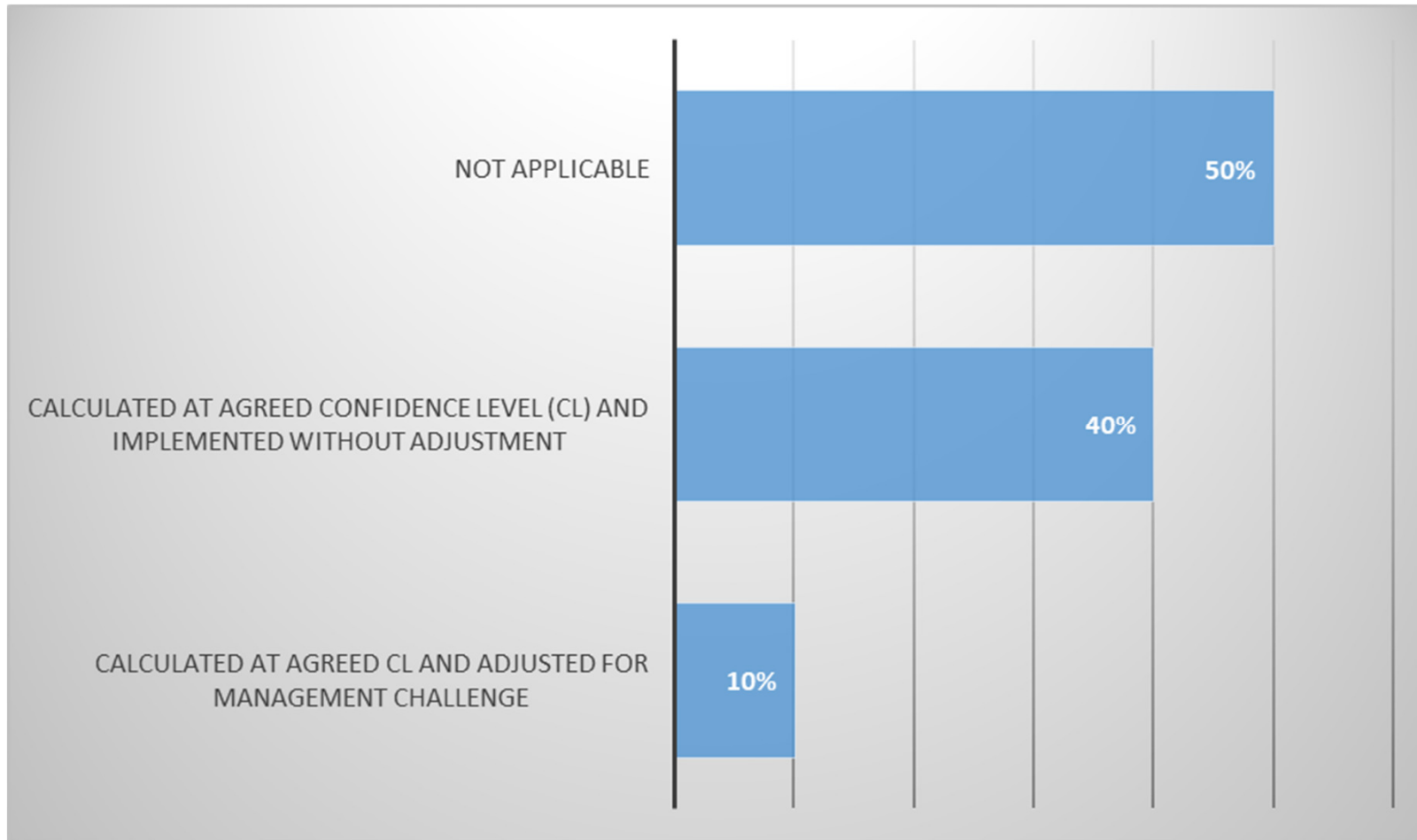
Is Schedule Contingency implemented in the baseline AND forecasted IMS for Capital Asset Projects?



- SME Interpretations
 - Based on the PM-30 EVMS COMPLIANCE PROTOCOLS DESKTOP INSTRUCTION DOE schedule contingency is optional and if used it should be represented as an activity, clearly defined in the activity name as ‘DOE SCHEDULE CONTINGENCY’ and placed after the contractor final delivery.
- SME Recommendations
 - Adhere to Client specific direction to implement Schedule Contingency into the contractors IMS. In addition, Implementation of Schedule Contingency into the contractor’s IMS is not documented in DOE G 413.3-7A, Risk Management Guide. Suggest developing supplemental Risk Management Implementation Guide to account for specific guidelines to follow.



How is Schedule Reserve (Margin) determined for Non-Capital Asset Projects?



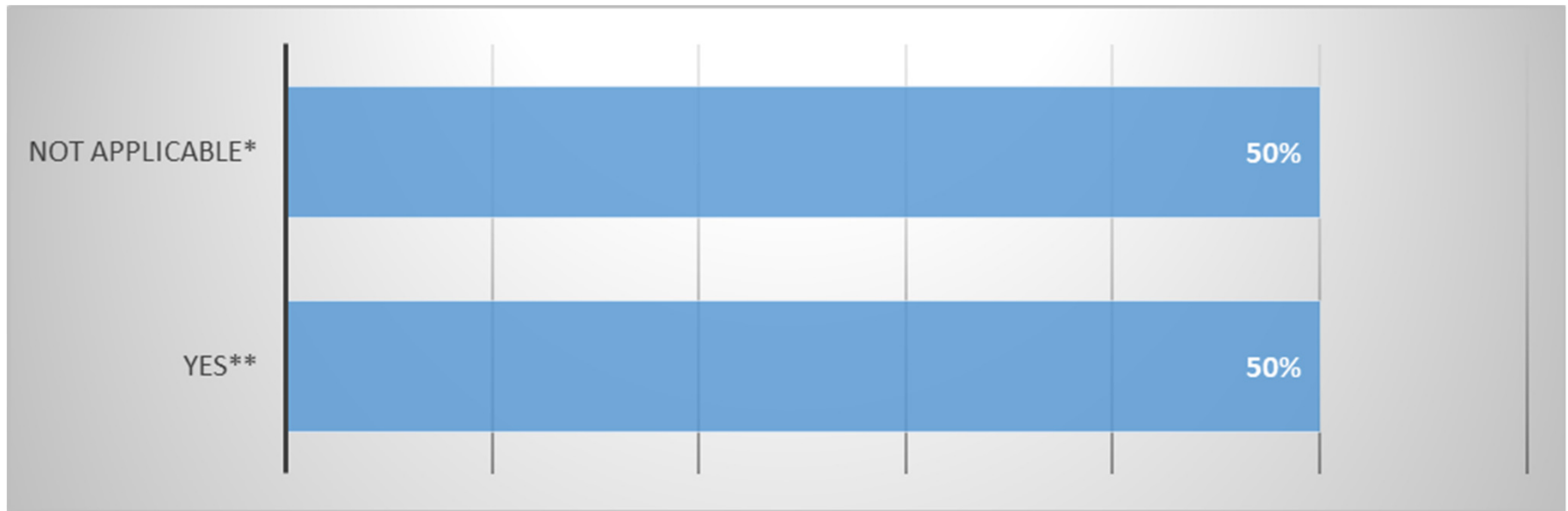
Survey Question #6

How is Schedule Reserve (Margin) determined for Non-Capital Asset Projects?



- SME Interpretations
 - Risk Management will be conducted in the same manner for contractors; therefore, the same principles shall apply for non-Capital Asset Projects but will follow the Key Decision (KD) process. Since SM is contractor owned to account for risk/uncertainties for the work scope identified in the statement of work, it is the Project Managers responsibility to choose the percentile that represents the organization's risk tolerance.
- SME Recommendations
 - With majority of the liability on Operation Activities, and the new Memorandum *Management of the Office of Environmental Management's Cleanup Program* it is recommended that additional guidance is needed above what is already referenced in the EM Memo, and the DOE G 413.3-7A guide.

Is Schedule Reserve (Margin) Implemented in the baseline AND forecasted IMS for Non-Capital Asset Projects?



