

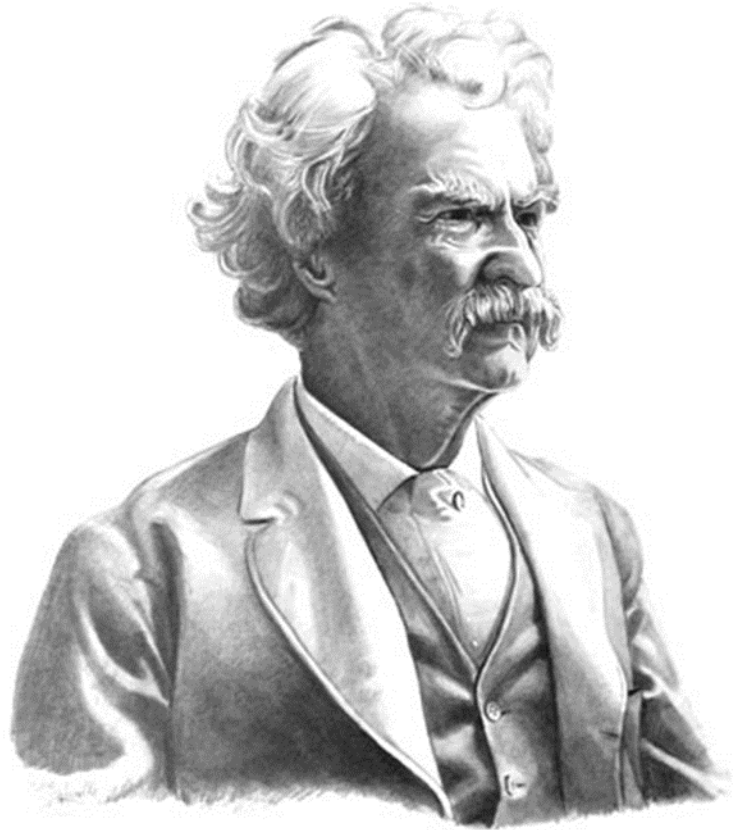


DOE Project Management

Mike Peek, PE, PMP, CCP, CFM
Director, Office of Project Management



Project Portfolio and Trends



Get your facts first, then you can distort them as you please.

