LA-UR- 11-01509

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Title:	Fiscal Years 2012 and 2013-2017 Executing the program
Author(s):	Bret E. Knapp, ADW/LANL
Intended for:	Presentation to DP Inter-site Integration Meeting McLean, VA 3/9/2011

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Form 836 (7/06)

Fiscal Years 2012 and 2013-2017
Executing the program
Presentation to DP Inter-site Integration Meeting
McLean, VA
3/9/2011

Abstract:

This briefing will be presented by Bret Knapp at the above meeting for the purpose of budget integration between all DOE sites , and NNSA. Attendees will include high level programmatic and financial persons from all of NSE.

Fiscal Years 2012 and 2013-2017

Executing the program

Presentation to:

DP Inter-Site Integration Meeting

Bret Knapp
Associate Director
Weapons
March 9, 2011

Today's Presentation

- Requirements
- Setting the Stage
- Accomplishments
- Funding Challenges in FY13-17, FY12 and FYNSP
  - Directed Stockpile Work
  - Campaigns
  - RTBF and Construction
- Workforce
- Safety and Security
- Summary: Priorities
- Backups: Requirement Summaries, Budget Tables

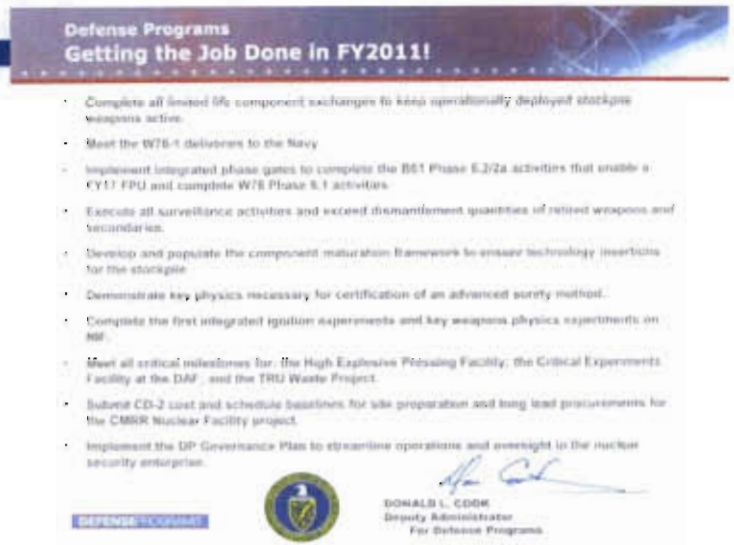
LANL has responsibilities in 6 of 7 FYNSP priorities

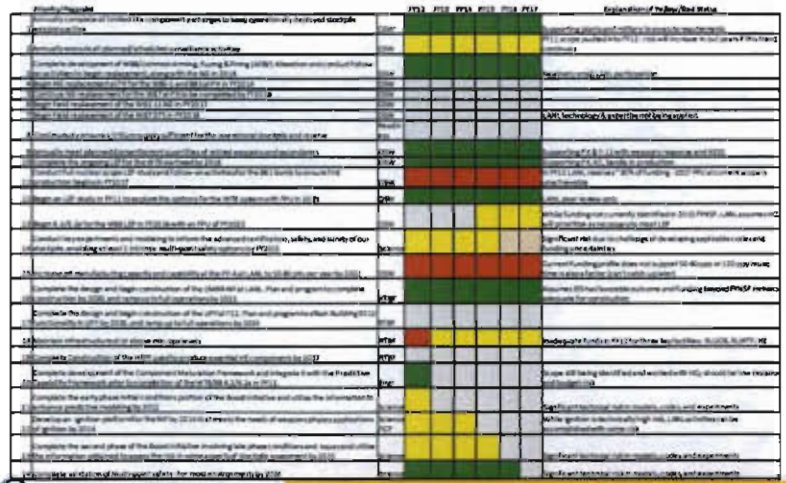
DP Priorities	LANL Contributes	LANL Leads or Co-leads
Meet the Immediate needs of Stockpile • Annually complete all limited life component exchanges to keep operationally deployed stockpile weapons active (DSW) • Annually execute all planned/ scheduled surveillance activities (DSW)	X	
Transform the stockpile consistent with the President's guidance in the NPR	X	X
Sustain and strengthen the Science, Technology, and Engineering base essential to support the stockpile and broader nuclear security needs	X	X
Sustain and modernize the nuclear security physical infrastructure	X	X
Sustain safe, secure ground and air transportation of nuclear warheads, components, and special nuclear material		
Ensure Critical Workforce Skills are available and exercised to enable world-class performance	X	X
Enhance efficiencies to reduce support cost and increase the percentage of funding applied to direct mission work	X	

The body of the talk is organized around these priorities

Los Alamos is focused on establishing a balanced and integrated program

- Getting the Job Done – Tactical short-term
- 7 Priorities are necessary to ensure a sustainable enterprise – long term strategy
- The Must Dos are NSE's "day job" – and a mix of short and long term
- Milestones are another level of detail not discussed here





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We need to be focused on execution of the entire job and not sub-optimize (that is why we are here)

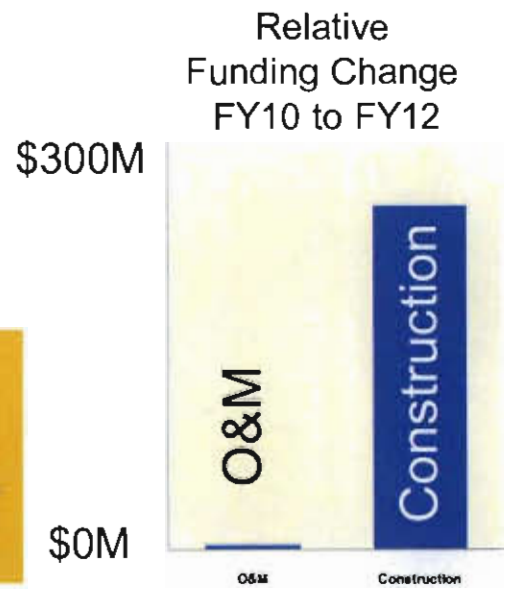
Risks through FYNSP for Must Do's assuming ROTS & Reserves in Outyears

	Priority/Pegpoint		FY12	FY13	FY14	FY15	FY16	FY17	Explanation of Yellow/Red Status
1	Annually complete all limited life component exchanges to keep operationally deployed stockpile weapons active	DSW							Supporting plants and military to execute requirements
2	Annually execute all planned/scheduled surveillance activities	DSW							FY11 scope pushed into FY12: risk will increase in out years if this trend continues
3	Complete development of W88/common Arming, Fuzing & Firing (AF&F) Alteration and conduct follow-on activities to begin replacement, along with the NG in 2018	DSW							Relatively small LANL participation – no funding at LANL
4	Begin NG replacement at PX for the W80-1 and B83 at PX in FY2014	DSW							
5	Continue NG replacement for the W87 at PX to be completed by FY2016	DSW							
6	Begin field replacement of the W61-11 NG in FY2017	DSW							
7	Begin field replacement of the W87 GTS in FY2018	DSW							LANL technology & expertise not being applied
8	Continuously ensure a Tritium supply sufficient for the operational stockpile and reserve	RC							
9	Annually meet planned dismantlement quantities of retired weapons and secondaries	DSW							Supporting PX & Y-12 with weapons response and NESS
10	Complete the ongoing LEP for the W76 warhead by 2018	DSW							Supporting PX, KC, Sandia in production
11	Conduct full nuclear scope LEP study and follow-on activities for the B61 bomb to ensure first production begins in FY2017	DSW							In FY12 LANL receives ~30% of funding - 2017 FPU at current scope is unachievable
12	Begin an LEP study in FY11 to explore the options for the W78 system with FPU in 2021	DSW							LANL peer review only – no funding at LANL
13	Begin 6.2/6.2a for the W88 LEP in FY2016 with an FPU of FY2025	DSW							While funding not currently identified in 2013 FYNSP, LANL assumes HQ will prioritize as necessary to meet LEP
14	Conduct key experiments and modeling to inform the advanced certification, safety, and surety of our stockpile, enabling at least 2 intrinsic multi-point safety options by FY2015	Science							Significant risk due to challenge of developing applicable codes and funding uncertainties
15	Increase pit manufacturing capacity and capability at the PF-4 at LANL to 50-80 pits per year by 2022	DSW							Current funding profile does not support 50-80 ppy or 120 ppy reuse; time is also a factor (can't catch up later)
16	Complete the design and begin construction of the CMRR-NF at LANL. Plan and program to complete construction by 2020, and ramp up to full operations by 2023	RTBF							Assumes EIS has favorable outcome and funding beyond FYNSP remains adequate for construction
17	Complete the design and begin construction of the UPF at Y12. Plan and program to attain Building 9212 functionality in UPF by 2020, and ramp up to full operations by 2024	RTBF							
18	Maintain infrastructure at or above min-ops levels	RTBF							Inadequate funds in FY12 for three key facilities: RLUOB, RLWTF, HE
19	Complete Construction of the HEPF used to produce essential HE components by 2017	RTBF							
20	Complete development of the Component Maturation Framework and integrate it with the Predictive Capability Framework prior to completion of the W78/88 6.2/6.2a in FY12.	Engr							Scope still being identified and worked with HQ; should be low resource and budget risk
21	Complete the early phase initial conditions portion of the Boost Initiative and utilize the information to enhance predictive modeling by 2012	Science							Significant technical risk in models, codes, and experiments
22	Develop an Ignition platform for the NIF by 2014 that meets the needs of weapons physics applications of ignition by 2014	Science /ICF							While ignition is technically high risk, LANL activities can be accomplished with some risk
23	Complete the second phase of the Boost Initiative involving late phase conditions and issues and utilize the information obtained to assess the risk in some aspects of stockpile assessment by 2015	Science							Significant technical risk in models, codes, and experiments
24	Complete validation of Multi-point safety - for most environments by 2016	Science							Significant technical risk in models, codes, and experiments

