EVMS Training Snippet Library: Management Reserve Versus Contingency and Budget Versus Funds

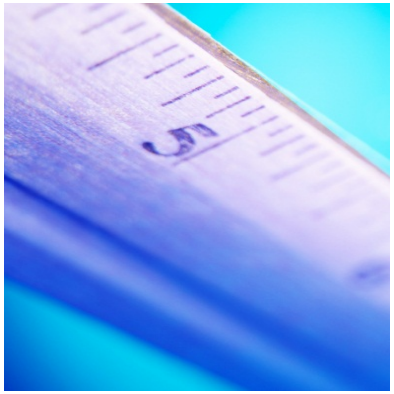
Office of Acquisition and Project Management (OAPM) MA-60
U. S. Department of Energy
July 2014

PART 1

Concept, Purpose, Uses

Concept of Budget vs. Funds

- **Budget cannot be spent.**
- **It is a metric used for measurement purposes.**



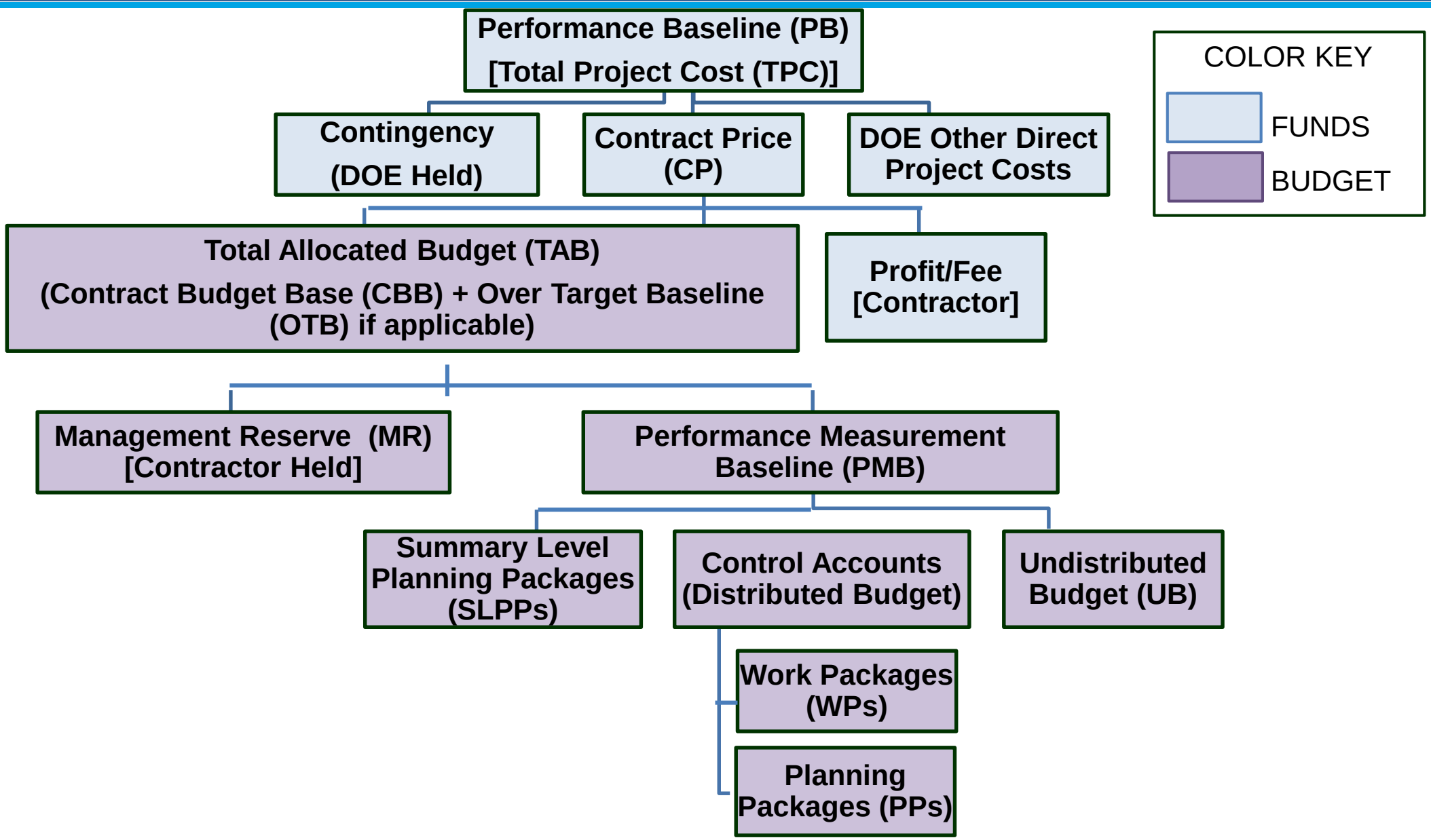
vs.

- **Funds are real dollars being spent and those real dollars forecasted to be spent.**

Relationship of MR and Contingency to Budget and Funds

- **Management Reserve is BUDGET**
  - Part of the Contract Budget Baseline and traces to the Performance Measurement Baseline when applied
- **Contingency is FUNDS**
  - Can be applied to FUND contractual changes, such as additional scope
  - Can be applied as FUNDS to pay the bill, i.e. cost reimbursement type overruns

Performance Baseline Components



Management Reserve (MR)

- **Definition**
  - An amount of the total contract or project budget set aside for management control purposes by the contractor
- **Purpose**
  - For unexpected growth within the currently authorized work scope, rate changes, risk and opportunity handling, and other project unknowns
  - Applied for future needs
  - Cannot be used to offset accumulated overruns or under runs
  - Cannot be eliminated from prices during subsequent negotiations or used to absorb the cost of project level scope changes, i.e. funding

Authorized Uses of MR

- **Examples include:**
  - Previously unrecognized tasks or realized risks consistent with the general scope of work of the contract
  - Change in execution strategy (e.g., make/buy decisions)
  - Unexpected future internal scope growth within the currently authorized scope of the project
  - Direct and indirect rate changes and currency fluctuations
  - Risk and opportunity handling (not for cost or schedule variance based risks)
  - Work that needs to be repeated (not the result of inaccurately reported progress)
  - Changes to the future budget of work not yet started (e.g., subcontractor activities that are negotiated post project award)

MR Usage Criteria

- **For new work not yet planned and future needs *not yet started*, meaning actuals have not been accrued**
- **No changes to open work packages without Government direction, i.e. directed change or an OTB**
- **Burden of proof is on the contractor to demonstrate it is an authorized use, and**
  - Applied beyond the freeze period, generally more than one month in the future; current period scope changes should be minimized and urgency of need must be documented
  - Not related to a current trend or cost variance

MR Management and Control

- Management Reserve is the contractor's budget
- Contractor is responsible for management of MR throughout the life of the project
- Project Manager may or may not allocate MR based on the assessment of CAM impact and availability of MR remaining balance
- Applications must be documented and traceable
- Contingency cannot be used to replenish MR
- MR balance cannot be negative

EVM Surveillance Scope

- **What DOE will look for in EVM surveillance to ensure proper MR use**
  - Work package:
    - Changes apply to future tasks only, new work package/IMS tasks, or scope for a change at CA level
  - Planning Package and Summary Level Planning Package:
    - Change in assumption, scope, or basis of estimate
  - Rate changes including direct and indirect
- **Unauthorized uses will result in findings of noncompliance**

Funds and Contingency

- **Contingency:**
  - Owned by DOE
  - Held outside the project scope, schedule and budget negotiated values, i.e. the Total Allocated Budget
  - Held for:
    - ***Funds*** obligated by DOE to ***ensure adequate funds are available*** to pay for all project work
      - Tracks to the Estimate at Completion
      - Authorized overruns beyond the Contract Target Cost
      - Incremental FY funding
    - ***Funds*** authorized by DOE for ***scope changes***, i.e. additions to the statement of work, authorized via contract modifications
      - Funding as part of the Contract Target Cost
      - Converted by the contractor to budget when added to the CBB

Contingency Examples

- **Pay the bill**
  - Project scope requirements
    - Original Statement of Work (SOW)
    - Changes and/or additions to the SOW
  - Contractor overruns
    - SOW did not change; it just costs more than the contractor's estimate

