

2023 Research Infrastructure WORKSHOP June 27-30, 2023 – Washington, D.C.

Performance Measurement & Management (Part 2): Progress Tracking & Reporting

> Carol Wilkinson, PhD, SCPM Mark Warner, PE, PMP



PROJECT MANAGEMENT. FACILITIES AND OPERATIONS. AWARD MANAGEMENT. EHS. EDUCATION AND PUBLIC OUTREACH. CYBER (CI & CS).

Talk Overview

Takeaway: Learn how to use tailored PMM tools and methods to manage and control mid-scale Projects during execution.

- Progress Tracking and Reporting components of Performance Measurement and Management (PMM)
- NSF Requirements for Mid-scale PMM
 - Scaled EVM
 - Guidelines and References
 - EVM Basics
- PMM/EVM Steps used during Execution, using examples of tailoring to project characteristics
 - Collecting Data on Project Status
 - Comparison of Status to Target Plan and Analysis
 - Management and Reporting
- Summary



art III: Mid-scale Project

PEPs, Project Objectives, Requirements, & Impacts

https://researchinfrastructureoutreach.com/kno wledge-gateway/part-i-mid-scale-projectplanning-management/





Helpful background on Project Management terms and topics found in these NSF Webinars



Performance Measurement/Management Defined

Takeaway: Track progress and manage based on comparison of current status to target baseline.

Completed Before Execution

- 1. Build a "target" baseline plan
 - Scope and quality
 - Budget and schedule
 - Risk exposure and contingency

Tracking and Reporting during Execution

- 2. Collect "status" in a working project definition
 - Technical accomplishments
 - Schedule progress and actual costs to date
 - Forecast of schedule and cost estimate for remaining work
 - Risk re-evaluation

3. Compare "status" plan against "target" plan and analyze differences

- Technical status
- Cost and schedule variances
- Estimate at complete (EAC) and end date

4. Manage based on analysis and Report Status

- Manage resources
- Use contingencies
- Change the target PMB as needed
- Create periodic reports

Established process to compare "status" at a certain date to "target" plan and analyze the results. Use the information to successfully manage the project



Four Steps of Performance Measurement and Management



NSF Guidelines for Scaled EVM/PMM

Performance Measurement, Change Control. & Reporting WEBINAR SERIES https://researchinfrastructureoutreach.com/kn wiedge-gateway/part-iii-mid-scale-projectet III: Midiscale Project projectperformancemanagement/

Takeaway: NSF Guidelines support, but don't require, scaled EVM methods for mid-scale projects.

Industry Standard For Performance Measurement is Earned Value Measurement (EVM)

- EVM provides an objective assessment of project status using defined metrics
- Works best on projects characterized by a linear progression of work assigned to discrete work packages

Industry Standards for Scaled EVM introduced for mid-scale projects

- Reduced number of guidelines and formality, with tailoring to fit project characteristics
- Reduces administrative burden on mid-scale projects
- With modifications, can be applied to projects that do not normally fit EVM structure characteristics

NSF requires responsible PMM, but does not require EVM for midscale projects

NSF encourages Scaled EVM as the preferred project management methodology for NSF midscale projects

EVM Principles and steps are the same regardless of amount of scaling

Number and complexity of tools, processes, and report elements vary



EVM Scaling at NSF

References:

- NSF Research Infrastructure (RIG) Section 6.8 (Building and using scaled EVM)
- 2. NDIA Earned Value Management System: Guideline Scalability Guide (useful scaled examples)
- 3. Earned Value Management Systems EIA-748-D Intent Guide (Full EVMS with 32 guidelines)





NSF Scaled Earned Value Management (EVM) Guidelines Reference Slide

Takeaway: Look for scaled EVM guidance in NSF and NDIA documents and for alternative PPM guidance in online documents.

NSF Midscale Guidelines for PMM in the RIG based on NDIA Scaled EVM Guidelines

• All 7 principles but only 18 of the 32 guidelines for the industry standard EIA-748.

RIG does not address PMM for projects not easily compatible with EVM

- Compelling alternative methodology is allowed if the project (or a significant part) is not EVM compatible
- A few places to get guidance:
 - NDIA Earned Value Management System: Guideline Scalability Guide
 - PMI: EVM on service projects-- an optimized paradigm
 - <u>PMI: Beyond backlogs and burndowns--</u> complementing "agile" methods with EVM for improved project performance
 - An Alternative to EVM: The Zone Method

Performance Measurement Major Steps	Seven Principles of EVM	NDIR New Orders Index Service Angene Days Respirat Univer	
1. Build a "target" baseline plan - Scope and quality - Budget and schedule - Risk exposure and contingency	1. Plan all project's work scope (create WBS). 2. Break work scope into finite pieces with responsible owners over objectives	1, 2, 5	Earned Value Management Systems EB-740-D Intert Guide August 21, 2010
	 Create a performance measurement baseline (PMB) for scope, schedule, cost, and contingency. Control changes to the baseline. 	6, 7, 8, 9, 13, 14	NDIR Maint Salary Audition Solution (Solidar Solidar S
 Periodically collect "status" in a working project definition Technical accomplishments Schedule progress and actual costs to date Forecast of schedule and cost estimate for remaining work Risk re-evaluation 	 Use actual costs incurred and recorded in accomplishing the work performed. Objectively assess accomplishments/ progress at the work performance level. 	17, 18, 22, 23, 26	Extred Value Management System Guideline Souldieller Guideline Aussen 2 Manuel
3. Compare "status" plan against "target" plan and analyze differences - Technical status - Cost and schedule variances - Estimate at complete (EAC) and end date	 Analyze significant variances from the plan, forecast impacts, develop corrective actions, and prepare an estimate at completion based on performance to date and the remaining work to be performed. 		RESEARCH INFRASTRUCTURE GU Not gedroende for de the conversion of Conversion of the second
 4. Manage based on analysis and Report Manage resources Use contingencies Change the target PMB as needed Create periodic reports 	 Use the EVMS information in the project's management processes. 	17, 18, 22, 23, 26 25, 27, 28, 32	Big of the standard

References:

NSF Research Infrastructure (RIG) Section 6.8 (Building and using scaled EVM) NDIA Earned Value Management System: Guideline Scalability Guide (useful scaled examples) Earned Value Management Systems EIA-748-D Intent Guide (Full EVMS with 32 guidelines)

Note talk on Earned Value Management (EVM) in Agile Development 10:50 AM Wednesday June 28

EVM Basics Example

Takeaway: Take time to learn/understand the EVM basics.





PMM Step 2. Statusing Technical and Schedule Progress

Working Proje Schedule Statu Definition Revised Critical P Schedule float

Takeaway: Collect technical and schedule progress data and document in the schedule and MS tables

Determine what you have done each reporting cvcle:

The schedule establishes and maintains the relationship between technical achievement and progress statusing

- Collect Qualitative inputs
 - Control Account Managers (CAMs) and technical leads discuss status and issues in project meetings
 - PI. PM. and Leads "walk their spaces"
- Collect Quantitative inputs
 - Written reports from Leads on Technical accomplishments (work done, quality, risks)
 - Schedule Progress Input from Leads, either by fillable forms or live input: actual start, actual finish, and % complete*
 - Forecast Input from leads: revised start dates, finish dates. durations
- Update the working version of the schedule and the Milestones Table in scheduling tool

*Some Examples
of % complete
Techniques for
EV, established
before execution

Assigning % complete
Nothing until 100% complete
50% at start; 100% at finish
% of total units completed
% based on apportioned resources/budget
% complete based on elasped time percent
Estimate of % complete (SME judgement)

Project	Update May 31 2023 and 3 Month Look-Ah	ead					Schedule Updates				
WBS	Name	% Com	Duratio	n Planned	Planned	% Comp	Duration	Planned	Planned	Actual	Actual
Code				Start	Finish			Start	Finish	Start	Finish
1	Reference Antenna 12m	91%	668d	11-Jan-22	11-Aug-23					11-Jan-21	
1.1	System Review & Inspections Reference Antenna 12m	90%	603d	11-Jan-2	12-May-23					11-Jan-21	
1.1.5	Procurement & Equipment Purchase Reference Antenna 12m	84%	265d	2-May-22	2 12-May-23					2-May-22	
1.1.5.1	Labor: Procurement & Equipment Purchase Reference Ante	enn 55%	265d	2-May-22	2 12-May-23					2-May-22	
1.1.5.3	Procurement: Spare Parts for Antenna 12m	60%	29.6w	17-Oct-22	2 12-May-23					17-Oct-22	
1.4	Development & Integration Wideband Antenna 12m	89%	653d	1-Feb-22	l 11-Aug-23					1-Feb-21	
1.4.1	Development Wideband Antenna 12m	91%	586d	1-Feb-22	10-May-23					1-Feb-21	
1.4.1.1	Labor: Development & Integration Wideband Antenna 12m	n 70%	328d	28-Jan-22	2 10-May-23			1		28-Jan-22	
1.4.2	Wideband 12m Instrumentation Fabrication	89%	330d	25-Mar-22	2 7-Jul-23					25-Mar-22	
14211	Dhace 2.9: Field Deployment and on Antonna Testing	00%	25 4w	16-Nov-22	2 12-May-23					16-Nov-22	
			N	15-May-23	3 26-May-23				2h		
RFT	eam Lead Monthly Report Feb 28, 2023		d	26-May-23	3 26-May-23				X4	Examp	le:
			N	29-May-23	8 23-Jun-23				´	Arecih	h 12m
P08	Radio Frequency Interference Evaluation an	d Supp	ort od	29-May-23	8 7-Jul-23						0 12.
The pro	oject is 45% complete as of February 28, 2023, 2023, and its expect	ed complet	ion Id	29-May-23	8 7-Jul-23		1			reiesc	ope
date is	August 3, 2023.		N	26-Jun-23	8 7-Jul-23	line.	A BAN			Repair	1
•	Project work pace has slowed significantly due to project lead an	d other	d	7-Jul-23	8 7-Jul-23					Cubor	inct
	resources prioritizing P12. Although procurements are under way	r, actual wo	^{rk} d	7-Jul-23	8 7-Jul-23	/		1		pubpre	yeu
	is expected to pick up in March/April.		9d	15-Jun-22	2 5-May-23	5				15-Jun-22	
D 40	Defenses Antonna (40m) Demains		8w	31-Jan-23	3 5-May-23					31-Jan-23	
PIZ	Reference Antenna (12m) Repairs		d	5-May-23	3 5-May-23						
The pro	oject is 83% complete as of February 28, 2023, and current complet	ion date is	Rd	25-Mar-2	10-1494-23		<u> </u>			25-Mar-22	Marianas
August	9, 2025. Dewar's striggenic performance/longevity shecks perform							alian Data			variance (days)
	Built and validated Padome's dry air system	C A F	liestone war	ne Maritian Dian Ci	-harden d		Bas	eline Date	Forecast Da	Actual Da	ie (days)
	Validated UDC	.0.4 FI	nal Project E	All Culture in st			2	-JUN-22	7-JUN-22	U7-JUN-Z.	<u>/</u> 0
	Will revise monitoring architecture to include helium line	.8 U	ompletion of	All Subprojects	(NIS)		3.	L-IVIdF-23	31-Widf-23	5	
	Will add supporting structure to 12-meter antenna to rele	.8.1 U	ompletion of	All Sub- Project	(IVIS)		3.	L-IVIdr-23	31-Widf-2:	,	_
•	Will complete filter bank assembly with new filters and va	.9.2 AI	JR Project CI		e (MS)			3-JUI-23	3-JUI-23		_
	performance. P08-1	.1.10 RI	I Site & Labo	oratory Surveys	ompiete (IVIS)	(* * * *	2	7-Dec-22	27-Dec-22		
	P08-1	.1.3 St	art RFI Moni	toring Site and L	aboratory Surveys	5 (MS)	12-Apr-22		12-Apr-22	12-Apr-2	2 0
	P08-1	.1.6 Pr	ocurement H	REFI Survey Test E	quipment & Mate	rials Complet	:e (MS) 4	-Aug-22	30-Sep-22		-5/
	P08-1	.2.1.5 RI	I Station Des	sign & Developm	ient complete (MS	5)	8	3-Jun-22	8-Jun-22	08-Jun-2	2
Areci	bo Hurricane Repair Project: ~\$12M; P08-1	.2.2.5 Pr	ocurement F	RFI Station instru	mentation Compl	ete (MS)	18	3-Aug-22	23-Nov-22	2	-97
Mana	agement tool is "Celoxis" for resource-	.2.2.9 RI	I Station Fab	rication & Procu	rement Complete	e (MS)	14	1-Nov-22	23-Nov-22	2	-9
loade	d Gantt schedule and EVM. Celoxis	.2.3.6 RI	RFI Station Installation Complete (MS) 27-Dec-22 29-Dec-22							-2	
repor	ts were modified to accommodate	.1.1.12 H	F Loads Proci	urement Comple	te (MS)		10	D-Aug-22	1-Sep-22		-22
fully	loaded budgets/costs_PM & Project	.1.1.2 St	art HF Loads	Selection and P	rocurement (MS)		21	L-Mar-22	21-Mar-22	2 21-Mar-2	2 0
Cont	rols staff authorized to work in master	.1.1.6 H	F Dummy Loa	ads Design Comp	lete (MS)		23	8-May-22	23-May-2	2 23-May-2	2 0
		110 0	D	and Deen Deen	and the former of the second s		M(C) 2	A	2 4	1 2 4	