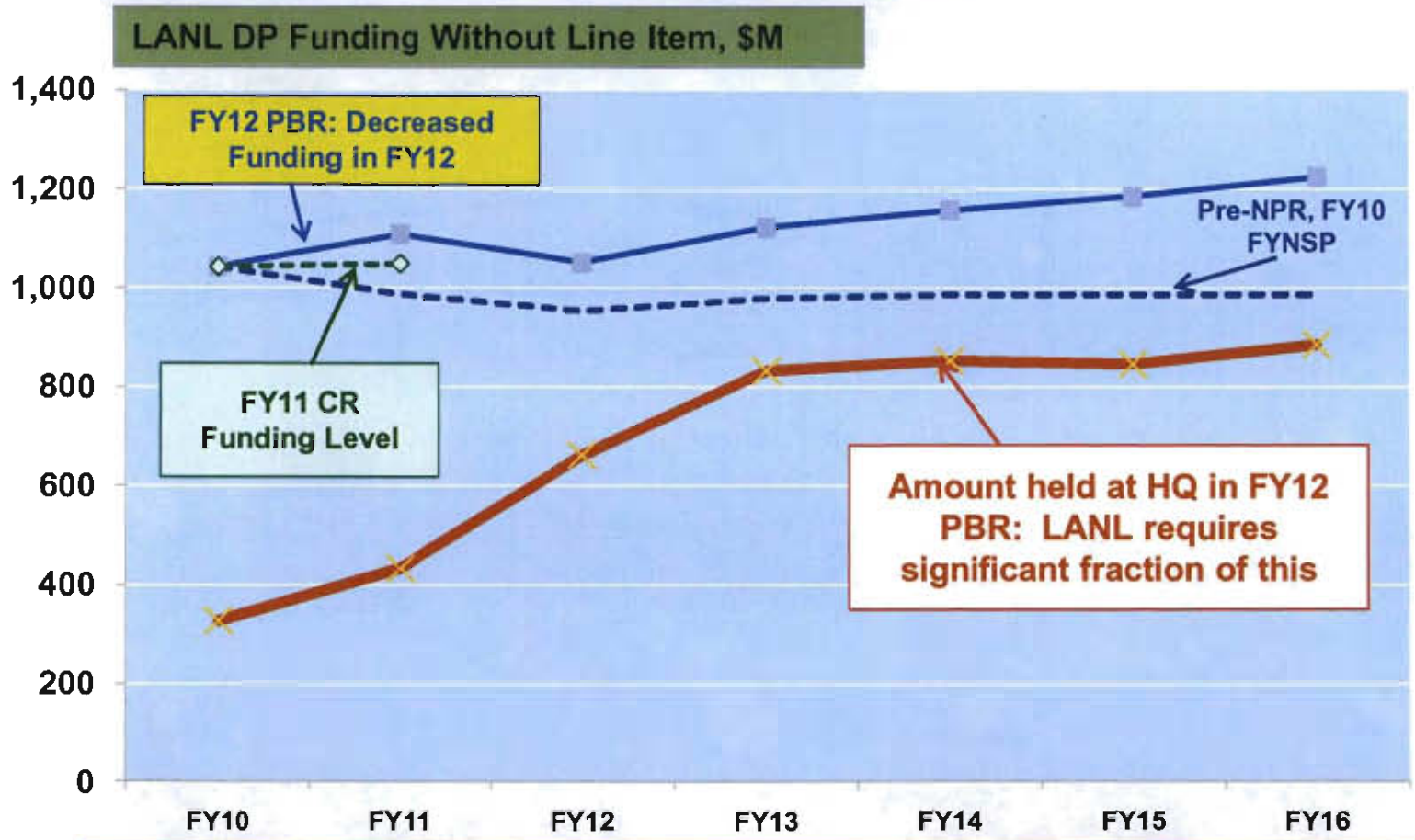
Setting the Stage

- **FY11 funding remains uncertain**
  - Science Campaign holdbacks
  - CR – Final budget indication of FY12,13 and beyond
- **FY12 Assumptions continue to have large impact on FY13 requirements and overtarget requests**
  - This is why we included FY12 overtarget assumptions
- **What do we do if Congress comes back with significant cuts to the President's Budget Request (PBR)?**
- **$5B DOD investment paying for CMRR, UPF, LEPs, Surveillance**

LANL has a large construction workload increase and corresponding budget uplift (CMRR); we also have a large increase in programmatic deliverables – with no budget increase



Despite increased scope, the FY12 PBR DECREASES funding to LANL's base program in FY12



LANL can meet planned scope requirements only if significant portion of the HQ reserves are directed towards LANL (also true of outyears)

Balancing the program during the FYNSP is all about Risk Tradeoffs

- **Budget summits for the program elements show the total overtarget requirements at LANL for NA10 in FY13 to be $402M**
  - We can execute the Must Dos/Peg Points with this overtarget and have a healthy site and program
  - The outyear targets are high, based on the current work requirements. Either requirements will need to be adjusted or overtargets addressed (tables attached in backup slides)
- **Since the individual summits, we have scrubbed our overtargets. Our balanced risk overtarget proposal reduces the risk in our highest priority program activities**
  - Even with the scrubbed overtarget, we will have significant risk remaining
  - A low risk program requires the $402M in FY13 as requested in the budget summits
- **We have done our best to balance new requirements and budget for FY13**
  - Scope adjustments will be required for some of the Must Do's/Peg Points
  - The total of our balanced overtarget request is $116M
  - In other words, we have put off some lower priority work and extended the risk out into the FYNSP to most effectively meet the near term must do's
  - The outyear overtargets are included in the backup slides

Overtarget request of $116M is our site's attempt to balance workscope, high risks and budget for FY13

Workscope	FY12 Total ROT ($M)	FY13 Total ROT ($M) *Numbers from summits*	FY13 Balanced ROT ($M) *LANL proposed*	FY13 Remaining ROT ($M) *Delta between total and proposed*	Remaining Risks (Does not include future risk in FY14-17)
DSW B61 LEP W76 LEP/W88 Alt	30	23	23	0	B61 LEP fully funded fully in FY13 W76 surety improvements delayed
DSW Pu Sustainment	95	98	40	58	Revised ROT needed to achieve 20 pits/yr by FY16. Not sufficient to obtain 50-80 pits/yr rate by FY22
Other DSW R&D	62	51	9	42	Reduced support to plants, facilities, challenge teams, and hydros (systems will have to absorb costs – no RMI and PRIDE)
Production Support	10	15	0	15	
Science : Scaling & Surrogacy, ICF	30	40	24	16	Reduced small-scale experimental program
Ops of Facilities	185	165	20	145	Continuing to operate DP facilities with schedule risk. Growth in deferred maintenance, reduced facility availability, no consolidation. Area G consent order risk.
Readiness	10	10	0	10	Risk to production readiness for B61 LEP
Exascale	DOE	DOE			Base program at risk
Totals	422	402	116	286	

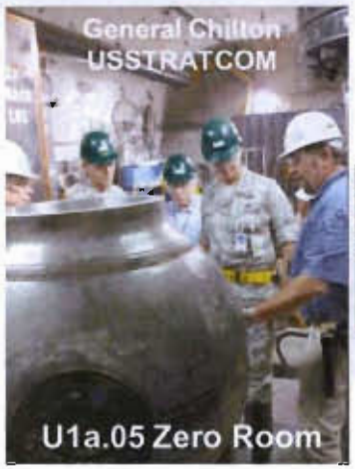
Executing All the Must Do's Presents a Challenge Given the PBR Site Splits

Program Area $M	FY11 PBR	FY11 Est*	FY12	FY13	FY14	FY15	FY16	FY17
DSW R&D (incl B61 LEP)	203	166	165	197	199	210	214	208
Pu Sustainment	164	133	143	144	151	161	161	159
DSW Production	60	51	62	59	58	58	61	60
DSW	***427***	***350***	***370***	***400***	***408***	***429***	***436***	***427***
ASC	185	181	163	167	171	176	182	186
Engineering	24	24	27	32	32	31	30	30
ICF	17	14	16	22	23	24	25	25
Readiness	9	9	0	3	2			
Science	125	115	128	122	123	125	127	130
Campaigns	***360***	***343***	***334***	***346***	***351***	***356***	***364***	***371***
RTBF	***334***	***335***	***335***	***361***	***356***	***356***	***364***	***364***
O&M Major Categories	**1,121**	**1,028**	**1,039**	**1,107**	**1,115**	**1,141**	**1,164**	**1,162**
Site Stewardship	18	15	6	9	37	38	54	54
STE Capability	7	2	7	7	7	7	7	7
NWIR	44	42	41	43	45	46	48	48
FIRP	15	15	15	15				
Total, All O&M	**1,205**	**1,102**	**1,108**	**1,181**	**1,204**	**1,232**	**1,273**	**1,271**
CMRR	225	199	300	300	350	350	350	480
Other Line Item	29	9	33	33	80	74	44	43
Total, O&M and Constn	**1,459**	**1,310**	**1,441**	**1,514**	**1,634**	**1,656**	**1,667**	**1,794**

