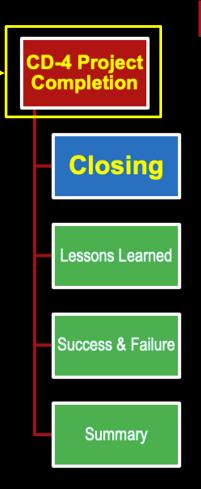
CD-4 Approve Start of Operations / Project Completion



PM-F

DOE/SC CD-4 Requirements from Decision Matrix

РМ-F 2

Ending the project / transitioning to operations

For CD-4

- KPPs Achieved FPD
- Readiness to operate / Transition to Operations Review
- CD-4 OPA Independent Project Review
- ► Final Hazards Analysis Report
- Revised Environmental Management System*
- Draft Project Closeout Report

Final Closeout – Post CD-4

- ► Finalize PARS-II project Completion
- Final administrative and financial closeout
- Initial Project Closeout Report (≤90 days after CD-4)
- Project Lessons Learned (≤90 days after CD-4)
- Final Project Closeout Report

	TOTAL PROJECT COST (TPC)	\$750M or more	Less than \$750M to \$400M	Less than \$400M to \$100M	Less than \$100M to \$50M*	Less than \$50M* to \$20M	Less than \$20M to \$10M**	
	ON / REQUIREMENTS ¹ / APPROVAL ²						Delegation Allowed	
	APPROVE START OF OPERATIONS OR PROJECT LETION	SC-1	SC-1	SC-2	SC-AD	SC-AD	SC-AD	
	Verify achievement of Key Performance Parameters/Project Completion Criteria	FPD	FPD	FPD	FPD	FPD	FPD	
	Conduct readiness to operate review and issue a Project Transition to Operations Plan	Team external to project	Team external to project	Team external to project	Team external to project	Team external to project	Team external to project	
TION	Conduct Independent Project Review	SC-28	SC-28	SC-28	SC-28	SC-28 Tailored	SC-28 Tailored	
RUC.	Finalize the Hazard Analysis Report	Site Office or Lab	Site Office or Lab	Site Office or Lab	Site Office or Lab	Site Office or Lab	Site Office or Lab	
PRIOR TO CD-4CONSTRUCTION	Revise the Environmental Management System, as appropriate)	Site Office or Lab	Site Office or Lab	Site Office or Lab	Site Office or Lab	Site Office or Lab	Site Office or Lab	
	If Applicable, complete and submit Contractor Evaluation Documents	NGA	N/A	N/A	N/A	NA	NA	
	Complete Draft Project Closecut Report	FPD	FPD	FPD	FPD	FPD	FPD	
	Hazard Cat. 1,2,3 Nuclear FacilityConduct Operational Readiness Review, Readiness Assessment Hazard Cat. 1,2,3 Nuclear FacilityPrepare the Documented	Team external to project	Team external to project	Team external to project	Team external to project	Team external to project	Team external to project	
	Hazard Cat. 1.2.3 Nuclear Facility-Prepare the Documented Safety Analysis	SBA Authority via the SER	SBA Authority via the SER	SBA Authority via the SER	SBA Authority via the SER	SBA Authority via the SER	SBA Authority via the SER	
	Hazard Cat. 1,2,3 Nuclear FacilityPrepare a Safety Evaluation Report (SER)	SBAA	SBAA	SBAA	SBAA	SBAA	SBAA	
	* Hazard Cat. 1,2,3 Nuclear Facility-Submit Code of Record	Project	Project	Project	Project	Project	Project	
л	Submit approved CD or equivalent documents to APM.	SC-28	SC-28	SC-28	SC-28	SC-28	SC-28	
CLOSEOUT	Finalize in PARS II project completion	FPD	FPD	FPD	FPD	FPD	FPD	
	Perform final administrative and financial closeout	Site Office or Lab	Site Office or Lab	Site Office or Lab	Site Office or Lab	Site Office or Lab	Site Office or Lab	
PROJECT	Prepare an initial Project Closeout Report 90 days after CD-4	FPD	FPD	FPD	FPD	FPD	FPD	
	Submit Lessons Learned regarding project execution and facility start-up 90 days after CD-4	FPD	FPD	FPD	FPD	FPD	FPD	
T CD-4 &	Complete Facility Sustainment goals and document achievements w1 one year.	FPD	FPD	FPD	FPD	FPD	FPD	
	Submit Final Project Closeout Report	FPD	FPD	FPD	FPD	FPD	FPD	
POST	Include in site Ten Year Site Plan and establish property record in FIMS for facilities.	SC-AD	SC-AD	SC-AD	SC-AD	SC-AD	SC-AD	

A DOE FPD *submitted* document (like the MNS and Acquisition Strategy (AS) requires *significant* input from project and laboratory)

- Acquisition Approach
- Project Organization
- Project Baseline at Completion
 - Scope
 - ► Cost
 - Schedule
 - ► WBS
 - Funding Profile
 - Staffing Profile
 - Environmental
 - Safety Record

- Closeout Status
- Lessons Learned
- Photos
- Project archives
- Appendices
 - Detailed WBS Dictionary
 - Detailed Technical Performance
 - Major External Reviews
 - Detailed Safety Information
 - Project Risk Registry

PM-F

CD-4 Reviewer Checklist – Summary

DOE/SC-OPA Reviewer Checklist

The purpose of CD-4 review is to ensure that the project goals have been successfully completed, lessons learned have been captured, and that the project is ready for closeout. \checkmark Verify that the Threshold KPPs have been met.