* Schedule Reserve vs. Schedule Margin



Survey Question #7

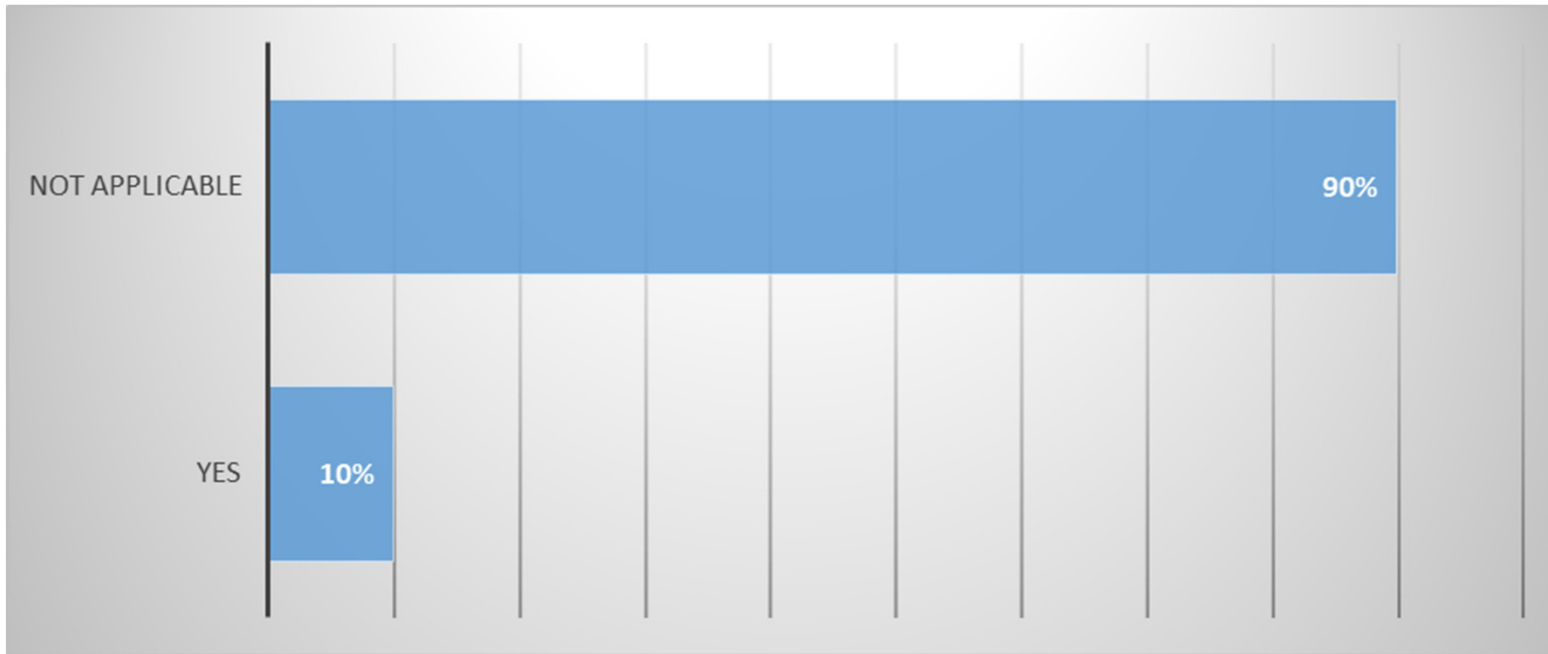
Is Schedule Reserve (Margin) Implemented in the baseline AND forecasted IMS for Non-Capital Asset Projects?



- SME Interpretations
 - Risk Management will be conducted in the same manner for contractors; therefore, the same principles shall apply for non-Capital Asset Projects but will follow the Key Decision (KD) process.
- SME Recommendations
 - With majority of the liability on Operation Activities, and the new Memorandum *Management of the Office of Environmental Management's Cleanup Program* it is recommended that additional guidance is needed above what is already referenced in the EM Memo, and the DOE G 413.3-7A guide.



Is Schedule Contingency implemented in the baseline AND forecasted IMS for Non-Capital Asset Projects?



Survey Question #8

Is Schedule Contingency implemented in the baseline AND forecasted IMS for Non-Capital Asset Projects?



- SME Interpretations
 - DOE contingency should not be included in the segment's baseline or contingency funding requested in advance (except for that approved for capital projects).
- SME Recommendations
 - Develop additional guidance to account for scope contingency planning (fiscal year work plan, integrated priority list)

Does Schedule Reserve (Margin) have budget associated with it?



Survey Question #9

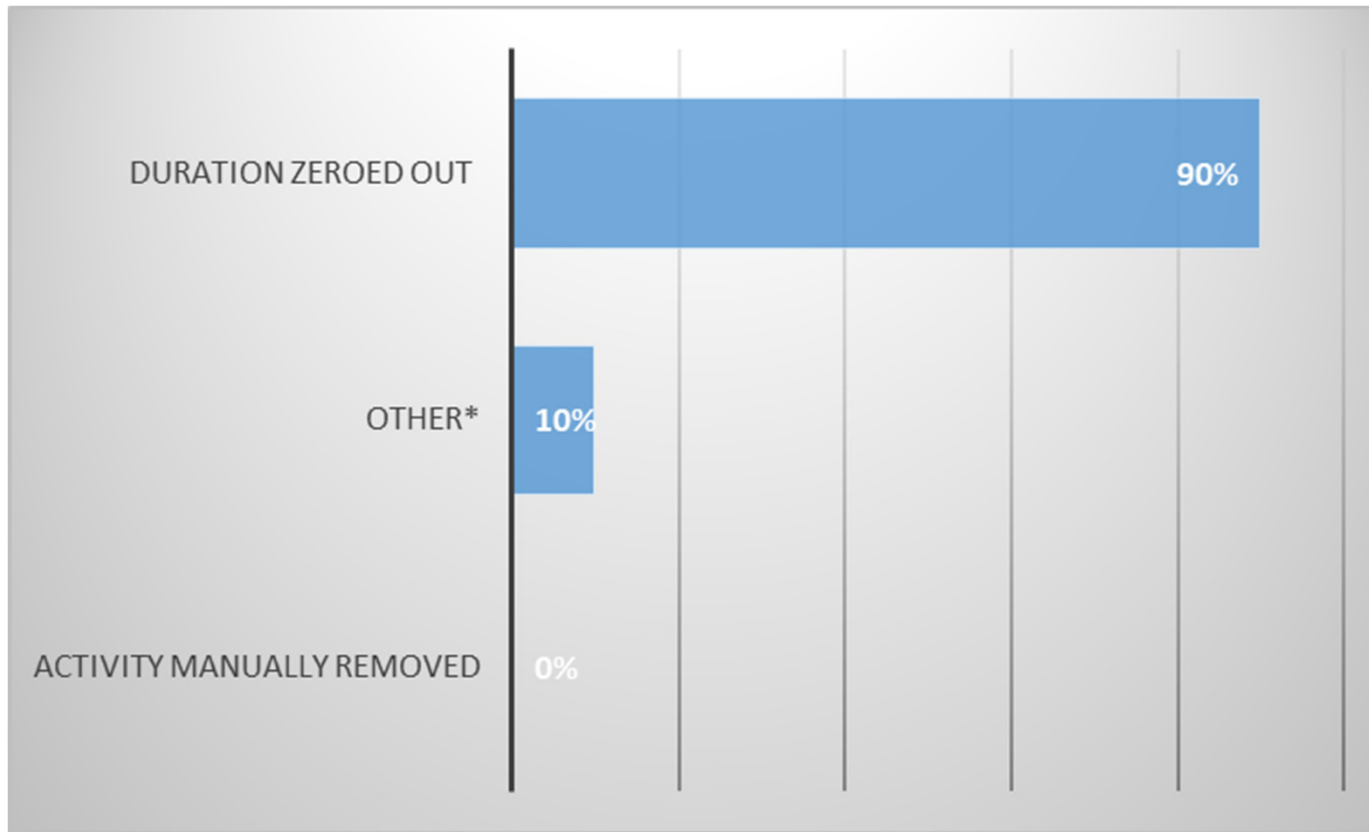
Does Schedule Reserve (Margin) have budget associated with it?