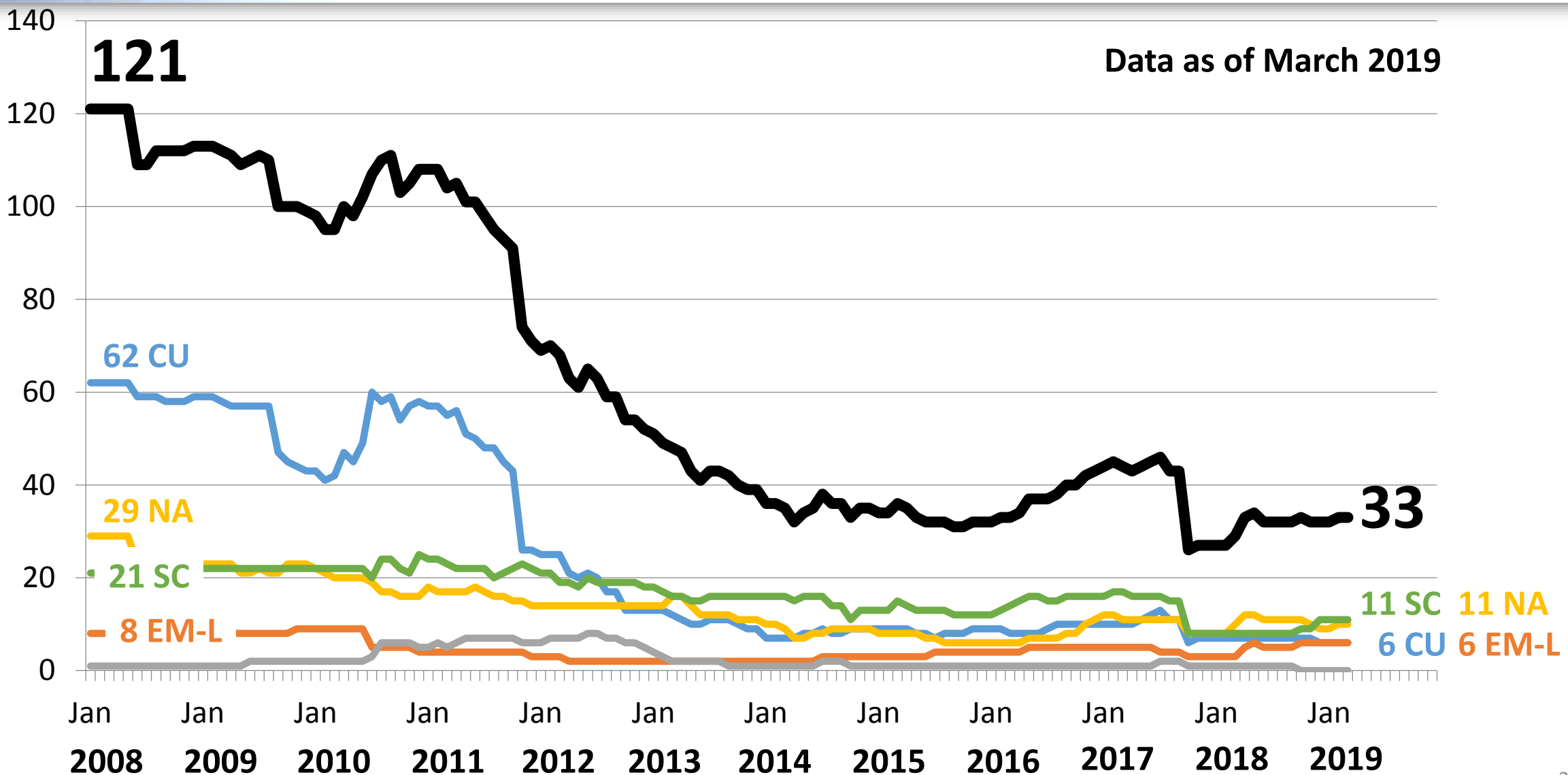
~ Mark Twain



Number of Projects (2008-2019)