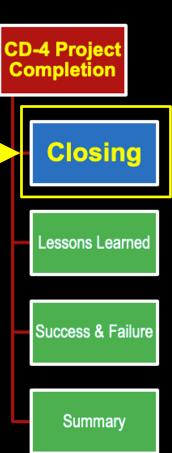
✓ Verify the Draft Project Closeout Report with lessons learned is complete?

✓ Are there any contract claims, how much and is there sufficient contingency to cover the costs?

✓ Is there a plan for the remaining project fund or contingency to be used?

✓ Is the project ready for operations? Have all the requirements and activities been completed? PM-F

Project Closing Phase



Project Closing Phase Processes

Close Project

- Deliverables validation
- Turning over deliverables
- Lessons learned
- Project data files for future reference
- Disposition and placement of project team
- Contract Closure
 - Resolution of any open items
 - Final settlement of all subcontracts

Mapping PM processes to PM Knowledge Areas – Significant intersections

	Integration	Scope	Time	Cost	Quality	Human Resources	Communications	ommunications Risk Procurement		Stakeholder	
Initiating	\checkmark	+					+	+		\checkmark	
Planning	✓	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	~	V	✓	
Executing	√				V	\checkmark	\checkmark	 ✓ 	✓	✓	
Monitoring & Controlling	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	~	✓	\checkmark	
Closing	\checkmark	+			+	+	+		+	+	

Lessons Learned – After Action Review (a military perspective)

Learning happens at the end of the project

Learning happens throughout the project

Called for after failure or high stress

Planned for any project that is core to business goals

One meeting with all participants in one room

Meetings with smaller task focused groups

Reviews the entire process

Focuses on key issues relevant to going forward

Produces a report with recommendations

Produces an action plan participants will implement

► Focuses more on dissecting past performance

Focuses more on planning of future success

PM-F

Lessons Learned – After Action Review (a military perspective)

- What was supposed to happen?
- What did happen?
- Why did it happen? (don't point fingers)
- What are your recommendations? (constructive)

PM-F

Project Completion

- Near the end of the project the tracking process must be intensified to ensure that everything is brought to completion
 - In many systems, it is only at the end that it is possible to demonstrate the performance has been achieved
 - May require prolonged commissioning and testing
- Maintain a complete list of all tasks left to complete ("punch list")
 - Create the list "bottom up" looking at what needs to be done
 - Do not just look at the original task list
 - ► This is a reality check maybe you forgot something at the start
- ► Keep careful, frequent track of every remaining task
 - Follow each task through to completion
- Re-estimate the duration of the work still to be completed
 - Do not just copy the original estimates
 - ► Looking at the actual work usually gives a clearer picture

PM-F

Project Closeout – Transition to Operations

With scientific projects and accelerators in particular, commissioning and operation at <u>ultimate</u> performance shouldn't define the close of the project

5-year power ramp-up to achieve full FRIB capability

- Year 1: 10 kW
- Year 2: 50 kW
- Year 3: 100 kW
- Year 4: 200 kW
- Year 5: 400 kW

Year one												
Beam	Notional Weeks/Year	Abundance (%)	Bench-marks									
238U	12	99.27	7,10,12,15									
⁴⁸ Ca	6.34	0.19	2,14									
⁷⁸ Kr	2.21	0.35	3,8,9,16,17									
¹²⁴ Xe	1.3	0.1	1,11,17									
¹⁸ O	0.86	0.2	2,8									
⁸⁶ Kr	0.63	17.3	1,3,4,6,14,15									
¹⁶ O	0.44	99.76	2,8									
³⁶ Ar	-	0.33	8									
⁸² Se	5.25	9.4	1,3,4,5,6, 13,14,15									
Total	23.8											
Year two												
Beam	Notional Weeks/Year	Abundance (%)	Bench-marks									
⁹² Mo	2.45	14.84	1,3,9,11, 16,17									
⁵⁸ Ni	1.64	68.27	1,3									
²² Ne	0.54	9.2	2									
		10000										

0.91

1,13,14

0.5

10.4

64Ni

Total

K.E.Robinson September 2022

Project Closeout – Transition to Operations

-
- As the project approaches its close all stakeholders are strongly vested in success
 - Project team
 - Project manager/director
 - Institution
 - Funding agency

- Summary closeout reports are often required (see examples in materials)
- Historical information if preserved in a manner which can be exploited by others can serve as a basis of estimate, design, and management for future projects
- The goal of closeouts is that projects become better than simply repeating stochastic *Monte Carlo* simulations

PM-F

Reward Loyalty – Take Care of Your Team

- As the end of a project approaches the project team must be carefully managed
 - Determining planned subsequent assignments
 - Phased transitions
 - Celebrations of accomplishment
 - Lending support to collaborators for follow on work
- Be generous with credit and acknowledgement of contributions
 - A project is <u>always</u> a team effort and that team includes the funding agency representatives
 - The quality of your next project team depends on how well you take care of your present team

PM-F

And the Curtain Falls ...