Descope Decision: Drop Installation of 2 Dummy Loads (MS)

P09 - 2.1.2.3

schedule: Leads can work in "sandboxes"

31-Aug-22

22-Sep-22

-22



PMM Step 2. Statusing: Actual Costs and EAC Forecast

Constitutionalization data Mandala Programs (Marcha) Reformance (a complete (KZ)) Reformance (Complete (KZ)) Reformance (Complete (KZ)) Reformance (KZ) R

Working Project

Takeaway: Raw Actual cost data are collected from accounting and processed for input to EVM calculator.

Collect Quantitative Data from all Partners

- Import actual costs from host institution accounting reports into a processing sheet
- Process data into format compatible with EVM tools
 - Map actuals to Control Accounts, resource codes, or other tracking codes/tags established with accounting systems
 - Clean up file formats and data fields to match EVM calculator input requirements
 - Import file into EVM calculator

• Periodically update Cost of Work Remaining

- Collect any new knowledge about cost changes (market, added work, risk impacts)
- Create bottom-up re-estimates of the Estimate to Complete (ETC)
- Update Estimate at Complete (EAC)

| | Task | Project_Task | WB5 | W85-L3 | WBS_Description | WBS
 | + Description | Level2
 | cc | Pd
 | Month | PY | PY | RA
 | Amount | Qty |
 | Bus. Date | Entry Dat |
|--|---|---|--|--|---
--|--
--
---	--	--
---	---	--
---	--	-----------
111	010	400111.010
 | .0 Project Management | 40011
 | 3031 | 06
 | December | 2023 | PYS | CA
 | | -16 | -0.4
 | 20221231 | 2023011 |
| 111 | 010 | 400111.010 | 1.1.1.0 | 1.1.1 | Project Management | 1.1.1
 | .0 Project Management | 40011
 | 3031 | 06
 | December | 2023 | PYS | CA
 | | -100 | -0.4
 | 20221231 | 2023011 |
| 111 | 010 | 400111.010 | 1.1.1.0 | 1.1.1 | Project Management | 1.1.1
 | .0 Project Management | 40011
 | 3031 | 06
 | December | 2023 | PYS | CA
 | | 100 | 0.4
 | 20221229 | 2022122 |
| 111 | 010 | 400111.010 | 1.1.1.0 | 1.1.1 | Project Management | 1.1.1
 | .0 Project Management | 40011
 | 3031 | 06
 | December | 2023 | PYS | CA
 | | 16 | 0.4
 | 20221229 | 2022122 |
| 111 | 010 | 400111.010 | 1.1.1.0 | 1.1.1 | Project Management | 1.1.1
 | .0 Project Management | 40011
 | 8020 | 06
 | December | 2023 | PYS | CA
 | | -8.48 | 0
 | 20221231 | 2023011 |
| | 010 | 400111.010 | 1.1.1.0 | 1.1.1 | Project Management | 111
 | .0 Project Management | 40011
 | 8020 | 06
 | December | 2023 | PYS | CA
 | | -53 | 0
 | 20221231 | 2023011 |
| | 010 | 400111.010 | 1.1.1.0 | 1.1.1 | Project N Ray | w actus
 | als file fr | h
 | |
 | December | 2023 | PTS | CA
 | | 5.5 | 0
 | 20221229 | 2022122 |
| 111 | 110 | 400111.010 | 1111 | 1.1.1 | Project A | w actua
 | and find the | 5111
 | |
 | December | 2023 | P15 | CA
 | | 100 | 0.4
 | 20221225 | 2022122 |
| 111 | 110 | 400111.110 | 1.1.1.1 | 1.1.1 | | iversitv
 | account | ting sys
 | sten | า
 | December | 2023 | PYS | CA
 | | 16 | 0.4
 | 20221231 | 2023011 |
| 111 | 110 | 400111.110 | 1.1.1.1 | 1.1.1 | Project A | ,,
 | |
 | |
 | December | 2023 | PYS | CA
 | 14 | 65.06 | 465.06
 | 20221231 | 2023010 |
| 111 | 110 | 400111.110 | 1.1.1.1 | 1.1.1 | Project Administration | 1.1.1
 | .1 Project Administration | 40011
 | 3802 | 06
 | December | 2023 | PYS | CA
 | | 976.7 | 976.7
 | 20221231 | 2023010 |
| 111 | 110 | 400111.110 | 1.1.1.1 | 1.1.1 | Project Administration | 1.1.1
 | 1 Project Administration | 40011
 | 3802 | 06
 | December | 2023 | PYS | CA
 | 2 | 96.24 | 296.24
 | 20221231 | 2023010 |
| 111 | 110 | 400111.110 | 1.1.1.1 | 1.1.1 | Project Administration | 1.1.1
 | .1 Project dministration | 40011
 | 3802 | 06
 | December | 2023 | PYS | CA
 | 2 | 62.08 | 262.08
 | 20221231 | 2023010 |
| 111 | 110 | 400111.110 | 1.1.1.1 | 1.1.1 | Project Administration | 1.1.1
 | .1 Project Administration | 40011
 | 8020 | 06
 | December | 2023 | PYS | CA
 | | 53 | 0
 | 20221231 | 2023011 |
| 111 | 110 | 400111.110 | 1.1.1.1 | 1.1.1 | Project Administration | 1.1.1
 | 1 Project Administration | 40011
 | 8020 | 06
 | December | 2023 | PYS | CA
 | | 8.48 | o
 | 20221231 | 2023011 |
| Proj | ject Nan | ne | WB | 8S | Work Package | Number
 | Cost Class | Resource Ty
 | Resou | rce Co I
 | Description | Start | Date | Finish
 | Date | Result | Name
 | Value | Dele |
| Icef | ube I In | erade \/5 | 1.0 | 1 01 01 | 1 01 01 01 |
 | Actual | labor
 | A Sala | ~ 100
 | EEV71 | 12/ | 1/2022 | 12/
 | 81/2022 | direct | | | | |
 | 11785 52 | No |
| ice e | abe op | Bigge 10 | 1.0 | 1.01.01 | 1.01.01.01 |
 | PALLOUT | raiden
 | 14.0010 | 19.100
 | | | 1/1011 | | | |
 | JAJEVEL | uneer |
 | 11/03.31 | 140 |
| IceO | Cube Up | grade V6 | 1.0 | 1.01.01 | 1.01.01.01 |
 | Actual | labor
 | A.Sala | ry.100
 | O'DELL | 12/ | 1/2022 | 12/3
 | 31/2022 | direct | | | | |
 | 5437.39 | No |
| IceC | ube Up | grade V6 | 1.0 | 1.01.01 | 1.01.01.01 |
 | Actual | abor
 | A.Sala | rv.1003
 | FEYZ1 | 12/ | 1/2022 | 12/3
 | 31/2022 | direct |
 | 1683.64 | No |
| leaf | who i le | are de MC | 1.0 | 1 01 01 | 1 01 01 01 |
 | - |
 | |
 | | 12 | 10000 | 12/
 | 1/2022 | diant | | | | |
 | 776.76 | No |
| icec | une ob | glade vo | 1.0 | 1.01.01 | 1.01.01.01 |
 | Process | sed and
 | d ma | app
 | ed | 12/ | 1/2022 | 12/3
 | 51/2022 | difect | | | | |
 | //0./0 | INC |
| lce0 | Cube Up | grade V6 | 1.0 | 1.01.01 | 1.01.01.01 |
 | into Inr | w filo
 | |
 | | 12/ | 1/2022 | 12/3
 | 31/2022 | direct | | | | |
 | 4929.72 | No |
| IceO | ube Up | grade V6 | 1.0 | 1.01.01 | 1.01.01.01 |
 | nito nit | Jut me
 | |
 | | 12/ | 1/2022 | 12/3
 | 31/2022 | direct | | | | |
 | 2274.38 | No |
| | | - | | | |
 | |
 | |
 | | | | | | |
 | | |
 | | |
| IceC | Jube Up | grade V6 | 1.0 | 1.01.01 | 1.01.01.01 |
 | Actual | labor
 | ASIa | ry.800 i
 | FEYZI | 12/ | 1/2022 | 12/3
 | 31/2022 | direct | | | | |
 | 7138.66 | No |
| lceC | Cube Up | grade V6 | 1.0 | 1.01.01 | 1.01.01.01 |
 | Actual | labor
 | ASIa | ry.800
 | FEYZ) | 12/ | 1/2022 | 12/3
 | 31/2022 | direct |
 | 7138.66 | No |
| lceC | Cube Up,
Cube Up, | grade V6
grade V6 | 1.0 | 1.01.01 | 1.01.01.01
DASH360 | Contract Per
 | Actual | labor
 | ASIa | ry.80C
 | FEYZI | 12/ | 1/2022 | 12/3
 | 31/2022 | direct |
 | 7138.66 | No |
| Ice0
Ice0
Ice0 | Cube Up
Cube Up
Cube Up | grade V6
grade V6
grade V6 | 1.0
1.0
1.0 | 1.01.01 | 1.01.01.01
DASH360 | Contract Per
 | Actual
formance Repor | labor
t (CPR)
 | ASI | ry.800
 | Exam | 12/
nple | 1/2022
e: Ice | 12/3
eCub
 | 31/2022
De Uj | direct | ade
 | 7138.66 | No |
| Ice0
Ice0
Ice0 | Cube Up
Cube Up
Cube Up
Cube Up | grade V6
grade V6
grade V6
grade V6 | 1.0
1.0
1.0 | 1.01.01
1.0
1.0 | 1.01.01.01
DASH360 | Contract Per
Earned Value / Contract P
Project: Eureka Science
 | Actual
formance Report
entermance Report(CPR)
entrojects + | labor
t (CPR)
 | A.S.Ia | ry.800
 | Exam | 12/ | 1/2022
: ICe | 12/3
eCuk
 | 91/2022
De U | direct | ade
 | 7138.66 | No |
| Ice0
Ice0
Ice0 | Cube Up
Cube Up
Cube Up
Cube Up | grade V6
grade V6
grade V6
grade V6 | 1.0
1.0
1.0 | 1.01.01
1.0
1.0 | 1.01.01.01
DASH360 | Contract Peri
Earned Vilke / Contract P
Project: Eureka Science
Cotoper All Groups
 | Actual
formance Report
enformance SeportsCPR
Projects (| labor
t (CPR)
 | A.S.Ia | ry.800
 | Exam | 12/
ple | 1/2022
: ICE | 12/3
eCuk
 | 31/2022
De U | direct | ade
 | 7138.66 | No |
| Ice0
Ice0
Ice0
Ice0
Ice0 | Cube Up
Cube Up
Cube Up
Cube Up
Cube Up | grade V6
grade V6
grade V6
grade V6
grade V6 | 1.0
1.0
1.0
1.0 | 01.01.01
01.0
01.0
01.0
01.0
01.0
01.0 | 1.01.01.01
DASH360
steesed
med Value | Contract Peri
Earned Value / Contract P
Project: Euroka Scienco
Collapor Alt Groops
Collapor Alt Groops
 | Actual
formance Report
etomance keports/PR
etonance in the second | labor
t (CPR)
Repor
 | A.S.Ia | ry.80C
 | Exam | 12/ | 21/2022
2: ICE | 12/3
eCub
 | 31/2022
De Uj | direct | ade
 | 7138.66 | No |
| IceC
IceC
IceC
IceC
IceC
IceC | Cube Up
Cube Up
Cube Up
Cube Up
Cube Up | grade V6
grade V6
grade V6
grade V6
grade V6
grade V6 | 1.0
1.0
1.0
1.0
1.0
1.0 | 01.01.01
01.0
01.0
01.0
01.0
01.0 | 1.01.01.01 DASH360 stboard settleset settleset | Contract Peri
Earned Value / Contract P
Project: Euroka Science
Collegier All Groops
CMM 117 Wester
 | Actual
formance Report
etomance Report (CPR)
eto a 117 | labor
t (CPR)
Repor
 | A.S.Ia | ry.800
 | Exam | 12/ | 1/2022
CONSUME | 12/3
eCub
 | De U | direct | ade
 | 7138.66 | No |
| Ice0
Ice0
Ice0
Ice0
Ice0
Ice0 | Cube Up
Cube Up
Cube Up
Cube Up
Cube Up
Cube Up | grade V6
grade V6
grade V6
grade V6
grade V6
grade V6
grade V6 | 1.0
1.0
1.0
1.0
1.0
1.0
1.0 | | 1.01.01.01 DASH360 streamd with table to any any of table to any of table to any any of table to any of ta | Contract Per
Earned Value / Contract P
Project: Euroka Scienco
Catlegue AB Groops
CMM 117 WBS Le | Actual
formance Report
etomance Report (249)
eria 117
Work Rackage