- SME Interpretations
 - Schedule margin is an assessment of the amount of schedule (duration) risk to the project based on the result of an SRA. Management Reserve, where available, is utilized to cover additional budget associated with schedule delays.
- SME Recommendations
 - Incorporate the expectation of no budget assigned to schedule margin into DOE G 413.3-7A, Risk Management Guide



How is established Schedule Reserve (Margin) handled when running a risk analysis?



* SM task is changed to a 1-day duration as P6 can not have a task with zero duration.



Survey Question #10

How is established Schedule Reserve (Margin) handled when running a risk analysis?



- SME Interpretations

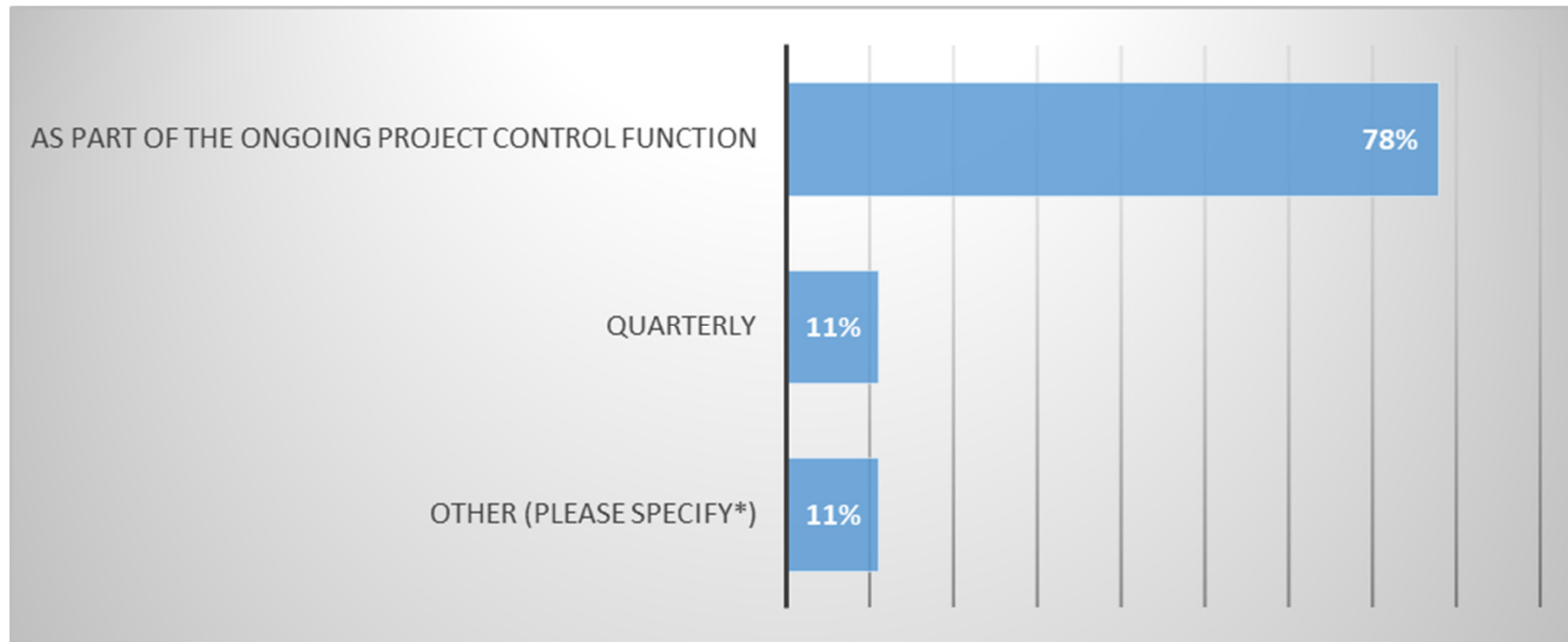
- Any durations associated with SM are zeroed out during the performance of an SRA in order to validate/update the revised confidence interval and potentially to make modifications to the amount of SM on the project. Reducing the duration of SM during the performance of an SRA ensures SM durations are not included (or duplicated) within the SRA thus impacting the risk informed end date of the project.

- SME Recommendations

- Incorporate the expectation of zero day duration schedule margin when reevaluation project risk posture into DOE G 413.3-7A, Risk Management Guide, OR develop supplemental Risk Management Implementation Guide to account for specific guidelines to follow.



How often is Schedule Reserve (Margin) evaluated?



* Monthly for Capital Projects. Other frequency for non-Capital.



Survey Question #11

How often is Schedule Reserve (Margin) evaluated?

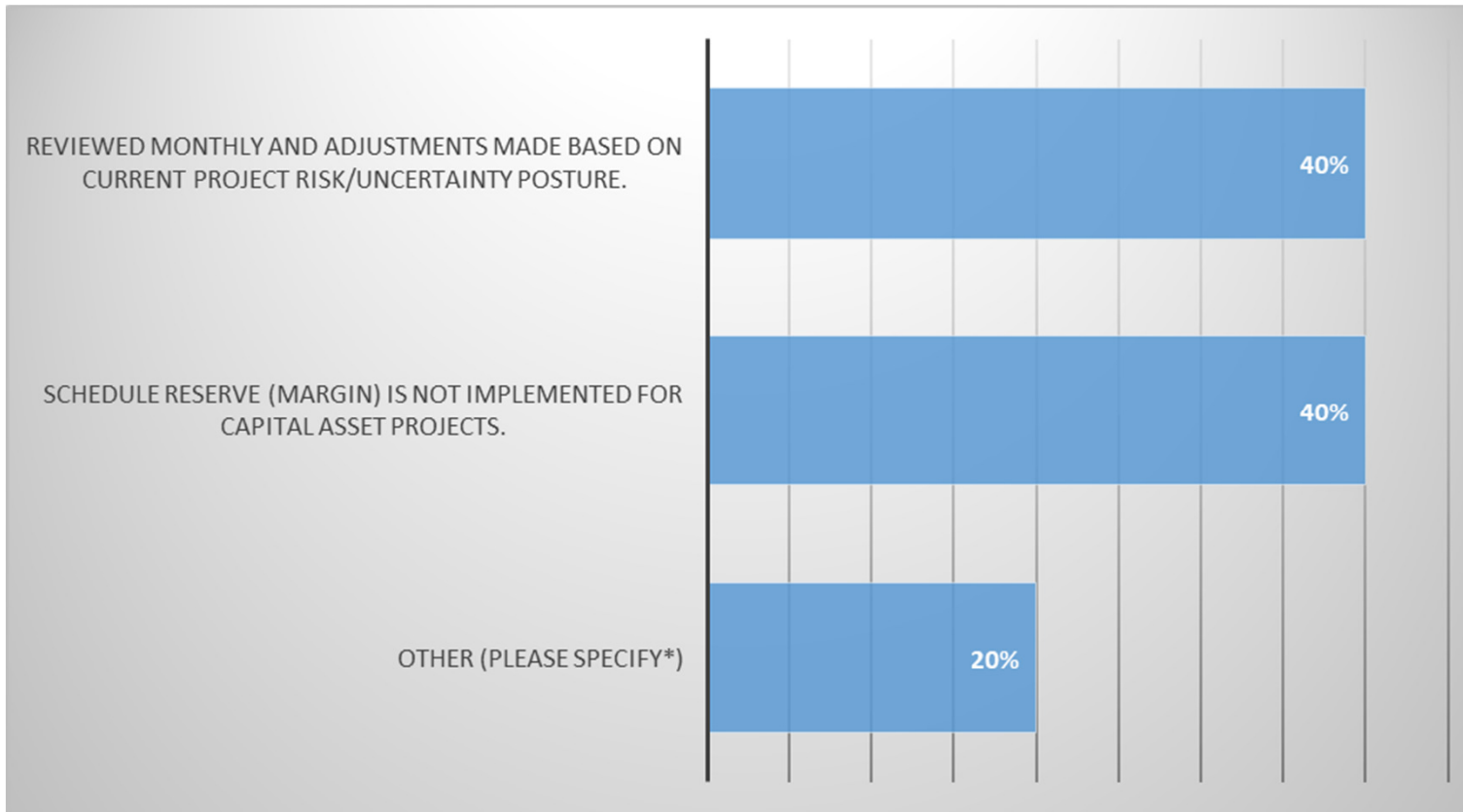


- SME Interpretations
 - Schedule Margin is evaluated on a monthly basis to support Project Management decisions. The duration of the SM activity may be reduced at the discretion of the contractor PM over the course of the project based on risk impacts and managerial actions. In addition, Schedule Margin could be increased if additional risks are identified after establishing the project baseline. Changes made to the forecast schedule are not subject to change control; however, changes must be documented in the IPMR/CPR Format 5 report. Changes made to the IMS baseline are subject to formal change control per the EVMSD, and documented in the IPMR/CPR Format 5 report.
- SME Recommendations
 - Suggest developing supplemental Risk Management Implementation Guide to account for specific guidelines to follow for CAP and Non-CAPs.