FY11 Est = Initial Site Split under the CR

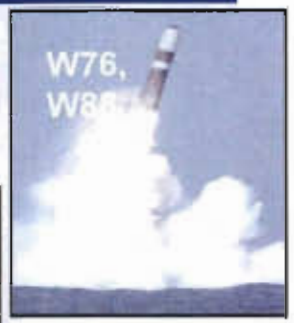
Los Alamos had a great year!
Our accomplishments are an indicator of future delivery

- **Key accomplishments**
  - Completed DARHT 2-axis experiments
  - Nearly completed W88 pit builds
  - Initiated B61 Phase 6.2/6.2a
  - Completed RLUOB construction
  - Completed B61 LEP 90 day study
  - Completed 15th annual assessment
  - Delivered 2 main diagnostics at NIF
  - Supported plants on W76-1 builds
  - Completed Bacchus/Barolo A&B, Z pinch
  - Began operating weapons codes on Cielo
  - Achieved Roadrunner success on weapons issues
  - Re-worked CMRR to fit into program $
  - Determined path forward for Surveillance
  - Identified LANSCE LINAC Risk Reduction path
  - Began selective hiring (ongoing)
  - Nearly completed D&D on Admin building




W76


B61-7/11 Strategic Bomb




Cielo – 2nd LANL computer in top 10


DARHT


LANSCE/pRad vessel


CMRR / RLUOB

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LANL will meet the immediate needs of the stockpile, including LLC support, surveillance, SFIs, annual assessments

- **LANL can execute these Must do's/peg points with stable DSW funding at moderate risk:**
  - Complete all limited life component exchanges to keep operationally deployed stockpile weapons active
  - Execute all planned/scheduled surveillance activities
  - Produce detonators
- **$9M Overtarget request in Certification and Safety, R&D Support and Systems allows us to stabilize support for**
  - Limited Production Liaison
  - Pantex weapons response
  - Annual assessment of all LANL stockpile systems
- **Risks without additional funding beyond $9M OT**
  - Plant support
  - Inter-lab weapons assessments (INWAP)
  - Closure rates on SFIs for stockpile system
  - Rate of improved baselines for certification and assessments
  - Rate of hydrodynamic tests

DARHT

Over Targets ($M)	FY12	FY13
R&D support/ Cert & Safety	9	9

LANL will transform the stockpile per the NPR with moderate risk in the short-term and high risk long-term

- **LANL can execute these Must Do's/Peg Points with varying levels of risk:**
  - Conduct full nuclear scope LEP study and follow-on activities for the B61 bomb to ensure first production begins in FY17 (High risk due to reduced FY12-13 funding)
    - LANL will not be able to do the B61 by FY17 with full nuclear scope without $30M over FY12 PBR & $23M over FY13 PBR – only option is a Non-Nuclear LEP
  - Pu Sustainment is not adequately funded to establish 50-80 ppy by end of decade
    - The current FYNSP funding will not support WR production (shortfall of $95M in FY12 alone)
    - This $20M in FY12 & $40M in FY13 overtarget request allows us to move toward a 20 pits/yr capacity by FY16 but pushes 50-80 work and costs later into the FYNSP
- **We have substantial risk supporting**
  - RTBF operations and facility targets continue to put essential Pu and HE facilities at risk
  - Plant Support to complete the W76-1 LEP FY18
  - LANL is not funded to support:
    - W78 LEP 6.1 study
    - W88 LEP 6.2/6.2a in FY16/ Nuclear LEP in FY25
    - W76-1 surety upgrades
    - Air Force Long Range Standoff warhead

PF-4 Glovebox

B61-7/11 Strategic Bomb

ALCM

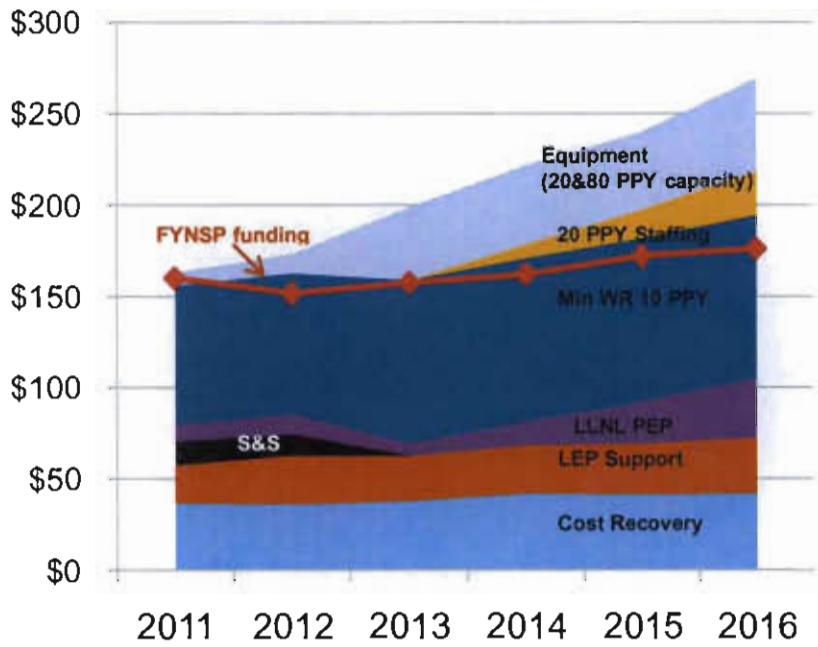
Over Targets ($M)	FY12	FY13
B61 LEP	30	23
PU sustainment	20	40

DP Priority #2

Plutonium Sustainment: has never been funded for 50 – 80 pits/year. Need CMRR regardless of 50-80 pits/year

- **Funded to execute near-term must-do's**
  - Surveillance work
  - Minimum pit fabrication capability 4-6 non-WR pits
  - DSW Power Source Capability
  - Scaled work
- **$40M Overtarget request in Pu Sustainment**
  - Maintain plan for ramping up to 20 WR ppy
- **Unfunded without major increase 50-80 PPY:**
  - New equipment for increased capacity
  - End-of-life equipment replacement or refurbishment
  - Pit re-use capacity – does not appear to have near term need

Requirements Vs. DSW FY2012 FYNSP "Base" ($M)



This results in pushing out 50-80 pits/year capacity beyond FY22 to insert power source and to lesser degree, scaled work

DP Priority #3

To strengthen ST&E, LANL must invest in tools and people, & execute the Predictive Capability Framework – problematic with flat funding

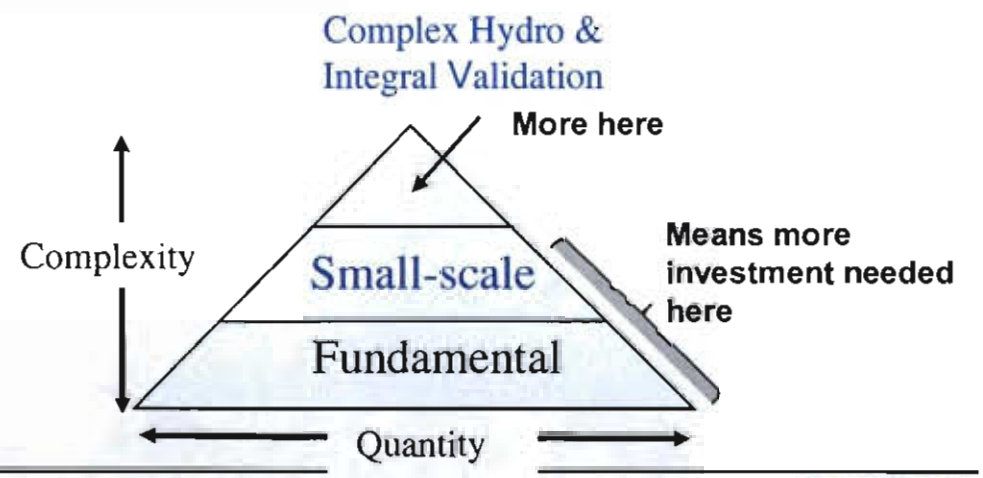
- **Can execute these Must Do's/Peg Points with varying levels of risk:**
  - Conduct key experiments and modeling to inform the advanced certification, safety, and surety of our stockpile, enabling at least 2 intrinsic multi-point safety options by FY15
  - Complete the early phase initial conditions portion of the Boost Initiative and use the information to enhance predictive modeling by FY12
    - Cost, scope and schedule risk could be mitigated by slipping the first scaled experiment
  - Develop an ignition platform for the NIF by FY14 that meets the needs of weapons physics applications of ignition by FY14 (High Technical Risk)
    - Balance between weapons physics and ignition platform development needs to be rebalanced after ignition
  - Complete the second phase of the Boost Initiative involving late phase conditions and issues and use the information obtained to assess the risk in some aspects of stockpile assessment by FY15
  - Complete validation of Multi-point safety - for most environments by FY16 (Science)