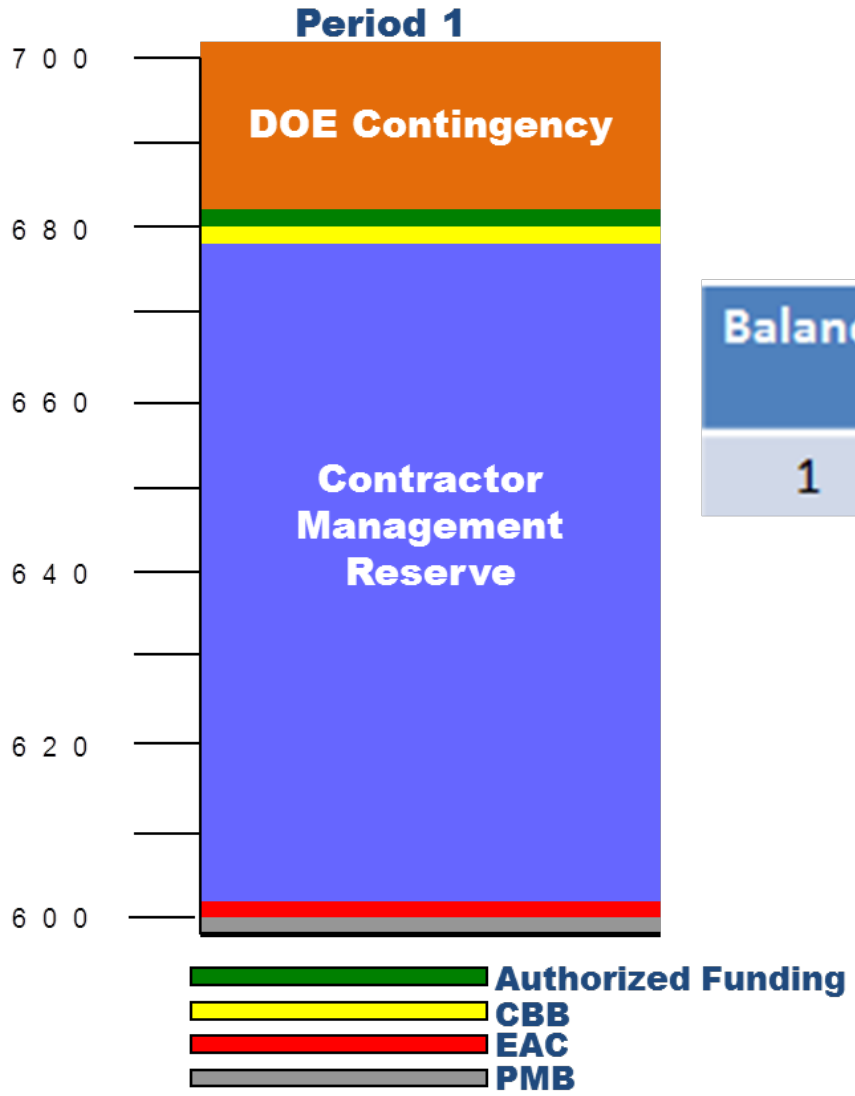
Consistent Approach Expected

- **Non-M&O vs. M&O**
  - Under a non-M&O contract, contingency is held by DOE outside the contract, thus requiring specific contract action to place and use on contract
  - Under an M&O contract arrangement, all available funds, including contingency, may be available on contract, thus **NOT** requiring specific contract action to place on contract…**However DOE approval is required for contingency use**
    - Contingency must be held above the project level CBB
    - Specific controls must be established between DOE and M&O to prevent use of contingency until authorized by DOE
    - MR belongs to, and is managed and approved for use by the M&O PM
- **Common Understanding Internal to DOE**
  - Among Site, PMSO, HQ Community
  - Among Project Management and Contracting Community

PART 2

Time-phased Scenarios

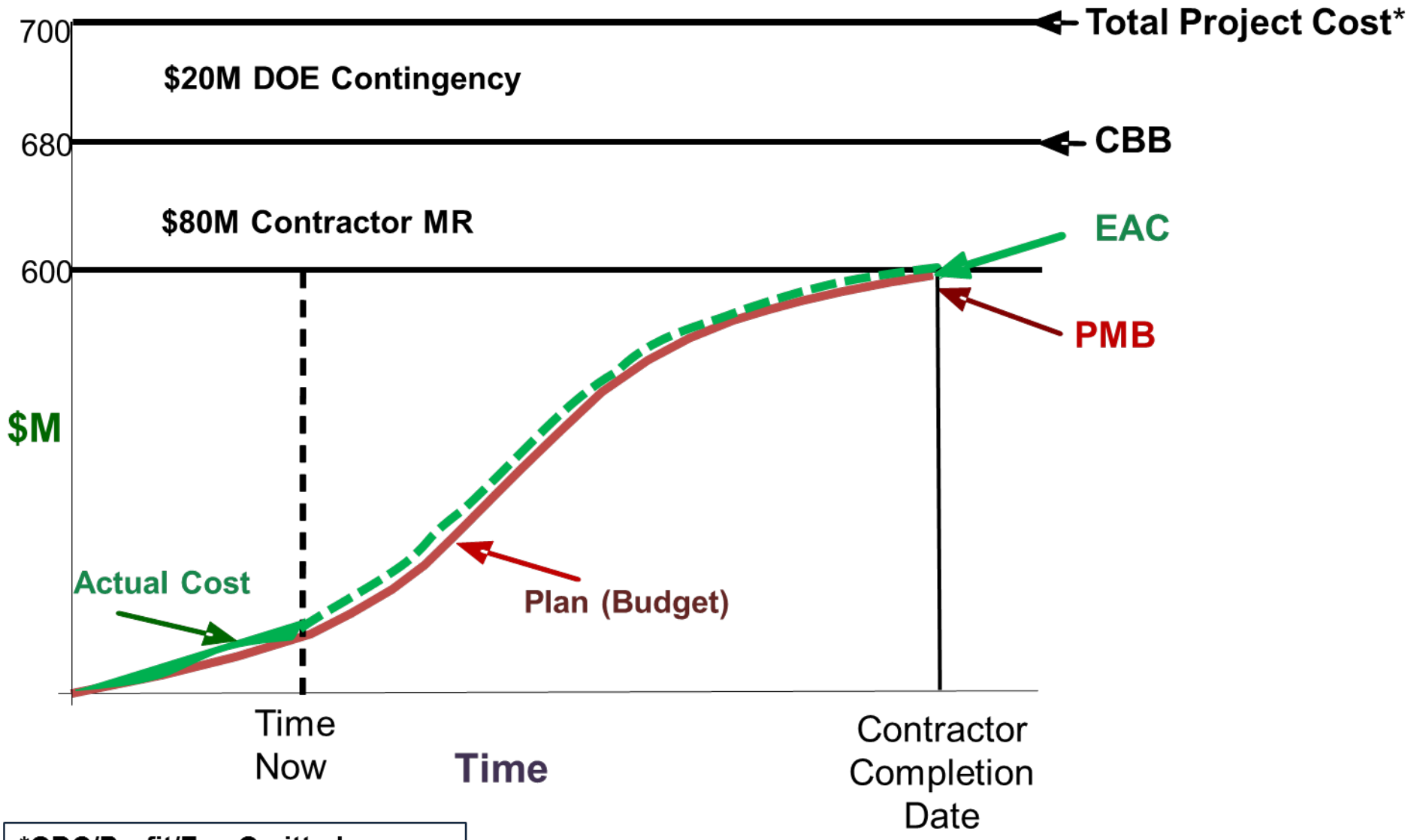
Scenario Period 1 Bar Chart



Balance	PMB	+ MR	+ Contingency	= TPC	EAC
1	600	80	20	700	600

Note: Profit/fee/ODC omitted for Training purposes

Period 1 "S" Curve



*ODC/Profit/Fee Omitted

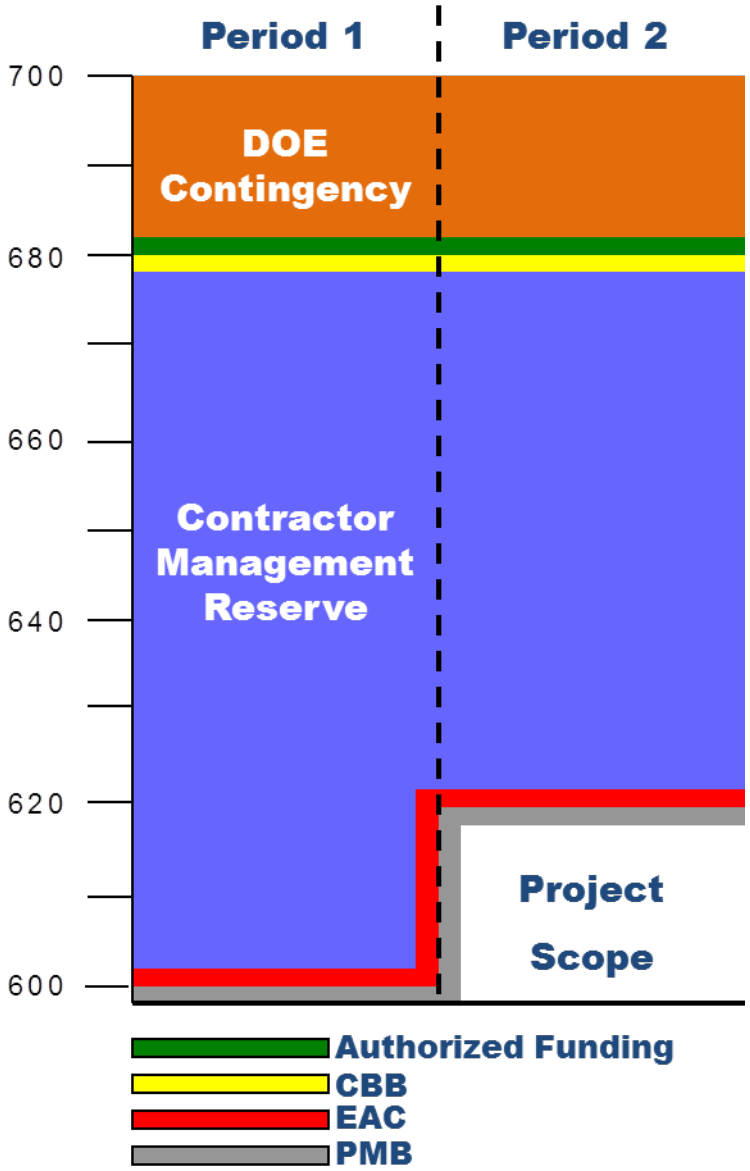
Period 2

- Contractor applied MR due to the realization that waste treatment testing would need to be done

