PM-30 Supplemental Guidance to CAG 2.0 for Establishment and Usage of Management Reserve (Attributes C.10 and G.1)

I.   Preface

Management Reserve (MR) is a key element of the Earned Value Management System (EVMS) to manage unforeseen, in-scope work within a project. Despite its importance, MR is often misunderstood and misused, making it essential to understand its proper establishment and allowable uses. This document aims to identify the principles and expectations for EIA-748 compliant practices on the establishment and allowable and unallowable use of MR.

A healthy project environment, which includes both tangible and intangible factors, is paramount to ensure effective EVMS implementation. The project environment significantly influences the maturity and effectiveness of EVMS implementation, correlating with better project outcomes. To promote responsible MR management and align its usage with project goals, consider the following strategies:

- **Enhance Communication**: Clearly define MR's purpose and guidelines, and regularly communicate these to all stakeholders.
- **Provide Training**: Offer training sessions for managers on MR allocation to ensure understanding of best practices.
- **Cultivate Accountability**: Foster a culture that emphasizes responsibility and appropriate MR use.
- **Implement Strong Oversight**: Establish a governance framework to monitor MR usage, with regular reviews and audits to ensure compliance.
- **Improve Transparency**: Provide managers with real-time data and reporting tools for informed MR decisions.
- **Encourage Collaboration**: Facilitate cross-departmental discussions to align interests and ensure MR allocation supports organizational goals.
- **Establish Clear Policies**: Develop and disseminate clear policies on MR usage, including approval processes and reporting requirements.
- **Utilize Risk Management**: Implement risk assessment processes to determine appropriate MR use and mitigate misuse.
- **Solicit Feedback**: Regularly gather input from managers about MR usage challenges and adjust policies accordingly.

By embracing these strategies and understanding the environmental and human factors influencing EVMS implementation, organizations can foster a project environment that promotes trust, transparency, and shared values. This approach reduces the risk of failing to achieve schedule, budget, and performance goals, ensuring effective MR use in compliance with EIA-748 standards.

II.   Establishment of Management Reserve (MR) Budget

A. Introduction

Establishing an MR budget involves several key principles and expectations to ensure effective risk management and project adaptability. This document outlines the prioritized steps and principles for establishing an MR budget, along with specific examples to illustrate each point.

B. Principles and Expectations

1. **Contractor-Controlled MR**: The government should not direct the amount of MR; it is established and controlled by the contractor's project manager for managing unforeseen in-scope risks.
2. **No Specific Allocation**: MR is held as a general reserve for unforeseen events and not earmarked for specific risk or scope items.
3. **Risk-Based MR Determination**: The MR budget should be based on a thorough risk assessment and quantitative analysis, reflecting the level of risk and uncertainty identified in the project.
4. **Documentation**: Document the rationale for the MR budget to ensure transparency and accountability.
5. **Regular Assessment for Sufficiency**: The MR budget should be assessed regularly in risk management meetings to evaluate its sufficiency based on changes in project conditions and risk assessments and impacts reported (such as to the EAC).

C. Conclusion

Establishing an MR budget is a critical aspect of effective project management, ensuring that projects can adapt to unforeseen in-scope events and manage risks appropriately. By following and adhering to the principles and expectations outlined above, project managers can maintain control over the MR budget and enhance the overall success of their projects.

III.   Usage of MR

A. Introduction

Proper use of MR ensures effective risk management, maintains budget integrity, establishes a credible future baseline plan, enables meaningful variance analysis, and provides accurate performance measurement data. However, it is essential to understand the limitations and restrictions on the use of MR to maintain budget integrity and ensure compliance with the EIA-748 standard. This document provides a set of principles and expectations along with detailed explanations and specific

examples of both allowable and unallowable uses of MR to guide project managers in making informed decisions. Note that the use of the term project in this document refers to the project scope aligned with the contract budget base (CBB).