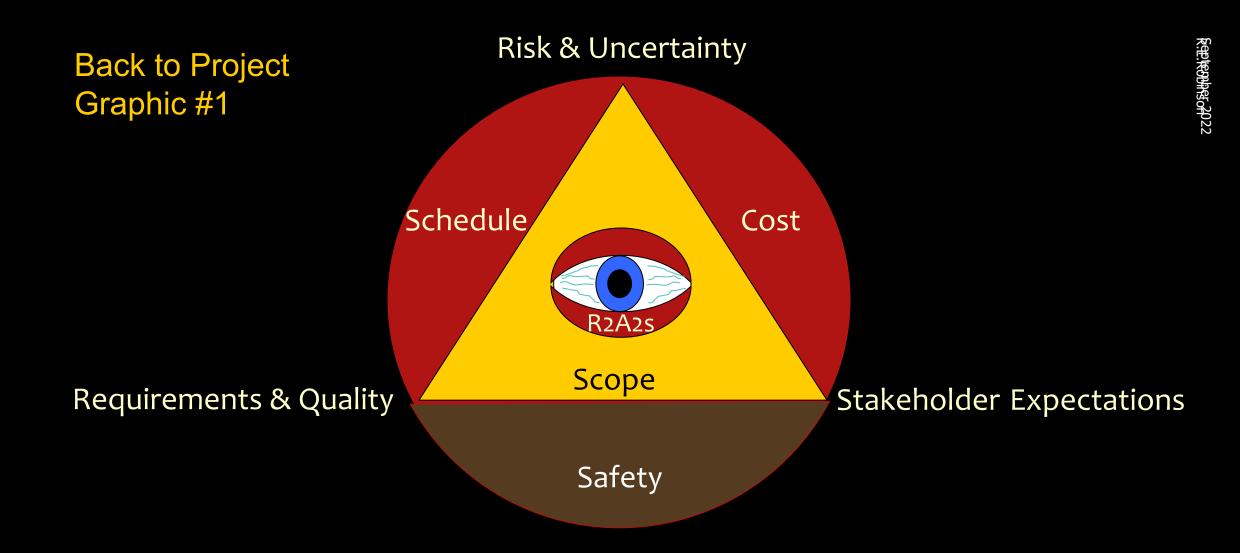
Again:

"A project has an end, and a sausage has two"

- ► It is essential to push a project to completion
 - ▶ The final *punch lists*, action items, must be hounded
 - ► To be a success, a project **must end**
 - A project that does not end *smartly* will become an albatross for the institution and the project manager
- The final clean up is both physical, managerial, and emotional <u>respect all three</u>

Project Success & Failure

Understanding the nature of projects is essential to understanding success in projects



PM-F

Project Success: Easy to Define – Hard to Achieve

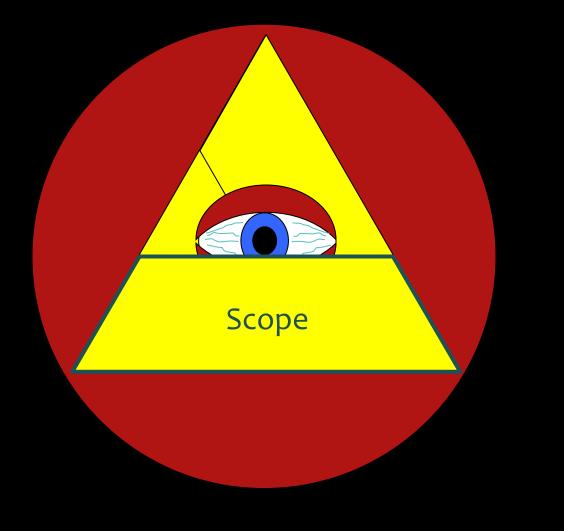
- Dependent variable constraints are met
 - Scope
 - Cost
 - Schedule
- Principal Stakeholder (customer) requirements met
 - Identified requirements (needs)
 - Unidentified requirements (expectations)
- Quality at an appropriate level
- Organization is improved

PM-F

Scope

"If you don't know what you're doing, do it neatly and with style."

— Author Unknown



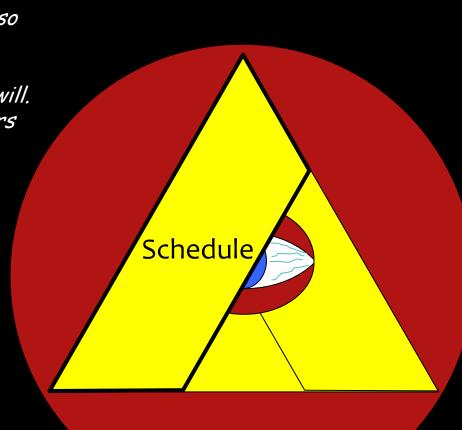
Scope – Key Success Attributes

- Complete Work Breakdown Structure (WBS)
- Established prioritized <u>requirements</u>
- ► Clearly <u>delineated</u>
- ► Sufficient detail <u>before</u> engagement
- Specification only to necessary and sufficient
- ► <u>Controls</u> against scope creep
- Quality of scope deliverables understood
- ► <u>Clean interfaces</u>

PM-F

Schedule

#74: All problems are solvable in time, so make sure you have enough schedule contingency—if you don't, the next project manager that takes your place will. — 100 Rules for NASA Project Managers



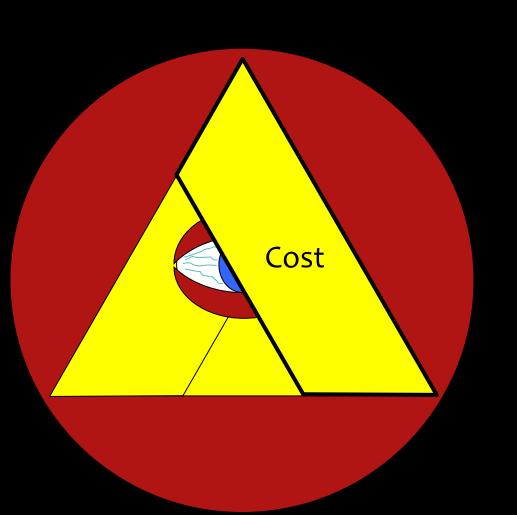
Schedule – Key Success Attributes

- Realistic
- Dependencies understood
 - ► <u>Exploding</u>
 - ► <u>Integrating</u>
- Adequate <u>float/contingency</u> in schedule
- ▶ <u>Phased</u> detail
- Critical and near critical activities understood

PM-F

Cost

The same work under the same conditions will be estimated differently by 10 different estimators or by 1 estimator 10 different times.