Continued high level integration of Science, ASC & DSW are crucial to meet high risk peg points

We can meet the Science Must Do's/Peg Points, but not if we have other priorities superseding these priorities

- **Concerned that other drivers are high risk and without additional funding will effect the Must do's/peg points**
  - Executing the scaled experiment and uncertainty of longer-term program
    - No additional funding in FYNSP to add scaled experiment
    - Impact on small scale experiments and hydro program are significant
    - Large holdbacks at HQ are high risk: 1) get work done, 2) Congress collect carryover
  - The present budget does not support both stockpile needs and a drive towards an Exascale machine by end of decade
    - Adequate capacity platforms to support stockpile simulations during build up to Exascale
    - Developing new weapons codes that take advantage of Exascale computing
    - Long term, the nation needs an Exascale capability in order to support the stockpile needs

Science Over-Targets (M)	FY12	FY13
Scaled experiments	18+	24



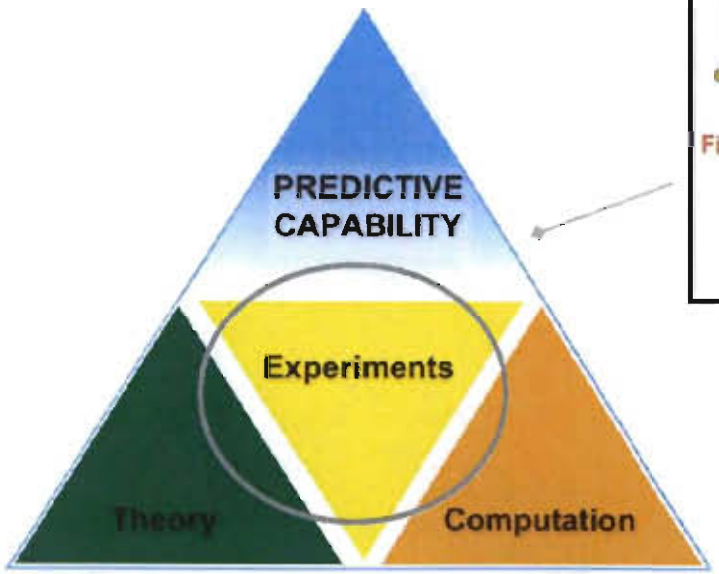
Other National Initiatives that we support but are not currently in FYNSP or our DP overtargets

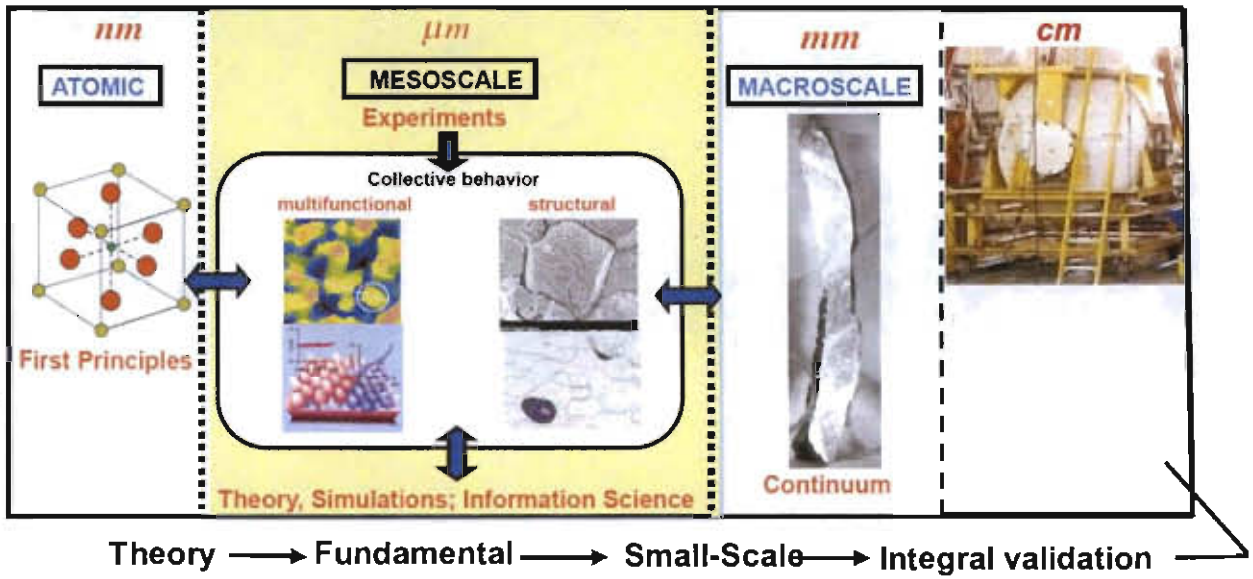
- **Long term – the nation needs an exascale capability to support the stockpile, especially 3D, surety & feature-driven physics, and high fidelity material performance**
  - Exascale initiative cannot be executed without additional ASC budget. National overtarget is $80M in FY13
  - The base ASC program must support codes and simulations for DSW; we have urgent commitments. However, there must be a funding ramp up to exascale capability.
  - We are investing where possible on high leverage Exascale activities
- **Foreign Weapons Assessment – National overtarget is $30M in FY13 ramping up to $100M in FY15**
  - Program will complement on-going efforts in NCT, forensics, non-proliferation and emergency response
  - Sustained program will enhance capabilities
    - Weapons design - Theory & modeling
    - Manufacturing and processing - Material performance
    - Experimental infrastructure

We believe strongly that these efforts are important and should be supported, but they cannot be supported with current DP funding

DP Priority #3

Maintaining balance will be key to our success in advancing predictive capability for the stockpile

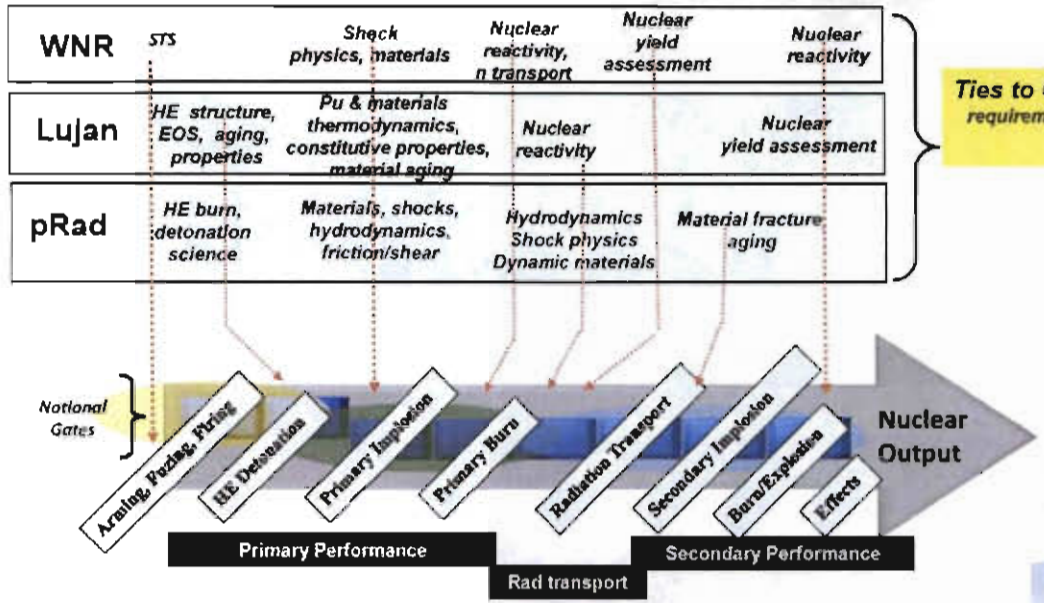




Scaled Experiment investment needs to be considered in the context of the entire experimental program

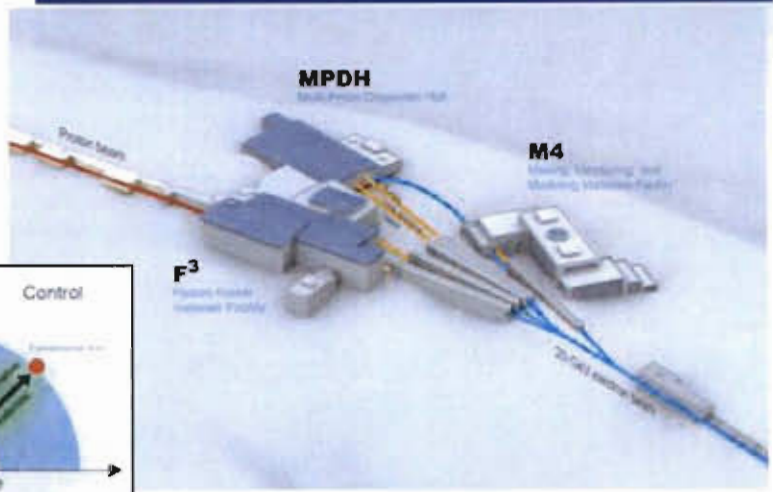
DP Priority #3

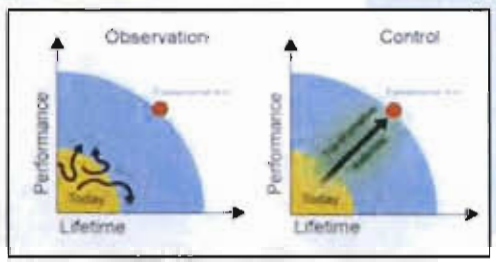
As requested by 3 undersecretaries we are executing LANSCE risk mitigation