B. Principles and Expectations

1. **Risk Mitigation:** MR is used to mitigate risks within the project scope, including technical risks and nonperformance-related schedule and cost risks.
2. **Traceability:** All MR transactions must be documented and traceable.
3. **No Performance Masking:** MR must not be used to mask performance issues or cost variances.
4. **Scope Alignment**: An MR allocation is always associated with a specific scope of work, except for specific allowed uses noted below.
5. **Budget versus Funding**: The difference between budgets and funds must be appreciated. MR is not a funding source to be spent; MR is a budget to be paired with scope when allocated to enable measurement of performance of that scope against a documented plan.
6. **Formal Change Control**: MR distribution must follow a formal change control process. Changes to the scope, schedule, and budget should be documented, and the reasons for the changes and adjustments need to be clearly explained. In accordance with the EIA-748 standard MR allocations to open work packages not in the freeze period must implement effective controls to restrict changes to the work scope, schedule, and budget so that the PMB's integrity is maintained.
7. **Rigorously Managed MR Balance**: The project manager must maintain judicious control over MR use to ensure MR budget is available throughout the project lifecycle. The project manager should seek other opportunities to recover from variances to plan (e.g., budget overruns).
8. **Integrity of the Future Baseline Plan**: Allocations of MR should provide for development of a future baseline plan that enables better performance measurement and meaningful variance analysis in order to bring the project scope to completion within established cost and schedule targets.

C. Allowable MR Uses

1. **Rate Impacts**
   - **Explanation**: MR can be used to adjust budgets due to changes in direct or indirect rates, including labor rates, overhead rates, and currency fluctuations,
   - **Example**: If labor rates increase from $50/hour to $55/hour due to economic conditions, or if the overhead rate for a project increases from 15% to 18%, or if there are significant currency fluctuations affecting international procurement, MR can be allocated to cover these additional costs for the remaining work.

2. **Time Phasing, Scope Transfers, and Execution Strategy Changes**
   - o **Explanation**: MR can be used to adjust budgets for time-phasing changes beyond the freeze period, transfer scope between different Work Breakdown Structure (WBS) elements or control accounts, and accommodate changes in execution strategy that affect future work.
   - o **Example**: A project planned to procure materials in May 2023, but due to supplier delays, the procurement needs to be moved to May 2024. Additionally, a specific task initially assigned to WBS Element A needs to be transferred to WBS Element B due to a change in project strategy. Furthermore, the project initially planned to use a specific construction method, but due to site conditions, a different method is required. MR can be used to adjust the budget and schedule to reflect these changes, cover the additional costs associated with the new construction method, and ensure that budgets remain aligned with the updated project execution strategy.
3. **Risk Mitigation and Realization**
   - o **Explanation**: MR can be used to address both technical and non-performance-related risks that were not accounted for in the original plan and costs associated with the mitigation or realization of identified risks. This ensures that unforeseen risks and materialized risks are adequately budgeted to mitigate their impact on the project.
   - o **Example**: A project encounters an unexpected non-performance related technical risk that requires additional testing. MR can be allocated to cover the costs of this additional testing to mitigate the risk. Similarly, if a risk identified in the risk register materializes and requires additional resources to mitigate, MR can be used to cover the costs of these mitigation efforts, ensuring that the project remains on track despite the realized risk.
4. **True-up of Subcontractor Budget Post Negotiation**
   - o **Explanation**: MR can be used to adjust budgets for subcontractor work based on final negotiations on the original subcontract, aligning with the final negotiated values; this would also apply to any future final negotiations on specific scope items that may be added (or deleted with return of budget to MR). This adjustment applies only to the future plan; any existing performance, including variances to date against the plan, must remain unchanged. This does not apply to REAs.
   - o **Example**: A subcontractor was initially budgeted at $1 million, but the final negotiated value is $1.2 million. A one-time allocation of MR can be used to cover the additional $200,000 to align the budget with the subcontractor agreement.
5. **Make vs. Buy Decisions**
   - o **Explanation**: MR can be used to adjust budgets when there is a change in the decision to make or buy a component or service. If budget for affected scope is decreased, the budget decremented is returned to MR.

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- o **Example**: A project initially planned to fabricate a component in-house at a cost of $500,000. Due to capacity issues, the decision is made to subcontract the work at a cost of $600,000. MR can be used to cover the additional $100,000.

6. **Unplanned Scope Adjustments and Unexpected Conditions**
   - o **Explanation**: MR can be used to adjust budgets for tasks that were not identified during initial planning but are within the scope of the project, address costs associated with unexpected site conditions, and accommodate changes or unplanned growth in control account scope within the authorized work scope of the project.
   - o **Example**: During the execution of a construction project, an additional regulatory requirement necessitates the installation of safety equipment, and unexpected underground utilities are discovered during excavation, requiring additional work. Additionally, the control account scope is expanded to include new tasks not initially planned but within the authorized project scope. MR can be used to cover the costs associated with these new requirements, unexpected conditions, and scope growth.