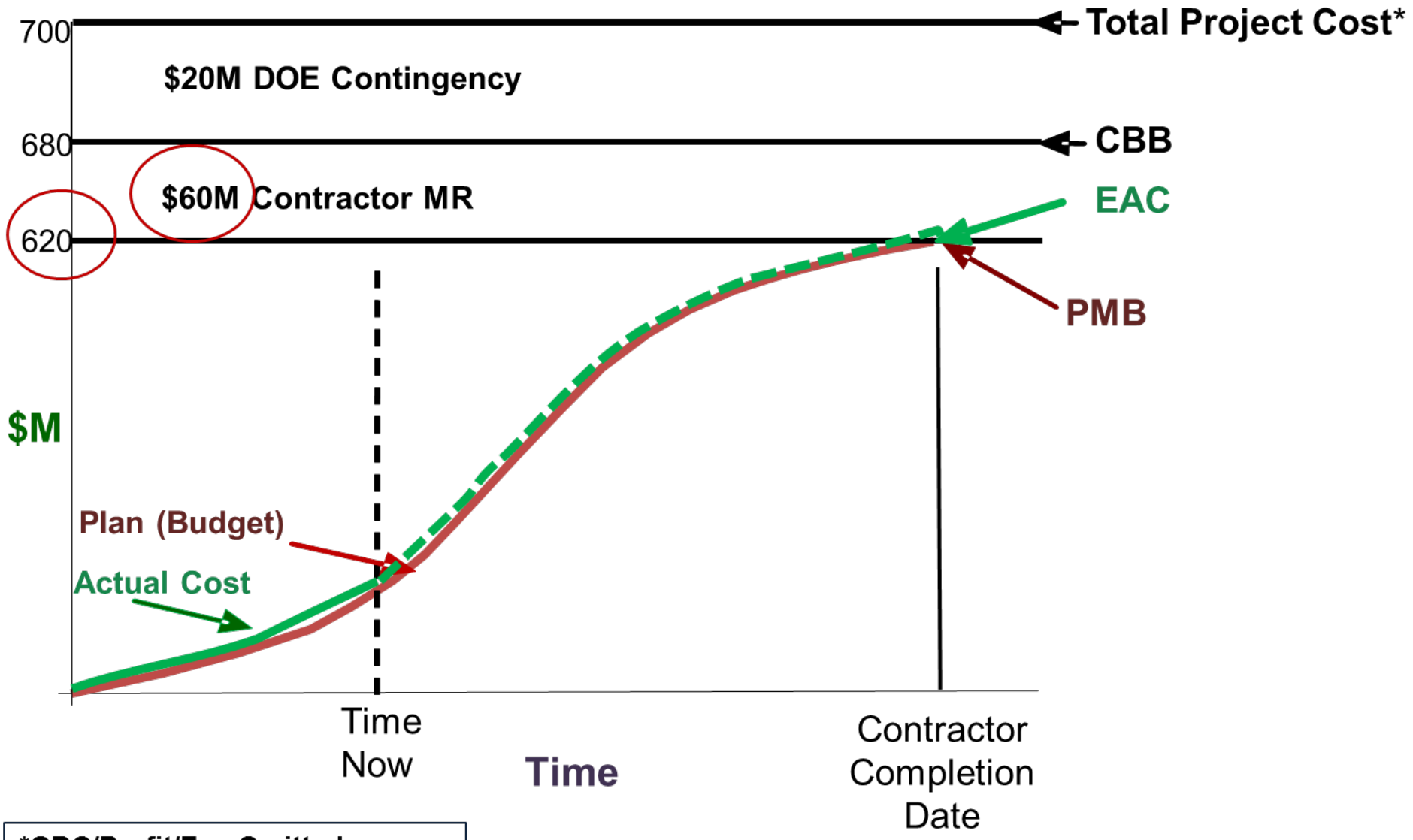
- This effort is required to meet the project statement of work, but was not planned within an existing control account

Balance	PMB	+ MR	+ Contingency	= TPC	EAC
Prior Period	600	80	20	700	600
Period 2	**20**	**(20)**			**20**
Balance	**620**	**60**	**20**	**700**	**620**

Period 2 Bar Chart



Scenario 2 "S" Curve



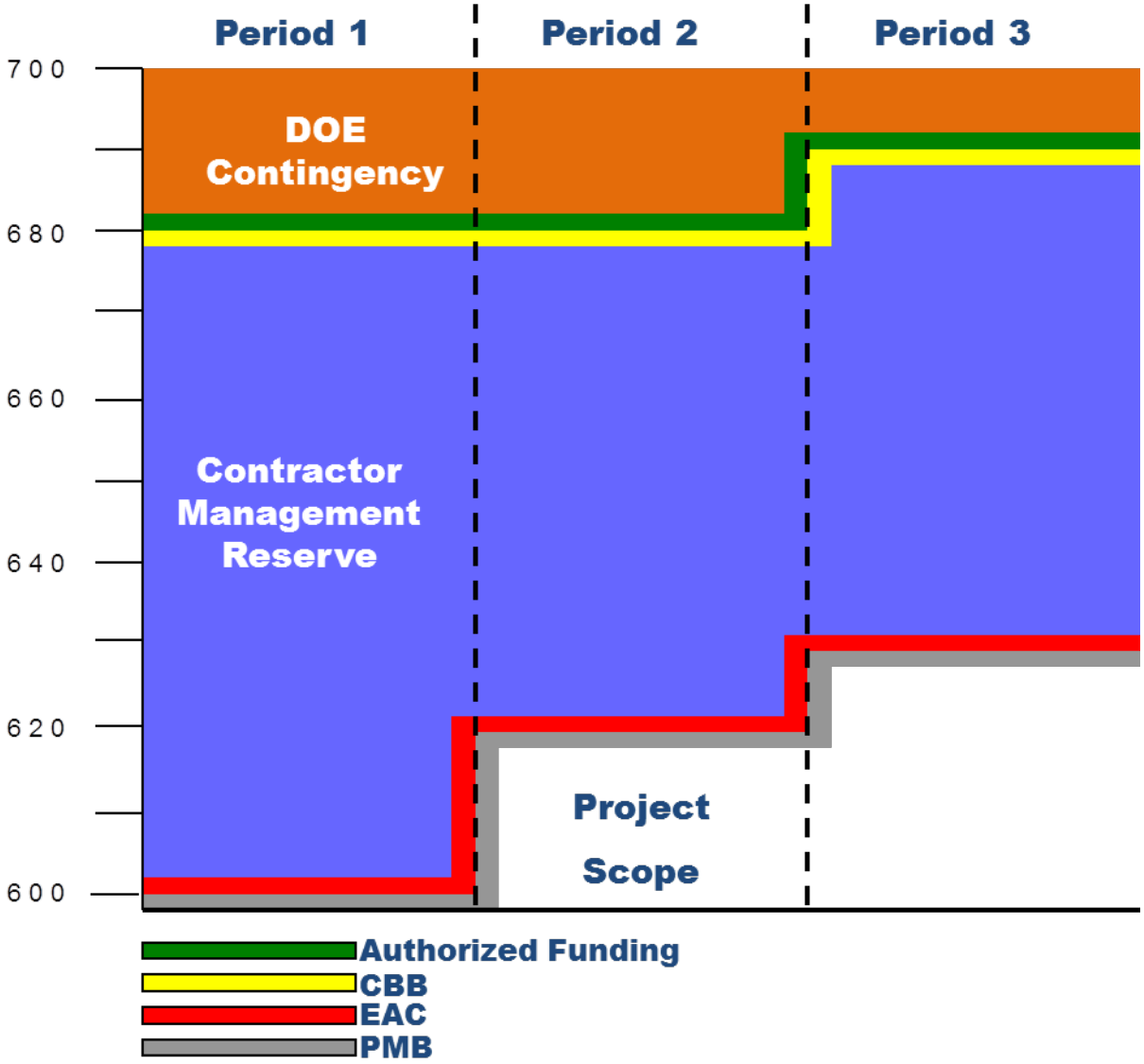
*ODC/Profit/Fee Omitted

Period 3

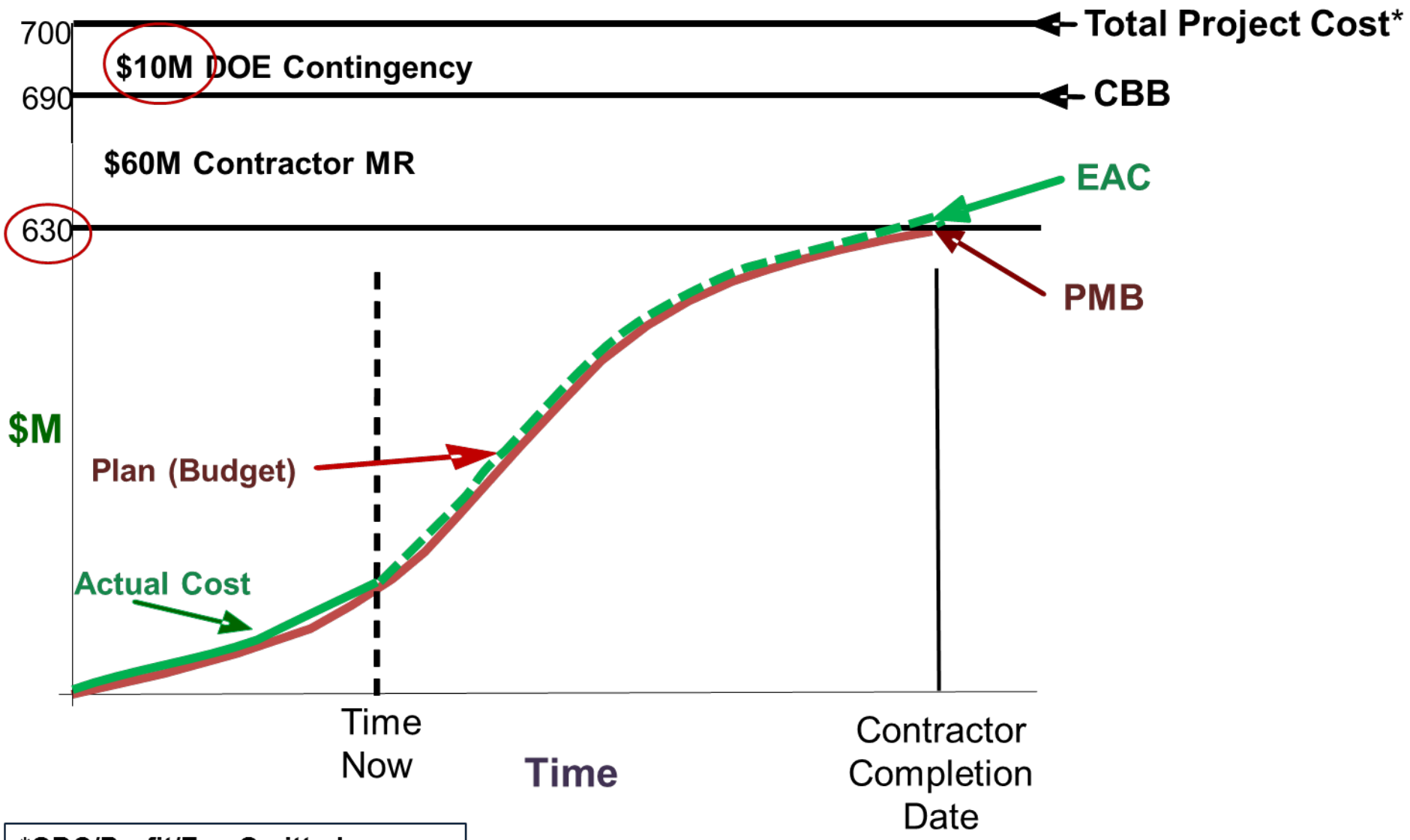
- The DOE customer modifies the contract to add two additional holding tanks, a new scope of work estimated at $10M
- This out-of-scope change is an increase not only in the contractor PMB and EAC for this effort, but also the CBB
- This change decreases the available government contingency by $10M