MaRIE is critical to the future health of Science at LANL

LANL will propose MaRIE in response to the new call for next generation Science Facility





DP Priority #4

RTBF funded capabilities are required to meet the Defense Programs mission

WETF

CMR

LANSCE

DARHT

TA-55

RLWTF

HE Science

LANL Site: 40 square miles
# of LANL Structures: 1,943
# of RTBF Structures: 342
Total GSF: 8.6M
Total RTBF GSF: 2.6M
# of Nuclear Facilities: 29
# of Hazardous Facilities: 63
Average Age: 35 years
Condition: 42% < Good
Deferred Maintenance: $889M

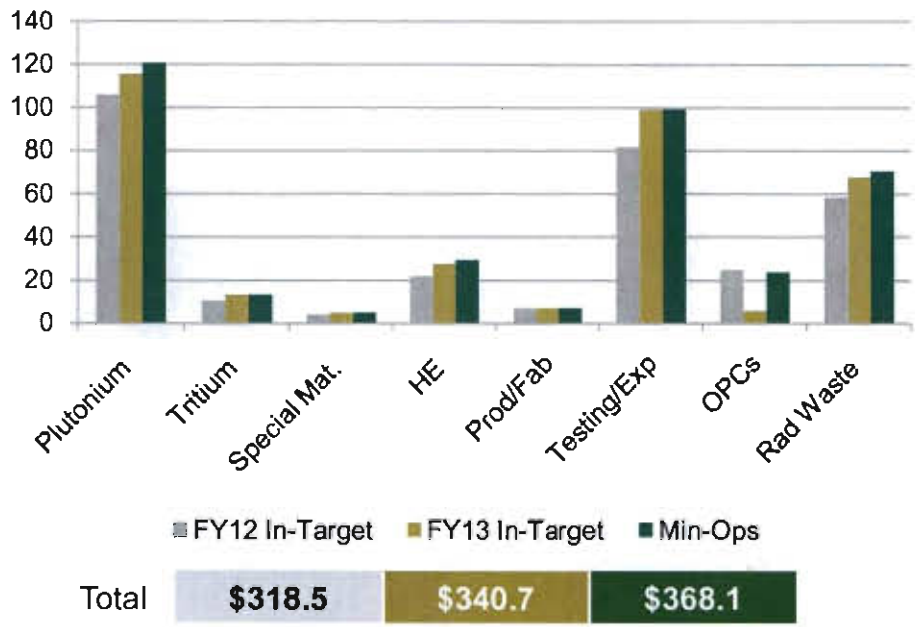
Solid Waste Operations

The most significant operational risks in FY12 & FY13 continue to be plutonium capabilities and waste operations

- **Operations of Facilities at PBR is well below minimum operations costs in FY12 and 13**
  - Critical facilities are not funded at a minimum operations level
    - Old systems in old Mission Essential facilities will fail and add unanticipated risk to program schedules
    - High risk at meeting Area G consent order
- **Overtarget request allows us to nearly get to the Minimum Operations requirements**
  - Still some considerable risk remains, but we believe we can manage risk without large program delays
  - Risks still remains – but at a reduced level – for Area G consent order implementation
- **Sustainable long term operations levels are contained in our RTBF program overtarget submittal**

Infrastructure Over Targets ($M)	FY12	FY13
Minimum Operations	30	10
Area G closure	10	10

The most significant operational risks in FY12 & FY13 continue to be plutonium capabilities and waste operations



	FY12 In-Target	FY13 In-Target	Min-Ops
Total	$318.5	$340.7	$368.1

- **RLUOB not fully funded for radiological operations in FY12/13 (part of Min Ops)**
  - Actinide Chemistry risk reduced but still reliant on CMR and PF-4 for higher-MAR activity
- **Mitigation of TA-55 facility risks are delayed in FY12**
  - Closure of DNFSB commitments shifts risks to facility availability through reduced maintenance
  - Programmatic deliverables – LEP support, scaled experiment support, etc.
- **Transfer of CMRR OPC scope to the Line Item Project in FY13; needs to be added in FY12**
- **Area G Closure requires $90M over the FYNSP**
  - Less than half is in-target
- **RLWTF risks continue to increase**

RTBF OPS risks could impact all program schedules with facility availability and operational delays

DP Priority #4

LANL will deliver on construction line items with moderate risk, while sustaining the overall physical infrastructure is high risk

- **The highest DP priorities are major new nuclear facilities for plutonium and uranium**
  - LANL is fully engaged in construction of a CMRR-NF and improvements to PF-4
  - Our challenge is to balance the increasing cost of maintenance and repair of non-enduring facilities against progress on the Line Item construction projects.
- **LANL can execute these Must Do's/Peg Points with varying levels of risk**
  - Maintain infrastructure at or above min-ops levels is high risk at LANL
  - Increase pit manufacturing capacity and capability at the PF-4 at LANL to 50-80 pits/year by FY22 is very high risk due to lack of complimentary Pu Sustainment investment
  - Complete the design and begin construction of the CMRR-NF at LANL is moderate risk. Plan and program to complete construction by FY20 and ramp up to full operations by FY23
- **Capability Based Facility and Infrastructure (CBFI) Program is critical to fill the most important gaps**
  - Increased electrical power for the site
  - High risk Plutonium infrastructure
- **Aged and failing HE Facilities continue to be a concern and RTBF base will exacerbate this**

CMRR / RLUOB

Many of the facilities are antiquated; deferred maintenance will continue to grow

DP Priority #4

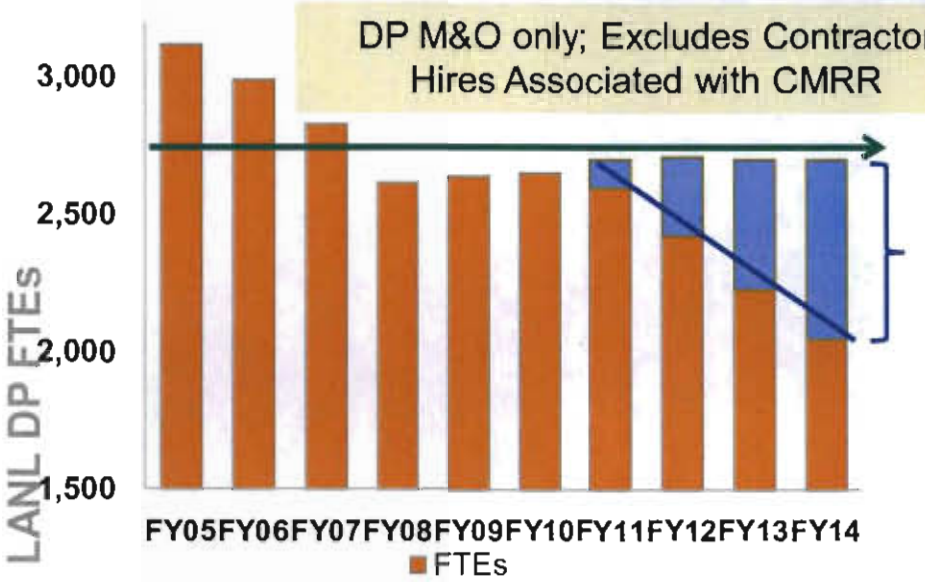
Significant construction during the FYNSP period requires strong NNSA support

- **CMRR dominates construction for next decade**
- **TRU: Given project complexity and to reduce risk, full construction contract funding requested in FY13 ($32M)**
- **TRP Phase II Construction funds started in FY11**
  - Requires consistent and stable $20M funding level in FY13 to complete in FY14

- **RLWTF: Options evaluation to complete in May**
  - Reconstituted project will require front-loaded construction funding initiating in FY14
- **TRP Phase III finalizing priority of TA-55 scope**
  - Preliminary design activities could start as early as FY13 with construction in FY15

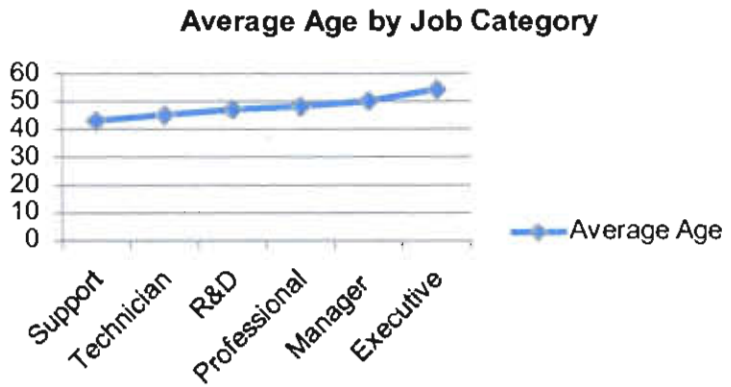
For the near term only, we believe the funded projects can be completed by moving money between smaller projects – without additional funds