 | labor
t (CPR)
Repor
 | A Sola | ry.80C
(2/3 (000) | Exam
 | 12/
nple | TI/2022 | 12/3
eCuk
 | 31/2022
De U
Current) | direct
Ogra | ade | 7138.66
 | No |
| IceO
IceO
IceO
IceO
IceO
IceO | Cube Up
Cube Up
Cube Up
Cube Up
Cube Up
Cube Up | grade V6
grade V6
grade V6
grade V6
grade V6
grade V6
grade V6 | 1.0
1.0
1.0
1.0
1.0
1.0
1.0 | | 1.01.01.01 | Contract Per
Earred Vake / Contract
Project: Earreka Science
Cold 17 WillS Le
Q
 | Actual
formance Report
entonance Report (24)
(Projects)
et 3 1 T
Work Package | labor
t (CPR)
Repor
 | A.S. la | ry. 80C
1203 1200
Hod T
 | Exam | 12/
nple | 1/2022
e: ICe
Units: No
ve to Date | 12/3
eCuk
 | | direct | ade
 | 7138.56 | |
| IceO
IceO
IceO
IceO
IceO
IceO
IceO | Cube Up
Cube Up
Cube Up
Cube Up
Cube Up
Cube Up
Cube Up | grade V6
grade V6
grade V6
grade V6
grade V6
grade V6
grade V6
grade V6 | 1.0
1.0
1.0
1.0
1.0
1.0
1.0 | 1.01.01
1.0
1.0
1.0
1.0
1.0
1.0
1 | 1.01.01.01 | Contract Peri
Emedivale / Contrach
Project: Eurola Science
Cold 197 WESLIN
Cold 197 WESLIN
Cold 197 WESLIN
Cold 197 WESLIN
Cold 197 WESLIN
 | Actual
formance Report
enformance Report (Pro
Projects +
eri 3 1 T
Work Package | labor
t (CPR)
Repor
 | A.S.Ia | ry, 80C
12/31 (000)
14/4 T
12 9
6.6
 | Exam
Exam
tans. d.Y.
tanse
tanset of Tat. 756 | 12/
nple | 1/2022
: ICCC
Units: No
ve to Date
tout 7
Q
40,17
40 | 12/3
eCuk
 | 201/2022
De U
Currently | direct
pgra
weekg and
and
sec T | ade
 | 7138.66
ⓐ ? (
changes will not be so
Q, Search.
Sets
Re ₹ Versiones ₹
Q,
587 114.732.87 | | | | | | | | | | | | | | | | | | | |
| IceO
IceO
IceO
IceO
IceO
IceO
IceO
IceO | Cube Up
Cube Up
Cube Up
Cube Up
Cube Up
Cube Up
Cube Up
Cube Up | grade V6
grade V6
grade V6
grade V6
grade V6
grade V6
grade V6
grade V6
grade V6 | 1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0 | | 1.01.01.01
DASH360
abbourd
white the second of the second
white the second of the second
met Visian Carees
M
more second of the second of the second
second of the second of the second of the second
second of the second of the second of the second of the second
second of the second | Contract Peri
Emedivale / Contract P
Project: Eurola Science
Collarer Al Croops
Coll 17 Wills Let
Q.
• Bill Microsph
• 1attol Project | Actual
formance Report
Intrance Report PR
Projects +
werk Package | labor
c (CPR)
Repor | A.S.La | ry.80C
12/31 (000)
rlod 11
2 9
6.8
5.0 | Exam
Exam
4000. d V Earne
40.
40.
40.
40.
40.
40.
40.
40.
40.
40. | 12/
nple | 1/2022
: ICCC
Units: No
ve to Date
tourity
Q
43,17
43,
100
4,0
4,0
4,0
4,0
4,0
4,0
4,0
4 | 12/3
eCut
se t | Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Curren | direct
pgra
sac T
sac T
sac 21 | Com
Com
Com
Com
Com
Com
Com
Com
Com
Com | 7138.66
(Changes will not be so
Q. Search
dets
Re T Q.
Sarth
Q.
Sarth
Q.
Sarth
Comparison of the solution of the solutio | |
| IceO
IceO
IceO
IceO
IceO
IceO
IceO | Cube Up,
Cube Up,
Cube Up,
Cube Up,
Cube Up,
Cube Up,
Cube Up,
Cube Up, | grade V6
grade V6
grade V6
grade V6
grade V6
grade V6
grade V6
grade V6
grade V6 | 1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0 | | 1.01.01.01 | Constract Peri
Samed Value / Constact P
Hypert: Euroka Science
Collegen All Concer
CAM 1 T Wills Lee
G. Bill Microsoft
• Lai Al Proge
T #MS101 - D | Actual formanceReport formanceReport formanceReport formanceReport formanceReport formation form | labor
t (CPR)
Repor | A.S. La
ting Period:
Reporting Pe | ry.80C
12/3) 000 1
12/3) 000 1
12/3) 000 1
12/3
00 1
13
0 1,1 | Exam
Exam
44. 417 Earne
83.04.65 154.75
15.122.91
15.122.91
15.122.91
15.127.91 5.00 | 12/
nple | 1/2022
c: ICC
Units: No
ve to Date
total
Q
40,17
4,0
1,00
4,0
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00
1,00 | 12/3
ECut
200 1
201 1
20 | Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Curren | direct
pgra
www.lig.a.ty
exc. 17
546,236.74
546,236.74
546,236.75 | Compared and a compar | 7138.56
(h) (?)
(h) (?)
(h | |
| IceO
IceO
IceO
IceO
IceO
IceO
IceO
IceO | Cube Up,
Cube Up,
Cube Up,
Cube Up,
Cube Up,
Cube Up,
Cube Up,
Cube Up, | grade V6
grade V6
grade V6
grade V6
grade V6
grade V6
grade V6
grade V6
grade V6 | 1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0 | | 1.01.01.01
DASH360
where the second s | Contract Peri
Earned Value / Contract P
Project: Euroka Science
Calleger AD Crocps
CAM 117 Wills Ler
CAM 117 Will CAM | Actual formance Report formance Report formance Report formance Report formance Report formance forman | Iabor t (CPR) Report 0 0 0 0 0 0 | A.S. La
ting Period:
Reporting Per
Dec 31, 200
Dec 31, 200 | ry. 50C 1
52/3 (200
riod T
2
2
3
4
4
4
5
5
5
5
5
5
5
5
5
5
5
5
5
5
5
5 | Exam
6
6
8
8
8
8
8
8
9
7
8
1
1
1
2
1
1
1
2
1
2
1
2
1
6
0
7
8
1
1
1
2
1
2
1
6
0
7
8
1
1
1
2
1
1
1
1
1
1
1
1
1
1
1
1
1
1
1 | 12/
nple | 1/2022
CURLS: NO
VIETO Date
TOMES: NO
VIETO Date
TOMES: NO
VIETO Date
COMPANY
VIETO Date
COMPANY
VIETO Date
COMPANY
VIETO Date
COMPANY
VIETO DATE
VIETO DATE
V | 12/3
eCut
200 1
50 7
44,193,59
604,127,93
146,307,47
21,219,23 | Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Curren | direct
pgra
evening a sy
exc
set, 236.74
set, 236.74
set, 236.75
set, 236.75 | Contraction of the second of t | 7138.66 | |
| Ice0
Ice0
Ice0
Ice0
Ice0
Ice0
Ice0
Ice0 | Cube Up
Cube Up
Cube Up
Cube Up
Cube Up
Cube Up
Cube Up
Cube Up
Cube Up | grade V6
grade V6 | 1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0 | | 1.01.01.01
DASH360
solvard
work trainer
yers trainer
yers trainer
mark warater trainer
trainer warater trainer
trainer warater trainer
trainer warater trainer
trainer warater trainer | Contract Peri
Earned Value / Contract P
Project: Euroka Science
Callinger Al Concys
CAM 1 W Wits Lin
CAM 1 W | Actual formaceReport formaceReport formaceReport formaceReport formaceReport formaceReport formate for | I abor t (CPR) Report Q Q Q Q Q Q Q Q Q Q Q | A.S. J.S.
ting Period:
Dec 31, 20
Dec 31, 20
Dec 31, 20 | ry. SOC 1
223 (220)
riod T
2 9
8
8
8
8
8
8
8
8
8
8
8
8
8
8
8
8
8
8
8 | Exam
6.
8.000.47 Earm
6.
8.000.42
11.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
13.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.02.94
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14.04
14 | 12/
nple | 1/2022
Units: Ac
Units: Ac
Units: Ac
Units: Ac
Units: Ac | 12/3
eCuk
ore * | Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Curren | direct
Dgrad
evening a sy
exec 10
546,238.74
546,238.74
547,356.25
850,738.86
302,872.67 | Comparison of the second secon | 7138.66 (a) (c) | |
| Ice0
Ice0
Ice0
Ice0
Ice0
Ice0
Ice0
Ice0 | Cube Up
Cube Up
Cube Up
Cube Up
Cube Up
Cube Up
Cube Up
Cube Up
Cube Up
Cube Up | grade V6
grade V6 | 1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0 | | 1.01.01.01 | Constract Perf
Earned Value / Constact P
Project: Euroba Science
Collager #E Conce
CAM 1 Y With Let
0,
9 BIT Modelgh
• 1a101 Proje
T Prestore D
T Prestore D
T Prestore D
T Prestore D
T Prestore D | Actual formance Report formance Report formance Report formance Report formance form | Labor Report t (CPR) Report v (SH45) Q v (SH45) Q | A 3 Ja
ting Period:
Dec 31, 20
Dec 31, 20
Dec 31, 20
Dec 31, 20
Dec 31, 20 | ry. 800 1
100 T P
100 T P
1 | Exam
Exam
8,000 d1 / Error
8,000 d2 / 154 75
11,127 d
8,007 d2
154 75
10,277 d
0,00
73192 d
0,00
154 75
0,00
154 75
0,000
154 75
154 75
154 75
154 75
154 75
154 75
154 75
155
155
155
155
155
155
155
155
155
1 | 12/
nple | 1/2022 Clinits: Ac Units: Ac Units: Ac 0 643:17 630 100 640 100 100 100 100 | 12/3
eCuk
ore * | Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Curren | direct
pgra
executing any
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.282.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293.74
sec.293 | Q
16,531,51
2,850,73
1,356,63
3,702,87
2,390,60 | 7138.66
(Changes will not be to
Q. Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Search.
Se | |
| Ice0
Ice0
Ice0
Ice0
Ice0
Ice0
Ice0
Ice0 | Cube Up
Cube Up
Cube Up
Cube Up
Cube Up
Cube Up
Cube Up
Cube Up
Cube Up
Cube Up | grade V6
grade V6 | 1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0 | | 1.01.01.01 | Contract Peri
tamed Vale / Constant
Project: Lunkia Science
Сабаре Al Groups
0.
801 Mociegh
1 ALGO Perig
7 Perioto: n
1 Pe | Actual formance Report formance Report formance Report formance formanc | Labor
(CPR)
Repor
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0,0)
(0 | A 3 43
ting Period:
Dec 31, 25
Dec 31, 25
Dec 31, 25 | ry. 80C 1 | Exam
Exam
a
a
a
a
a
a
a
a
a
a
a
a
a
a
a
a
a
a | 12/
nple | 1/2022
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONTENT
CONT | 12/5
CCUE
See 1
SV 7
SU 904.925.90
SU 904.925.90
SU 904.925.90
SU 904.925.90 | Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Curren | direct
pgra
exe
sec_
sec_
sec_
sec_
sec_
sec_
sec_
sec | A Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Com | 7138.56 (b) (c) (c) (c) | |