Survey Question #11



How is Schedule Reserve (Margin) utilized within the Forecasted Capital Asset Project IMS?



* No basis for schedule reserve reductions except to absorb the effect of schedule delays.

* SRA is run on a monthly basis, SM is adjusted in the forecast per the current SRA run.



Survey Question #12

How is Schedule Reserve (Margin) utilized within the Forecasted Capital Asset Project IMS?



- SME Interpretations

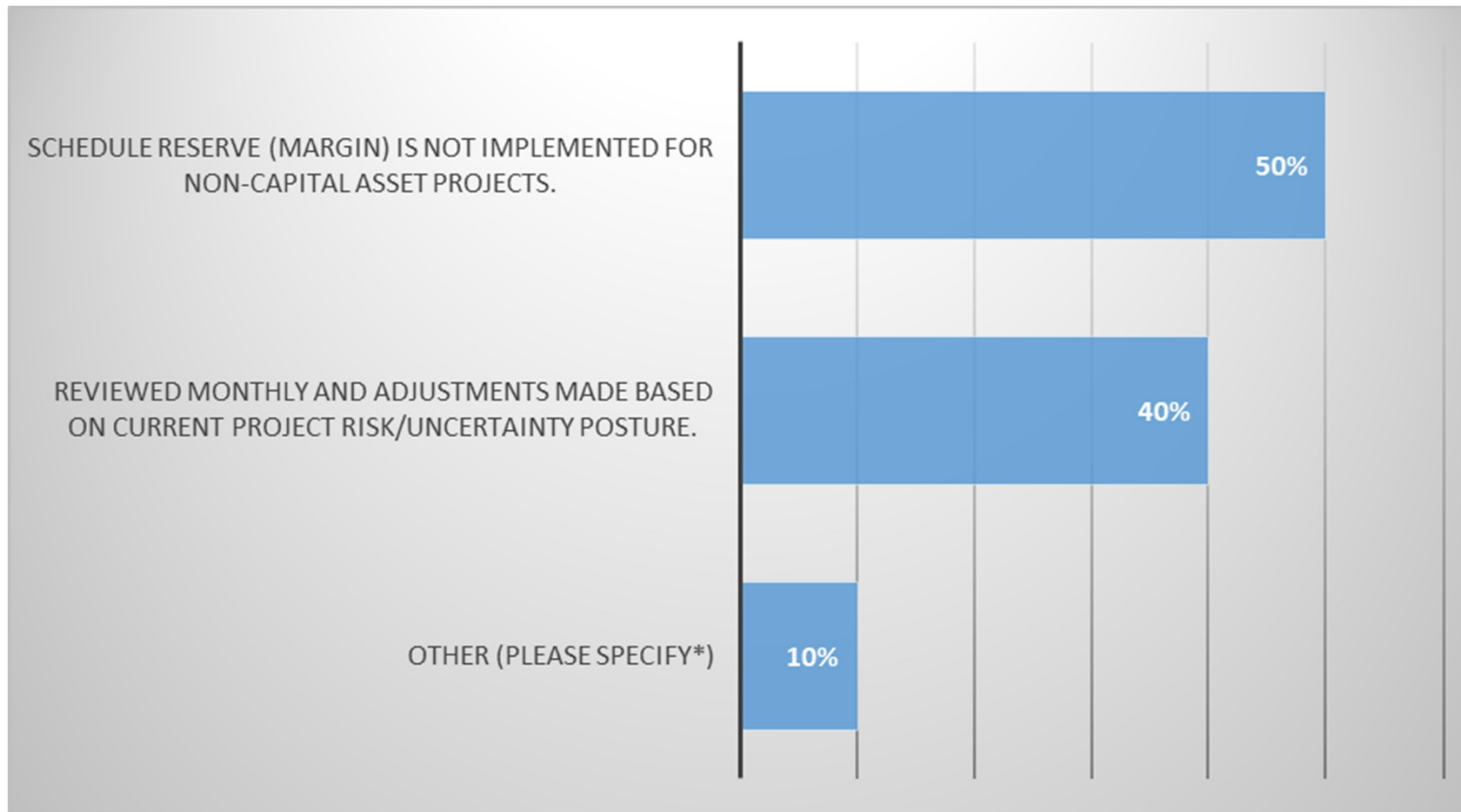
- Schedule margin can be utilized anytime for unforeseen risks that could cause a delay to the project and is tied to the last discrete activity with approval. Schedule Margin should not be viewed as a task to hold managerial goals to a static date. Evaluation should be based on “to-go” risks and uncertainties.

- SME Recommendations

- Unclear discussion related to Schedule Margin evaluation and reporting documented in DOE G 413.3-7A, Risk Management Guide. Suggest developing supplemental Risk Management Implementation Guide to account for specific guidelines to follow.



How is Schedule Reserve (Margin) utilized within the Forecasted IMS for Non-Capital Asset Projects?



* As required per contractor specific guidelines



Survey Question #13

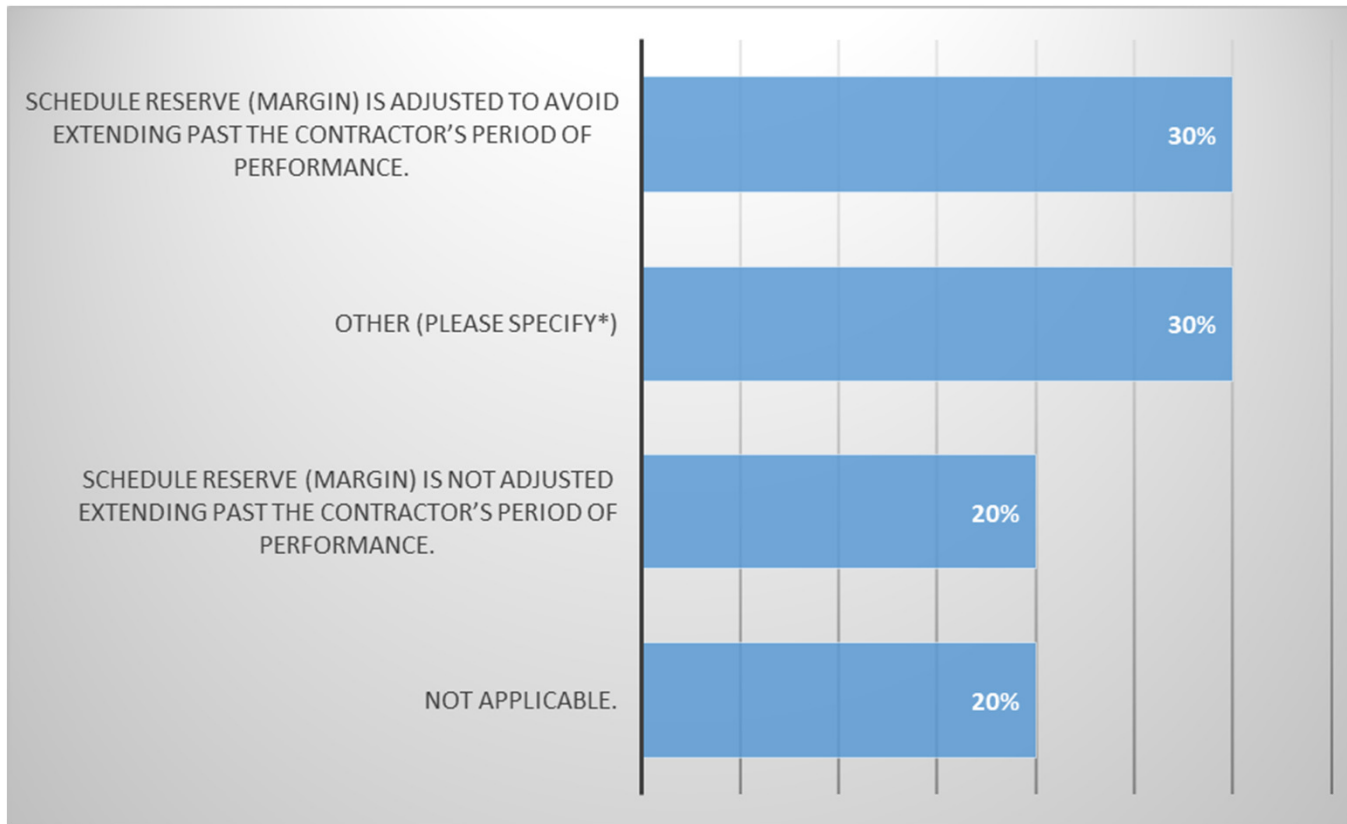
How is Schedule Reserve (Margin) utilized within the Forecasted IMS for Non-Capital Asset Projects?