LANL will ensure critical workforce skills with moderate risk in the short-term and long-term



Target

LANL HR projects attrition rate of almost 3-7% in coming years as workforce ages

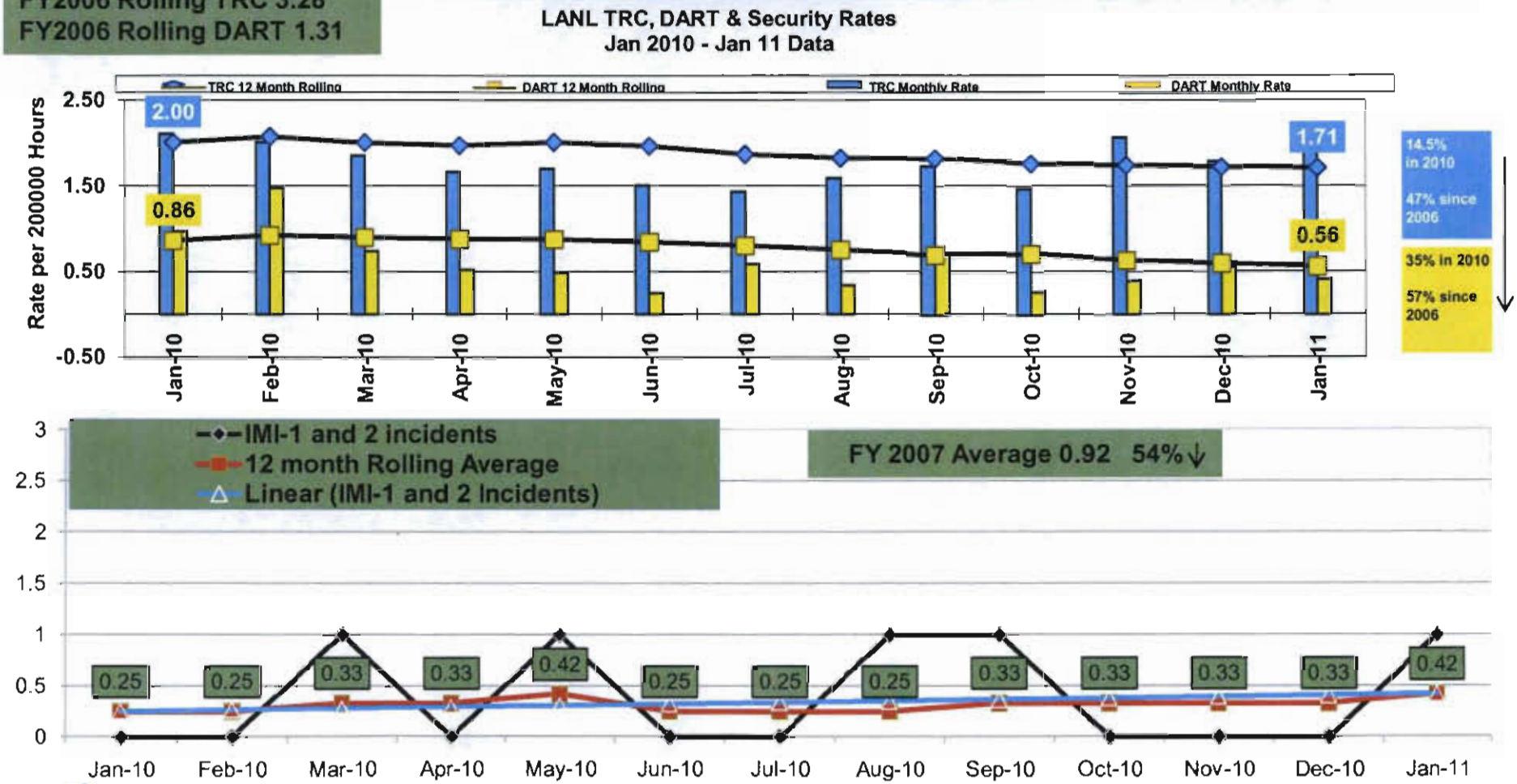


- It is critical that LANL is able to continue to hire high caliber people
- Strategic hiring to offset attrition will be important to assure we have the right skill set for tomorrow's work

The budget uplift and the national consensus on importance of nuclear weapons and nuclear deterrence help recruiting results

Safety of the Workforce Will Continue To Be Critical to LANL Success

FY2006 Rolling TRC 3.28
FY2006 Rolling DART 1.31



DP Priority #7

To enhance efficiencies and reduce support costs, investments are needed – this adds to the risk of success with reduced and flat budgets

- **Reduced and flat RTBF budgets make consolidation of facility square footage, special nuclear materials and operations across the complex high risk**
- **LANL will work in partnership with the rest of the NSE to enhance nuclear weapons enterprise integration and interdependence and support actions to standardize technical processes, develop uniform business practices, and implement approaches to mitigate and manage risk more effectively**
- **LANL can execute this Must Do's/Peg Points with moderate risk:**
  - Complete development of the Component Maturation Framework and integrate it with the Predictive Capability Framework prior to completion of the W78/88 6.2/6.2a in FY12
- **LANL is concerned that necessary activities are high risk to meet this priority:**
  - Rebalance of risk/benefit by the government is necessary and the trend is risk averseness

The approach we took with this budget call assumes we can make significant improvements in efficiency to lower our total costs

Summary slide: We are cautiously optimistic about the national consensus on nuclear weapons

- Concerned about the budget and the large uncertainty if funding now and into the future
- Looking forward to moving out on LEPs and finding a path forward on the budget issues
- Key overtargets required to continue to build on the success we have had in last few years. Key overtargets in FY12 & FY13:

Over Targets ($M)	FY12	FY13
R&D support/ Cert & Safety	9	9
B61 LEP	30	23
PU sustainment	20	40
Scaled experiments	18+	24
Minimum Operations	30	10
Area G closure	10	10
Total	117	116

We need to find a way to get the budget uplift in place and fund the most important activities to assure we are successful