Current Post CD-2 Workload

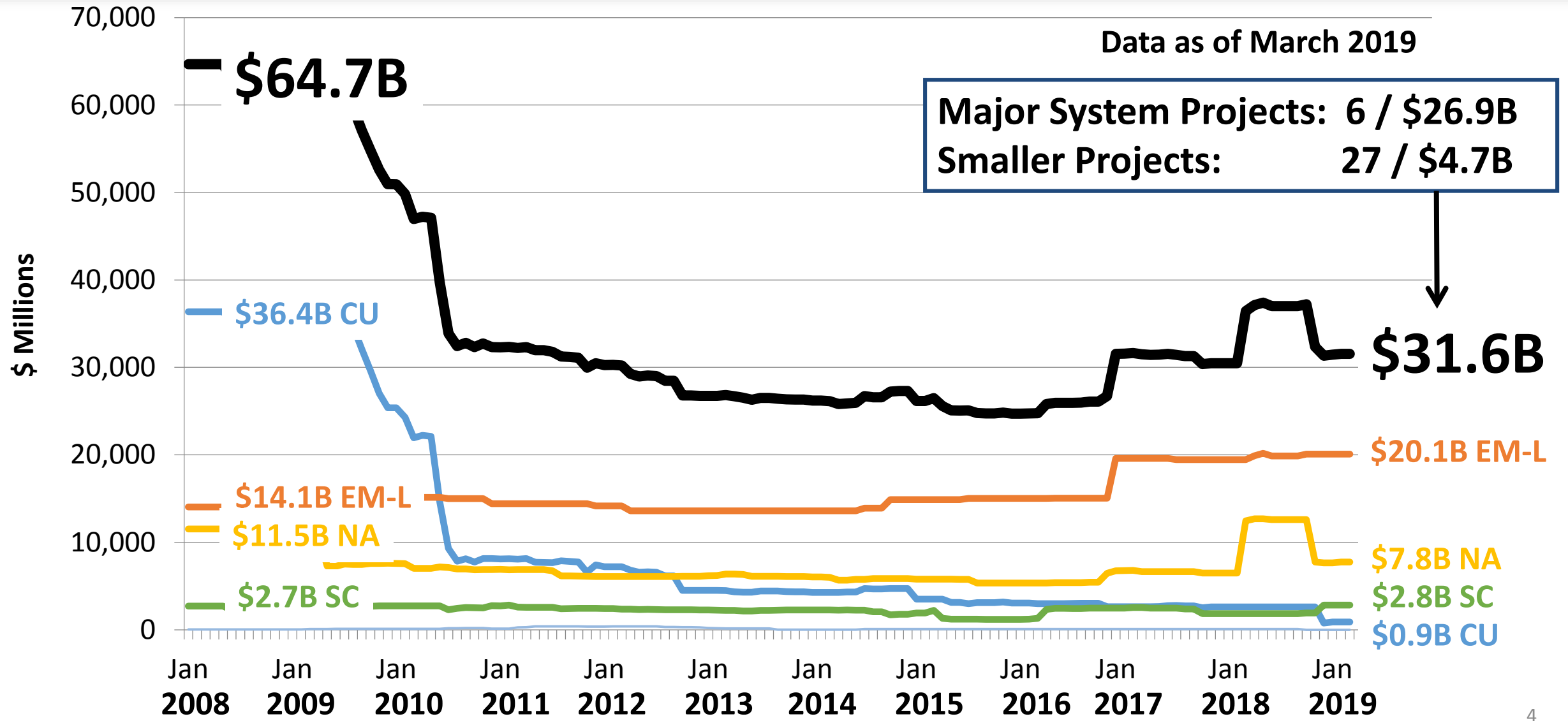
Data as of March 2019





Dollar Value of Projects (2008-2019)

Current Post CD-2 Workload





March 2019 Project Portfolio Status

(Based on Current Performance Baseline)

Program	Total Active Projects Post CD-2		Total Projects Post CD-2 Green		Total Projects Post CD-2 Yellow		Total Projects Post CD-2 Red		% of Post CD-2 Projects with Acceptable Status	
	No.	\$(M)	No.	\$(M)	No.	\$(M)	No.	\$(M)	No.	\$(M)
EM	12	\$20,978	10	\$4,086	--	--	2	\$16,892	83%	19%
FE	--	--	--	--	--	--	--	--	--	--
NA	10	\$7,754	10	\$7,754	--	--	--	--	100%	100%
NE	--	--	--	--	--	--	--	--	--	--
OE	--	--	--	--	--	--	--	--	--	--
SC	11	\$2,826	11	\$2,826	--	--	--	--	100%	100%
DOE	33	\$31,558	31	\$14,666	--	--	2	\$16,892	94%	46%



March 2018 vs. March 2019 Project Portfolio Status (Then and Now)

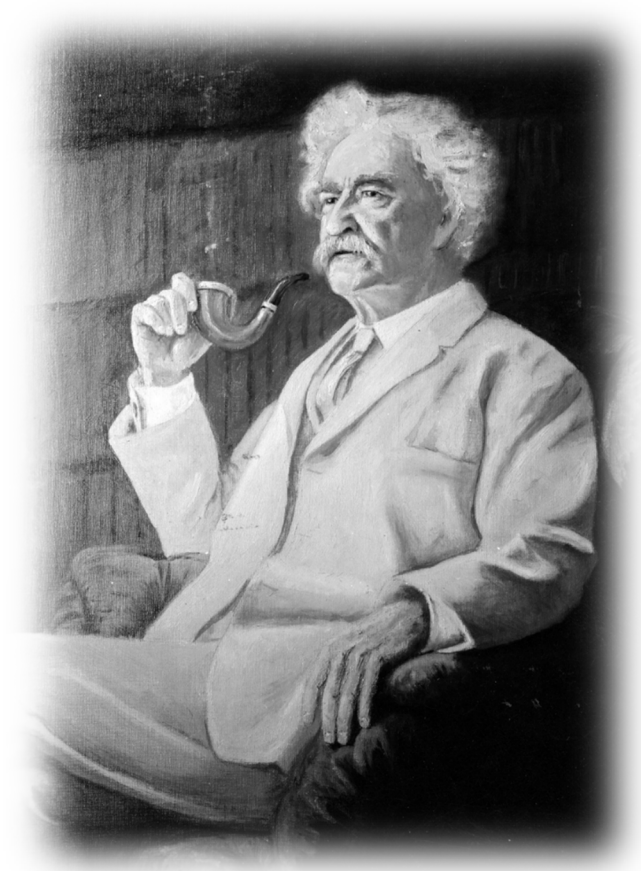
PROGRAM Mar 2018 vs. Mar 2019		Total Project Portfolio		Total Active Projects Post CD-2		Total Projects Post CD-2 Green		Total Projects Post CD-2 Yellow		Total Projects Post CD-2 Red	
		No.	\$(M)	No.	\$(M)	No.	\$(M)	No.	\$(M)	No.	\$(M)
EM	2018	34	\$55,786	10	\$22,063	6	\$4,747	--	--	4	\$17,316
	2019	29	\$53,091	12	\$20,978	10	\$4,086	--	--	2	\$16,892
NNSA	2018	31	\$41,596	10	\$12,469	8	\$7,522	1	\$90	1	\$4,857
	2019	30	\$34,407	10	\$7,754	10	\$7,754	--	--	--	--
SC	2018	24	\$8,886	8	\$1,843	8	\$1,843	--	--	--	--
	2019	34	\$10,297	11	\$2,826	11	\$2,826	--	--	--	--
Other	2018	4	\$3,076	1	\$78	1	\$78	--	--	--	--
	2019	4	\$7,565	--	--	--	--	--	--	--	--
Total	2018	93	109,344	29	\$36,453	23	\$14,190	1	\$90	5	\$22,173
	2019	97	\$105,360	33	\$31,558	31	\$14,666	--	--	2	\$16,892