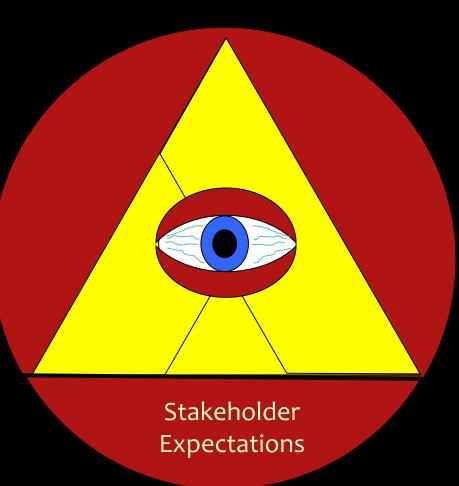
PM-F

Cost – Key Success Attributes

- ► Completeness
- Quality of estimates understood
- Uncertainty understood
- Cost risks understood
- Contingency
 - Explicit
 - Centrally controlled
 - Adequate

PM-F

Stakeholder Expectations



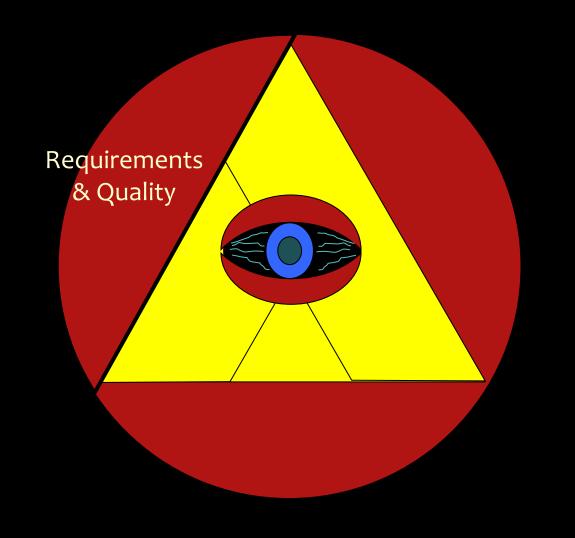
PM-F

Stakeholder Expectations — Key Attributes

- Understanding who are the stakeholders
- Clear identification
- Open Communication
- Requirements
- Continued Involvement
- Clarity of deliverables

PM-F

Requirements & Quality



Requirements & Quality – Key Attributes

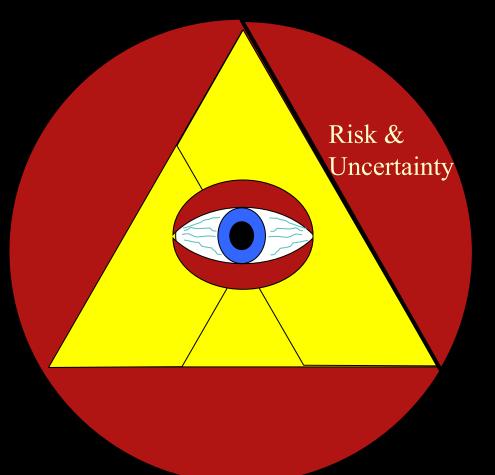
- Requirements, Constraints, and Assumptions clearly understood
- Quality matched to
 - ► Fitness of purpose
 - ► Good enough
- Established at inception emphasized during project design and development
- Does not attempt to inspect or rework quality in after execution
- Matches quality rigor to the characteristics
 - Critical
 - Major
 - Minor
 - Incidental

PM-F

Risk & Uncertainty

- Y = Set of all projects
- X = Subset of projects that are 100% known & executed as planned

 $X = \emptyset$ (null set)



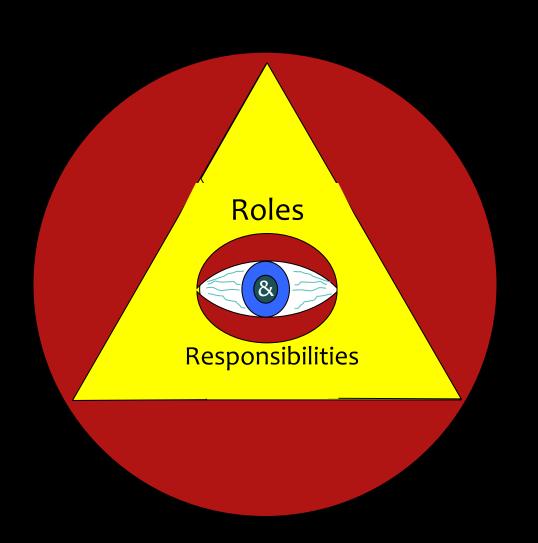
PM-F

Risk & Uncertainty – Key Attributes

- Acceptance
- Understanding the nature
- Active feedback management
- Prioritized effective mitigation
- Exploitation

PM-F

Roles & Responsibilities



PM-F

Roles & Responsibilities – Key Attributes

- Governance clearly established and understood
- Authority is delegated
- Decision process understood
- Change management firmly established
- Interfaces / handoffs clean, obvious, communicated