Balance	PMB	+ MR	+ Contingency	= TPC	EAC
Prior Period	620	60	20	700	620
Period 3	**10**		**(10)**		**10**
Balance	**630**	**60**	**10**	**700**	**630**

Period 3 Bar Chart



Period 3 "S" Curve



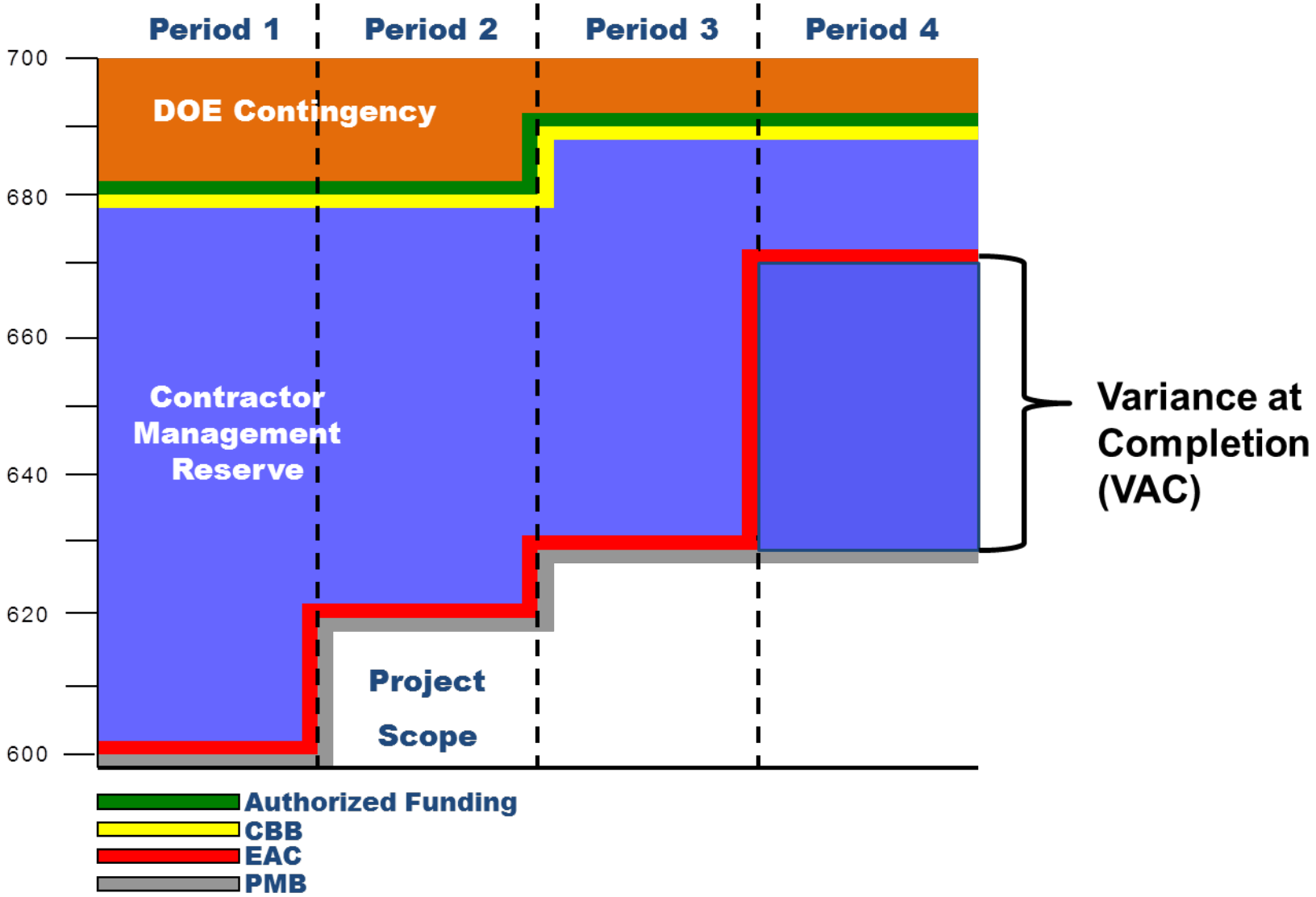
*ODC/Profit/Fee Omitted

Period 4

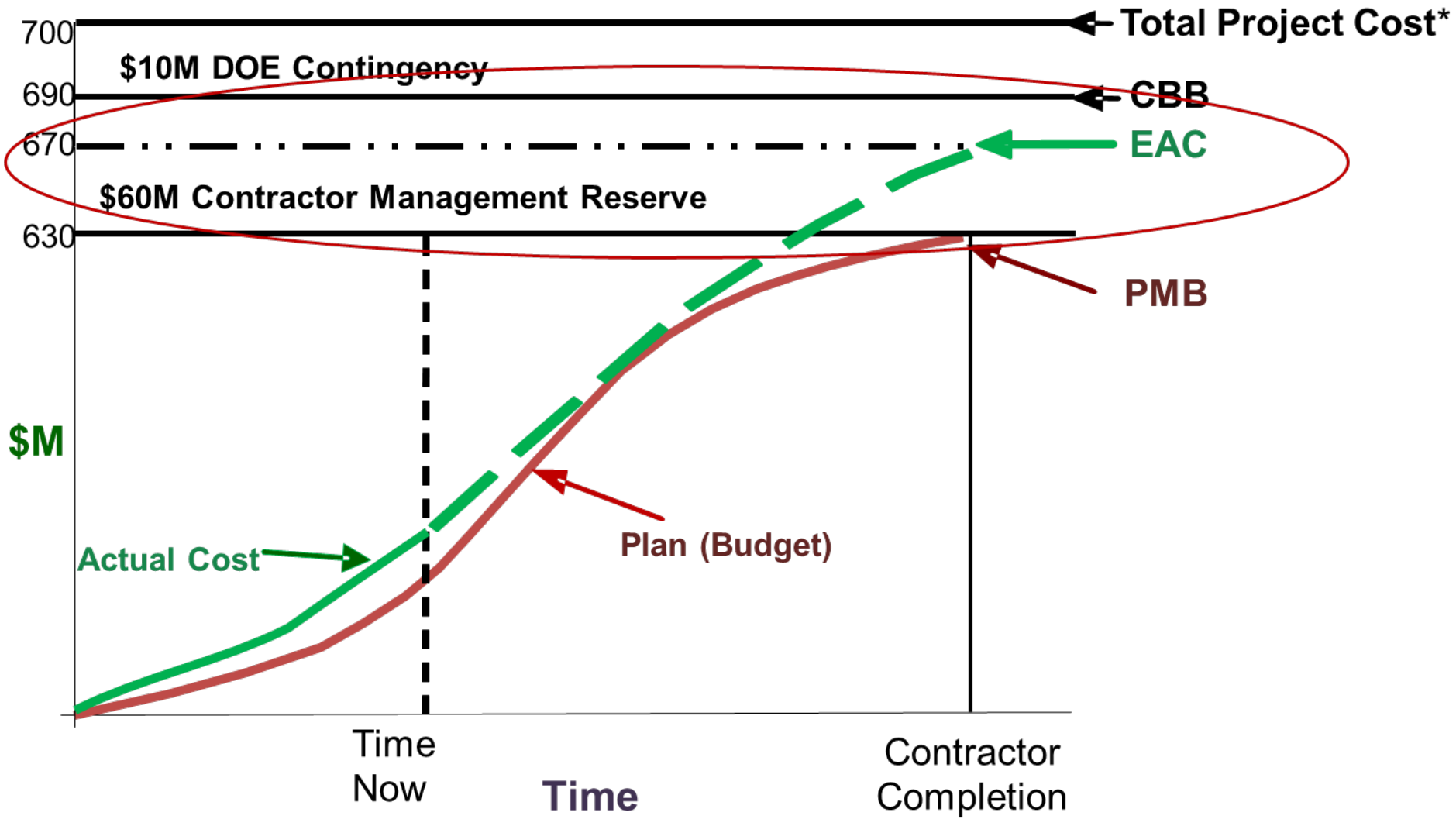
- A project wide bottom-up EAC exercise has resulted in a $40M forecasted overrun to the current PMB

Balance	PMB	+ MR	+ Contingency	= TPC	EAC
Prior Period	630	60	10	700	630
Period 4					**40**
Balance	**630**	**60**	**10**	**700**	**670**

