INP Meeting

TRU Waste Processing Facility

May 18, 2005

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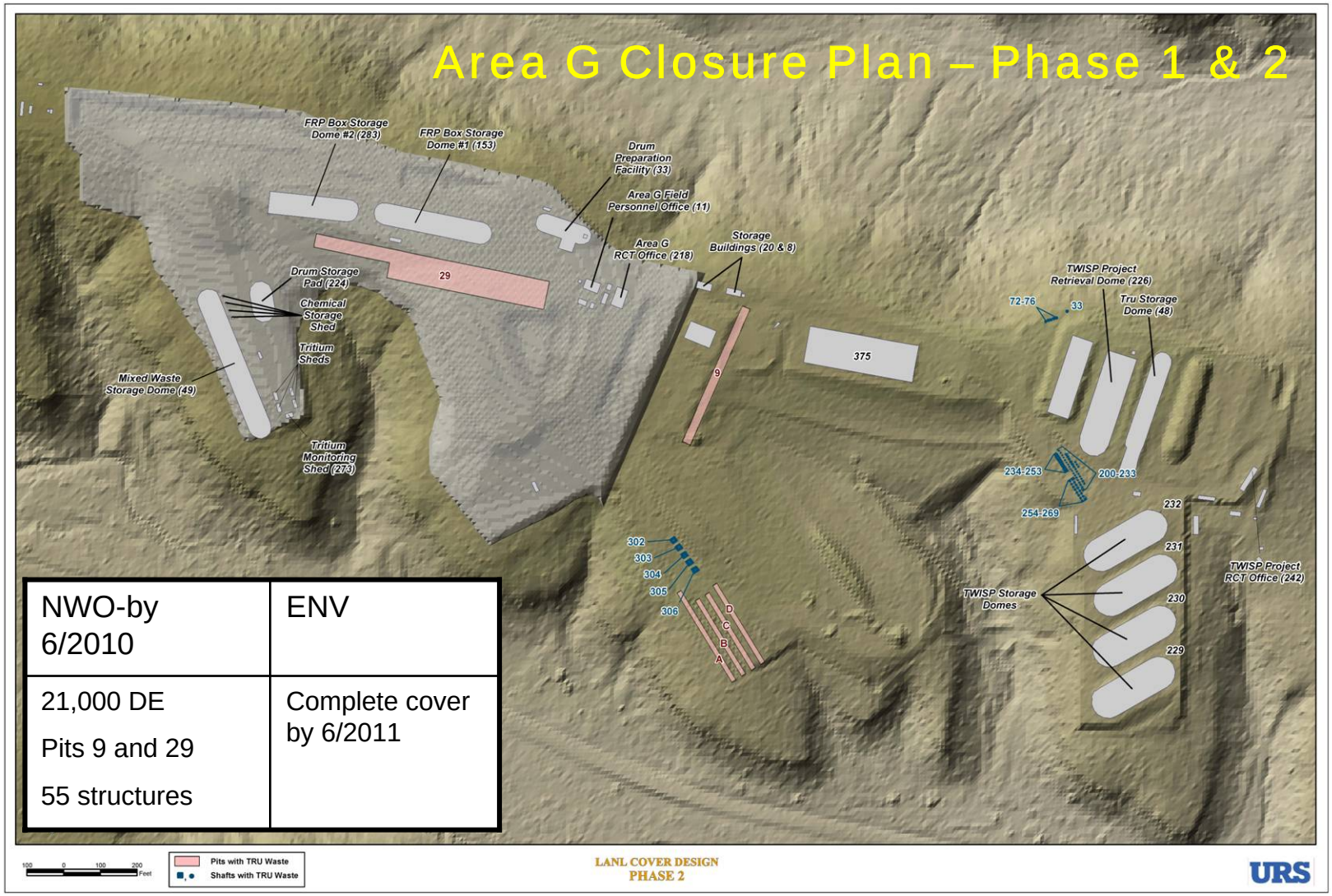
Mission Need

- NNSA has signed an agreement with NMED that requires RCRA closure of the TA-54 Area G MDA.
- To close the site will require suspension and relocation of all current waste management operations.
- TRU waste will be generated by ongoing NNSA program activities at the TA-55 plutonium facility.
- This project is needed to relocate TRU waste capabilities from Area G.