- SME Interpretations
 - Risk Management will be conducted in the same manner for contractors; therefore, the same principles shall apply for non-Capital Asset Projects but will follow the Key Decision (KD) process.
- SME Recommendations
 - With majority of the liability on Operation Activities, and the new Memorandum *Management of the Office of Environmental Management's Cleanup Program* it is recommended that additional guidance is needed above what is already referenced in the EM Memo, and the DOE G 413.3-7A guide.



How is Schedule Reserve (Margin) managed for Capital Asset Projects when the quantitatively derived portion of the overall contract schedule extends past the contractor's period of performance when establishing the baseline?



* Negotiate with DOE to extend POP, establish a OTB, or re-plan to crash schedule with documented assumptions.



Survey Question #14

How is Schedule Reserve (Margin) managed for Capital Asset Projects when the quantitatively derived portion of the overall contract schedule extends past the contractor's period of performance when establishing the baseline?



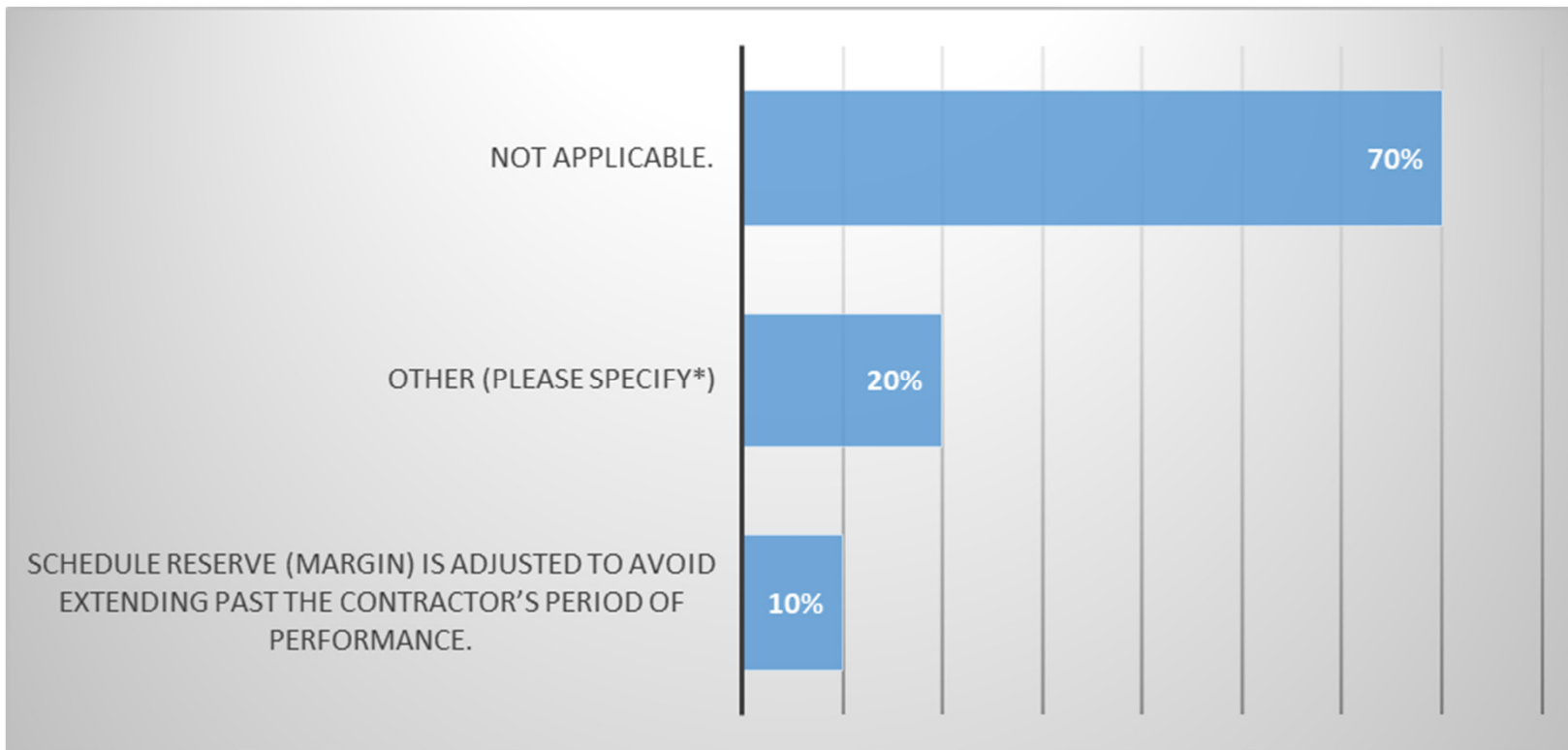
- SME Interpretations

- Schedule Margin cannot add time or schedule duration to the contracted end date.

- SME Recommendations

- Unclear discussion related to this topic documented in DOE G 413.3-7A. Suggest developing supplemental Risk Management Implementation Guide to account for specific guidelines to follow.

How is Schedule Reserve (Margin) managed for Non-Capital Asset Projects when the quantitatively derived portion of the overall contract schedule extends past the contractor's period of performance when establishing the baseline?



* Negotiate with DOE to extend POP, establish a OTB, or re-plan to crash schedule with documented assumptions.