Period 4 Bar Chart



Period 4 "S" Curve



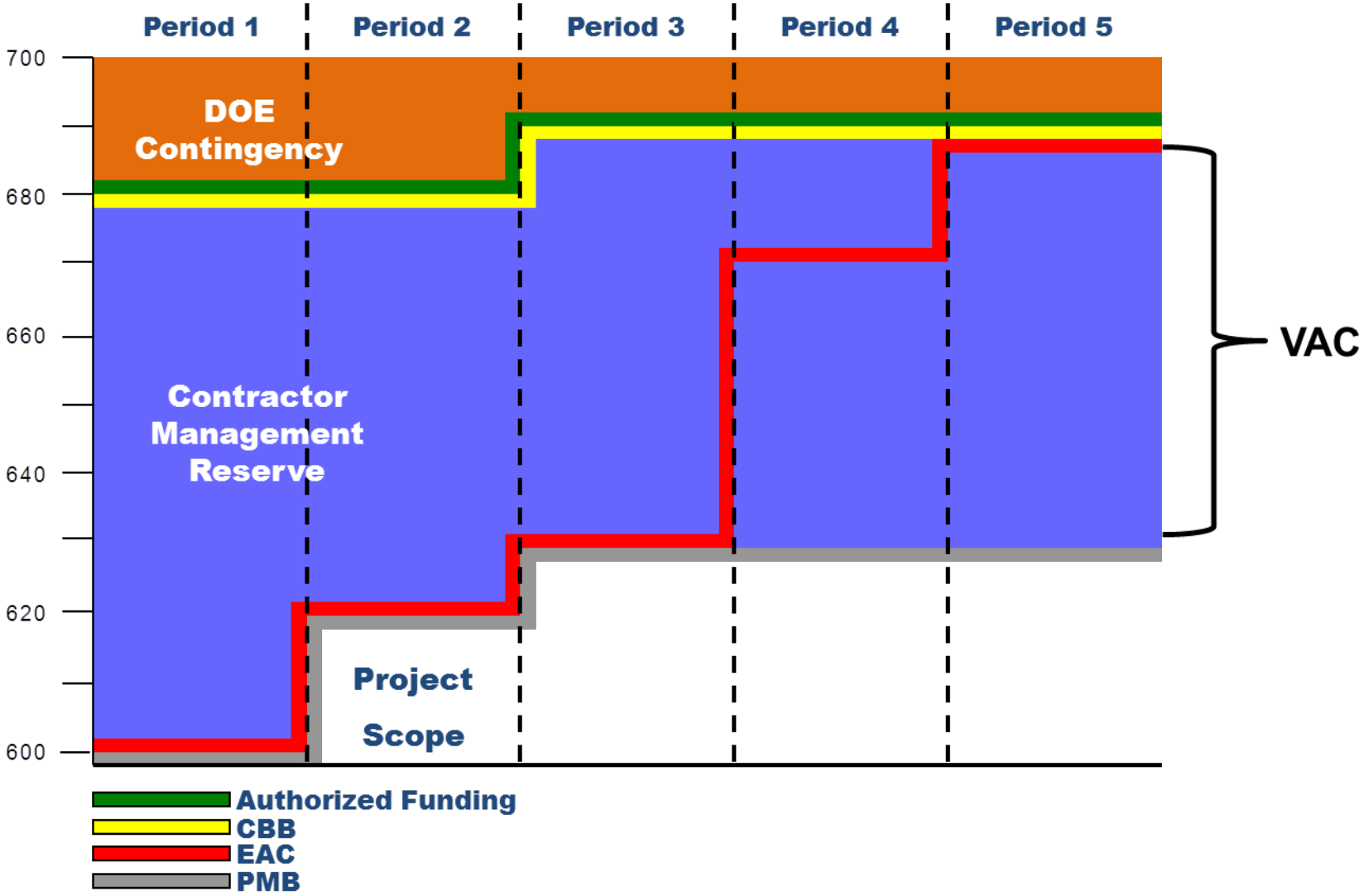
*ODC/Profit/Fee Omitted

Period 5

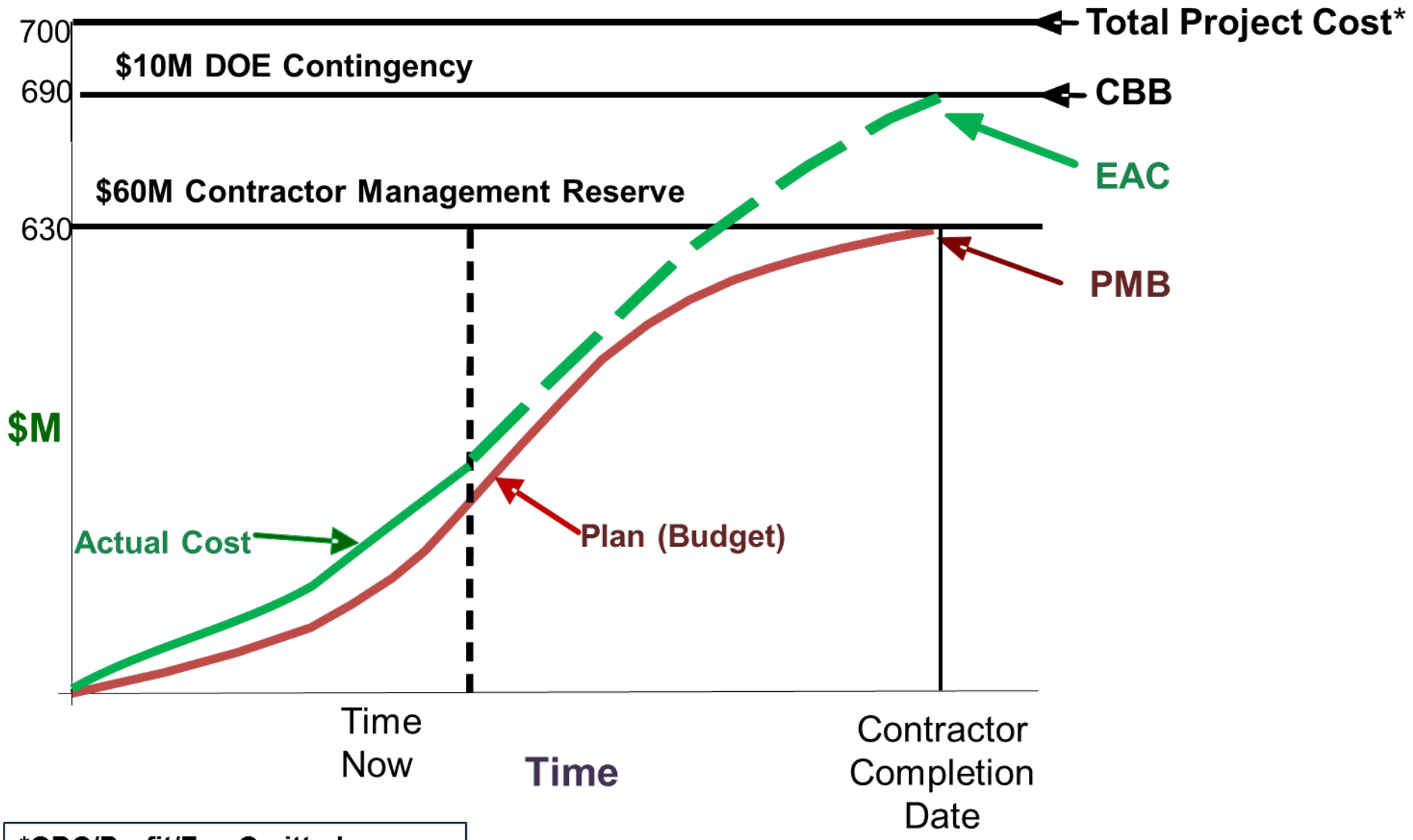
- Two tanks scrapped due to welding issues
- Overrun associated with two new tanks is $20M

Balance	PMB	+ MR	+ Contingency	= TPC	EAC
Prior Period	630	60	10	700	670
Period 5					**20**
Balance	**630**	**60**	**10**	**700**	**690**