PM-F

Successful Project Leadership is Based on Trust and Communication

- All of the PM tools designed to illuminate and facilitate communication of project directions and goals
- Except 1-person projects, all projects need communication for success
- Without a basis of trust, project leadership cannot function
 - Meaningful delegation not possible
 - Individual authority not given
 - Responsibility not accepted

PM-F

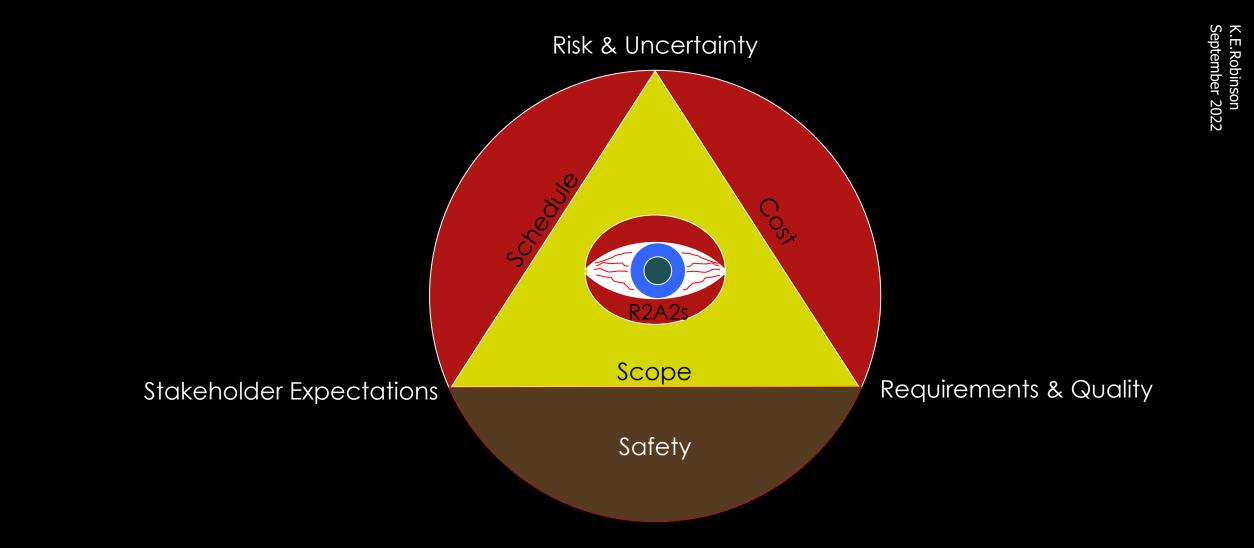
PM-F

34

Summary

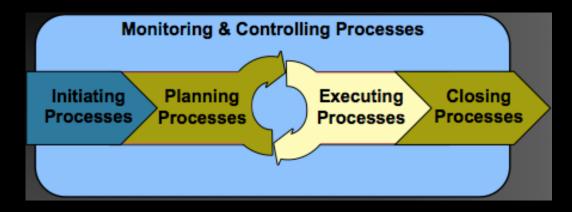
Germane aspects of a project within a DOE lab

PM-F



Projects Summary

- All projects have risk and uncertainty
- All projects have 5 process groups
 - 1. Initiating
 - 2. Planning
 - 3. Executing
 - 4. Controlling
 - 5. Closing
- All projects have a client / key stakeholder
- All projects exist in a context that must be understood
- All projects necessarily require teams
 - Clear roles and responsibilities
 - Effective delegation



A successful project manager pays attention to all knowledge areas at all phases of a project

рм-ғ **37**

There is no firm boundaries between areas or any set phases when they aren't needed



This applies throughout the DOE 413.3B Project Timeline



		CD-1 Approve Alternative Selection and Cost		CD-3 Approve Start of Constru	uction	September
Initiating Project	Conceptual Design	Preliminary Design	Detailed Design	Construction /	Execution	Closing the project
	CD-0 Approve Mission Need		CD-2 Approve Performar	ce Baseline		CD-4 Project Completion
Acquisition	ject Execution Plan Strategy	Project Managem Performance Bas Technology Read Preliminary Desig Updates to ALL D	eline iness Assessment n Report	Final Design Report Final Security Assessment Project Safety & Health Plan Updates to ALL Documents		
Conceptual	Project Team Charter Design Report Hazard Analysis Report				Documented Safety Ar Technical Safety Requ Transition to Operation Verify Key Performanc	irements ns Plan
		←	Earned Value Reportir	ng		▶
	←	PARS	II Reporting			→

DOE O 413.3B is based on accepted practices

- Evolved as a result of the risks realized and challenges faced by DOE with its portfolio
- Formalized the phased development and critical decision (phase gate)
- CD-0 Mission Need = Business Case
- CD-1 Approve Alternative = Conceptual design / Requirements & Scope
- CD-2 Performance Baseline = Fixing the dependent variables of the project
- CD-3 Approve Start of Construction
- CD-4 Project Completion / Transition to Operations

The DOE/SC–OPA the steward of O 413.3B

• DOE Order 413.3B: Program and Project Management for the Acquisition of Capital Assets [], Decem