Facilities Planning - Strategic



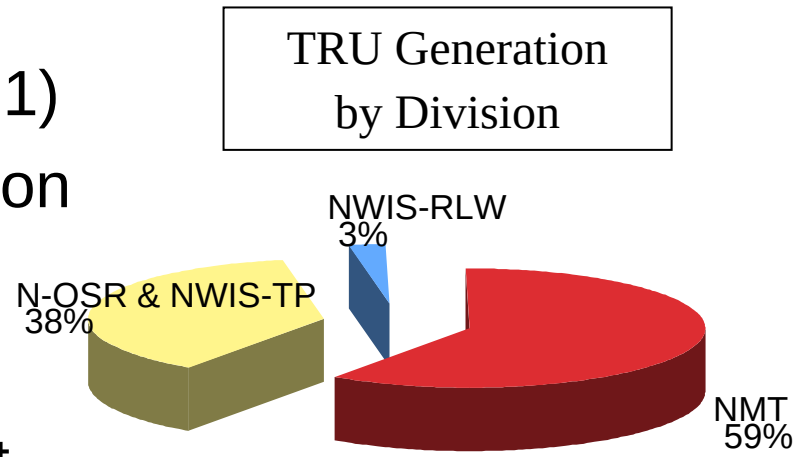
NWO-by 6/2010	ENV
21,000 DE Pits 9 and 29 55 structures	Complete cover by 6/2011

TA-54 Area G – TRU Storage Facility

Program Requirements

Programs Generating TRU:*

- Pit Manufacture/Stockpile Stewardship
- Mixed Oxide Fuel R&D
- Vault Disposition Programs (94-1)
- Pu-238 Clean-up and Stabilization
- Actinide R&D
- TA-18 Inventory Reduction
- Offsite Source Recovery Project



* FY04 Waste Volume Forecast, LA-UR-04-6682

Program Requirements

Backlog:

- 3,400 Drums (700 M^3)
- 115 SWBs/Boxes/Crates (350 M^3)
- Backlog to be worked prior to 2010

Newly Generated:

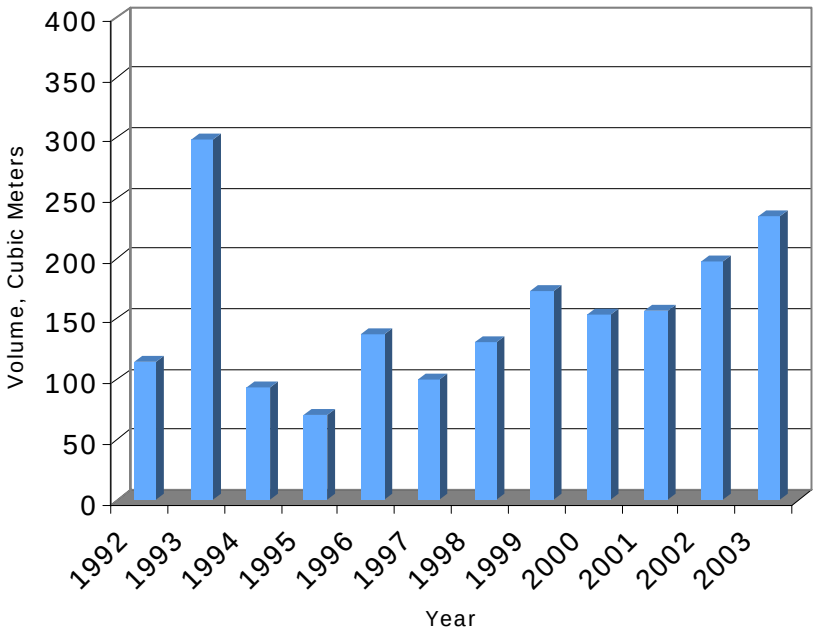
- 800-1,000 DE's
- 17 M^3 Large Items

Production:

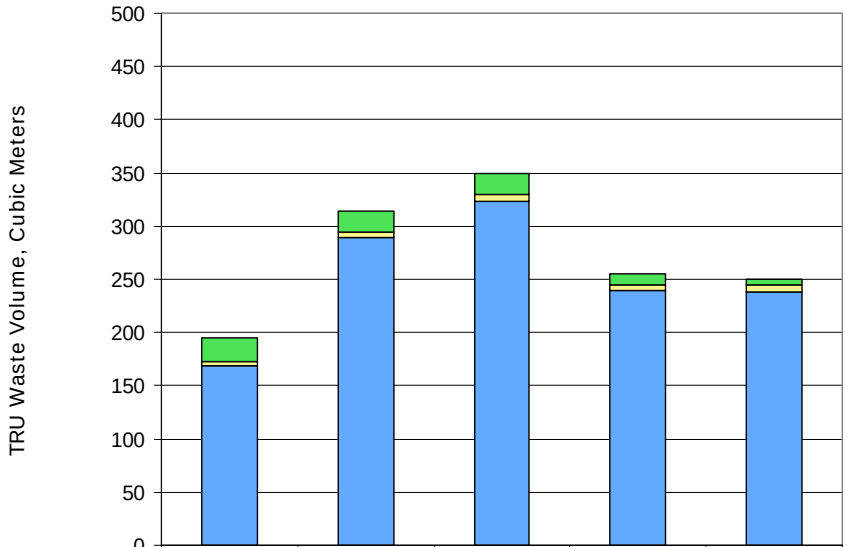
- NG Waste must be shipped within 12 months of generation per DOE order 435.1 and Appendix F to UC contract
- Ship Rate ~ 1 truck per week

NG TRU Volume Forecast

Historical Volumes (All Programs)



Volume Forecast (NG Only) *



	2004	2005	2006	2007	2008
Total, m3	194	314	350	255	250
OSRP	22	20	20	10	5
FWO	4	5	6	6	6
NMT	168	289	324	239	239

* This forecast is based on the 20 pits per year analyzed in the SWEIS. An increase to 40 pits per year would result in approximately 30% more TRU waste.

Program Requirements

Outyear Volume Forecast:

- In the post 2010 time frame TRU volumes are expected to be similar to the current volume of 800-1000 drums.
- Changes:
  - Outyear volume forecasts are updated annually by ENV-P2
  - Vault workoff will be complete
  - OSRP volumes will stabilize at 25-30 drum equivalents
  - Pit activity will increase but not beyond volumes analyzed in the SWEIS ~ 20 pits per year
  - Waste Minimization efforts will continue to drive down routine generation
  - ER volumes are updated annually
  - MOX program is expected to increase in FY06 – but long term forecasts remain unclear
  - Volumes related to future mission changes have not been included.
  - The design capacities for subsystems will include appropriate contingency for year to year variations

Justification

- The project is required to meet assigned NNSA Pu mission requirements.
- Feasibility and top level alternatives for facility location and design will be developed as part of the CD-0 planning. The project scope justification and mission need will be enhanced at that time.

Alternatives

- A “No Action” alternative to moving the TRU & LLW operations from Area G has not been identified. RCRA closure standards will require that operations cease.
- Operations Alternatives
  - M&O, CBFO-CCP, or DOE WM Subcontract
  - Production could be on-going or batch mode
  - Some capability could be housed in TA-55
- Siting alternatives include:
  - TA-54 West – co-located with RANT
  - TA-50/55 – co-located with other WM facilities
  - 35-Atlas Facility
  - Traditional siting will occur during CD-0 & CDR stages
- Design/Construction alternatives:
  - New vs. Modified Facilities
  - CD-0 planning will identify other scenarios

Scope

Planning Assumptions

- TRU legacy operations completed by 2012 with 2015 closure
- NG strategy must be implemented prior to Area G closure
- Generators and program missions remain largely unchanged
- Characterization requirements will change (w/Permit Mods):
  - Delete Head Space Gas Sampling (flammability still required)
  - Delete VE/Repack based on operating experience
  - 100% RTR reduced to Statistical RTR to confirm AK
- Additional WIPP requirements and LANL AB constraints can be optimized

Scope

Required Capabilities:

Results of initial scoping studies and basis for long-term solution:

- Staging
- Characterization
  - RTR
  - NDA
- Certification Activities
- Volume Reduction
- Shipping