Period 5 Bar Chart



Period 5 "S" Curve



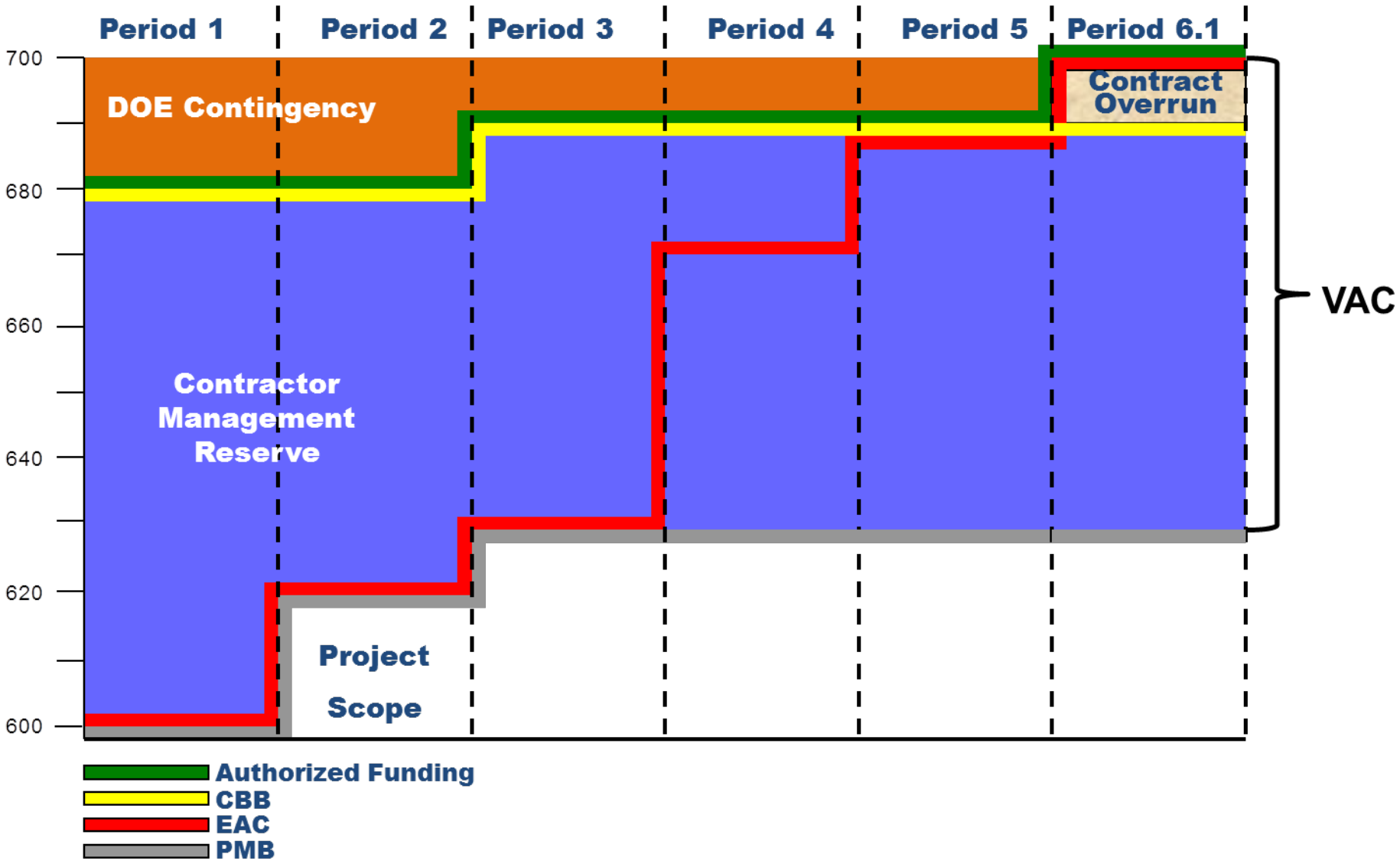
*ODC/Profit/Fee Omitted

Period 6, Scenario 1

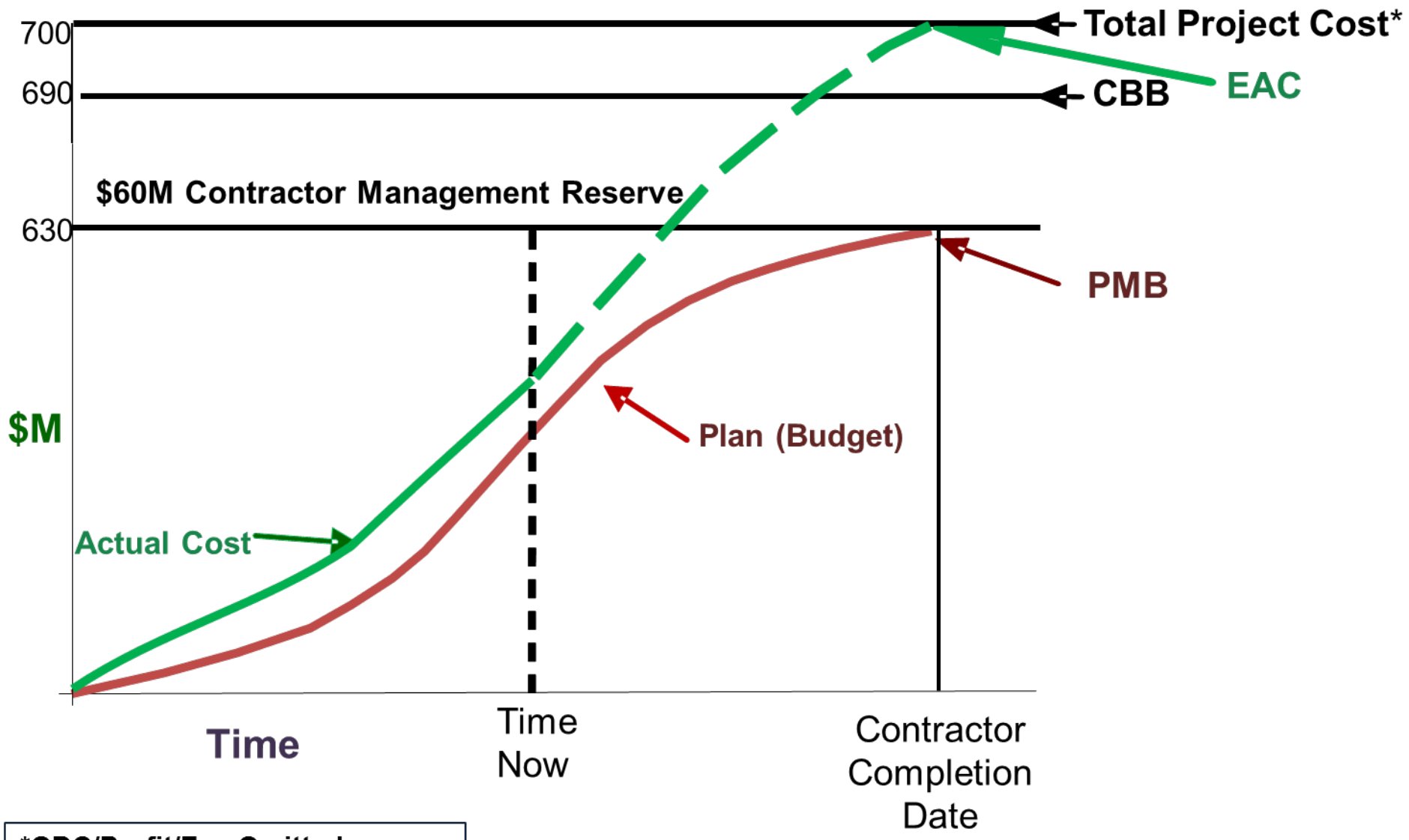
- The impact from the welding issues is $10M more than originally projected as the contractor struggles continue
- Since the EAC exceeds the CBB, additional funding is needed to pay for the costs of the overrun
- *The $10M of contingency must be obligated to fund the projected overrun

Balance	PMB	+ MR	+ Contingency	= TPC	EAC
Prior Period	630	60	10	700	690
Period 6.1					**10**
Balance	**630**	**60**	**10***	**700**	**700**

Period 6, Scenario 1 Bar Chart



Period 6, Scenario 1 “S” Curve



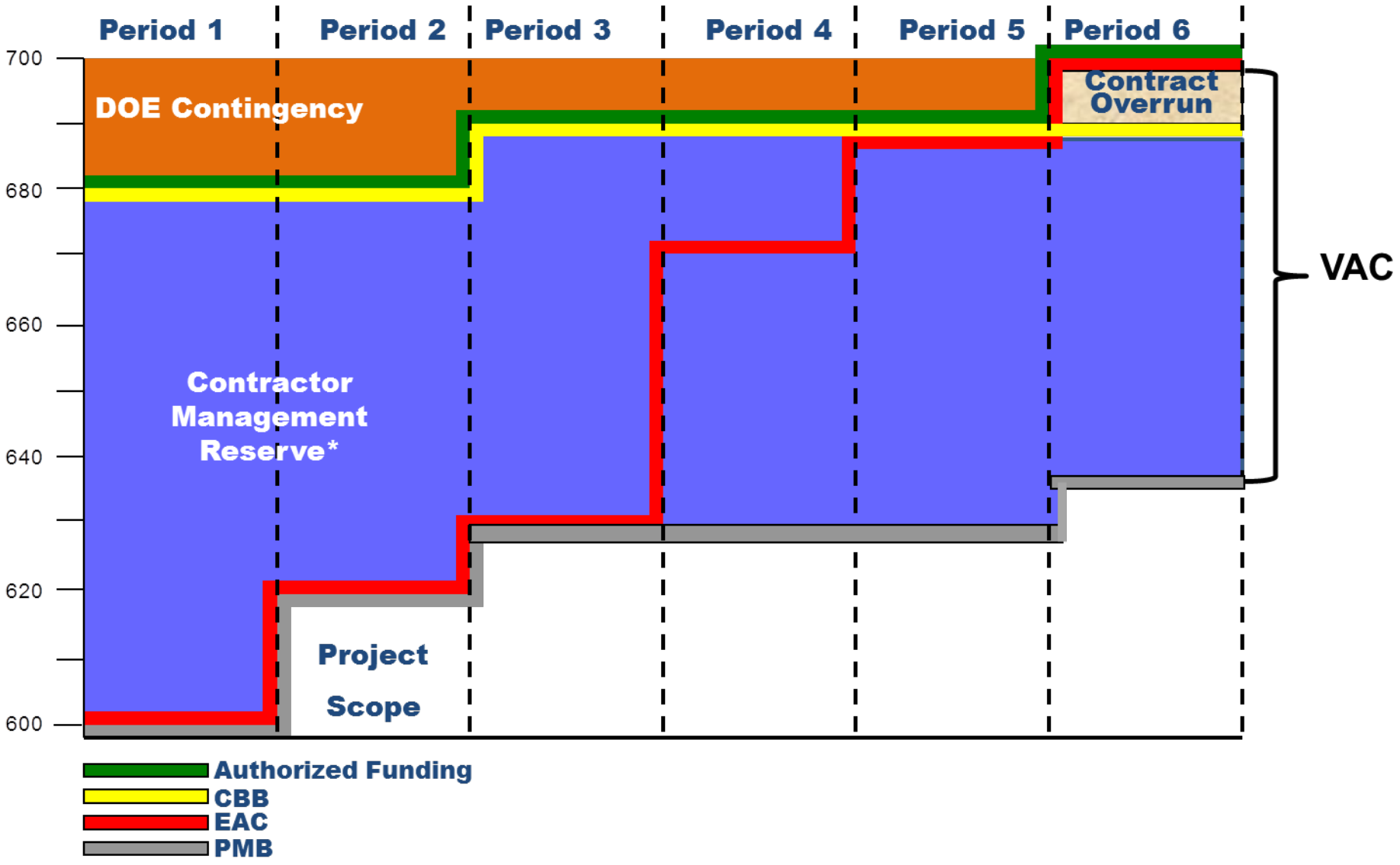
*ODC/Profit/Fee Omitted

Period 6, Scenario 2

- The contractor applied $10M MR to the PMB due to the realization that additional unanticipated ground water testing would need to be done as part of their risk mitigation program
- *The $10M of contingency must be obligated to fund the projected overrun caused by the application of MR to the PMB which caused an increase to the EAC