7. **Rework Due to External Factors**
   - o **Explanation**: MR can be used for rework that is necessary due to factors outside the control of the control account and is not related to performance issues.
   - o **Example**: A project encounters unexpected geological conditions that require redesign and rework of a foundation. MR can be used to cover the costs of the redesign and rework.

8. **Material Procurement Delays and Cost Changes**
   - o **Explanation**: MR can be used for the estimated future procurement process to address costs associated with procurement delays that affect the project schedule, such as when a critical component is delayed, requiring adjustments to the project schedule and additional costs, or to adjust future budgets when the cost of a critical material increases due to unforeseen market conditions.
   - o **Example**: If the estimated cost of procuring a material is higher than initially budgeted, MR can be used to adjust the budget before the Purchase Request is issued. Likewise, if a critical component is delayed in procurement, requiring adjustments to the project schedule, MR can be used to cover additional future costs. In addition, if the cost of a critical material increases due to market conditions, MR can be used to adjust the budgets for future procurements to reflect new material costs.

9. **Unanticipated Regulatory Changes**
   - o **Explanation**: MR can be used to address costs associated with unanticipated regulatory changes that affect the project.
   - o **Example**: A new environmental regulation requires additional compliance measures. MR can be used to cover the costs of implementing these measures.

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10. **Design Changes**
    - o **Explanation**: Unless due to performance issues, MR can be used to address costs associated with design changes that are necessary to meet project requirements.
    - o **Example**: A design change is required to meet updated project specifications. MR can be used to cover the additional costs of implementing the design change.

D. Unallowable MR Uses

1. **Masking Performance Issues and Eliminating Variances**
    - o **Explanation** MR cannot be used to cover cost or schedule variances resulting from poor performance, planning errors, or to adjust budgets retroactively. It also cannot be used to eliminate historical variances, reallocate budgets to avoid reporting variances, or adjust current performance metrics. Specifically, MR should not be used to mask performance issues, cover cost overruns, adjust budgets for tasks already completed or in progress, offset poor planning, eliminate historical cost or schedule variances, reallocate budgets to avoid reporting variances, or adjust current performance metrics.
    - o **Example**: A work package is overrunning its budget due to inefficiencies in execution, resulting in a $50,000 overrun on a task that was budgeted at $200,000. Using MR to cover this overrun and eliminate the cost variance is not allowed; the overrun must be reported as a variance to provide accurate performance data. Similarly, if a project has accumulated significant cost variances over several reporting periods, using MR to eliminate these historical variances is not allowed.
2. **Harvesting Variances**
    - o **Explanation**: MR cannot be used to reallocate budget from completed tasks that have underrun to other tasks or control accounts.
    - o **Example**: A task was budgeted at $100,000 but was completed for 80,000, resulting in a $20,000 underrun. Taking this $20,000 and reallocating it to MR for future use is not allowed. The underrun should remain with the completed task to reflect accurate performance.
3. **Unauthorized, Out-of-Scope, and Unapproved Work**
    - o **Explanation**: MR cannot be used to budget new work that is outside the project's original scope, unauthorized tasks, or work beyond the Performance Measurement Baseline (PMB) without a corresponding contract modification and formal authorization. This includes budgeting unapproved changes, work without a defined scope, and tasks lacking proper documentation or justification. Using MR in these ways undermines project control, compliance with contractual agreements, and the integrity of performance measurement. All new work or changes to the project scope must be formally authorized through the appropriate

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channels, ensuring that they are properly documented, justified, and included in the PMB.

- o **Example**: The customer requests additional features that were not part of the original contract. Using MR to budget these new features without a contract modification is not allowed. Instead, the additional work should be budgeted through a formal change request and contract modification, ensuring that the new features are officially recognized and budgeted. Similarly, if a project manager identifies a new task that needs to be completed but has not been formally authorized, using MR to budget this new task is not allowed. The task should be formally authorized and budgeted through the appropriate channels, ensuring that it is properly documented and justified. For instance, if a new regulatory requirement necessitates additional work that was not included in the original project scope, this work should be budgeted through a formal change request and contract modification, not through MR. This ensures that all work remains within the defined scope and is properly accounted for in the project budget.