Projects Enable Mission

**Few things are harder to put up with than
the annoyance of a good example.**

~ Mark Twain





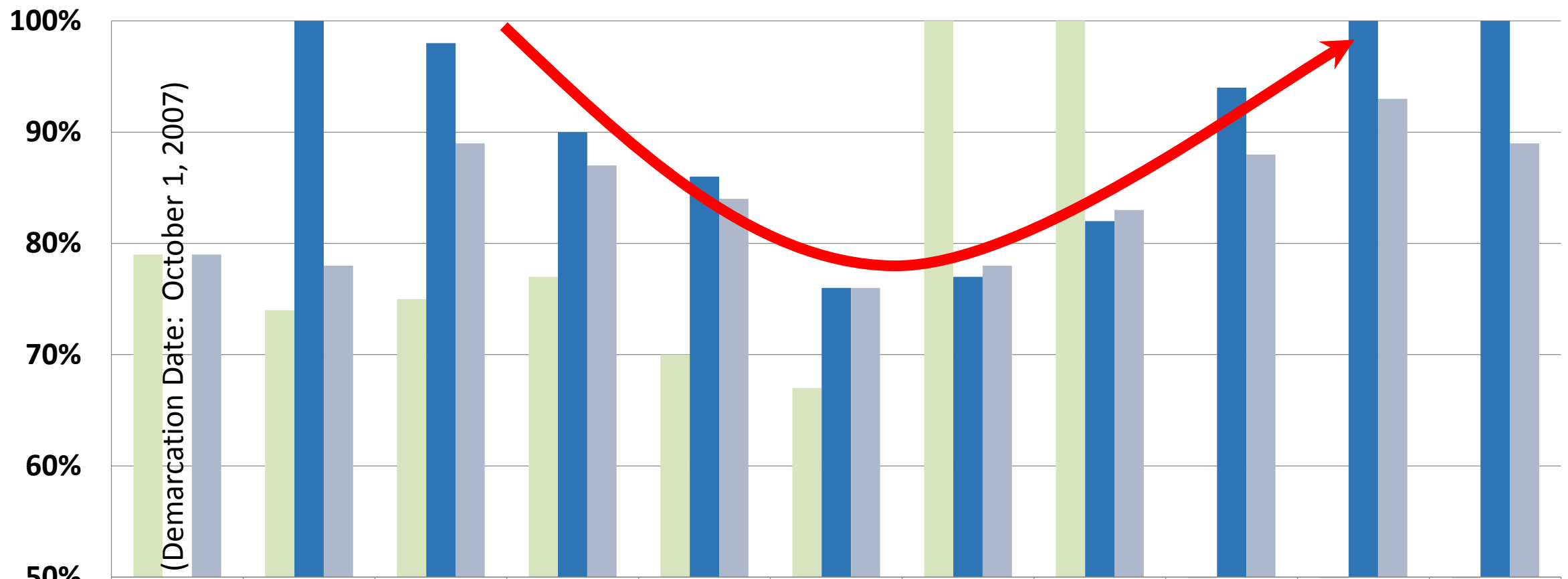
Project Management Success

- Project Management Success:
 - Project completed within the ORIGINAL approved scope baseline, and within 110% of the ORIGINAL approved cost baseline at project completion (CD-4), unless otherwise impacted by a directed change.
- Project Portfolio Success:
 - 90% of all projects meet project success criteria based on a three-year rolling timeline.