2016

Summary of Major Requirement

SΣ

Summary of Major Requirem Less than \$20M to \$108 U.S. DEPARTMENT OF Office of Summary of Major Requirer **Delegation Allowed** Q ess than \$20M to \$10 TOTAL PROJECT COST (1 than \$20M to \$10M SC-AD \$758M or more ess than \$46M* to \$1 iegation Allowed ON / REQUIREMENTS" / APPROVAL legation Allowed FPD SC-AD SC-AD Reviewed by SC-28 Approved by SC-AD Team external to project Science Features Summary of Major Requirement Laboratories User Facilities Universities Funding Programs SC-AD SC-28 th SC-28 concurrence Project \$750M or more +ss than \$750M to \$400M Less than \$400M to \$100M ess than \$50M' to \$200 Less than \$100M to \$500 ess than \$20M to \$10M FPD Site Office or Lab Home | Programs | Project Assessment (OPA) | Project Management | Processes and Procedures Project SC-AD Site Office or Lab SC-AD Feam external to proje Summary of Major Requirement SC-AD N/A Project Processes and Procedures SC-AD FPD N/A N/A Team external to project SC-28 SC-AD Project Summary of Major Requiremen BA Authority vie the SEP NA SC-AD Project **Project Management Processes and Procedures:** Denia d Site Office or Lab SBAA Team external to proje Site Office or Lab Protect Project Project Delegation Allow Site Office or Lab Project SC-28 SC-28 Department of Energy SC-AD Site Office or Lab Drokert FPD \$750M or more ss than \$750M to \$400M Less than \$400M to \$100M ess than \$100M to \$50 ss than \$50M" to \$20 Less than \$20M to \$1 N/A SC-AD AA & FPD. W/CNS Office of Science DECISION / REQUIREMENTS¹ / APPROVAL earn external to proje Site Office or Lab N/A r to CD-0. Approve Mission Need Sta SC-AD Approved by SC-Al Double? Approved by SC-28 Reviewed by SC-28 FPD Various Project Management Reports N/A eviewed by SC-SBA Authority via the SE Approved by SC-AD pproved by SC-A approved by SC-AD Site Office or Lab. Site Office or Lab FPD BAA w/ FPD conc SC-AD SC-AD SC-AD NIA Site Office of Lab ALL APPROVE AL TERMATINE SELECTION AND CO Site Office or Lab FPD SC-AD SC-AD SC-AD Project Site Office or Lab. Site Office or Lab FPD **Most Requested Documents:** SC-2 SC-1 SC-AD SC-AD SC-AD Safety Basis Appr Authority (SBA) SC-28 Site Office or Lab SC-1 or Site Office SC-AD CD.3. APPROVE START OF CONSTRUCTION SC-2 SC-AD 80.1 SC-AD SC-AD SC-AD SC-28 CD-4-APPROVE START OF OPERATIONS OR PROJEC SC-AD Prog. Mgr. & FPD 80.1 SC-2 SC-AD SC-AD SC-AD 80.1 Memorandum from J. Stephen Binkley: 171130 Binkley SC PM Expectations
 , November 30, 2017
 SC-AD erminate the m No Earned Value (EV SC-AD to invite SC-28 SC-AD Project Project Scope Definition: Spares SBAA via the PSV/ NA Prog. Mgr. & FPD No Earned Value (EV es that have the force and affect of law and regulation, or Regulatory, or Statutory piect changes nal to the Dep SBAA FPD SC-AD SC AD SC AD SC AD SC-AD to invite SC-21 No TPC Change SC-28 PSO Prog. Max., SOM or FP Pres. Mar., SOM or FPD Pres. Mar., SOM or FPD Prog. Mar., SOM or FPC Prog. Mar., SOM or FPD Prog. Mar., SOM or FPD March 2016 • DOE/SC Independent Project Review Process [], January 2012 SBAA via the CSV Project Contractor Contracto Contracto Contracto Contracto Review Conducted I SC-AD SC-4D SC-AD SC-AD SC-AD SC-AD SEAA \$0.28 ion Independent Revie ect Review PARS SC Template for Closeout Report, March 2012 Deputy Secretary SC-AD Review Prior to CD.1, CD.2, & CD.3 Team External to Proje Team External to Project Team External to Proje Team External to Proje feam External to Project earn External to Proje Project SC Template for Mission Need Statement, March 2012 t Independent Brainet Baulany or Exte or ICR by PM (CD-0 ICE or ICR by PM ICE or ICR by PM CD-1 to CD-4 by hier to CD-2 & CD-3 rior to CD-2 & CD-3 00.0 ogram Offices (e.g. March 2016 endent Review prior to CD-0 to 3 & SC-28 (CD-1 to 3 & SC-28 (CD-1 to 3 Tailored by SC-28 SC-28 Tailored Tailored by SC-28 SC-28 Tailored Prog. Mgr. & FPD SC-28 SC-28 SC-28 Project SC Template for Acquisition Strategy, April 2012 quest Annual Peer Reviews by PMSO Post CE SC-28 ts and be ente SC-AD to invite SC-28 SC-28 SC-AD 80-28 80-28 80-28 SC-28 SC-28 line Deviation Reviews after CD-2 SC Template for Project Execution Plan, May 2018 \$6-28 EVMS Review--Certification Prior to CD-3 & Bi-annua SC-28 SC-28 SC-28 SC-28 SC-28 N/A RR/RA-Operational By contractor) SC Template for Lessons Learned, March 2012 Team External to Project Team External to Project Team External to Project Team External to Project eam External to Project earn External to Project out (TRA) prior to CD.2 NA NA NA NA NA N/A SC Template for BCPs, February 2013 by SAE or AE Project NA N/A ition Rating Index (PDR) by Ph DOE Guide 413.3-21: Cost Estimating PSO PSO FSO Project Status After CD-0 and EV After CD-3 FAQ for DOE Order 413.3B I. December 2018 by PARS II Reporting (EVMS for Projects>\$20 M) CD-0 SC-AD to invite SC-28 SC-AD to invite SC-28 SC-AD to invite SC-28 Inuite CC.1 and CC.20 Inside CC-2 and CC-20 mille 00.1 and 00.10 SC Project Decision Matrix 12, October 2019 March 2018 • Memorandum from W.F. Brinkman: SC is Exempt from DOE Order 413.3B [], February 2, 2011 Approval by Daniel B. Poneman, Deputy Secretary: SC Exemption from DOE Order 413.3B A Januar