4. **Rework Due to Poor Performance or Self-Caused Problems**
   - o **Explanation**: MR cannot be used to budget rework that is necessary due to performance issues, errors, or problems within the control of the project team. This includes rework resulting from poor workmanship, self-caused problems, or status issues. Such rework should be reported as a cost variance to maintain the integrity of performance measurement and accurate reporting
   - o **Example**: A component fails quality testing due to poor workmanship and needs to be reworked. Using MR to cover the costs of this rework is not allowed; the rework should be reported as a cost variance. Similarly, if a team member makes an error that requires rework, using MR to cover the costs of this rework is also not allowed. The rework should be reported as a cost variance to ensure accurate performance data and accountability.

5. **Negative Balances and Budget Balancing**
   - o **Explanation**: MR cannot be used in a way that results in a negative MR balance or be used to balance the Contract Budget Base (CBB) to meet funding objectives or make the budget appear more favorable.
   - o **Example**: A project has depleted its MR and is facing additional unforeseen costs. Creating a negative MR to cover these costs is not allowed; the project should seek additional budget through other means such as an over target baseline. Similarly, if the project is facing a funding shortfall and the project manager wants to use MR to balance the budget, this is not allowed. The project should seek additional budget and funding through appropriate channels to ensure accurate financial management and reporting.

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6. **Constructive Changes and Continual Readjustments**
    - o **Explanation**: MR cannot be used to fund constructive changes or requests for equitable adjustments that arise from performance issues due to scope changes directed by the prime contractor. Additionally, MR cannot be used to cover continual readjustments due to subcontractor changes. These changes should be formally approved and funded through the appropriate channels, ensuring proper project management practices and compliance with contractual agreements.
    - o **Example**: A subcontractor requests additional funds due to changes directed by the prime contractor. Using MR to cover these additional funds is not allowed; the changes should be formally approved and funded through the appropriate channels. Similarly, if a subcontractor frequently changes its cost estimates and the project manager wants to use MR to cover these changes, this is not allowed. The changes should be addressed through proper project management practices and formal approvals to ensure accountability and accurate performance measurement.

7. **Reallocating Budget from Future Work**
    - o **Explanation**: MR cannot be used to reallocate budget from future work to cover current period costs.
    - o **Example**: A project is facing a budget shortfall in the current period, and the project manager wants to move budget allocated for future work through MR to cover the shortfall. This is not allowed. The shortfall should be addressed through proper project management practices.

8. **Reallocating Budget to Improve EAC or Offset EAC Growth**
    - o **Explanation**: MR cannot be used to reallocate budget to artificially improve the Estimate at Completion (EAC) or to offset EAC growth due to performance issues. The EAC should reflect the true cost to complete the project, and any growth should be addressed through proper project management practices.
    - o **Example** A project manager wants to use MR to reallocate budget and make the EAC appear more favorable. This is not allowed; the EAC should reflect the true cost to complete the project. Similarly, if a project is experiencing EAC growth due to performance issues, using MR to offset this growth is not allowed. The EAC growth should be reported and addressed through proper project management practices to ensure accurate performance data and accountability.

9. **Using MR for Non-Project Related Costs**
    - o **Explanation**: MR cannot be used to cover costs that are not related to the project.
    - o **Example**: A project manager wants to use MR to cover travel expenses for a non-project-related conference. This is not allowed. MR should only be used for project-related costs.

10. **Budgeting Work During the Freeze Period**
- o **Explanation**: MR cannot be used to add budget to work already planned during the freeze period.
- o **Example**: A project manager wants to allocate additional budget to a planned task during the freeze period. This is not allowed.

E. Conclusion

Proper use of MR is essential for effective project management, allowing for flexibility in addressing unforeseen events while maintaining budget integrity. By adhering to the prioritized principles, expectations, and guidelines provided in this document, project managers can ensure the effective and appropriate use of MR, managing risks and uncertainties within the authorized scope of work. Understanding the restrictions on the use of MR is crucial for maintaining the integrity of the Performance Measurement Baseline (PMB) and ensuring accurate performance measurement. This adherence will help provide accurate data for effective project management and compliance with the EIA-748 standard.

IV. Updating Guidance

This interim guidance will be used in updating PM's EVMS Snippets and Compliance Assessment Governance for conducting EVMS compliance reviews. It will also be used to inform revision of DOE O 413.3 series guides to include DOE G 413.3-10B, *Integrated Project Management using the EVMS*, and DOE G 413.3-20, *Change Control Management*. Figures 1 and 2 below demonstrate two decision trees guiding MR use that will be aligned with this updated guidance in a future revision.