Project Management Success - How are we Doing?

Pre vs. Post-RCA (Based on 3-year Rolling Timeline)



	FY07-09	FY08-10	FY09-11	FY10-12	FY11-13	FY12-14	FY13-15	FY14-16	FY15-17	FY16-18	FY17-19
Pre-RCA	79% ^(30/38)	74% ^(26/35)	75% ^(21/28)	77% ^(20/26)	70% ^(7/10)	67% ^(2/3)	100% ^(1/1)	100% ^(1/1)	0% ^(0/1)	0% ^(0/1)	0% ^(0/2)
Post-RCA		100% ^(6/6)	98% ^(43/44)	90% ^(64/71)	86% ^(71/83)	76% ^(45/59)	77% ^(23/28)	82% ^(34/44)	94% ^(15/16)	100% ^(14/14)	100% ^(16/16)
All Projects	79% ^(30/38)	78% ^(32/41)	89% ^(64/72)	87% ^(84/97)	84% ^(78/93)	76% ^(47/62)	78% ^(24/29)	83% ^(35/45)	88% ^(15/17)	93% ^(14/15)	89% ^(16/18)

Contract/Project Management Secondary Performance Metrics	Target	FY10 Actual	FY18 Actual	FY19 1 st Qtr Actual	Comments
Certified Earned Value Management (EVM) System: Post CD-3, 95% of projects (TPC > \$20M).	95%	86% Env. Cleanup 97% Line Item	81%	87%	CD-3 is “Approve Start of Construction/Execution.” [Stats: 13 of 15]
Certified Federal Project Directors (FPDs) at CD-1: No later than CD-1, 95% of projects have certified FPDs.	95%	98%	96%	94%	CD-1 is “Approve Alternative Selection and Cost Range.” [Stats: 49 of 52]
Certified FPDs at CD-3: No later than CD-3, 90% of projects have FPDs certified at the <u>appropriate level</u> assigned to projects.	90%	87%	81%	83%	CD-3 is “Approve Start of Construction/Execution.” [Stats: 20 of 24]
Certified Contracting Staff: 85% of the “1102” contracting specialist series will be certified.	85%	85%	97%	95%	Includes those with waivers.



Energy System Acquisition Advisory Board (ESAAB) Schedule (Critical Decision Meetings)

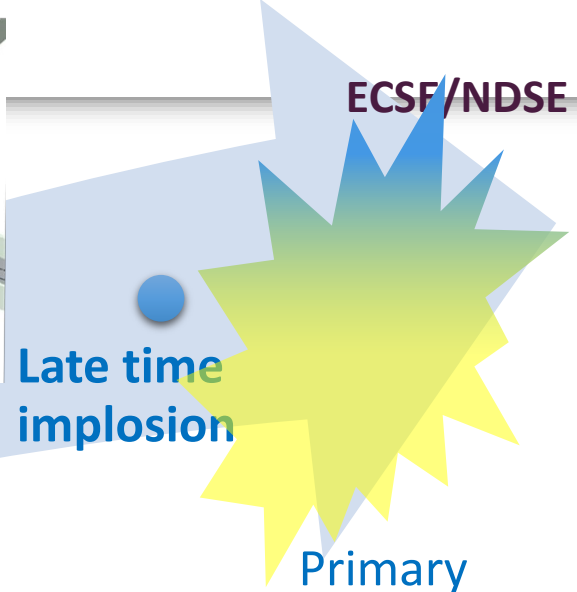
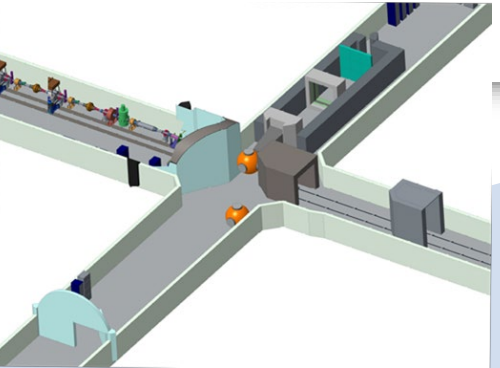
#		Project Title	Site	Current TPC / Top End of Range (\$M)	Current CD Status	Planned Decision	Comment	Forecast Date
1	NA	Advanced Sources and Detectors (ASD)	LANL	\$1.1B	CD-0	CD-1	Approve CD-1	February 6, 2019 (Actual)
2	NE	Versatile Test Reactor (VTR)	TBD	\$6.0B	Pre CD-0	CD-0	Approve CD-0	February 22, 2019 (Actual)
3	EM	Low Activity Waste Pretreatment System, Tank Side Cesium Removal (TSCR) Demonstration Project	ORP	\$22.7M	CD-1/3A	CD-3B	Approve CD-3B	April (Paper ESAAB)
4	NA	Combined Radiation Environment Survivability Testing Complex (CREST)	TBD	TBD	Pre CD-0	CD-0	Approve CD-0	July
5	NA	Lithium Processing Facility (LPF)	Y-12	\$650M	CD-0	CD-1	Approve CD-1	August
6	EM	Low Activity Waste Pretreatment System, Tank Side Cesium Removal (TSCR) Demonstration Project	RL	\$470M/TBD	CD-1/3A	CD-2/3	Approve CD-2/3	September
7	SC	Electron Ion Collider (EIC)	TBD	TBD	Pre CD-0	CD-0	Approve CD-0	September ¹¹