| Ice0
Ice0
Ice0
Ice0
Ice0
Ice0
Ice0
Ice0 | Cube Up
Cube Up | grade V6
grade V6 | 1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0 | | 1.01.01.01 | Contract Period
Lamet Vier / Control A
Prepet Lamet Science
Colleger 4 (Control A
Control A
Cont | Actual Actual Frequency Actual Act | Labor
(CPR)
Report
0,
0,
0,
0,
0,
0,
0,
0,
0,
0, | A S a
treg Period:
Dec 31, 20
Dec 31, 20
Dec 31, 20
Dec 31, 20
Dec 31, 20 | 12/31 (200) | Exam
Exam
4
4
4
4
4
4
4
4
4
4
4
4
4
4
4
4
4
4
4 | | 1/2022 1/2022 Units: No Uni | 12/3
CUB
200 1
200 | Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction | direct
Dgra
www.lga
646,238,74
641,266,25
830,258,66
330,250,67
300,872,67
300,872,67
300,872,67 | A Com
1.254.53
2.590.73
1.326.63
1.702.87
2.392.60
1.333.91
2.392.60 | T138.66 (a) (7) (b) (7) (2) (2) | |
| IceC
IceC
IceC
IceC
IceC
IceC
IceC
IceC | Cube Up
Cube Up | grade V6
grade | 1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0 | | 1.01.01.01 | Contract Peri
dentifies / Gonesc M
Prijett Lives / Gonesc M
Prijett Lives / Gonesc M
Gone / T
Material
7 Anolos - D
7 Anolos - D | Actual formance Report tensmon deport CPB reports + work Parkage ct Management ct Manageme | Labor
(CPR)
Repor
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(0400)
(| A S a
treg Period:
Dec 31, 20
Dec 31, 20
Dec 31, 20
Dec 31, 20
Re | 12/31 12/20
12/31 12/20
10/01 1
10/01 1
10/0 | Exam
Exam
4
4
4
4
4
4
4
4
4
4
4
4
4 | 12/
nple | 1/2022 Units: No | 12/5
Cub
cont
cont
cont
cont
cont
cont
cont
cont | x T | direct
Dgra
www.lig a ty
acc. 201
646(20174
641,206.25
500,736.05
300,200.61
300,200.61 | 4 Com
4 Com
4 Com
5 | 7138.66 (a) (7) (c) Learner will not be as a second se | |
| IceC
IceC
IceC
IceC
IceC
IceC
IceC
IceC | Cube Up
Cube Up | grade V6
grade V6 | 1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0 | | 1.01.01.01 | Contract Perf
Immediate / consol
Project Lunes Science
Officer (Lunes Science
Officer)
Cont 11* Units Line
0
0
0
1
1
1
1
1
1
1
1
1
1
1
1
1 | Actual Actual | Labor k (CPR) V Q <td< td=""><td>A 3 4
Eng Period:
Dec 31, 20
Dec 31, 20
Dec 31, 20
Republic 12
Dec 31, 20
Republic 20
Re</td><td>ry.800 1
1333 (1000 1
1333 (1000 1
133
133
133
133
133
133
133
133
133
1</td><td>Exam
Exam
at 47 Exam
at 47 Exam
a</td><td>12/
nple</td><td>1/2022 Units No Units No Units No Units No Units No Units No Units No Units No Units No Units No Units Units</td><td>12/5
Cub
Cub
Cub
Cub
Cub
Cub
Cub
Cub
Cub
Cub</td><td>Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Curents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Cure</td><td>direct
Dgra
Control of the
Control of the</td><td>A Comp
A Comp
9
4
4
4
4
4
4
4
4
4
4
4
4
4</td><td>7138.66 (a) (7) (c) (2) (c) (2)</td><td></td></td<> | A 3 4
Eng Period:
Dec 31, 20
Dec 31, 20
Dec 31, 20
Republic 12
Dec 31, 20
Republic 20
Re | ry.800 1
1333 (1000 1
1333 (1000 1
133
133
133
133
133
133
133
133
133
1 | Exam
Exam
at 47 Exam
at 47 Exam
a | 12/
nple | 1/2022 Units No Units No Units No Units No Units No Units No Units No Units No Units No Units No Units | 12/5
Cub
Cub
Cub
Cub
Cub
Cub
Cub
Cub
Cub
Cub | Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Curents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Currents
Cure | direct
Dgra
Control of the
Control of the | A Comp
A Comp
9
4
4
4
4
4
4
4
4
4
4
4
4
4 | 7138.66 (a) (7) (c) (2) | |
| Ice(
Ice(
Ice(
Ice(
Ice(
Ice(
Ice(
Ice(| Cube Up,
Cube Up, | grade V6
grade V6 | 1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0 | | 1.01.01.01 | Contract Perf
Immediate Jonacione
Pregett Euroba Science
Coll 17 With Line
14940010 - 0
14940010 - 0
14940010 - 0
14940010 - 0
14940010 - 0
14940010 - 0 | Actual Commance Report Report Report Report Report Report Report Report Report Report Report Report Report | Labor Report (CPR) Report (grida) 0, | A State
Bing Period:
Dec 31, 26
Dec 31, 20
Dec 31, | ry.80C | Exam
Exam
2
2
2
2
2
2
2
2
2
2
2
2
2
2
2
2
2
2
2 | 12/
nple | 1/2022 Units No Units | 12/5
eCuk
ecuk
ecuk
ecuk
ecuk
ecuk
ecuk
ecuk
ec | 2000 22
2000 UI
Currents
4.299.95 12
4.299.95 12
4.299.95 12
4.299.95 12
10
0.00 22
10
10
10
10
10
10
10
10
10
10 | direct
Dggra
www.g.a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y.
a.y | A Com
Com
Com
Com
Com
Com
Com
Com | 7138.66 (a) (b) (c) (c) (c) <th(c)< t<="" td=""><td></td></th(c)<> | |
| IceC
IceC
IceC
IceC
IceC
IceC
IceC
IceC | Cube Up,
Cube Up, | grade V6
grade V6 | 1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0 | 1.01.01
1.0
1.0
1.0
1.0
1.0
1.0
1 | 1.01.01.01 | Солтгаст Рег
Таласчик - Соласл
Караст Македон
Сол 19 чисти
о
о
о
о
о
о
о
о
о
о
о
о
о
о
о
о
о
о
о | Actual Commance Report Actual Commance Report Actual Commance Report Actual Commance Report Commance C | Labor (CPR) (CPR) Report (Participation) 0,0 | A State | 1220 0000
1220 000000
1220 0000
1220 0000
12200
1220 0000
1220 0000
122000
122000
122000
122000
122000
122000
122000
122000
122000
1220000
122000
122000
122000
1220000 | Exam
Exam
4 (1) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2 | Current of a state of | | 12/3
CCUR
CCUR
CCUR
CCUR
CCUR
CCUR
CCUR
CCU | Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction
Correction | direct
Dggr2
www.rg 1 ()
www.rg 1 ()
www | A Conv
Extension
2,980,000
3,702,87
3,702,87
3,702,87
3,702,87
3,702,87
3,702,87
3,702,87
3,702,87
3,702,87
3,702,87
3,702,87
3,702,97
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,007
3,704,000,000,000,000,000,000,000,000,000 | 7138.66 (a) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2 | |
| | Lube Up,
Lube Up, | grade V6
grade V6 | 1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0 | 1.01.01
1.0
1.0
1.0
1.0
1.0
1.0
1 | 1.01.01.01 | Contract Peri
Immi Viai - Consol
Peripet Links Source
College & Consol
Peripet Links Source
College & Consol
Peripet Links
Coll I T West Lin
Coll I T West L | Actual Ac | Labor Report R (CPR) R (CPR) R (CPR) R (CPR) < | A State | | Exam Exam Exam Solution | | 1/2022 | 12/5
eccut
w *
w *
w *
w *
w *
w *
w *
w * | Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Curren | direct
Ogge
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara
www.gara | At Comp
Extension
2,450,575,56
3,702,87
1,326,63
3,702,87
734,507
1,320,47
2,392,000
1,133,91
2,392,44
40,398
707,092
734,107
2,995,44
423,418 | 7138.66 (a) (7) (1 (b) (7) (1 (c) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2 | |
| | Lube Up,
Lube Up, | grade V6
grade V6 | 1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0 | | 1.01.01.01 | Contract Peri
Immitvie - Consol
Magnetic Lines Science
College 48 Conge
Coll 19 Viet Line
Coll 19 Viet Line
Coll 19 Viet Line
Coll 19 Viet Line
Coll 20 Viet | Actual Commance Report Actual Commance Report Actual Commance Report Actual Commance | Labor Report L (CPR) Report V 0 V | A State | | Exam C | | 1/2022 | 12/6
eccus
w T
w T
w
w
w
w
w
w
w
w
w
w
w
w
w | Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Constitution
Const | direct Dggrad Dg | A Comp
Ectima 499
C Comp
Ectima
C Comp
Ectim | 7138.66 (a) (b) (c) (c) (c) (c) | |
| | Lube Up,
Lube Up,
Lub | grade V6
grade V6 | 1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0 | | 1.01.01.01 | Contract Peri
Immi Vide / Consol
Periperi Links Source
College & Consol
Periperi Links Source
Coll I W Web Link
Coll I W | Actual Ac | Labor
C (CPR)
Report
9/8163
0/9 0
0/9 0
0
0
0
0
0
0
0
0
0
0
0
0
0 | A State | ry, 80C (
100 - 1 | Exam
Exam
4
4
4
4
4
4
4
4
4
4
4
4
4 | | 1/2022 | 12/7
eccus
or *
10/2/703
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2027/0
10/2 | Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Currently
Curren | direct
Dggra
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,852,85
000,855
000,855
000,855
000,855
000,855
000,855
000,855
000,855
000,855
000,855
000,855
000,855
000,855
000,855
000,855
000,855
000,855
000,855
000,855
000,855
000,855
000,855
000,855
000,855
000,855
000,855
000,855
000,855
000,855
000,855
000,855
000,855
000,855
000,85 | A Comp
Extension
Comp
Comp
Comp
Comp
Comp
Comp
Comp
Comp | 7138.66 (a) (7) (1 (c) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2 | |
| | Lube Up,
Lube Up,
Lub | grade V6
grade V6
gre | 1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0 | 1.01.01
1.0
1.0
1.0
1.0
1.0
1.0
1 | 1.01.01.01 | Contract Peri
Jame Vale / Consol /
Mage La Jana State
Contract / Was Le
Contract / Contract / Contract
/ Contract / Contract / Contract / Contract
/ Contract / Contract / Contract / Contract
/ Contract / Cont | Actual Actual | Labor Report t (CPR) Report v (0.400) 0, | A State | | ене dr dr de
сили dr de | | 1/2022 1/2022 Units N U | 122/5
PC
PC
PC
PC
PC
PC
PC
PC
PC
PC | a 0, c 0, | direct
Dggra
over 1990
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004,852,46
004, | A Com
A Com
Com
Com
Com
Com
Com
Com
Com | 7138.66 (a) (b) (c) (c) | |