V. Identifying Exceptions

DOE PM adopts the most recent EFCOG best practice demonstrated below in Figure 3. A contractor's approved EVM SD establishes the valid identification, establishment, and usage of MR. If the contractor's EVM SD does not align directly to the CAG as supplemented and updated by the above interim guidance it should be considered an exception and treated as an outlier requiring justification and discussion between the contractor, the site contracting officer, and the Office of Project Management Project Controls and Policy Division (PM-30) which will provide the final interpretative ruling.

Note: The preparation of this document was assisted by a generative artificial intelligence (AI) large language model (LLM) tool. All outputs from the AI were reviewed for accuracy and edited by PM-30 to generate the final version.

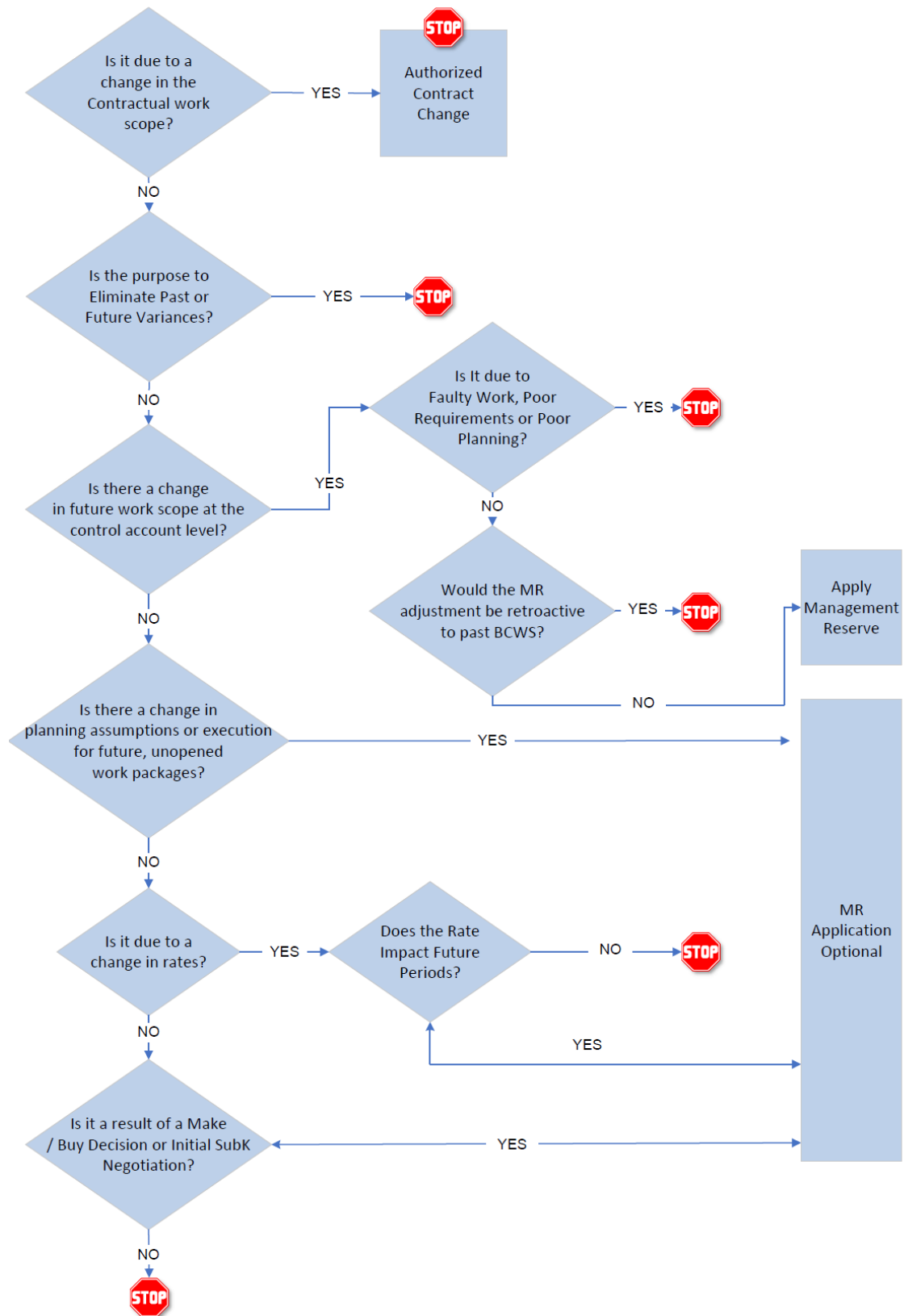**Figure 1: EFCOG Best Practice - MR Decision Tree**