March 2016

DOE/SC-OPA has distilled DOE O 413.3b

Summary of Major Requirement

- The Project Decision Matrix

- Distills everything into a compact matrix
 - Authorities
 - Approvals
 - Applicability
 - Responsibility
- A very good checklist once a basic understanding is in place

														Summary of I	major Ke	quar ecrititis				
											Summary	1								
													_		2014	ess than \$2001 to \$1001**				
										Summary of Major Requirements										
TO					TOTAL PROJECT	COST (TPC) \$750M	for more Less than \$7	10M to \$400M	Less than \$400M to \$100M	Less tha	an \$100M to \$50M*	Less than \$508	4" to \$20M	Less than \$20M to \$10M**	20	BM Less than \$20M to \$10M** Delegation Allowed		SC-AD		
			DECISION / REQUIREMENTS	/ APPROVAL ²					-			_	Delegation Allowed	i h	Delegation Allowed SC-AD		FPD			
					Summary of Major F	Tequirements	_		_				SC-AD		Reviewed by SC-28	iect	Team external to project			
TOTAL PROJECT COST (TPC)						Summary of Major Requirements ST50M or more Less than \$750M to £400M Less than \$100M to \$100M Less than \$100M to \$50M* Less than \$60M* to \$20M.							nce	SC-AD with SC-28 concurrence	2	Approved by SC-AD Project		SC-28 Tailored		
DECISION / REQUIREMENTS' / APPROVAL ¹				\$750M or more	Less than \$750M to \$400M	Less than \$400M to \$100M	Less than \$1	IOOM to \$50M" Less than \$50	OM' to \$20M	Less than \$20M to Delegation Allo			FPD	18	Project		Site Office or Lab			
DEFIDING VIEWORKERS D. V. P. NOVAĽ,												SC-AD			SC-AD		ct Team external to project		Site Office or Lab	
			1			Summary	y of Major Requirements					H	Reviewed by S	SC-28		SC-AD	Ē	Project		NA
			1									H	Approved by S Reviewed by S	SC-28		SC-AD	- H	NA		FPD
										_		H	Approved by S SC-AD	C-AD		NA	: h	SC-28	lesct	Team external to project
					Summary of Major Re	equirements						H	SC-AD SC-AD			Project	- h	NA		SBA Authority via the SER
												, H	Project	_		Project	1 B	Site Office or Lab		SBAA
										206	Less than \$20M to \$10M**	1 1	Project	-	ject	Team external to project	1 B	Site Office or Lab		
									- 6	Delegation Allowed	1 H	Project			Project	i h	Site Office or Lab		Project	
TOTAL PROJECT COST (TPC) STIGM or more Lass than \$766M in \$666M Lass than \$466M in \$166M Lass than \$166M										5 L	SC-AD	1 H	Project			SC-28	- H	Site Office or Lab		SC-28 FPD
DECISIO	N/REQU	REMENTS' / APP		\$758M or more	Less than \$750M to \$400M	Less than \$400M to \$100M	Less than \$100M to \$50M*	Less than \$50M* to \$20	9M Less than \$20M to \$10M Delegation Allowed	°	SC-AD	1 6	Team external to			NA	0	SBAA & FPD, W/ CNS or		1000
			Need Statement	Reviewed by SC-28 (SC-28) Approved by SC-1	Reviewed by SC-28 Approved by SC-1	Reviewed by SC-28 Approved by SC-1	Reviewed by SC-28 Approved by SC-1	Reviewed by SC-28 Approved by SC-1	Reviewed by SC-28 Approved by SC-AD		SC-AD	1 1	Project			NA	15	CDAVS concurrence, as appropriate		Site Office or Lab
Prior to	to CD-1, Approve Acquisition Strategy			Reviewed by SC-28 Approved by SC-1	Reviewed by SC-28 Approved by SC-1	Reviewed by SC-28 Approved by SC-2	Reviewed by SC-28 Approved by SC-AD	Reviewed by SC-28 Approved by SC-AD	Reviewed by SC-28		Reviewed by SC-28 Approved by SC-AD	1 H	Site Office or			NA	SE.	ER SBA Authority via the SER		FPD
	CD-8APPROVE MISSION NEED			S-2 (CD-1 to 4 delegated)	SC-1	SC-1	SC-AD	SC-AD	SC-AD		NIA	1 1	Site Office of			Site Office or Lab	-70	nce SBAA w/ FPD concurrence		FPD
AL	CD-1-APPROVE ALTERN RANGE CD-2 - APPROVE PERFOI CD-3-APPROVE START C		ATIVE SELECTION AND COST	\$-4	SC-1	SC-1	SC-AD	SC-AD	SC-AD		NIA	t k	Site Office or			Site Office or Lab		Project		FPD
CISIO CISIO			MANCE BASELINE	8-4	SC-1	SC-2	SC-AD	SC-AD	SC-AD		Safety Basis Approval		Ste Office of			Site Office or Lab		SC-28		FPD
DEG	CD-3-APP	ROVE START OF	F CONSTRUCTION	SC-1	SC-1	SC-2	SC-AD	SC-AD	SC-AD		Authority (SBAA) SC-28	1	Site Office or		2	SC-1 or Site Office	1	SC-AD		SC-AD
	COMPLET	ROVE START OF	F OPERATIONS OR PROJECT	SC-1	SC-1	SC-2	SC-AD	SC-AD	SC-AD	1 H	SC-AD	1 h	SC-28	_		SCAD	d	Prog. Mgr. & FPD No Earned Value (EV)		