Takeaway: Establish methods to deal with the reality of late invoicing and lack of cost details.

When actuals are not available, EVM data may be less accurate/useful.

- Some institutions report actuals only once a semester or submit invoices long after delivery or completion of work
- Most don't do time keeping (collect hours spent on different tasks)

Follow EVM as much as possible.

- Two common methods of dealing with issue
- Less common method: "Reverse Estimation" for Service-type projects:

PMI: EVM on service projects-- an optimized paradigm

NICHE PEP Revision #3 March 1, 2023

Set Actuals = Planned: AC=PV

10.2 Progress Reporting Plan (EVMS)

On a monthly basis it is expected that the schedule EVM information will represent the timeliest data and be best the indicator of project status. This is because the actuals that will be reported each month are equal to the "planned" level of effort and are not reconciled to the actual costs until the completion of the semester, which occurs three times a year. This fact results in the cost variances associated with labor only providing meaningful insight a few times a year.

Accruals ("Estimated Actuals")

- Materials and trackable effort: estimate the cost to date in the period and reconcile later when invoiced
- Labor: Create a time keeping system require institutional leads and/or CAMs to collect or guesstimate hours or % FTE
- Alternatively: Treat partner sub-awards as fixed price contracts and track progress with cost-weighted milestones

Pros:

 Allows application of EVM for entire project

Cons:

- Only as good as estimates
- Estimating creates work
- Prevents large variances
- Reconciliation required later

Mixed EVM Application ("In-time and Assigned Actuals")

- Materials: Input actuals only when invoices arrive and explain variances in reports
- Labor and Services: Actuals are assigned to best known values and reconciled after invoicing

Pros:

- Does not try to force EVM where not applicable
- Less project effort and coordination in reporting actuals

Cons:

- EVM cost analysis less useful
- Variance reporting creates work for CAMs and Leads
- Schedule progress must be carefully tracked



PMM Step 2. Statusing: Risk and Contingency Evaluation



Baselines, Risk, & Contingency

https://researchinfrastructureoutreach.co m/knowledge-gateway/part-ii-mid-scaleproject-development-definition-and-risk/

Takeaway: Re-evaluate status of risks, both new and old, and document contingency usage and status.

Risk Mgt Process Cycle from

Re-evaluate status of risks each month

- Follow processes in your Risk Management Plan (RMP) in the Project Execution Plan (PEP)
- Discuss risks (threats and opportunities) in project meetings; frequency depends upon number of risks and impacts
 - Check for near-term/imminent risks and decision milestones. Has the risk passed, and can it be retired?
 - Has a risk been realized? If so, what are the consequences if you do nothing? What response actions can be taken?

Periodically update list of risks and re-estimate risk exposure

- Risks and risk exposure are not static
- Has a risk changed in any way? Any new risks to add?

Track Contingency Usage

 Document all 'puts' and takes ' in a Contingency Log for cost, schedule, and scope/quality contingency during the reporting period





3.2 Contingency Allocations during this Reporting Period (IceCube) Table 7 shows the "puts" and "takes" table for the rebaselined project. During March, one CR was processed (CR34R), a revision of the cost for the Mobile Drill Control Center, with a draw on contingency of \$18,790.

		Risk Identification and Tracking		Major Risk		Post	Mitigated (Qualitative	e Risk Ev	aluation	
				Flag	Probability a	ind Impacts			Risk		
Risk ID	Associa ted WBS	Risk Description	High Estimate		Risk Probability [%]	Impact on schedule [weeks]	Impact on cost [\$]	Impact on technical performan ce	Schedule Risk Score [weeks]	Cost Risk Score [\$]	Technical Performan ce Risk Score
TECH 1	1.2.4	Unable to complete controls system work on-schedule due to cargo front-loading and/or staffing limitations.	8		20%	6	\$103,500.00	Low	1.2	\$ 20,700.00	Low
TECH 2	1.2.4	Unable to make critical controls hardware procurements (motor drives, DGH's servers, sensors, etc) on-schedule due to vendor shortages and transportation delays.	12		40%	10	\$103,500.00	Low	4	\$ 41,400.00	Moderate
TECH 3	1.2.4	Delay in development of user interfaces, control algorithms, and hands-on integration and test activities due to Test Bed limitations.	12		25%	8	\$101,750.00	Low	2	\$ 25,437.50	Low
TECH 4	1.2	Loss of key drilling expertise/personnel	20		30%	12	\$103,500.00	Moderate	3.6	\$ 31,050.00	Moderate
TECH 5	1.2	Novel string installation - Final down-hole cable design requires the development of new equipment and processes for installation (i.e. New rope reel with coordinated load sharing)	40		50%	24	\$120,000.00	Low	12	\$ 60,000.00	Moderate
TECH 53	1.2	Because design and testing of the load sharing technique is critical and cannot delay the off-ice drill schedule, additional effor may be needed to validate / test load sharing for the drill head / drill hose.	0		20%	0	\$207,000.00	Low	0	\$ 41,400.00	Low

Example: IceCube risk register and Monte Carlo Risk Exposure





Step 3. EVM Comparison

Performance Measurements and Analysis

- Technical Variance
- Cost Variance
- Schedule variance
- Milestone status
 Trends and efficiencies
- Variance at Complete (VAC)

Takeaway: There are many readily available EVM calculators that can be used as is or adapted.