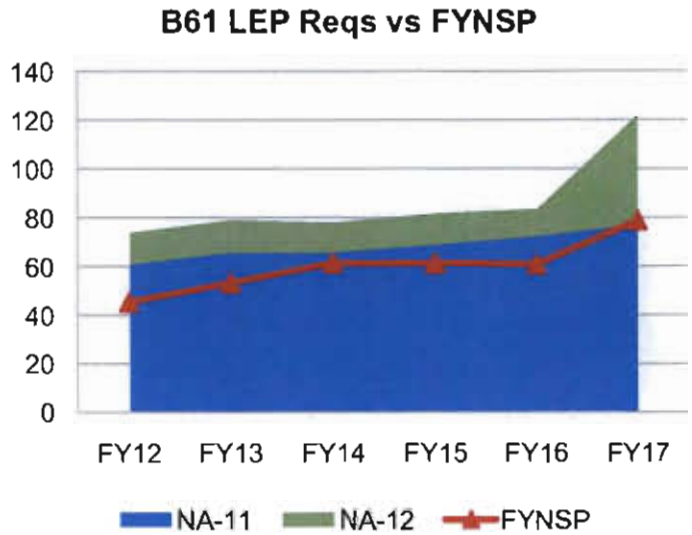
BACKUPS

LANL DP Requirements Over Target (ROTS) FY12-FY17

Program	FY12 FYNSP	FY12 ROTS	FY13 FYNSP	FY13 ROTS	FY14 FYNSP	FY14 ROTS	FY15 FYNSP	FY15 ROTS	FY16 FYNSP	FY16 ROTS
B61 LEP (R&D/Prod)		*29*		*23*		*15*		*13*		*17*
W76 LEP		*8*		*7*		*9*		*10*		*3*
Challenge Teams		*3*		*3*		*3*		*3*		*3*
Hydro Execution		*15*		*8*		*5*		*5*		*5*
R&D Support		*9*		*9*		*11*		*11*		*10*
Cert & Safety		*11*		*6*		*7*		*10*		*5*
System - Assess, Surv, Maint		*9*		*10*		*10*		*9*		*8*
W88 LEP		*8*		*8*		*8*		*8*		*8*
DSW R&D	**165**	**92**	**197**	**74**	**199**	**68**	**210**	**68**	**214**	**59**
W76 LEP								*1*		
Systems						*3*		*4*		*2*
WDD				*1*						
Prod Support		*5*		*8*		*9*		*9*		*10*
Use Control		*3*		*3*		*3*		*3*		*3*
IWAP		*2*		*2*		*2*		*2*		*2*
Other MTP		*1*		*1*		*1*		*1*		*1*
DSW Prod	**62**	**10**	**59**	**15**	**58**	**17**	**58**	**18**	**61**	**16**
DSW Pu Sustainment:	**143**	**95**	**144**	**96**	**151**	**108**	**161**	**109**	**161**	**92**
DSW Total	**369**	**197**	**400**	**187**	**408**	**192**	**429**	**196**	**436**	**167**
C2 - Accelerate LBPG		*2*		*2*		*2*		*2*		*2*
C2 - Rm 114		*1*		*1*		*1*		*1*		*1*
C2 - Hooks/Pedicini Concept		*1*		*1*		*1*		*1*		*1*
C3 - Radiography Source (Scaling Related)		*5*		*5*		*5*		*5*		*5*
C3 Adv Detectors		*1*		*1*		*1*		*1*		*1*
ACC - Scaling		*14*		*24*		*24*		*24*		*24*
SCI	**128**	**24**	**122**	**34**	**123**	**34**	**125**	**34**	**127**	**34**
Diagnostics		*3*		*2*		*2*		*1*		*1*
Facilities		*3*		*3*		*3*		*3*		*3*
SSP		*0*		*1*		*1*		*2*		*2*
Ignition		*0*		*0*		*1*		*1*		*1*
ICF	**16**	**6**	**22**	**6**	**23**	**6**	**24**	**6**	**25**	**6**
ASC	**163**	**0**	**167**	**0**	**171**	**0**	**176**	**0**	**182**	**0**
ENG	**27**	**0**	**32**	**0**	**32**	**0**	**31**	**0**	**30**	**0**
Readiness	**0**	**10**	**3**	**10**	**2**	**10**	**0**	**10**	**0**	**10**
Campaigns Total	**334**	**40**	**345**	**50**	**350**	**50**	**355**	**50**	**363**	**50**
Line Item	333	0	333	27	430	21	424	41	393	62
Ops of Facilities/MR&R	335	175	361	110	356	15	356	14	364	6
Area G		10		10		13		22		0
OPCs				18		19		18		15
RTBF	**668**	**185**	**694**	**165**	**785**	**68**	**780**	**95**	**757**	**83**
Program Subtotal	**1,371**	**422**	**1,440**	**402**	**1,543**	**309**	**1,564**	**341**	**1,557**	**300**

FY12 Challenges for the B61 LEP

- **Budget**
  - Current FY12 Target for B61 LEP is $57,876K (DA) – yet received $35M
    - February 2010 Budget Summit FY12 Target was $53,672K.
    - Latest budget estimate for FY12 is $57,551K.
    - No budget impacts if funded to current target.



- **Programmatic Challenges**
  - Current FPU of FY17 is based on Phase 6.3 authorization in early FY12.
  - Current schedule is based on:
    - POG approval of 6.2/6.2A Report at end of FY11 (30 Sep 11) – note the start was delayed half a year in FY10; thus late start
    - NWC approval to proceed to Phase 6.3 in early FY12 (1 Nov 11).
  - Any delays in approvals will directly impact ability to meet FPU of FY17.

We tried to address all of Mike Baehre's questions throughout the brief, but a few are not explicit

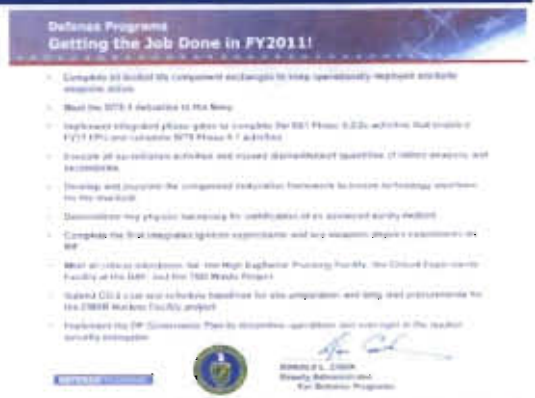
- **What tradeoffs (at your site) can you propose (from non-peg point activities) to accomplish the Must-Do's/Peg Points that are Red/Yellow for resource reasons?**
  - Discussed throughout briefing – ie: Scaled Experiments, RMI, Pride
- **What are the most significant risks you are facing?** - Discussed
- **Describe anticipated funding over the FYNSP from all sources (how will this impact overhead rates or offset DP costs)**
  - At the PBR, programs outside of DP will have no impacts on DP costs or overhead rates - not sure what impacts to site are with some of the cuts being discussed in congress
- **Present possible site specific, multiple site/common, and multi-site measures for advanced consideration in the context of FY 2013 CPEP planning, based upon assumed status of FY 2012 expectations and initial FY 2013-2017 priorities**
  - FY13 B61 LEP on track for full scope LEP FPU date of 2017
  - Large construction projects (CMRR, UPF) on track for Construction milestones
- **What can we (feds) do to help you (M&O contractors) achieve efficiencies?**
  - Allow us to move budget and execution decisions to the contractors
  - Less budget categories and more flexibility on how to use categories to meet critical goals
  - Balance the overall budget based on risk optimization for major requirements

Addressing the Mike Baehre questions

- **Identify "unfunded mandates" and additional governance reform opportunities that HQ could help with**
  - Discussed throughout briefing – Scaled Experiments, RMI, Pride
    - This does not mean these activities are not important, just that they are expensive and do not DIRECTLY relate to the must do's/peg points
- **Consider/propose possible mission reassignments or clarifications for your Site (what could you stop or change doing?)**
  - No obvious suggestions at this time

Los Alamos continues to partner across the NSE to execute the program

- **LANL executed on GTJD in FY10**
  - Support LLCEs
  - W76-1 LEP
  - Supported SS-21 for B53
  - Demonstrated technologies for surety
  - DARHT 2-axis experiment
  - Completed CD-1 for TRU waste
  - Governance plan development
  - Supported budget formulation schedule
- **LANL executing on of GTJD in FY11**
  - Support LLCEs
  - Support W76-1 deliveries to Navy
  - B61 Phase 6.2/6.2a
  - Support surveillance activities
  - Participating in CMF development
  - Experiment modeling & simulation for advanced surety
  - Supporting NIF ignition and weapons expts
  - On path for CMRR CD-2
  - Supporting DP Governance Plan


Defense Programs
Getting the Job Done in FY2011!

FY10 Targets (13 elements) - 12Oct10 Status	
STOCKPILE	
1.1	Achieve W76-1 LEP Scheduled Deliveries
1.2	Prepare/accomplish Phase Gate 8 for B61 LEP Phase 6.2/6.2A Study by 30Sep10
1.3	Deliver Funded limited life components and Alteration Kits to Department of Defense
1.4	Execute Surveillance Program defined by SESC
1.5	Perform Dismantlements
1.8	Authorize the B53 and W84 Programs
ENTERPRISE INTEGRATION	
2.1	Successfully complete NNSA-approved priority activities in support of Enterprise Reengineering
2.2	Implement Elements from the approved FY10-15 Multi-Site IT Strategic Plan Targets
2.3	Support Business Process Transformation and Relocation of the Kansas City Plant
SCIENCE	
3.1	NIF: Begin First Integrated Ignition Experiments
3.2	Build Framework Assess Changes in Predictions with Experimental Data - Modern ASC Codes
3.3	Successfully Perform High Priority DP Mission-Related Science Experiments
3.4	Advanced Simulation & Computing

FY 10 Multisite Targets

Challenges remain at the end of the FYNSP - efforts during the FYNSP must ease impacts

- PF-4 reinvestments (TRP) and safety upgrades well underway, significant work remains to fully posture LANL to meet anticipated program capabilities/capacities (NPR)
- RLUOB operating as radiological facility mitigates AC program risk, however continued reliance on CMR & PF-4 for higher-MAR AC/MC necessary
- CMRR nuclear facility under construction toward operational capability in 2023
- WETF will have approved safety basis and reduced material inventories resulting in stabilization of required funding levels
- LINAC Risk Mitigation must be completed preserving LANSCE capabilities in support of materials investigation and enabling initiation of MaRIE
- Progress made in replacement of RLW capabilities via RLWTF-UP (2020 completion) however, investments to maintain current facility continue
- Area G would be closed to receipt of waste, however new TRU facility at TA-63 operational
- Investments to consolidate HE facilities/footprint continue to be a significant demand

Energy initiatives remain a priority and a pull on the RTBF budgets

Maintaining CMRR project momentum to ensure project performance

- **Currently working with NNSA to identify and implement significant project cost saving opportunities**
- **Continued partnership with UPF in project execution and risk mitigation**
- **Phased approach to construction**
  - Infrastructure Package (Site work and lay-down areas) to initiate in FY12
  - Nuclear Facility Structure and Major Equipment items to initiate in FY13
- **Stable funding required through the FYNSP Period**

Radiological Lab Utility Office Building (RLUOB)

Decisions on Radiographic investments for scaled experiments must be based on technical requirements

- **Driving functional requirements derived from physics requirements are**
  - Energy (penetration),
  - Dose (statistics),
  - number of frames,
  - point spread function (resolution) and
  - the delivery date.
- **There are multiple possibilities depending on the requirements**

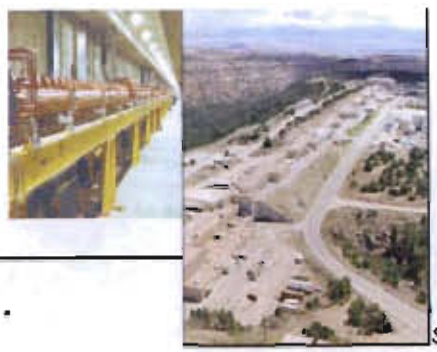
LTD + rod pinch

or

DARHT class

or

High Energy pRad class



A downhole radiographic machine by 2017 is not within the FYNSP

or

....