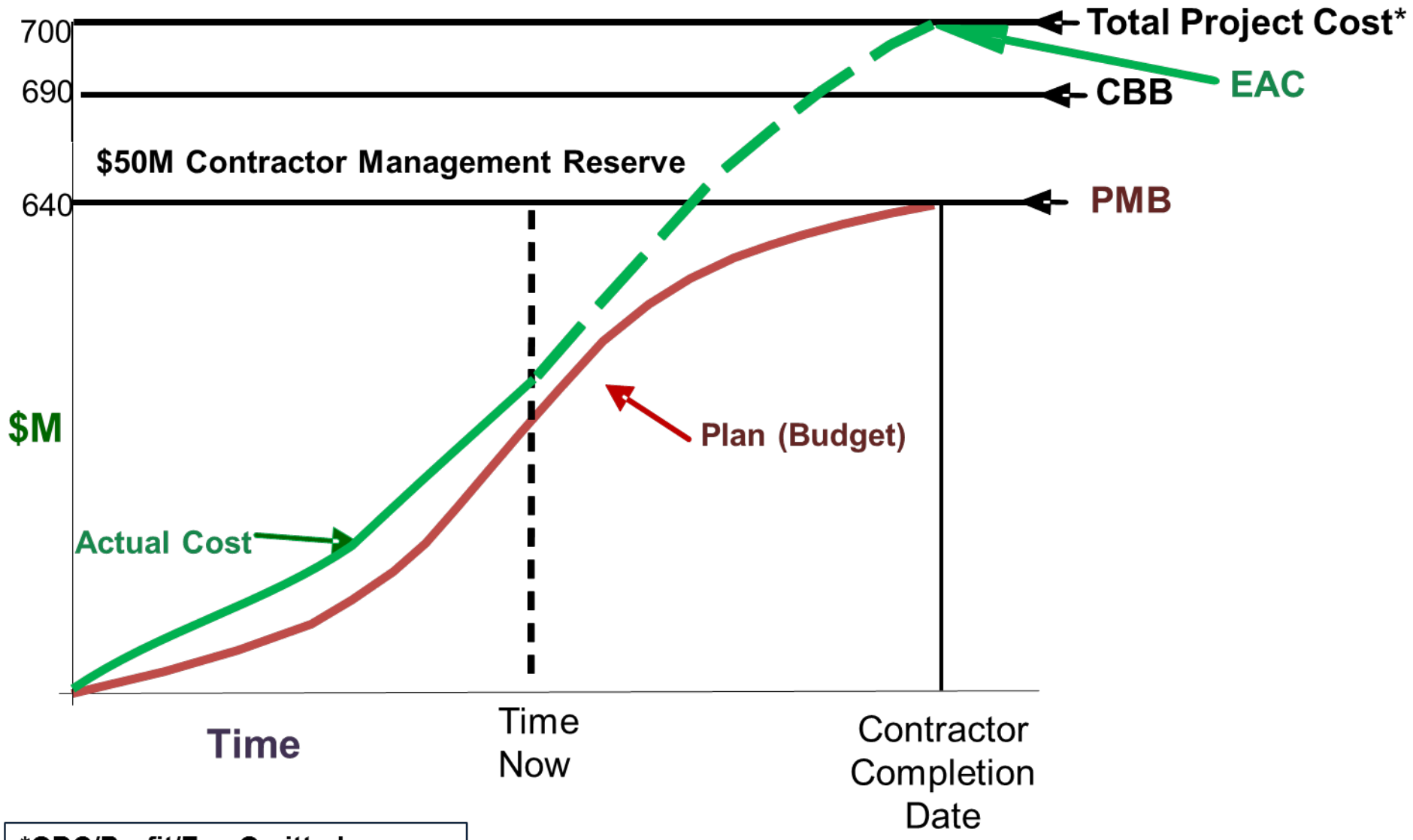
Balance	PMB	+ MR	+ Contingency	= TPC	EAC
Prior Period	630	60	10	700	690
Period 6.2	**10**	**(10)**			**10**
Balance	**640**	**50**	**10***	**700**	**700**

Period 6, Scenario 2 Bar Chart



*Represents an MR forecast in the Most Likely EAC

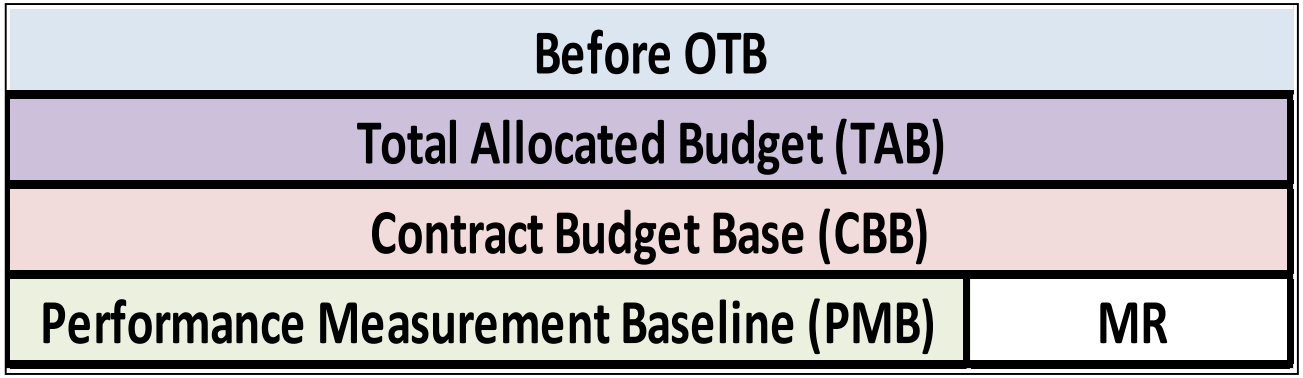
Period 6, Scenario 2 “S” Curve

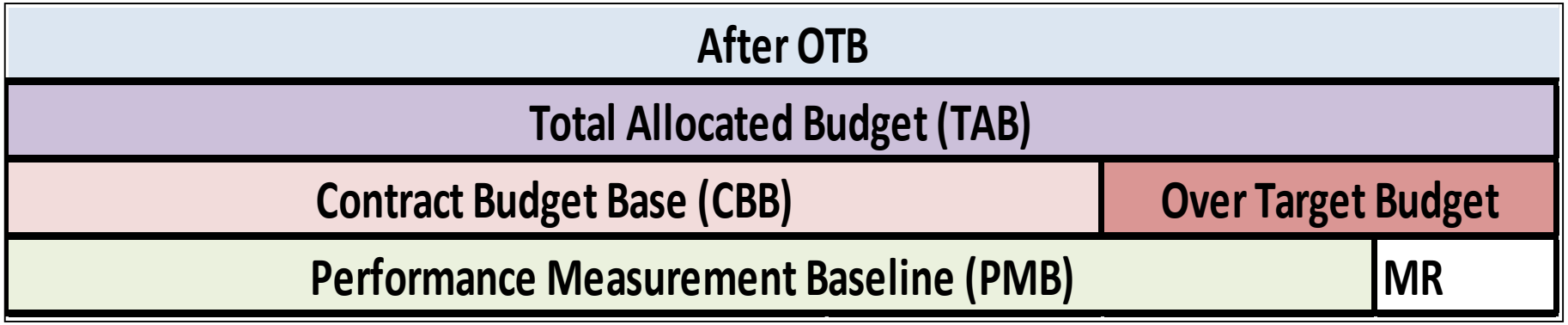


*ODC/Profit/Fee Omitted

Period 7 Over Target Baseline

- The contractor has received authorization to report to an Over Target Baseline (OTB)