Step 1 (PMB) and Step 2 (Status) Inputs

- <u>PV</u> for the period and <u>BAC</u> from PMB
- <u>% complete</u> from Working Schedule (or EV)
- AC (actual + accruals) from accounting

Step 3: Comparison in EVM Calculator (Spreadsheets or SW)

- Free spreadsheets: DIY, PMI, Pueo, etc.
- Deltek Cobra or OpenPlan, DASH360, ProjectManager, etc.
- MS project, Smartsheets, Celoxis, OmniPlan, Vertex42, Primavera, etc. do both scheduling and EVM

Step 3 Outputs: Needed Metrics/Reports

- Calculator should provide standard Tables
- Create more graphs, tables, (DIY or in SW)
- Standard NSF report elements

MS Example EVM sheets for simple project, using EVM at	
top project level	



#	Activity	Days	Cost per Day	Planned cost
1	Gather requirements	3	800	2,400
2	Create design	2	600	1,200
3	Build machine	4	900	3,600
4	Test and refine	4	700	2,800
5	Rollout	3	500	1,500
			Total budget:	11,500

#	Activity	Incurred Cost	Actual % Complete
1	Gather requirements	2,400	100%
2	Create design	*	
3	Build machine		
4	Test and refine		
5	Rollout		

EVA Metrics # Activity AC EV

#	Activity	AC (ACWP)	EV (BCWP)	PV (BCWS)	CPI (EV/AC)	CV (EV - AC)	SPI (EV/PV)	SV (EV-PV)	
1	Gather requirements								
2	Create design								
3	Build product								
4	Test and refine								
5	Rollout								
	N -0 221	0		0	0.00	0	0.00		

6

	R	Manage . Institute	ment	Free for E	PMI EVM Calculator sheet for simple project, can be adapted VM at lower WBS levels and rolled up										
arı	ned Va	lue Ma	nageme	ent (EVI	M) Calci	ulator	<link< th=""><th>Ove</th><th>erride date:</th><th></th><th></th><th></th><th></th><th></th><th></th></link<>	Ove	erride date:						
ask ID	Task	Planned Start	Planned Finish	Planned Cost (Total)	<u>%</u> Complete	AC	PV	EV	<u>sv</u>	<u>SPI</u>	cv	<u>CPI</u>	EAC1	EAC2	ETC
1	Design	1/1/14	3/31/14	\$100.000	100%	\$80,000	\$100.000	\$100.000	\$0	1.00	\$20,000	1 25	N/A	N/A	N/A
2	Build	4/1/14	6/30/14	\$250,000	60%	\$175.000	\$250,000	\$150,000	-\$100.000	0.60	-\$25,000	0.86	\$275.000	\$291,667	\$75,000
3	Test	7/1/14	8/31/14	\$75.000	0%	\$0	\$75,000	\$0	-\$75.000	0.00	\$0	0.00	\$75,000	\$75,000	\$75,000
÷.,		.,	-,,-	1			\$0	\$0	\$0	0.00	\$0	0.00	\$0	\$0	\$0
							\$0	\$0	\$0	0.00	\$0	0.00	\$0	\$0	\$0
							\$0	\$0	\$0	0.00	\$0	0.00	\$0	\$0	\$0
							\$0	\$0	\$0	0.00	\$0	0.00	\$0	\$0	\$0
							\$0	\$0	\$0	0.00	\$0	0.00	\$0	\$0	\$0
							\$0	\$0	\$0	0.00	\$0	0.00	\$0	\$0	\$0
							\$0	\$0	\$0	0.00	\$0	0.00	\$0	\$0	\$0
							\$O	\$O	\$0	0.00	\$0	0.00	\$0	\$O	\$0
							\$0	\$0	\$0	0.00	\$0	0.00	\$0	\$0	\$0
							\$0	\$0	\$0	0.00	\$0	0.00	\$0	\$0	\$0
							\$0	\$0	\$0	0.00	\$0	0.00	\$0	\$0	\$0
							\$0	\$0	\$0	0.00	\$0	0.00	\$0	\$0	\$0
							\$0	\$0	\$0	0.00	\$0	0.00	\$0	\$0	\$0
							\$0	\$0	\$0	0.00	\$0	0.00	\$0	\$0	\$0
							\$0	\$0	\$0	0.00	\$0	0.00	\$0	\$0	\$0
							\$0	\$0	\$0	0.00	\$0	0.00	\$0	\$0	\$0
							\$0	\$0	\$0	0.00	\$0	0.00	\$0	\$0	\$0
	1	1	I Totals	S425.000	1	S255.000	\$425.000	\$250.000	-S175.000	0.59	-\$5.000	0.98	\$350.000	\$366.667	S150.0

Note: Many free EVM Calculators online

PMM Step 3. Comparison and Analysis **EVM** Analysis: Cost and Schedule

- Performance Measurements and Analysis
- Technical Variance
- Cost Variance
- Schedule variance
- Milestone status
- Trends and efficiencies Variance at Complete (VAC)

Takeaway: Understanding the causes for variances and indices gives insights into corrective actions.

1.04.03.01

1.05.04.01

Build the story (cause) behind the cost and schedule metrics that lead to decision making. Look at variances and performance indices at control account and overall project level

Basic Variance Formulas

CV	= EV – AC	Cost variance
SV	= EV – PV	Schedule variance
VAC	= BAC - EAC	Variance at Complete



 Create variance reports at control account, with causes and corrective actions.

Example: Behind schedule in installing equipment: Work is more complicated than expected: Add workers a) from non-critical path task with no change in project cost or b) use contingency to pay current workers to work overtime.

Track SV and CV at project level to evaluate overall project status •

Performance Index Formulas (trending inefficiencies)

- CPI = EV / ACCost Performance Index
- SPI = EV/PVSchedule Performance Index
 - Use SPI and CPI to find trends, where values less than 1 indicate poor performance and inefficiencies. If not corrected, variances will continue to grow Example: Project started falling behind schedule, which also resulted in being under budget. Corrections took several months to accomplish.

Figure 1: SPI and CPI History: Advanced LIGO



s ×	Name	Field Name *	Value	Period Type *	Reporting Period *	LastUpdatedDate *	Sum of SV *	Sum of C *
		Explanation (Provide description						
		and root cause)	The actuals for the Subaward should be in 1.6.1.6.					I I
1.03.01.01	mDOM DAQ Electronics		Per Timo, these actuals should be moved to 1.6.1.6 OM Firmware. The	Cumulative to Date	3/31/2023	5/1/2023	0.00	-13,092.99
		Corrective Action	difference between 17,953.93 - 9,214.34 = \$8,739.59 for the					I I
			A.Subawards.3802.					
		Explanation (Provide description	There were five trips that were taken and not budgeted. Additionally,					
1 00 00 00	D. Fee Deaduration and Testing	and root cause)	there are small materials and supplies charges (~1K).	Consultation to Date	3/31/3033	5/1/2022	0.00	17 413 69
1.05.02.05	Diegg Production and resung	Competition Action	Create a change request to cover the cost of the travel and M&S	cumulative to bate	3/31/2023	3/1/2023	0.00	- 11, 442.00
		Corrective Action	charges.					
	IceCube DOM Refurbishment	Parlander (Productor)	PDOM work is delayed due to priorization of the D-Egg activities (the		3/31/2023	4/28/2023	-79,841.82	
		Explanation (Provide description	PDOM Mainboard is derived from the D-Egg mainboard) and due to					I I
1 02 02 02		and foot cause)	electronic parts supply chain issues.	Cumulation to Date				424.14
1.03.03.03		Corrective Action	The PDOM work is being replanned with a Final Design Review	cumulative to bate				14216.214
			scheduled for August 2023 and subsequent refurbishment of the Gen1					I I
			DOMs. These activities are not on or near the critical path.					
		Explanation (Provide description	Per Mike, this work was all associated with PY4 and actuals should be					
1 04 01 05	Cable Femaleters	and root cause)	tagged as PY4.	Consultation to Date	3/31/2023	5/1/2023		205205
1.04.01.05	Cable Emplators	Comparison Autom	Mike and Lucas to coordinate with Barb and Laura to tag as PY4 and	cumulative to bate			0.00	-2,907.00
		Corrective Action	make an adjusting entry in PYS to back the actuals out.				i	
		Explanation (Provide description						
1 04 02 01	Surface Cable Assemblies	and root cause)	Surface cable costs should be tagged as PY4 costs.	Cumulation to Date	3/31/3033	5/1/2022	0.00	-44.160.02
1.04.02.01	Surface Cable Asse							



Figure 1 Cumulative earned value data as of March 31, 2023. On the Earned Value Curve graph, the green line shows the Planned Value, the vellow line is the Earned Value and the red line is the Actual Cost

CPI & SPI	SPI <1.0	SPI = 1.0	SPI >1.0
CPI < 1.0	Over Budget	Over Budget	Over Budget
	Behind Schedule	On Schedule	Ahead of Schedule
CPI = 1.0	On Budget	On Budget	On Budget
	Behind Schedule	On Schedule	Ahead of Schedule
CPI > 1.0	Under Budget	Under Budget	Under Budget
	Behind Schedule	On Schedule	Ahead of Schedule



PMM Step 3. Comparison and Analysis Critical Path, Float, and Milestones

Performance Measurements and Analysis

- Technical Variance
- Cost Variance
- Schedule variance
- Milestone status
- Trends and efficiencies
- Variance at Complete (VAC)

Takeaway: Critical path and float comparisons provide information to explain variance causes.

Tracking schedule through critical path and float puts variance into days rather than dollars and indicates seriousness of SVs

Scheduling tools illustrate project longest, or critical, path

- Driving relationships and Schedule float should also be indicated
- Helpful for tracing back through schedule to find driving activity

Milestone charts helps in analyzing potential scheduling problems

- From scheduling tool: Baseline dates, Current Forecast dates in the working schedule, Actual dates, Schedule Variance, and remaining Total Float
- Investigate slippage cause and determine whether an action is warranted

Example 1: Slip of -4 weeks, but still have 31 days of float. So, could just accept the variance <u>unless</u> the slippage is going to continue and eventually threaten project end date.