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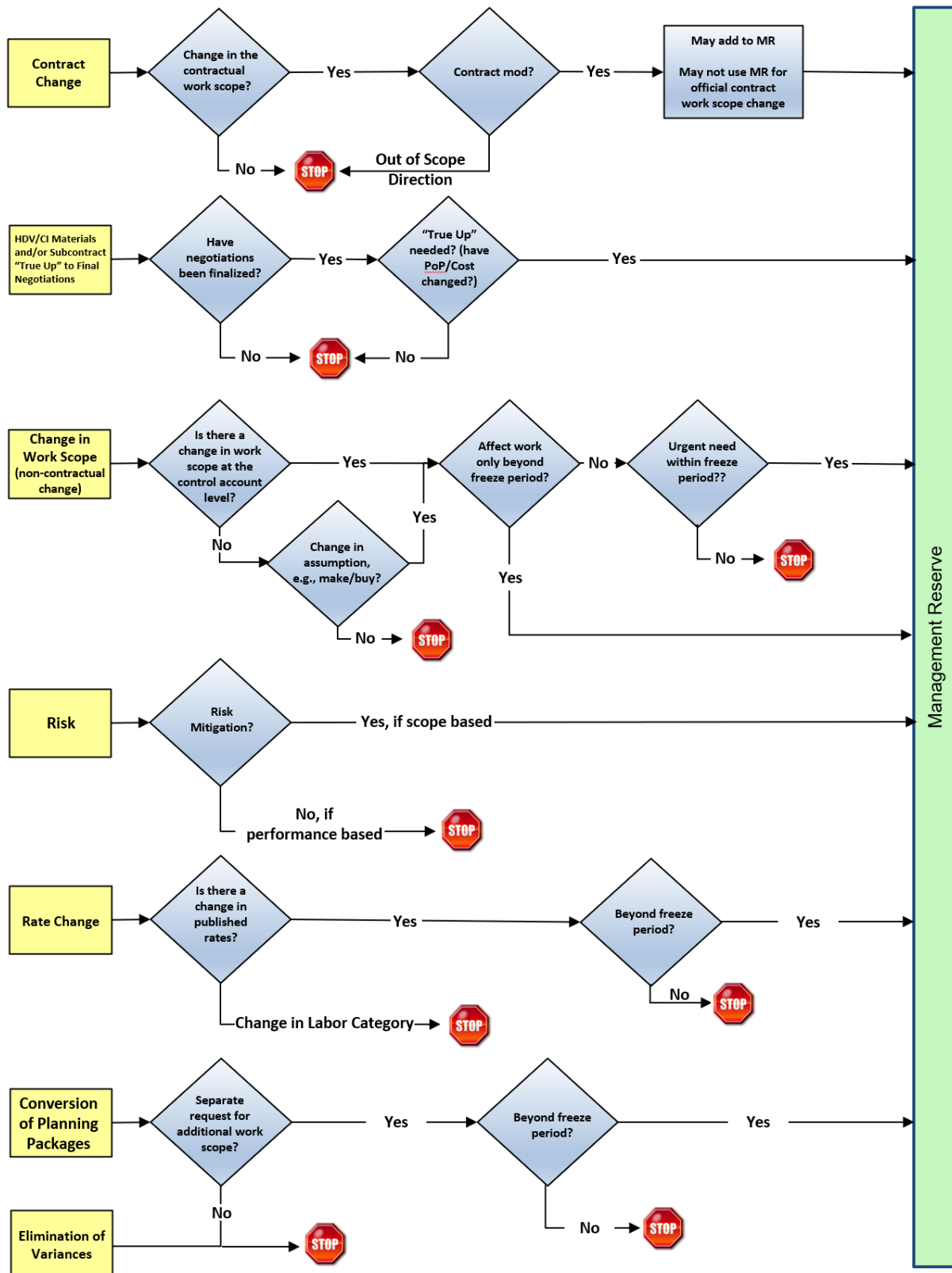## Figure 2: DOE G 413.3-10B – MR Decision Tree

Figure 3: Addressing Exception to MR Establishment and Usage Allowances

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