Nuclear performance depends on the way plutonium implodes



U1a Underground Complex



PLUTONIUM

Early time implosion

HE
detonation



CFF FXR



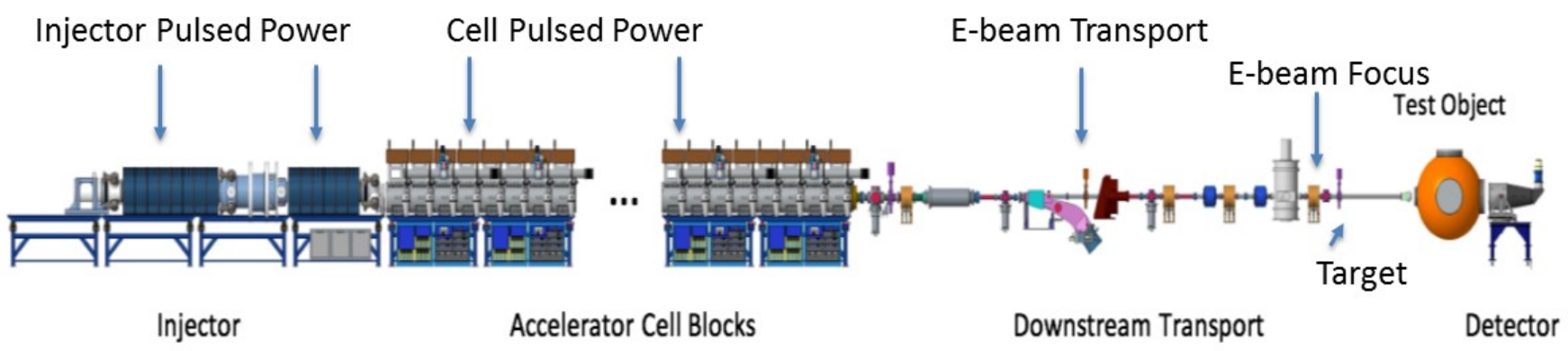
DARHT Second Axis

SURROGATES

ECSE's Advanced Sources and Detector (ASD) and Neutron Diagnosed Subcritical Experiments (NDSE) measurements will fill a critical gap in experimental capabilities: the ability to measure plutonium in the final stages of primary implosion