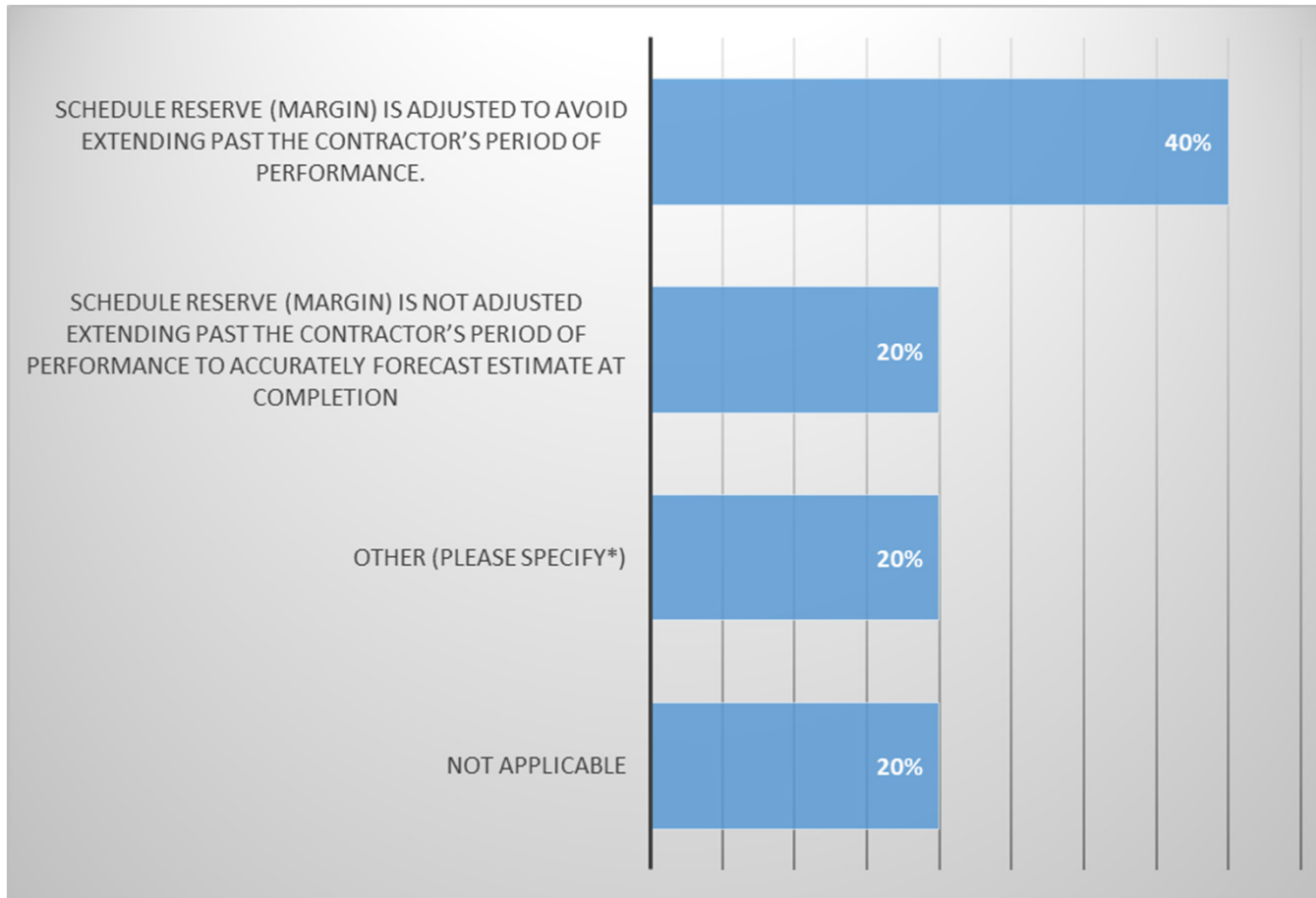
How is Schedule Reserve (Margin) managed for Non-Capital Asset Projects when the quantitatively derived portion of the overall contract schedule extends past the contractor's period of performance when establishing the baseline?



- SME Interpretations
 - Schedule Margin cannot add time or schedule duration to the contracted end date.
- SME Recommendations
 - Unclear discussion related to this topic documented in DOE G 413.3-7A. Suggest developing supplemental Risk Management Implementation Guide to account for specific guidelines to follow.



How is Schedule Reserve (Margin) managed for Capital Asset Projects when forecasted beyond the contractor's period of performance or enforceable/incentivized milestones?



* Negotiate with DOE to extend POP, establish a OTB, or re-plan to crash schedule with documented assumptions.



Survey Question #16

How is Schedule Reserve (Margin) managed for Capital Asset Projects when forecasted beyond the contractor's period of performance or enforceable/incentivized milestones?



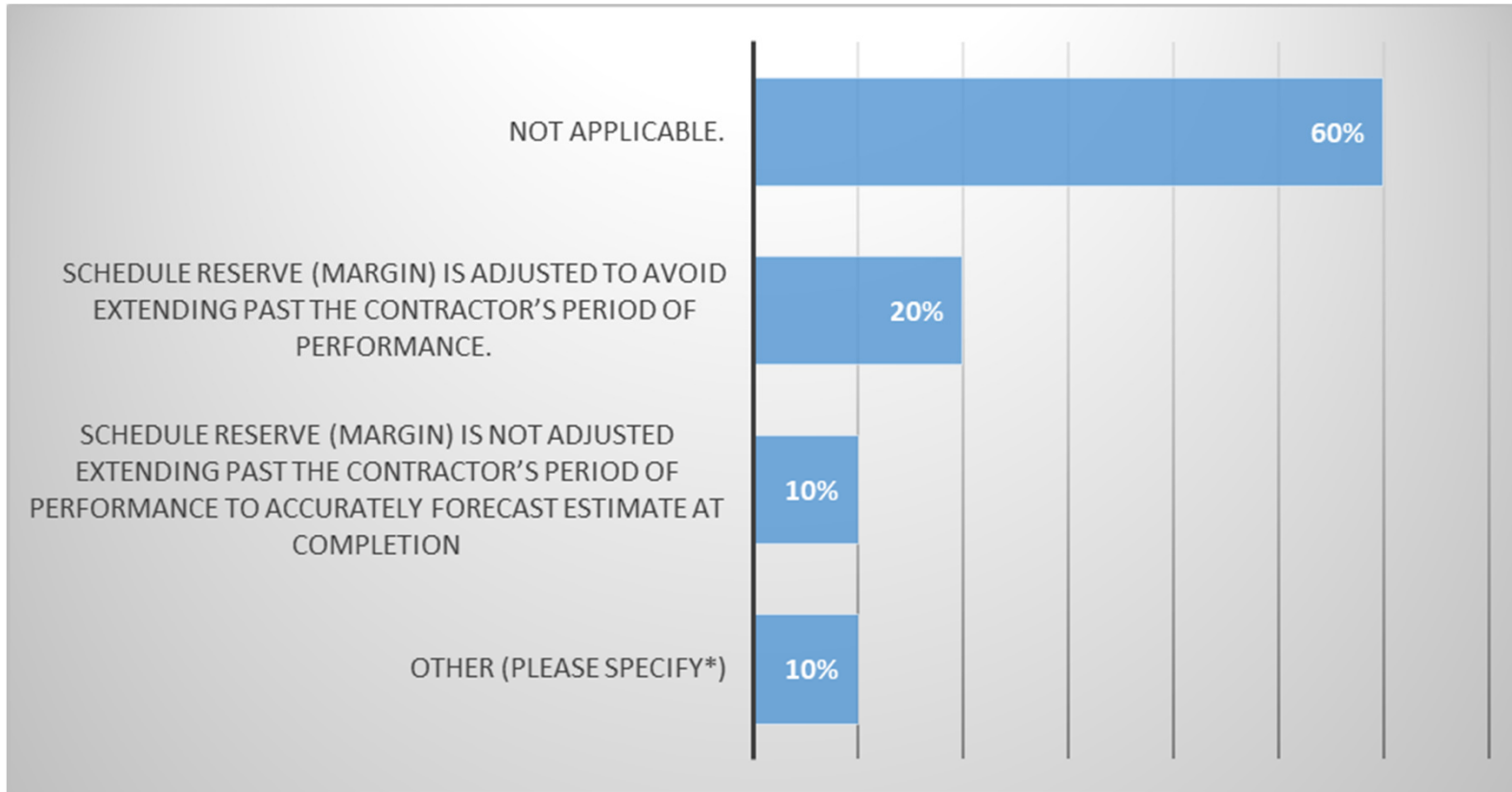
- SME Interpretations

- Schedule margin can be utilized anytime for unforeseen risks that could cause a delay to the project and is tied to the last discrete activity with approval. Schedule Margin should not be viewed as a task to hold managerial goals to a static date. Evaluation should be based on “to-go” risks and uncertainties and not adjusted to avoid extending past the contractor's period of performance. This conflicts with 413.3-7A.

- SME Recommendations

- Unclear discussion related to this topic. Suggest developing supplemental Risk Management Implementation Guide to account for specific guidelines to follow.