Example 2: No variance. But the planned and forecast dates will push the project end date late by 16 days. Total Float

loeC	loeCube March 2023 Forecast						6	° lce			IceCube Upgrade	
*	Activity Name	Physical % Complete	BL Project Start	Start	BL Project Finish	Finish	6	FQ4	FQ1	FQ2	023 FQ3	FQ4 FQ1 FQ2 FQ3 FQ4 FQ
33	Thermal Plant - Office		28-Mar-24	28-Mar-24	11-Jun-24	11-Jun-24	6					
34	Develop HPU2 Integrate Plan	0%	28-Mar-24	28-Mar-24	09-May-24	09-May-24	-12	1	£.			Develop HPU2 Integrate Plan
36	Procure and Assemble HPU2 Integration Components	0%	09-May-24	09-May-24	11-Jun-24	11-Jun-24	0	12.00	1 and			Procure and Assemble HPU2 Integration Components
36	Computing and Control System - Off-ice		31-0d-22	01-Jun-22 A	14-Jun-23	14-Aug-23	а	:	-	:		-
37	Design and Procure Replacement Components «Signal	85%	14-Nov-22	01-Jun-22 A	15-Deo-22	15-Jun-23	8	-	-			Design and Proture Replacement Components (Signal
38	Procure additional drives for charge pumps (4), AC and network pit	15%	29-Nov-22	01-Dec-22 A	09-Feb-23	12-Jun-23	5	1	1	-		Procure additional drives for charge pumps (4), AC and network pigtal malerials
39	Procure System Sensors (PY5)	35%	10-Feb-23	05-Dec-22.A	02-Jun-23	14-34-23	-16	1	1 1	-		Procise System Sensors (PYS)
40	Select and procure new power supplies for the network box, procur	50%	31-0:8-22	06-Dec-22 A	28-Nov-22	03-Apr-23	-10	1	_		Selec	and procure new power supplies for the betwork box, progue one RS-485 gateway
-41	Design and build cables for tank sensors	0%	28-Dec-22	03-Apr-23	09-Feb-23	14-34-23	5	1	1	-		Design and build cables for tank sensors
42	Refurbish the HPP network box, document as-built configureation	0%	29-Nov-22	03-Apr-23	23-Feb-23	26-Jun-23	-16	1	Ε.	-		Refurbish the BPP network box, document as built configuration
43	Connectatize four drives with power and network pigtals, test each	0%	10-Feb-23	13-Jun-23	09-Mar-23	11-Jul-23	8	1	1	-		Confectorize four drives with gover and network pigtally, test each in test bed
44	Fabricate and Test SES & SES to TOS Cables - Signal	0%	03-Nov-22	16-Jun-23	14-Jun-23	14-34-23		1	-	-	-	Fabricate and Test SES & SES to TOS Cables - Signal
45	Select and procure E-stop relays for pump VFD Enable signals	0%	24-Feb-23	27-Jun-23	23-Mar-23	25-34-23	9	1	1	-		Select and procure E-stop reavys for pump VFD Enable signals
46	Select and procure HPP network switch enclosure, integrate with a	0%	24-Feb-23	27-Jun-23	06-Apr-23	08-Aug-23	-16	1	1	-		Select and procure HPP network switch enclosure, integrate with switch
							10					

Milestone /Activity Description	WBS/Subsystem (Number)	Milestone Level	Planned Date (mm/dd/yyyy)	Actual Date/Forecasted Date (mm/dd/yyyy)	Variance (wks/mnths)	Total Float (days)
Final Design of WOPDT Complete	1.3.2.1	1	05/11/23	06/20/23 1	- 4 weeks	31 days
WOPDT Commissioning Complete	1.3.2.3	1	06/19/24	07/18/24	- 4 weeks	-20 days
NICHE Project Package Complete	1.8.1.2	1	10/30/25	11/14/25	- 2 weeks	-20 days
Preliminary Cost Estimate for NICHE Submitted	1.8.1.2	1	10/06/23	11/21/23	- 6 weeks	28 days
Science/Technical reqs for NICHE Complete	1.8.3.1	1	10/01/25	10/01/25 2 0	-	-16 days
Pre-FDR Ready Design of NICHE Complete	1.8.4.1	1	06/13/25	06/13/25	-	21 days
Preliminary machine design concept reviewed	1.8.4.1	2	07/03/23	07/03/23	-	281 days
OSU Upgrade Commissioned	1.3.3.2	2	08/09/23	10/11/23	- 9 weeks	189 days
NICHE WBS Complete	1.8.2.1	2	01/18/24	03/01/24	- 6 weeks	322 days
FIU Make-ready Complete	1.3.2.2	2	02/16/24	02/16/24	-	-20 days
WOPDT Installation complete	1.3.2.3	2	05/20/24	05/20/24	-	-20 days
CRC Requirements for NICHE Complete	1.5.1.1	2	10/23/24	12/20/24	-8 weeks	178 days
NICHE Site Selection Complete	1.8.1.1	2	09/24/24	09/24/24	-	168 days
SE plan for NICHE Complete	1.7.2.2	2	03/19/25	03/19/25	-	120 days
PDT Scale CFD Results Complete	1.4.8.2	2	03/25/25	03/31/25	- 1 week	53 days



Figure 1 Critical Path dashboard for the IceCube Upgrade Project. Major efforts leading to the completion of the project are shown in the figure. Black lines represent the baseline schedule, red lines represent the additional time needed predicted by the schedule risk Monte Carlo at an 80% confidence level, and green lines represent the baseline float. The final milestone (commissioning, calibration, and closeout) determines the end of the project, and is therefore the critical path by definition.

Experiment

Simulations

Protocol

PMM Step 3. Comparison and Analysis Impacts on Contingency

Takeaway: Track contingency usage against risk exposure and plan actions if contingency is inadequate.

NSF allows/expects projects to use Contingencies to control risks, including mitigation activities and recovery from variances

- Risk Exposure is used to set/validate Budget and Schedule contingency amounts
 - Budget and Schedule Contingencies in the Total Project Cost and Schedule
 - Part of Total Project Cost and Duration but separate from baseline cost and schedule
 - Based on quantitative analysis of known risks and estimate uncertainties (Risk Exposure)
 - Scope Contingency can provide additional budget and schedule contingency
 - De-scoping of deliverables in the baseline frees up resources, budget, and schedule
 - · Removal of scope entails some level of negative impact on project deliverables

Note: NSF does not allow <u>Management Reserve</u>, i.e., money or time included as part of the Total Project Cost to address unforeseen events or uncertainties that are beyond the control of the Recipient or agency.

Analyze Adequacy of Remaining Contingency Amounts

- Compare Remaining Cost Risk Exposure to statused Remaining Contingency
 - Burn down charts are a good way to do this
 - Risk Exposure should always be less than or equal to remaining contingency amounts
- Check forecasted Project End Date against Baseline End Date plus schedule contingency or float
- Check Budget Variance at Complete (VAC) against remaining budget contingency
- Plan remedial actions to eliminate cost and schedule variances or to increase contingency amounts if any contingency is deficient



Performance Measurements and Analysis • Technical Variance • Cost Variance

Schedule variance
Milestone status
Trends and efficiencies
Variance at Complete (VAC)

DKIST Cost Risk Burn Down Chart



Research Infrastructure Guide 4.2.5.8 Reporting Requirements

Projects are expected to periodically compute the estimate to complete (ETC) and estimate at completion (EAC) and compare the EAC to the Budget at Completion (BAC). At least annually, the project should update the remaining risk exposure to establish a risk-adjusted estimate at completion (RAEAC) for comparison to the TPC. The updated remaining risk exposure should be based on the quantitative risk analysis with current risks and uncertainties. NSF will monitor the financial information provided and compare the available contingency to the estimated remaining risk exposure. NSF may request a recovery plan if the contingency budget appears inadequate to manage remaining risk.



PMM Step 4. Management Deciding on Actions

Management Decisions

- Variance response actions
- Resource management
- Budget & Schedule Changes
- Scope/Quality Changes
- Contingency management
- Risk response/mitigation actions

Takeaway: Use EVM analysis to decide on corrective actions, including controlled changes to the Baseline .

Regardless of project size, effective project management requires executing corrective action plans to mitigate issues as soon as they are identified and tracking their resolutions to closure.

· If action is required, determine responsibility

Technical leads and CAMs may be authorized to act for small variances. PM is responsible for cross work package actions and project level variances.

- Consider the cause and consequences to determine whether to act or to accept the variances or risk impacts (i.e., do nothing)
 - No-Action Example 1: Accept a variance

A work package component cost \$800 more than expected but is on schedule. The variance is only 1% of total work package cost. The CAM accepts the variance, assuming that on average, all components will come in on budget. The CAM will take future action if there is a trend for all components to be higher cost.

No-Action Example 2: Accept a temporary variance

A vendor product has been delivered 3 weeks late. Monthly report shows a significant under budget cost variance. Investigations shows delay in receiving and paying invoice. Since project does not do accruals and item is not critical path, CAM accepts variances with expectation cost variance will resolve when invoice is paid.

- Evaluate options and select best action that conserves resources
 - Action Example 1: Manage resources

A work package on the critical path shows a slip of one month, with investigation showing that slippage will continue. Amount of work was underestimated, and a key worker is on long term sick leave. Options to recover schedule include 1) asking existing team to work overtime, 2) hiring temporary workers, or 3) moving workers from a non-critical task in another work package. All involve some cost increase. PM decides to move workers from the other task, accepting its schedule variance. CAM is asked to reduce costs elsewhere in work package to cover cost.

These examples do not entail changes to the baseline = no change requests

- Contingency usage and changes in scope involve Baseline changes
 - Action Example 2: Cost and Schedule Contingency draw

A risk has been realized: testing reveals a major component does not meet critical specs. The fix requires a significant cost increase, a delay of 3 months to achieve, and a delay of 2 months to the overall project end date. CAM submits a change request for review and approval to use \$25K and 2 months of contingency. PM approves the change.

Action Example 2: Descoping with NSF Approval

All work packages are slightly behind schedule and overbudget halfway through the project, resulting in unfavorable cumulative overall project variances, SPI, and CPI. Remaining contingency is just under the remaining risk exposure. The PM decides to execute an identified descope option, choosing one that recovers most of the cost and schedule and has the smallest impact on project goals. The PM writes a change request to execute the descope and use savings and some contingency draws to cover all major overruns. NSF approval is required for the change.