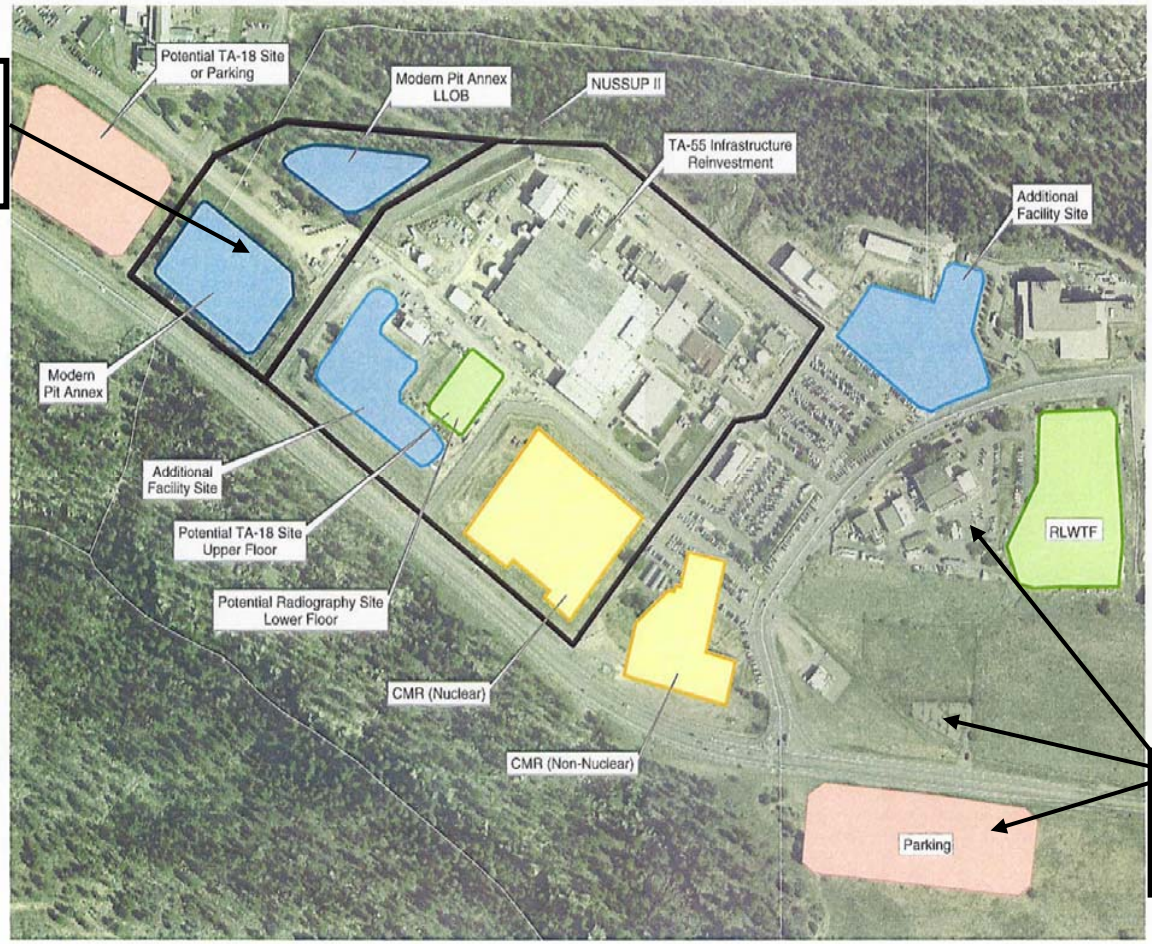
Scope

Required Facilities & Equipment:

Results of initial scoping studies and basis for long-term solution:

- New or Modified Facility
- 10,000 sf
- HC2
- PC3
- CAT IV

Preliminary Siting Alternatives



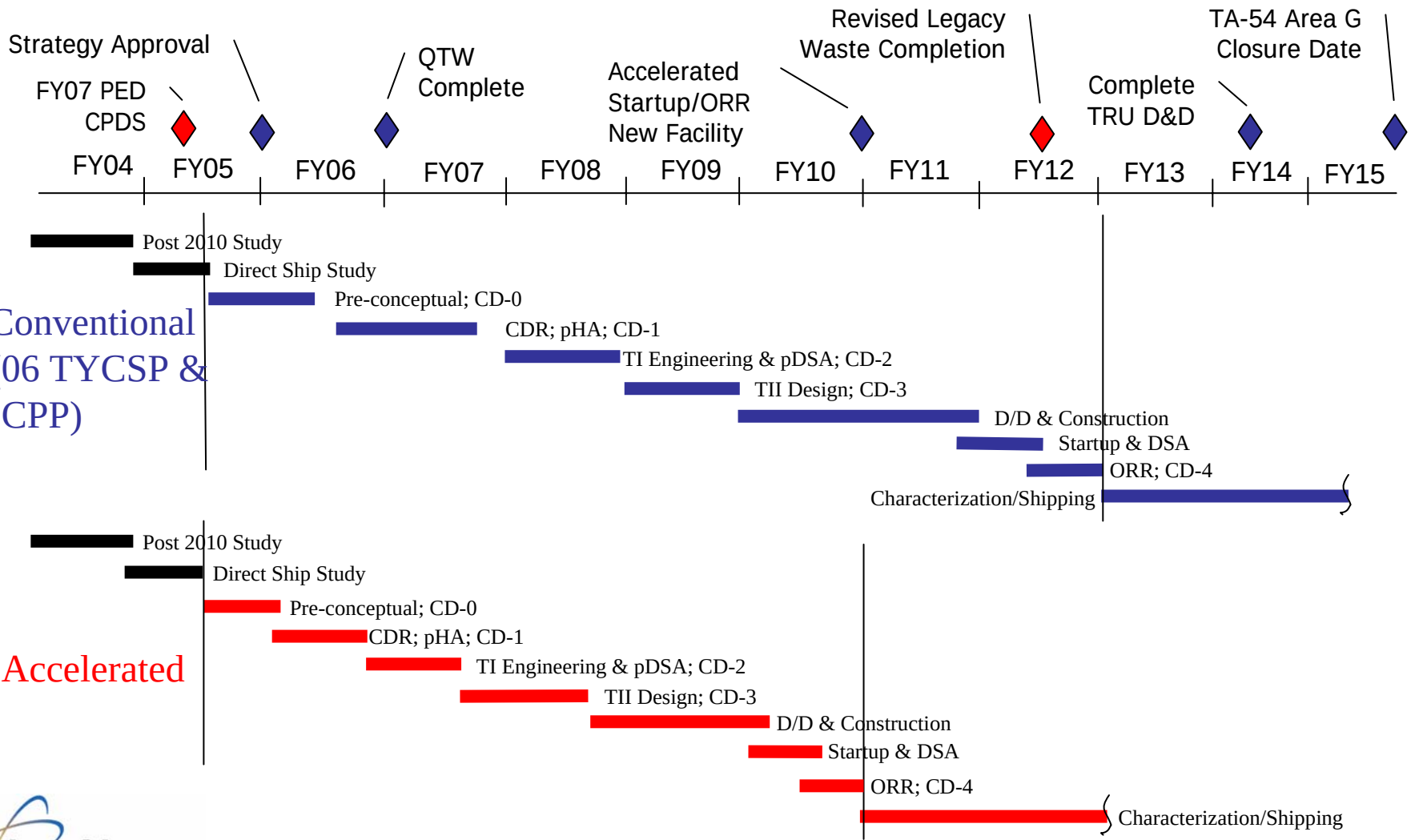
~~Potential TRU Facility Site @ TA-18~~

35-Atlas

Potential TRU Facility Sites ?

TA-54 RANT - TRU Siting Alternative

Schedule


Strategy Approval
FY07 PED CPDS
QTW Complete
Accelerated Startup/ORR New Facility
Revised Legacy Waste Completion
Complete TRU D&D
TA-54 Area G Closure Date
FY04
FY05
FY06
FY07
FY08
FY09
FY10
FY11
FY12
FY13
FY14
FY15
Conventional (06 TYCSP & ICPP)
Post 2010 Study
Direct Ship Study
Pre-conceptual; CD-0
CDR; pHA; CD-1
TI Engineering & pDSA; CD-2
TII Design; CD-3
D/D & Construction
Startup & DSA
ORR; CD-4
Characterization/Shipping
Accelerated
Post 2010 Study
Direct Ship Study
Pre-conceptual; CD-0
CDR; pHA; CD-1
TI Engineering & pDSA; CD-2
TII Design; CD-3
D/D & Construction
Startup & DSA
ORR; CD-4
Characterization/Shipping

Cost Estimate

TEC: $16-25M

OPC: $ 4-5M

TPC: $20-30M

Basis: Pre-conceptual

Funding Profile: (Conventional Schedule & 06 TYCSP)

$K	Total	FY06	FY07	FY08	FY09	FY10	FY11	FY12
OPC	4,000	500	1,500	300	300	300	300	800
PE&D	4,000			2,000	2,000			
Const.	22,000					12,000	10,000	
TPC	30,000	500	1,500	2,300	2,300	12,300	10,300	800
ICPP	*40,000*			*5,000*	*8,000*	*12,000*	*15000*	