How is Schedule Reserve (Margin) managed for Non-Capital Asset Projects when forecasted beyond the contractor's period of performance or enforceable/incentivized milestones?



* Negotiate with DOE to extend POP, establish a OTB, or re-plan to crash schedule with documented assumptions.



Survey Question #17

How is Schedule Reserve (Margin) managed for Non-Capital Asset Projects when forecasted beyond the contractor's period of performance or enforceable/incentivized milestones?



- SME Interpretations

- Schedule margin can be utilized anytime for unforeseen risks that could cause a delay to the project and is tied to the last discrete activity with approval. Schedule Margin should not be viewed as a task to hold managerial goals to a static date. Evaluation should be based on “to-go” risks and uncertainties and not adjusted to avoid extending past the contractor's period of performance. This conflicts with 413.3-7A.

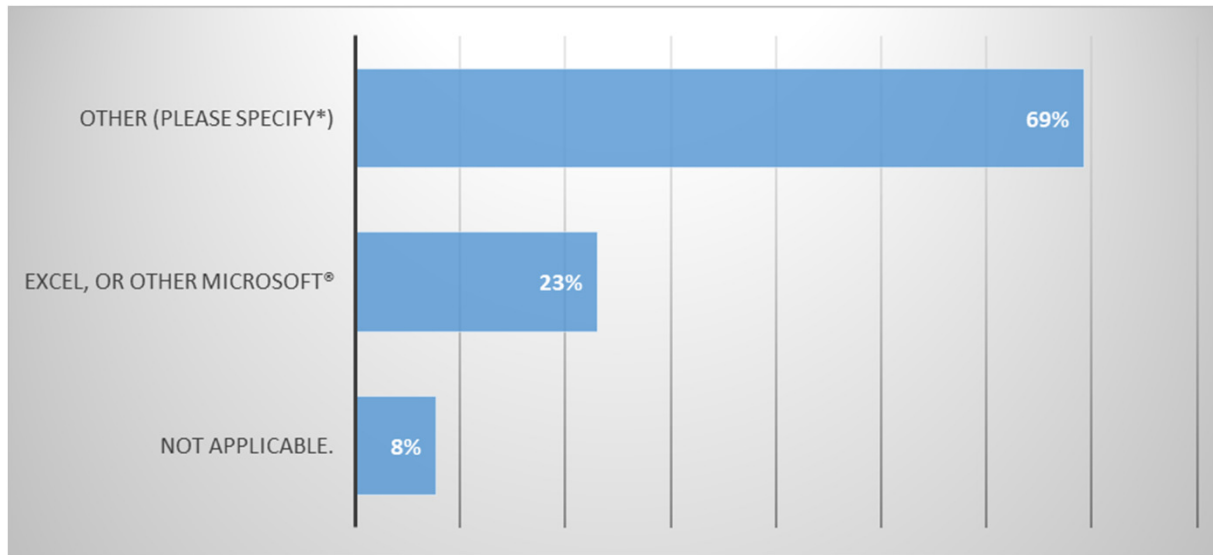
- SME Recommendations

- Unclear discussion related to this topic. Suggest developing supplemental Risk Management Implementation Guide to account for specific guidelines to follow.

Survey Question #17



What tool is used to represent time-phased, AND utilization of Schedule Reserve (Margin) for Capital Asset Projects?



- * CONTRACT PERFORMANCE REPORT (CPR), Format 5. In addition, P6 represents the time-phased reserves needed over the project duration.
- * Primavera Risk Manager
- * Acumen Fuse



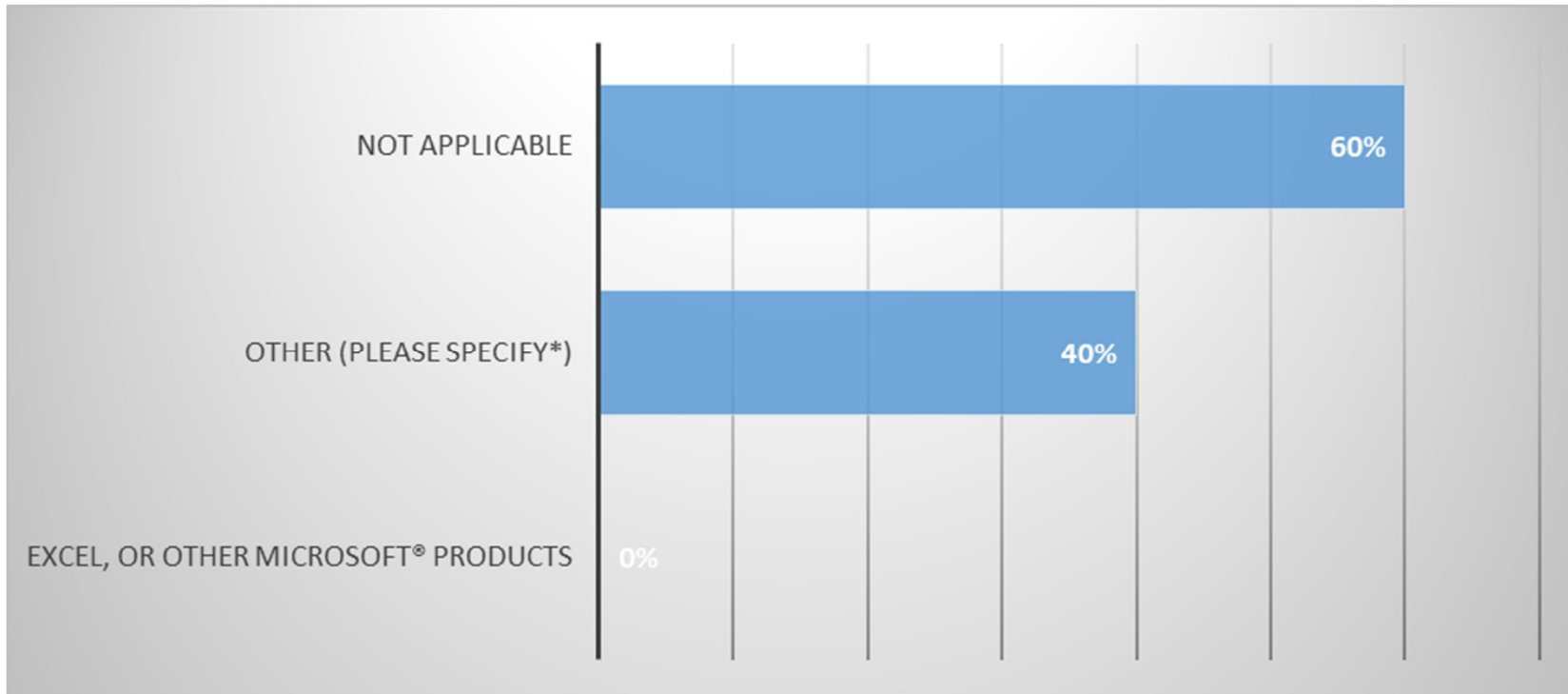
What tool is used to represent time-phased, AND utilization of Schedule Reserve (Margin) for Capital Asset Projects?



- SME Interpretations
 - Utilization of SM shall be documented in the Contract Performance Report(CPR) (Baseline and Forecasted dates), Format 5, and changes to the IMS shall be under configuration control.
- SME Recommendations
 - Incorporate the Contract Performance Report into DOE G 413.3-7A, Risk Management Guide, OR develop supplemental Risk Management Implementation Guide to account for specific guidelines to follow.



What tool is used to represent time-phased, AND utilization of Schedule Reserve (Margin) for Non-Capital Asset Projects?



* SM Is not currently utilized on non-capital projects, however if it were it would be performed in the same manner as capital.



Survey Question #19

What tool is used to represent time-phased, AND utilization of Schedule Reserve (Margin) for Non-Capital Asset Projects?