Action Example 3: Replenish contingencies

Cost contingency drops significantly below risk exposure and schedule contingency is inadequate. PM takes steps to increase contingency back to acceptable levels. PM writes a change request to retrieve cost underruns from several work packages. Technical Leads and CAMs are asked to find ways to reduce costs by 5% in their work packages through value engineering or increased efficiencies and ways to reduce critical path by one month. A descope option is chosen, dropped from the baseline, and moved into upscope options. Cost and schedule savings are moved into contingencies.

Note: Examples above entail changes to the Baseline Plan and must follow Change Control Plan and Contingency Management Plan

PMM Step 4. Management **Change Control**



Performance Measurement. Change Control, & Reporting

https://researchinfrastructureoutreach.co m/knowledge-gateway/part-iii-mid-scaleproject-performance-management/

Takeaway: Tailor change control documentation to project needs.

Type of Change

Type of Change

Management Decisions that change cost or schedule beyond set threshold limits, significant scope changes, and contingency usage all require documented and authorized change control.

Change Documentation requirements are negotiated by NSF at time of award

- The project Change Control Board (CCB) reviews and approves or rejects requests: NSF reviews and approves above thresholds (PM can be the authorizer in tailoring)
- NSF requires a Summary Change Log at a minimum for all projects (Can double as a • simple Change Request Form for projects with few and uncomplicated changes)
 - Change control action title, document reference number, approval date,
 - Change amounts in budget, scope, and/or schedule, for each affected WBS element,
 - Any adjustments to contingency amounts,
 - WBS elements affected by the changes
 - Associated Risk Register ID number and description for the risk being addressed, and
 - NSF approval signature and date if required.
- Change Request Forms may be needed when NSF approval is required, and/or the complexity of the changes entail more involved explanations

Advanced LIGO Project - Change Control Log (\$K)												
ACR No	DCC No	Change Title	Originator	Impacted Subsystems	NSF Approval Required/ Obtained	Disposition	Cost Impact	Schedule Impact	Contingency Balance	Approved Budget	Total Project Cost	Change Description
090011	M0900160	DAQ Timing System	R. Bork	DAQ	N/A	Approved 6/12/09	\$0	None to critical path	\$37,208	\$167,912	\$205,120	A management decision has been made to have the Timing System work be performed by a contractor rather than CIT Labor, as originally planned. A small portion of the CIT labor was retained to provide support and guidance. This change documents that decision.
090012	M0900169	Staff Additions to DAQ, SUS & SYS	D. Coyne	DAQ, SUS, PM (SYS)	N/A	Approved 6/22/09	\$605	None to critical path	\$36,603	\$168,517	\$205,120	It has been determined that additional staffing is required by the DAQ, SUS and SYS subsystems in order to meet schedule commitments. This change request is for budget from reserve to pay for the additional staff.

RIG References 2.4.1 Construction Award Budget Before Effort Hours Additional Management and Oversight Change Changes Comments 27,000.00 30,277.53 3,277.53 - 10 weeks lead time + procurement tasks 4.2.5-1 Sample of a Change Control Request Form, with instructions for filling out the various sections Explicitly state overall increase or decrease to sub-project budget. Long complicated BOEs and quotes 6.2.11.2 Change Control for should be attached rather than fill up this box. Contingencies 6.2.11.6 Documentation and WBS Line Descriptio Planned Effort Hours Additiona Comments Reporting of Contingency Use Duration 1. See attached 20 Arecibo Change Change Request Form Based on the impact, state the estimated date for implementing the reque BCR#AOR P13.3 001 Rev3 Request BCR Title: AOR P13.3 Chillers Cost & Schedule Changes Lidar Lab Instrumentation 09/08/2022 AOR P13.3 uis Quintero Approved Reje roject Manane Luis Quintero Luis Quintero Approved with modificat Defe Institication Our engineering team initially selected the ThermoFlex 3500 water-cooled chiller with P2 pump. The purchas request was submitted, but the distributor (TEquipment) replied with very long lead times (delivery by March 2023). After reviewing the chiller selection, we submitted a new quote request for an air-cooled unit with P1 pump, based on the Powerlite DLS 9000 series laser series datasheet (3kW cooling capacity & 1-2 GPM @ 10-Additional Comments 40PSI pressure drop). Currently, we don't have a quote for the new selection The laser manufacturer recently recommended PolyScience as a chiller manufacturer and new requirements for the DLS 9050 laser (8kW cooling capacity & 2-3 GPM @ 10-40PSI pressure drop). We selected and received the guote for two Polyscience DCA304D1 that satisfy the minimum requirements (10.5kW cooling capacity, 1.5 HP Bronze Turbine Pump). The lead time is 8-10 weeks and could be reduced once the order Sub Project Lead Printed Nam We estimated \$27,000.00 for the two chillers, and the quote is for \$27,154.73, including shipping. Sales tax is not included (11.5% for Puerto Rico). The new estimated total is \$30,277.53 approximately. We are Approver's Printed Name Date requesting a budget increase of \$3,277.53. We included \$7k for Shipping and Handling - Other in line AOR-P13 3.1.5:MATE, task 1.3.1.6.4. Procurement: Other Materials for Lasers tion will increase the cooling capability, originally estimated at 3.5kW per unit to 10.5kW pe chedule Description with Before & After Changes Finish Dates Float for Impact on Milestones or Subon other Sub-Projects Projects See attached document. New planned finish 10.1an2023 Final reports starting 14Der

Based on the impact, state the estimated date for implementing the requested change. State the new estimated project completion date Change Request Form



PMM Step 4. Reporting

2.4 Top Level EVM Data Table and S Curves

Standard, well-

common to all

defined

reporting

elements

projects:

period

Takeaway: Include status, EVM analysis data, and actions taken in the monthly reports to NSF.

Contents and format of periodic reports will be negotiated between NSF and the Project postaward and be scaled to the project

- Use the reports to communicate with sponsors tell it like it is – no surprises
- After NSF makes an award, it wants a project to succeed collaborates to make project successful

Many of the reports, tables, and graphics generated during the EVM process will be used in the reports

(concentrating on EVM data here - see References for more detail)

Periodic Reports (monthly is typical)

Project management

- Project performance to date and for the reporting period, w.r.t. planned scope, budget, and schedule
- Milestone status report
- Risks/Issues of concern: threats, opportunities, and actions
- Charge requests and contingency usage/status
- Performance Measures (tailored EVM) report
- Variance reports and recovery plans
- Financials report: actuals, obligations, remaining budget, remaining contingency

Technical Progress

- Accomplishments per WBS L2 for the period
- Program Officer may specify content and format
- Always include photos for the PO to show and tell

EVM Status Report		\$M	Description
EVM Reporting Date		Mar-23	
Total Project Cost (TPC)		21.38	Performance Baseline + Contingency
NSF Funding To-Date		3.83	Cumulative funding received to date
Budget at Completion (BAC)		16.74	Approved Budget
Planned Value (\$M)		3.01	
Earned Value (\$M)		2.15	
Actual Costs (\$M)		2.53	
% Complete (Planned)		18.0%	PV/BAC*100%
% Complete (Actual)		12.8%	EV/BAC*100%
% Complete (Spent)		15.1%	AC/BAC*100%
Cost Variance (CV)		-0.38	EV-AC
Cost Performance Index (CPI)		0.85	EV/AC
Schedule Variance (SV)		-0.87	EV-PV
Schedule Performance Index (SPI)		0.71	EV/PV
Forecasts			
Estimate at Completion (EAC)	EAC,	17.12	AC+(BAC-EV)
	EAC,	26.71	AC+(BAC-EV)/(CPI*SPI)
Date of last EAC update		Mar-23	Date of last EAC update
Unencumbered Funds		4.64	TPC-BAC
Liens		N/A	Known costs, variances not in BAC
Budget Contingency		0.01	Unencumbered Funds - Liens
Estimate to Complete (ETC)		14.59	EAC,-AC
		24.18	EAC,-AC
% Budget Contingency of ETC		0.1%	(BC/ETC,)*100%
		0.0%	(BC/ETC;)*100%
Risk Exposure			
Risk Confidence Level		80%	
Critical Milestone Planned Date		2-Jun-2026	Planned Project end date
Critical Milestone Forecast Date		2-Jun-2026	Forecast Project End Date
Schedule Contingency		2 months	Based on (original) late finish date of MC (30-Jul-2026)





Periodic Reports

- Progress status and forecasts
- Variance reports /corrective actions
- Change requests/contingency use
- Risk response/mitigation actions

Detailed Format used for EVM reporting for IceCube

V.A. Table with Detailed EVM Data

<< Specify data reporting period, "Month ending, Month Day" and report all values in \$K.>>

WBS L2/L3 Subsystem Description	Cumulative Planned Value	Cumulative Earned Value	Cumulative Actual Cost	CPI	SPI	BAC	EAC
< <x.x insert<br="">Description Here>></x.x>							
< <x.x insert<br="">Description Here>></x.x>							
Contingency							
Risk Adjusted Total Project Cost							

WBS L2/L3 Subsystem Description	Budgeted Cost (\$X.XXM)	Cumulative Actual cost (\$X.XXM)	Work % complete
< <x.x description<br="" insert="">Here>></x.x>			
< <x.x description<br="" insert="">Here>></x.x>			
< <x.x description<br="" insert="">Here>></x.x>			
< <x.x description<br="" insert="">Here>></x.x>			





Summary

Takeaway: Tailor the PMM processes and tracking tools to be meaningful to the project team.

- Defined Progress Tracking and Reporting techniques in PMM
 - Necessary and beneficial for control and management of Midscale projects
 - You can't manage what you can't measure
- Defined NSF PMM requirements and Scaled EVM
 - EVM not required by NSF as PMM but scaled EVM strongly encouraged
- Demonstrated the 3 steps used to perform EVM during execution through examples
- Key Take-aways
 - Plan to implement scaled EVM if possible, modifying processes or substituting others when necessary
 - Match (scale) processes and tools to characteristics of project, institutions, and needs
 - Project Baseline must be set up to support selected EVM/PMM processes and tools
 - Example tools and methods used by current midscale projects can be adopted or adapted
 - Negotiate/collaborate with NSF on PMM processes and reports



Monthly Process







For those interested in an in-depth look at tools used in a midscale project, consider attending the next talk.

The High Magnetic Field (HMF) Project Execution Plan (PEP) as a Structured Document Built on a Platform of MS Project/ Excel/Word

Ernie Fontes, Technical Director, High Magnetic Field (HMF) X-ray Beamline Project, Cornell High Energy Synchrotron Source (CHESS)

Questions?

Note: Project managers from NICHE (Kerry Gonzales), IceCube (Vivian Odell), Arecibo Hurricane Repair (Carol Wilkinson), and ngGONG (Mark Warner) are here at RIW