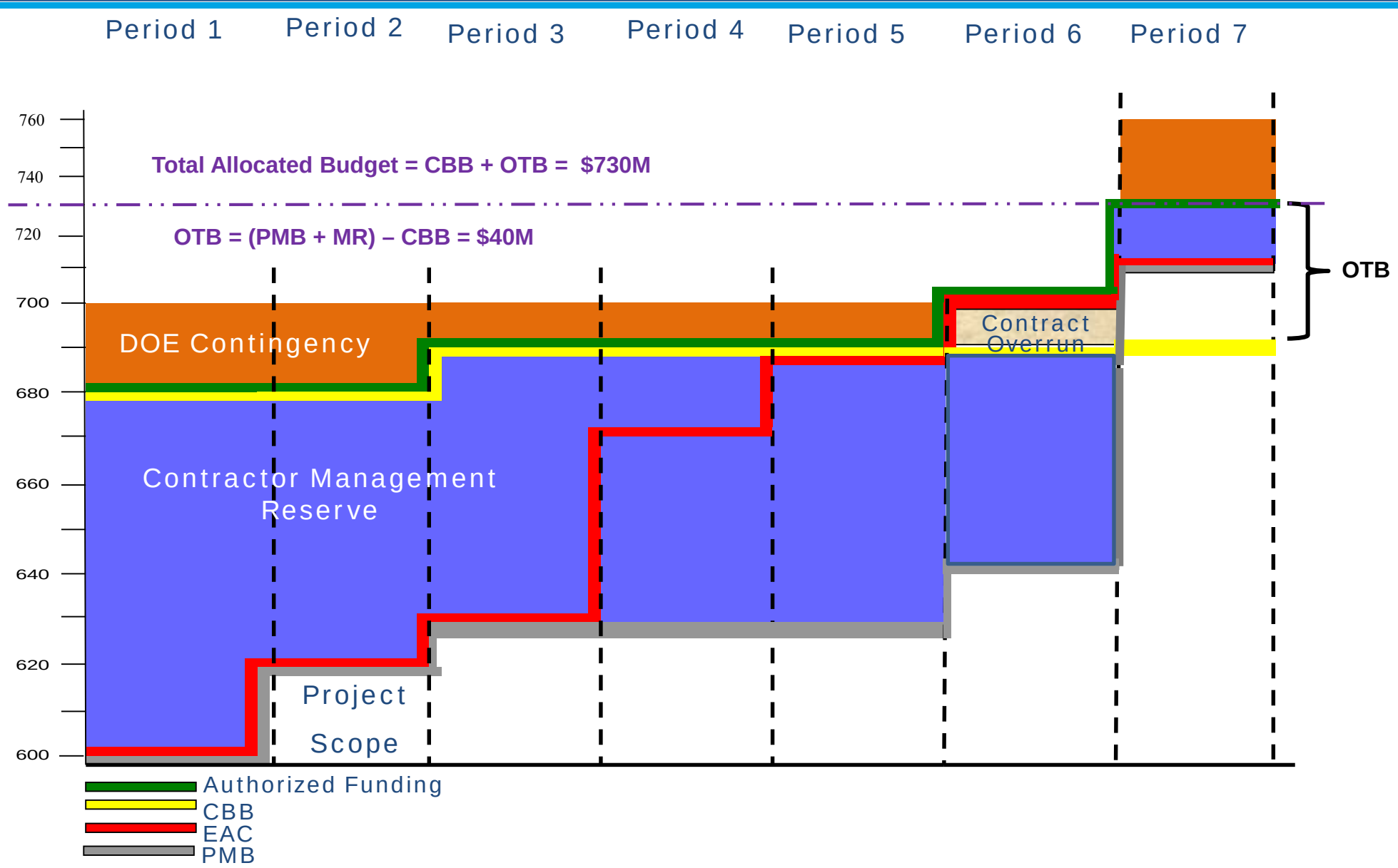


Period 7 OTB

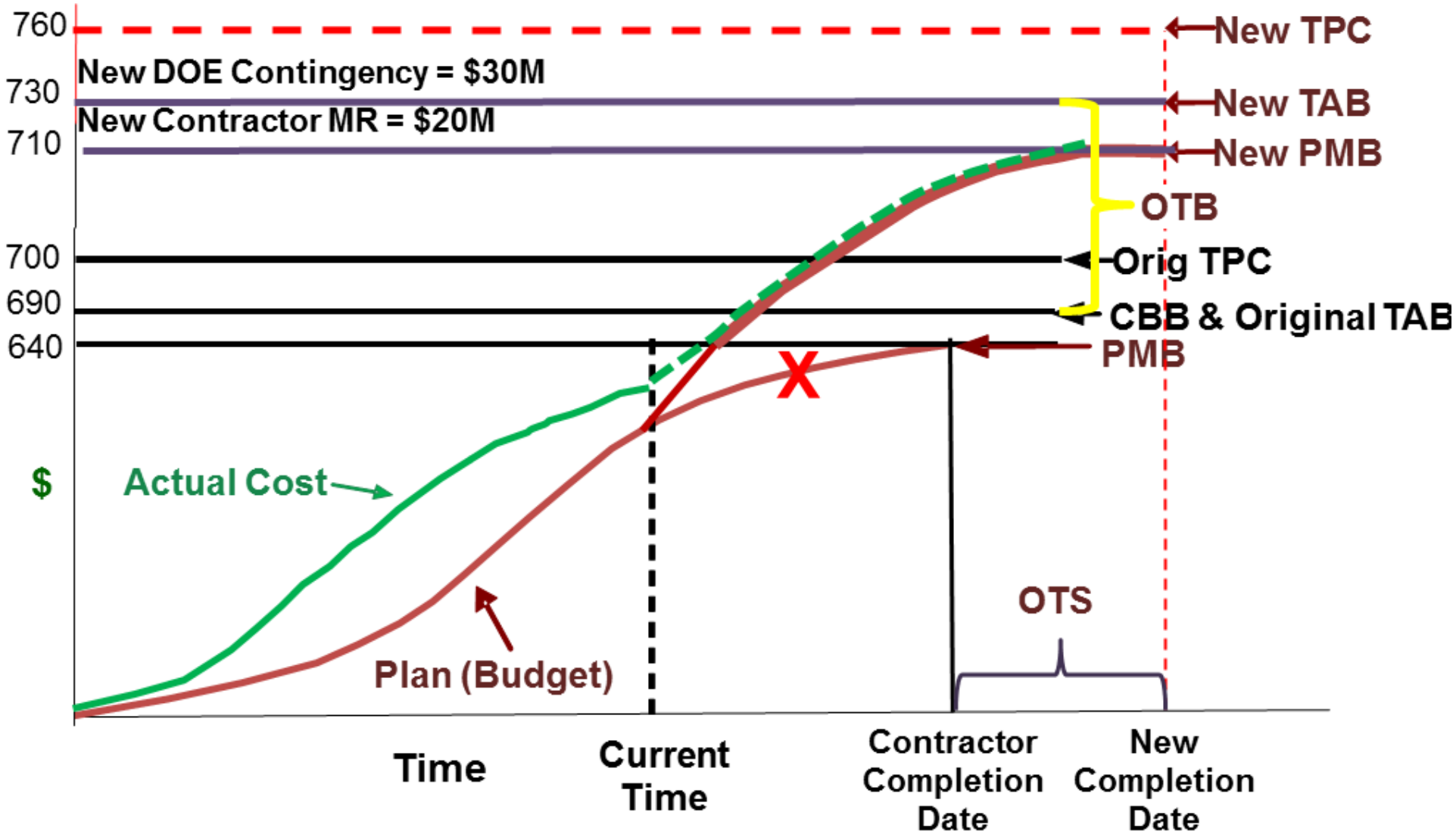
- Between Period 6 and Period 7, the contractor and DOE agreed to an OTB, thus allowing the contractor to provide a formal replan of its PMB and MR to reflect a realistic baseline to complete the project
- DOE also received Acquisition Executive approval for additional project funding; TPC (less profit/fees and ODC) is now $760M
- Authorized Funding to the contractor is $710M as designated by the green line, and the Contingency is $30M

Balance	PMB	+ MR	+ Contingency	= TPC	EAC
Prior Period	640	50	10	700	700
Period 7	**70**	**(30)**	**20**	**60**	**10**
Balance	**710**	**20**	**30**	**760**	**710**

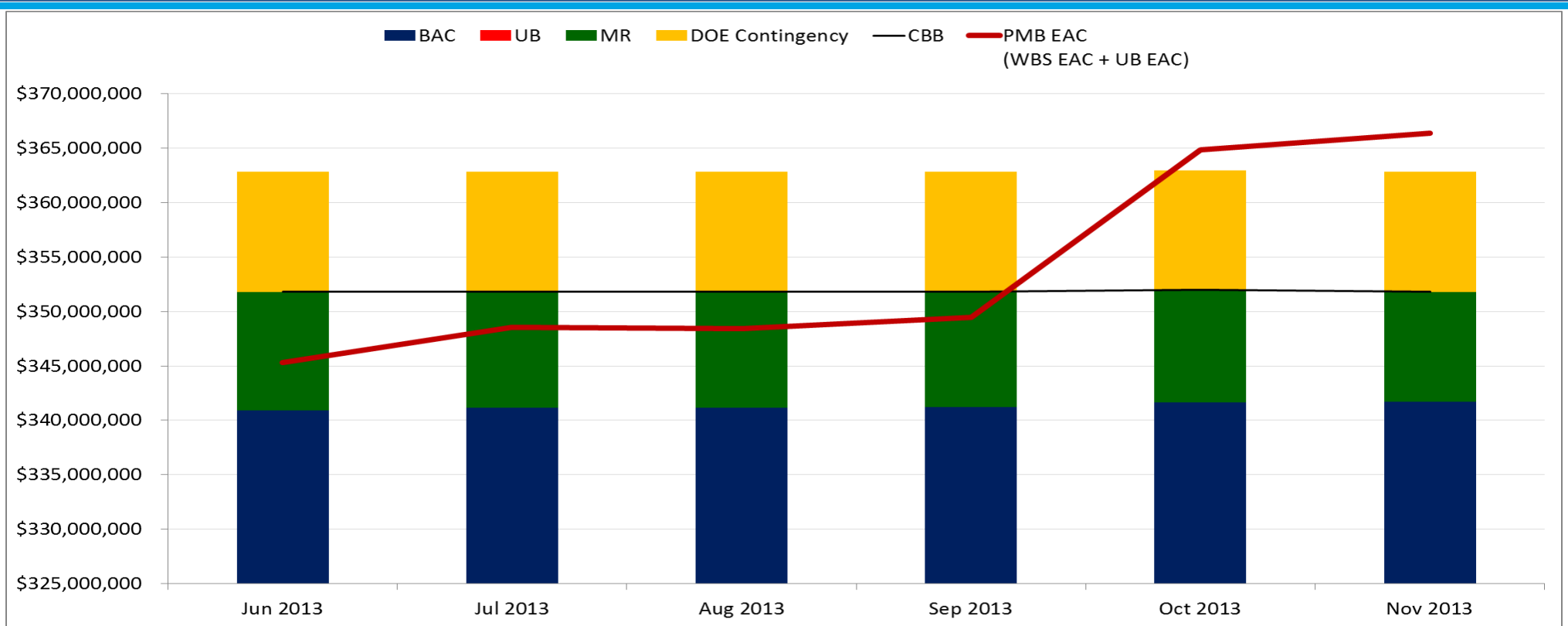
Period 7 OTB Bar Chart



Period 7 OTB "S" Curve



PARS II Project Funding Status



	Jun 2013	Jul 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013
DOE Cost Contingency	$11,000,321	$11,000,321	$11,000,321	$11,000,321	$11,000,321	$11,000,321
Management Reserve (MR)	$10,904,847	$10,681,393	$10,644,886	$10,585,353	$10,365,538	$10,117,404
Undistributed Budget (UB)	$0	$0	$0	$0	$0	$0
Budget At Complete (BAC)	$340,901,465	$341,124,919	$341,161,425	$341,220,958	$341,611,498	$341,688,907
Contract Budget Base (CBB)	$351,806,312	$351,806,312	$351,806,311	$351,806,311	$351,977,036	$351,806,312
Estimate At Complete (PMB EAC)	$345,311,276	$348,569,622	$348,440,509	$349,447,145	$364,830,378	$366,403,597

DOE OAPM EVM Home Page

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EARNED VALUE MANAGEMENT

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- Real Estate
- History

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.

- EVMS Surveillance Standard Operating Procedure (ESSOP) - 26 Sep 2011 (pdf)
  - EV Guideline Assessment Templates - (MS Word)
  - DOE EVMS Cross Reference Checklist - (pdf)
  - DOE EVMS Risk Assessment Matrix - (MS Word)
- Formulas and Terminology "Gold Card" - Sep 2011 (pdf)
- Slides from the OECM Road Show: Earned Value (EV) Analysis and Project Assessment & Reporting System (PARS II) - May 2012 (pdf)
- DOE EVM Guidance

EVM TUTORIALS

Module 1 - Introduction to Earned Value (pdf 446.86 kb) July 17, 2003

This module is the introduction to a series of online tutorials designed to enhance your understanding of Earned Value Management. This module's objective is to introduce you to Earned Value and outline the blueprint for the succeeding modules. This module defines Earned Value management. It looks at the differences between Traditional management and Earned Value management, examines how Earned Value management fits into a program and project environment, and defines the framework necessary for proper Earned Value management implementation.

http://energy.gov/management/office-management/operational-management/project-management/earned-value-management