	es to		Deviations			base	elne.				Project	1	Talcred SC-AD		souto	S SBA4 & FPD, w/CNS or CDNS concurrence, as appropriate	28	8 SC-AD to invite SC-28		
NEN	TPC	1 <u></u>	New Performance Baseline Approval	S-4 Project changes caused by	SC-1 y Policy Directives that have the for	SC-2	SC-2	SC-2	SC-2	4 -	Project Prog. Mgr. & FPD No Earned Value (EV) SC-AD to invite SC-20		S SBAA & FPD, W/ CN		R	SBAA via the PSVR	or	r NA		
AGEI		-	Program	SC-AD	SC-AD	SC-AD	SC AD	SC AD	SC AD	- 0			concurrance, as ap	gropziele		SBAA		FPD		
BAN	No TPC Change	outine	Project	Prog. Mgr., SOM or FPD	Prog. Mgr., SOM or FPD	Prog. Mgr., SOM or FPD	Prog. Mgr., SOM or FPD	Prog. Mgr., SOM or FP	PD Prog. Mgr., SOM or FPD		ac-AD to mate aC-28		PSO			PSO	1	SC-28 Tailored		March 2016
	20	er 20	Contractor	Contractor	Contractor	Contractor	Contractor	Contractor	Contractor	60	ent Review Conducted by		SBAA via the C	SWR		Project				march 2016
	Mission V	alidation Indepen	Ident Review	SC-AD	SC-AD	SC-AD	SC-AD	SC-AD	SC-AD	nt	Project Review;PARS II= S-2=Deputy Secretary;		SRAA			SC-28				
	-		0-1, CD-2, & CD-3	Team External to Project	Team External to Project	Team External to Project	Team External to Project	Team External to Project					Project			SC-AD	1			
		Independent Proje ent Review prior t	ect Review or External to CD-0 to 3	ICE or ICR by PM (CD-0 to 3)	 ICE or ICR by PM & SC-28 (CD-1 to 3) 	ICE or ICR by PM & SC-28 (CD-1 to 3)	Prior to CD-1 to CD-4 by SC- 28	Tailored by SC-28	Tailored by SC-28	ne	Program Offices (e.g.,		9C-28		nd	SC-2 Prog. Mgr. & FPD		March 2016		
	SC-AD Re	quest Annual Pe-	er Reviews by PMSO Post CD-2	SC-20	SC-28	SC-28	SC-20	SC-28 Tailored	SC-28 Tatored	loc	ouments and be entered in	1 6	Project		-	No Earned Value (EV)	i ji			
EWS			riation Reviews after CD-2	SC-29	SC-28	SC-28	SC-29	SC-28	SC-28	1 H		1	SC-AD		28	SC-AD to invite SC-28 SC-28				
REVI	Surveillan	nce (annual by con	n Prior to CD-3 & Bi-annual Intractor)	SC-29	SC-28	9C-28	SC-28	SC-28	N/A	14		Į 1	Prog. Mgr. & I No Earned Valu	ue (EV)		Tailored March 2016	,			
	ORR/RA-	Operational Readin Int Prior to CD-4	iness ReviewReadness	Team External to Project	Team External to Project	Team External to Project	Team External to Project	Team External to Project	ect Team External to Project				SC-AD to invite	SC-28						
	Technolog 3 by SAE	gy Readiness Ass or AE	sessment (TRA) prior to CD-2 and	NIA	NIA	NIA	NA	NA	N/A					_						
			ndex (PDRI) by PM	N/A	NIA	NA	NA	NA	N/A	11			Project							
	Hazard Ca 2	nt. 1,2,3 Nuclear P	Facility-Technical IPR Prior to CD-	PSO	PSO	PSO	PSO	PSO	PSO					March 2016	1					
ORT			(EVMS for Projects>S20 M)			t Status After CD-0 and EV After	vr CD-2		Monthly Project Status Aft CD-0	м					<u>الہ</u>					
REPU	Monthly or Qua		ect Reporting (QPR) or Meeting	SC-AD Invite SC-1 and SC-28	SC-AD Invite SC-1 and SC-28	SC-AD Invite SC-2 and SC-28	SC-AD to invite SC-28	SC-AD to invite SC-28	8 SC-AD to invite SC-28											
80 B					30 X		nd b		-32		March	9 2016								
									March	2016										

https://science.osti.gov/-/media/opa/pdf/processes-and-procedures/project_decision_matrix.pdf

K.E.Robinson Sí

Recap DOE 413.3B Deliverables

DOE Order 413.3B defines both technical deliverables (design documents, occupational safety, etc...) as well as management requirements to be used throughout the life of the project.

Technical **and** management requirements must be met before approval to proceed beyond a Critical Decision point is granted.

It is based on general best practices,

Simple adherence \neq Success



Kem Robinson Kem.Robinson3@gmail.com 510-590-1010

Questions and Discussion

https://science.osti.gov/opa

https://science.osti.gov/opa/Project-Management

https://www.directives.doe.gov/

https://www.energy.gov/projectmanagement/office-project-management

Thank you

...

May the funding come when you need it, May the risks all be addressable, May the scope be controllable, May the schedules be realizable, May the sun shine warm upon your face, And the rain fall softly on your fields Until we meet again...

- Irish project management blessing (paraphrased)