Pu Sustainment Funding Requirements vs FYNSP Budget – LLNL Based on PEP, not Requirements

	2011	2012	2013	2014	2015	2016
Cost Recovery	$37.00	$38.72	$40.45	$42.20	$47.97	$48.73
LEP Support	$20.30	$26.35	$24.65	$26.10	$28.05	$30.25
Scaling and Surrogacy	$13.00	$12.00	$0.00	$0.00	$0.00	$0.00
LLNL PEP	$9.12	$10.83	$6.68	$12.98	$17.73	$14.20
Minimum WR 10 PPY Capacity	$89.57	$89.57	$89.57	$89.57	$89.57	$89.57
20 PPY Capacity Increase (Staffing)	$0.00	$0.00	$7.94	$15.88	$23.82	$23.82
Equipment Replacement and 20/80 PPY Capacity	$40.76	$45.81	$51.67	$56.91	$63.63	$50.91
Totals	$214.85	$241.68	$238.33	$258.39	$284.43	$263.52
FYNSP (FY11 is CR)	$160.00	$151.60	$157.40	$161.90	$171.90	$175.90
Request Over Target (ROT)	$54.85	$90.08	$80.93	$96.49	$112.53	$87.62

FYNSP does not support maintaining base WR Production nor put us on a path to 50/80 pits per year by 2020

Construction Over-Targets - required to successfully execute and optimize field construction

Los Alamos Construction Project Over-Target Summary

In $ Million; Updated on 3/3/2011

Project	FY12	FY13	FY14	FY15	FY16
CMRR (1)					
TRP Phase II		12	7	(12)	
TRU (2)		24	(40)		
RLWTF (3)		(7)	55	54	65
EMCF (4)				15	36
TRP Phase III			6	23	23

Notes:

1. CMRR - Ongoing Discussions with NNSA Regarding Funding and Acceleration
2. TRU - Field Construction Supported by FY13 Request
3. RLWTF - Profile Consistent with Ongoing Options Evaluation
4. EMCF - Initiated at Close of FYNSP Period

LANL capabilities support 17 of the 24 Must Do's and we lead on 11

Must Do's / Peg Points	LANL Contributes	LANL Leads or Co-leads
Annually complete all limited life component exchanges to keep operationally deployed stockpile weapons active (DSW)	X	
Annually execute all planned/scheduled surveillance activities (DSW)	X	X
Complete development of W88/common Arming, Fuzing & Firing (AF&F) Alteration and conduct follow-on activities to begin replacement, along with the NG in 2018 (DSW)	X	
Begin NG replacement at PX for the W80-1 and B83 at PX in FY2014 (DSW)		
Continue NG replacement for the W87 at PX to be completed by FY2016 (DSW)		
Begin field replacement of the W61-11 NG in FY2017 (DSW)		
Begin field replacement of the W87 GTS in FY2018 (DSW)		
Continuously ensure a tritium supply sufficient for the operational stockpile and reserve (Readiness)		
Complete the ongoing LEP for the W76 warhead by 2018 (DSW)	X	X
Conduct full nuclear scope LEP study and follow-on activities for the B61 bomb to ensure first production begins in FY2017 (DSW)	X	X
Begin an LEP 6.1 study in FY11 to explore the options for the W78 system with FPU in 2021 (DSW)	X	
Begin 6.2/6.2a for the W88 LEP in FY2016 with an FPU of FY2025 (DSW)	X	X
Annually meet planned dismantlement quantities of retired weapons and secondaries (DSW)	X	

LANL capabilities support 17 of the 24 Must Do's and we lead on 11

Must Do's / Peg Points – continued	LANL Contributes	LANL Leads or Co-leads
Conduct key experiments and modeling to inform the advanced certification, safety, and surety of our stockpile, enabling at least 2 intrinsic multi-point safety options by 2015 (Science)	X	X
Complete early phase initial conditions portion of Boost Initiative and utilize the information to enhance predictive modeling by 2012 (Science)	X	X
Develop an Ignition platform for the NIF by 2014 that meets the needs of weapons physics applications of ignition by 2014 (**ICF**, Science)	X	
Complete second phase of Boost Initiative involving late phase conditions and issues and utilize the information obtained to assess the risk in some aspects of stockpile assessment by 2015 (Science)	X	X
Complete validation of Multi-point safety - for most environments by 2016 (Science)	X	X
Maintain infrastructure at or above min-ops levels (RTBF)	X	X
Complete construction of the High Explosive Pressing Facility used to produce essential High Explosive components by FY2017 (RTBF)		
Increase pit manufacturing capacity and capability at PF-4 at LANL to 50-80 pits per year by 2022 (DSW)	X	X
Complete the design and begin construction of the Chemistry and Metallurgy Research Replacement (CMRR) facility at Los Alamos National Laboratory (LANL), with facility fully operational in 2023 (RTBF)	X	X
Complete design and begin construction of Uranium processing facility (UPF) at Y-12 to support production and surveillance of HEU components, with facility fully operational in 2024 (RTBF)		
Complete development of the Component Maturation Framework and integrate it with the Predictive Capability Framework prior to completion of the W78/88 6.2/6.2a in FY12 (Engineering)	X	

We must work together to solve NSE issues

- We will champion and support integration across the Nuclear Security Enterprise in order to meet our collective responsibilities for the stockpile
- We need to load level LEP schedules and load-level across the NSE
- Align the guidance between top-level DP and Federal PMs
- We need to ensure we meet the uplift DoD MOU deliverables and other priorities to sustain the stockpile
- We have to be realistic about the proposed scope if we don't get the uplift, or just part of it
- We need to plan for adequate operational funding for all the new construction across the NSE
- We need to use DP capabilities to support interagency needs

We need to develop paths to solutions and act

Risks through FYNSP for Must Do's with current site allocations

	Priority/Pegpoint		FY12	FY13	FY14	FY15	FY16	FY17	Explanation of Yellow/Red Status
1	Annually complete all limited life component exchanges to keep operationally deployed stockpile weapons active	DSW							
2	Annually execute all planned/scheduled surveillance activities	DSW							FY11 scope pushed into FY12: will become unexecutable in out years if this trend continues
3	Complete development of W88/common Arming, Fuzing & Firing (AF&F) Alteration and conduct follow-on activities to begin replacement, along with the NG in 2018	DSW							No LANL funding, thus no particlpation
4	Begin NG replacement at PX for the W80-1 and B83 at PX in FY2014	DSW							
5	Continue NG replacement for the W87 at PX to be completed by FY2016	DSW							
6	Begin field replacement of the W61-11 NG in FY2017	DSW							
7	Begin field replacement of the W87 GTS in FY2018	DSW							LANL technology & expertise not being applied
8	Continuously ensure a Tritium supply sufficient for the operational stockpile and reserve	RC							
9	Annually meet planned dismantlement quantities of retired weapons and secondaries	DSW							
10	Complete the ongoing LEP for the W76 warhead by 2018	DSW							
11	Conduct full nuclear scope LEP study and follow-on activities for the B61 bomb to ensure first production begins in FY2017	DSW							In FY12 LANL receives ~30% of funding – 2017 FPU at current scope is unachievable
12	Begin an LEP study in FY11 to explore the options for the W78 system with FPU in 2021	DSW							LANL peer review only
13	Begin 6.2/6.2a for the W88 LEP in FY2016 with an FPU of FY2025	DSW							Funding not identified in 2013 FYNSP
14	Conduct key experiments and modeling to inform the advanced certification, safety, and surety of our stockpile, enabling at least 2 intrinsic multi-point safety options by FY2015	Science							Significant risk due to challenge of developing applicable codes and funding uncertainties
15	Increase pit manufacturing capacity and capability at the PF-4 at LANL to 50-80 plts per year by 2022	DSW							Current funding profile does not support 50-80 ppy or 120 ppy reuse
16	Complete the design and begin construction of the CMRR-NF at LANL. Plan and program to complete construction by 2020, and ramp up to full operations by 2023	RTBF							
17	Complete the design and begin construction of the UPF at Y12. Plan and program to attain Building 9212 functionality in UPF by 2020, and ramp up to full operations by 2024	RTBF							
18	Maintain infrastructure at or above min-ops levels	RTBF							Inadequate funds for three key facilities: RLUOB, RLWTF, HE
19	Complete Construction of the HEPF used to produce essential HE components by 2017	RTBF							
20	Complete development of the Component Maturation Framework and integrate it with the Predictive Capability Framework prior to completion of the W78/88 6.2/6.2a in FY12.	Engr							Scope still being identified and worked with HQ
21	Complete the early phase initial conditions portion of the Boost Initiative and utilize the information to enhance predictive modeling by 2012	Science							Significant technical risk in models, codes, and experiments
22	Develop an Ignition platform for the NIF by 2014 that meets the needs of weapons physics applications of ignition by 2014	Science /ICF							Ignition is technically high risk
23	Complete the second phase of the Boost Initiative involving late phase conditions and issues and utilize the information obtained to assess the risk in some aspects of stockpile assessment by 2015	Science							Significant technical risk in models, codes, and experiments
24	Complete validation of Multi-point safety - for most environments by 2016	Science							Significant technical risk in models, codes, and experiments