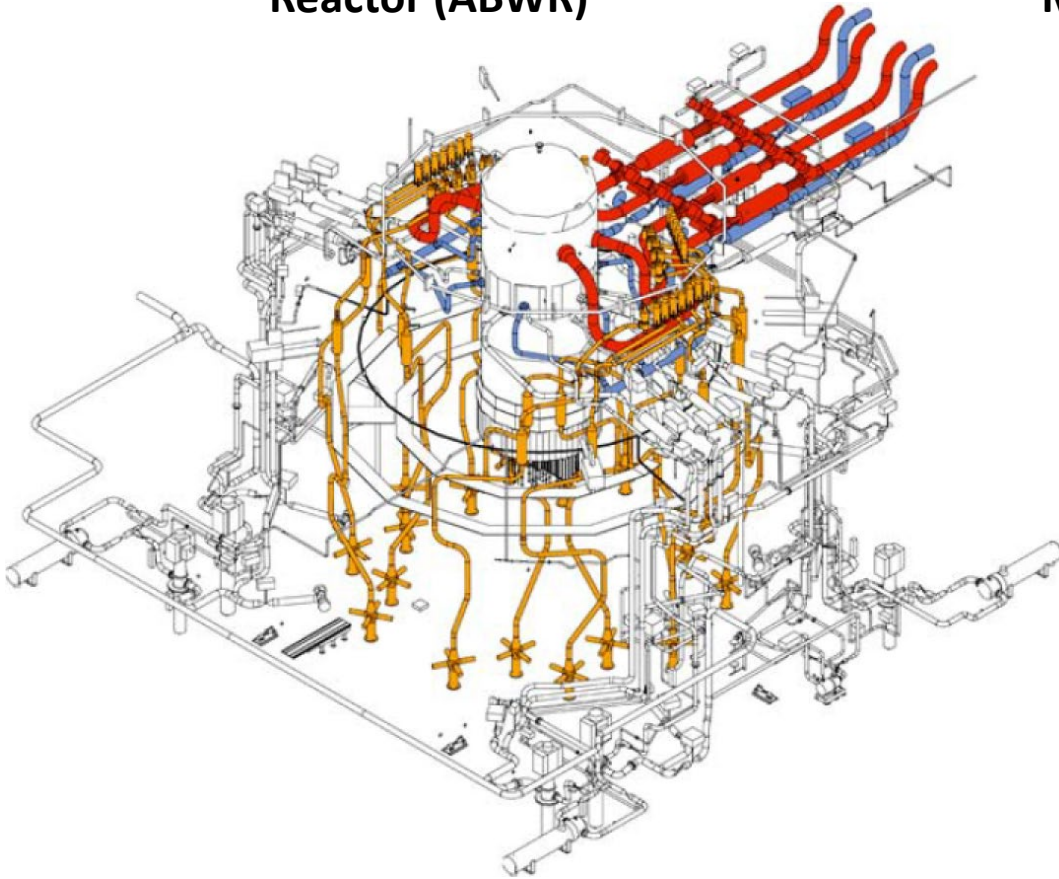
Advanced Sources and Detector



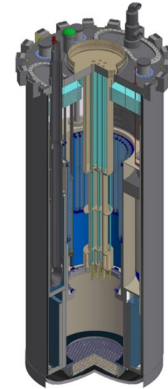


Simplicity of Sodium Cooled Design versus Current Advanced Light Water Reactor

Advanced Boiling Water Reactor (ABWR)



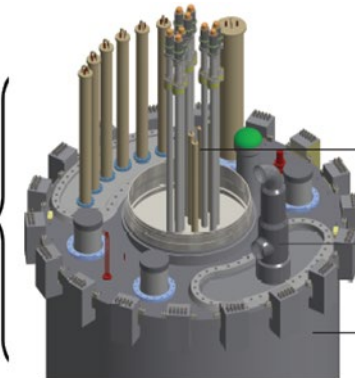
Power Reactor Innovative Small Modular (PRISM) Reactor



4 decades of design evolution

Proven inherent safety

U-Pu-Zr fuel



Versatile experiment spaces in high flux

300 MW_{th}

Optimal size reactor vessel



Energy System Acquisition Advisory Board (ESAAB) Schedule (Critical Decision Meetings)

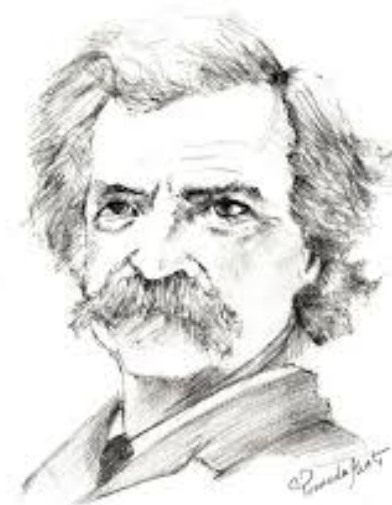
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7	SC	Electron Ion Collider (EIC)	TBD	TBD	Pre CD-0	CD-0	Approve CD-0	September ¹⁵



Accountability

Do the right thing. It will gratify some people and astonish the rest.