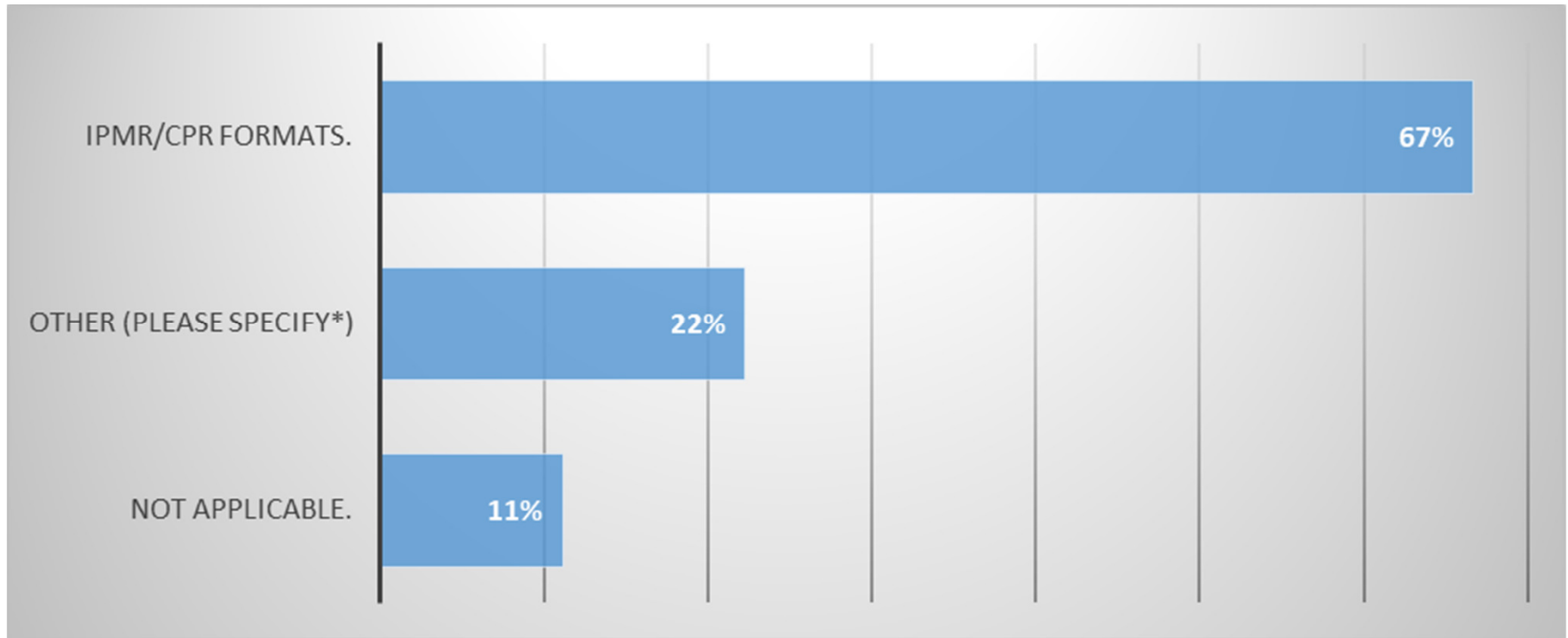
- SME Interpretations
 - Utilization of SM shall be documented in the Contract Performance Report(CPR) (Baseline and Forecasted dates), Formats 1 and 5, and changes to the IMS shall be under configuration control.
- SME Recommendations
 - Incorporate the Contract Performance Report into DOE G 413.3-7A, Risk Management Guide, OR develop supplemental Risk Management Implementation Guide to account for specific guidelines to follow.

Survey Question #19





How is Schedule Reserve (Margin) Reported for Capital Asset Projects?



*Within the P6 schedule tool

* In the submitted IMS baseline and forecast schedules.



Survey Question #20

How is Schedule Reserve (Margin) Reported for Capital Asset Projects?



- SME Interpretations

- Discuss in Formats 1 and 5, the status of schedule margin, including reasons and impacts for changes, including changes in the duration of schedule margins for the reporting period (changes to duration include baseline or forecast). In addition, the contractor shall follow contract specific requirements.

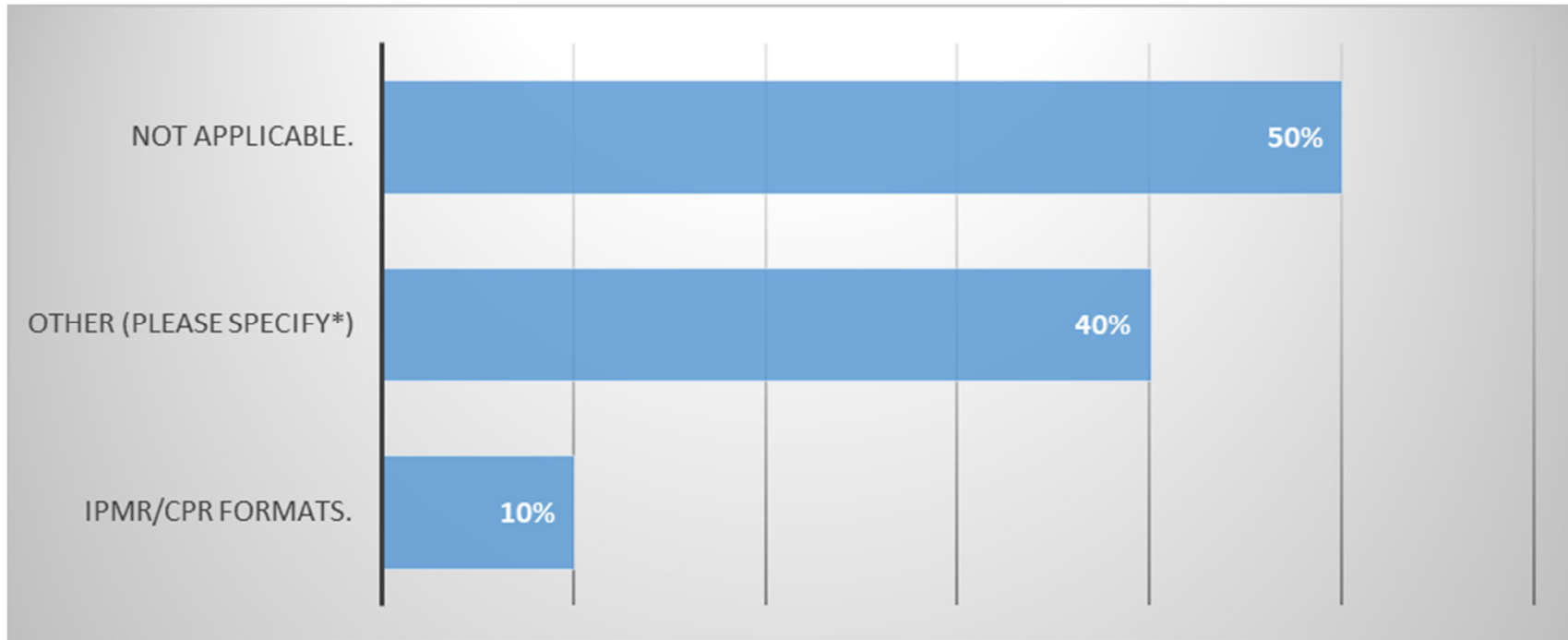
- SME Recommendations

- No discussion related to this topic in DOE G 413.3-7A, Risk Management Guide. Suggest developing supplemental Risk Management Implementation Guide to account for specific guidelines to follow.

Survey Question #20



How is Schedule Reserve (Margin) Reported for Non-Capital Asset Projects?



* In the submitted IMS baseline and forecast schedules.



Survey Question #21

How is Schedule Reserve (Margin) Reported for Non-Capital Asset Projects?



- SME Interpretations

- Discuss in Formats 1 and 5, the status of schedule margin, including reasons and impacts for changes, including changes in the duration of schedule margins for the reporting period (changes to duration include baseline or forecast). In addition, the contractor shall follow contract specific requirements.

- SME Recommendations

- No discussion related to this topic in DOE G 413.3-7A, Risk Management Guide. Suggest developing supplemental Risk Management Implementation Guide to account for specific guidelines to follow.

Survey Question #21



Thank you for your time



Questions?