~ Mark Twain

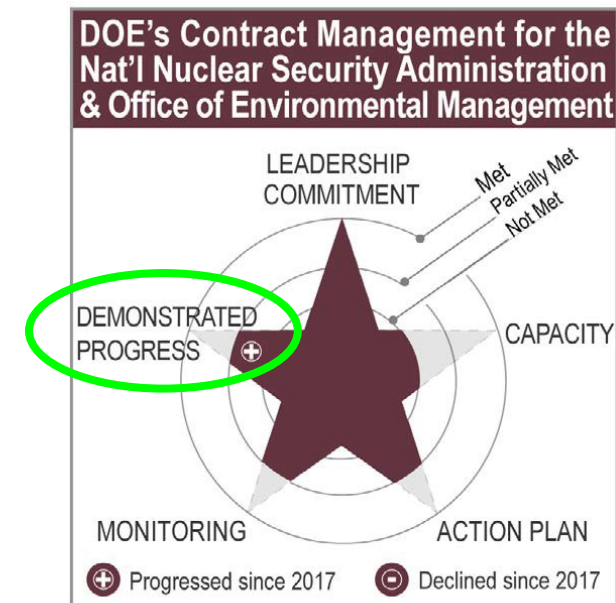




GAO High-Risk Series Update EM/NNSA “Contract” Management

In 1990, GAO designated DOE’s contract administration - which has included both contract administration as well as program and project management - as a high-risk area because of DOE’s record of inadequate management and oversight of contractors has left the department vulnerable to fraud, waste, abuse and mismanagement ...

- *“The National Nuclear Security Administration (NNSA) has made progress in a number of areas. However, the Office of Environmental Management (EM) needs to take action to understand the root causes of its challenges and incorporate program and project management best practices into its policies.” (GAO-19-157SP)*



Source: GAO analysis. | GAO-19-157SP



Contract (and Project) Management

General Accountability Office (GAO) High-Risk List Updates

The five criteria:

- 1) Demonstrate strong commitment and leadership
- 2) Demonstrate progress in implementing corrective measures
- 3) Develop a corrective action plan that identifies root causes, effective solutions, and a near-term plan for implementing the solutions
- 4) Have the capacity (people and resources) to resolve the problems
- 5) Monitor and independently validate the effectiveness and sustainability of corrective measures

No.	2007		2009/2011		2013		2015			2017			2019		
	Met	Not Met	Met	Not Met	Met	Not Met	Met	Partially Met	Not Met	Met	Partially Met	Not Met	Met	Partially Met	Not Met
1	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		
2	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
3		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	
4		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>
5		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	
	All of DOE		NNSA & EM Only		NNSA & EM >\$750M		No change NNSA & EM >\$750M			No change NNSA & EM >\$750M			No change NNSA & EM >\$750M		



GAO High-Risk List

Lingering Issues

- Major System Projects (> \$750M)
 - Policy, guidance, and oversight
 - Consistent, disciplined implementation – departmental policies, best practices, lessons learned, etc.
- Acquisition planning for major contracts
- Management & Operating (M&O) contracts (Capacity & Resources)
 - Contractor accountability – ensuring quality of information to enable overall assessment of cost performance
 - Financial management and indirect costs
- Implementation of best practices for risk assessment of fraud and improper payments
- Contractor Assurance Systems (CAS) – policy and consistent use
- Overall program management – policy, guidance, oversight
 - Cost estimating, including reconciliation of program and independent cost estimates, documenting decisions
 - Analyzing root cause(s) of missed or postponed milestones to identify and address systemic problems
 - Integrating data and metrics to provide a clear picture of performance

Increasingly, the Focus is on Contract and Program Management ...



Closing Thoughts

- DOE's Missions are diverse and exciting
- You are doing better than ever before – consistent, disciplined implementation is critical for continued project management success
- Take pride in what you have accomplished
- Embrace the challenges ahead



Questions?

**There are basically two types of people.
People who accomplish things, and people
who claim to have accomplished things. The
first group is less crowded.**

~ Mark Twain





Project Management Success Metrics – DOE vs. PMI Construction (Based on 3-Year Rolling Timeline)