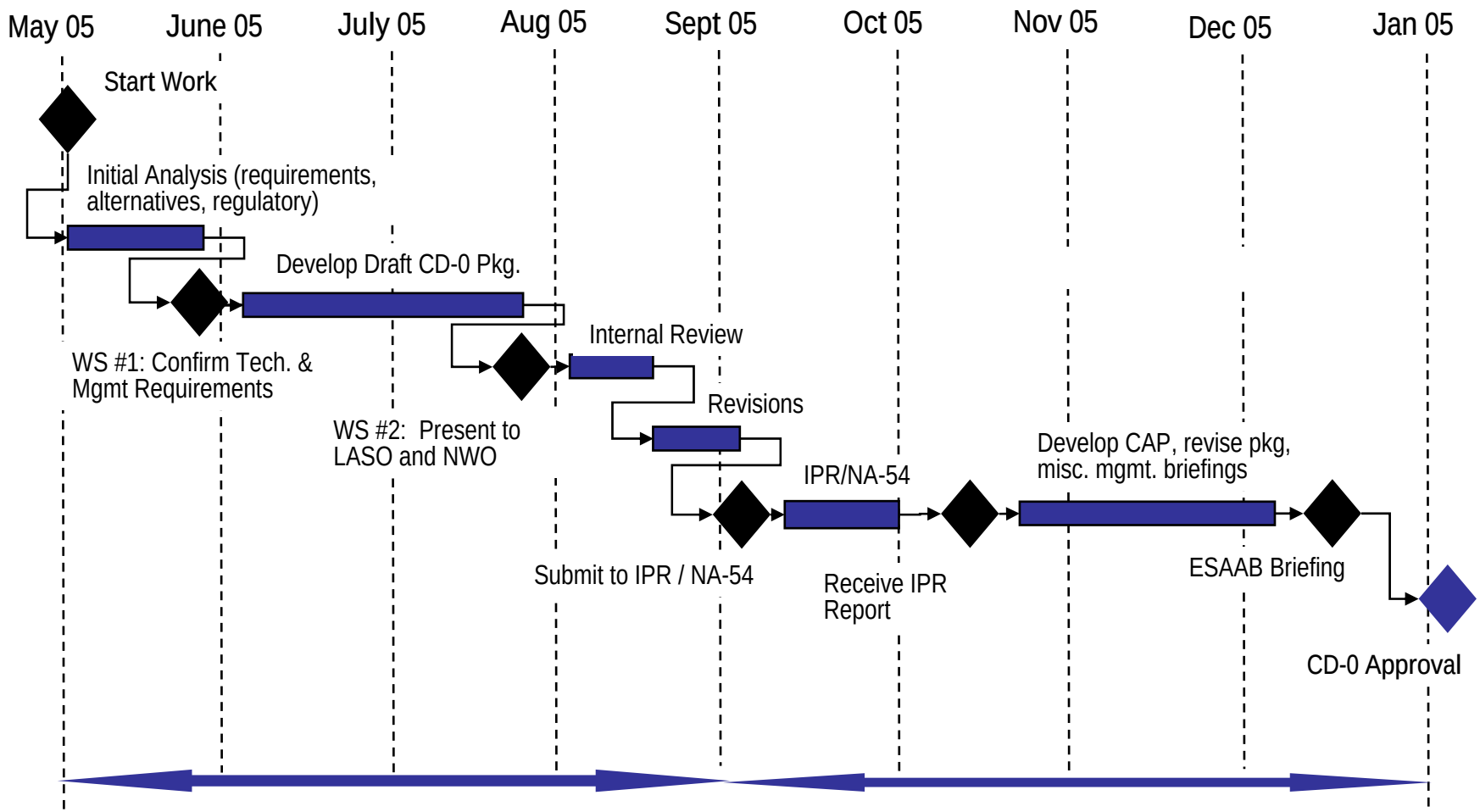
Relationship to other Programs/Projects

- Completion of this project is not dependent on any other program or project.
- The core weapons program *is* dependent on this project for ongoing TRU waste management support.
- To complete Area G closure by 2015 requires:
  - NNSA RTBF to move LLW and TRU operations out of Area G
    - TRU Line item (funding identified)
    - LLW Access Control; GPP (funding not identified)
    - LLW Characterization Facility; GPP (funding not identified)
    - LLW Compaction Facility; GPP (funding not identified)
  - NNSA FIRP/RTBF to D/D the vacated structures & infrastructure – *out year FIRP schedules include these structures but work beyond FIRP is not programmed/funded yet*
  - EM Waste Disposition must complete the Legacy Waste project – *2010 Project is partially funded*
  - EM ER Program must complete closure of Area G – *funding is programmed and project planning is underway*

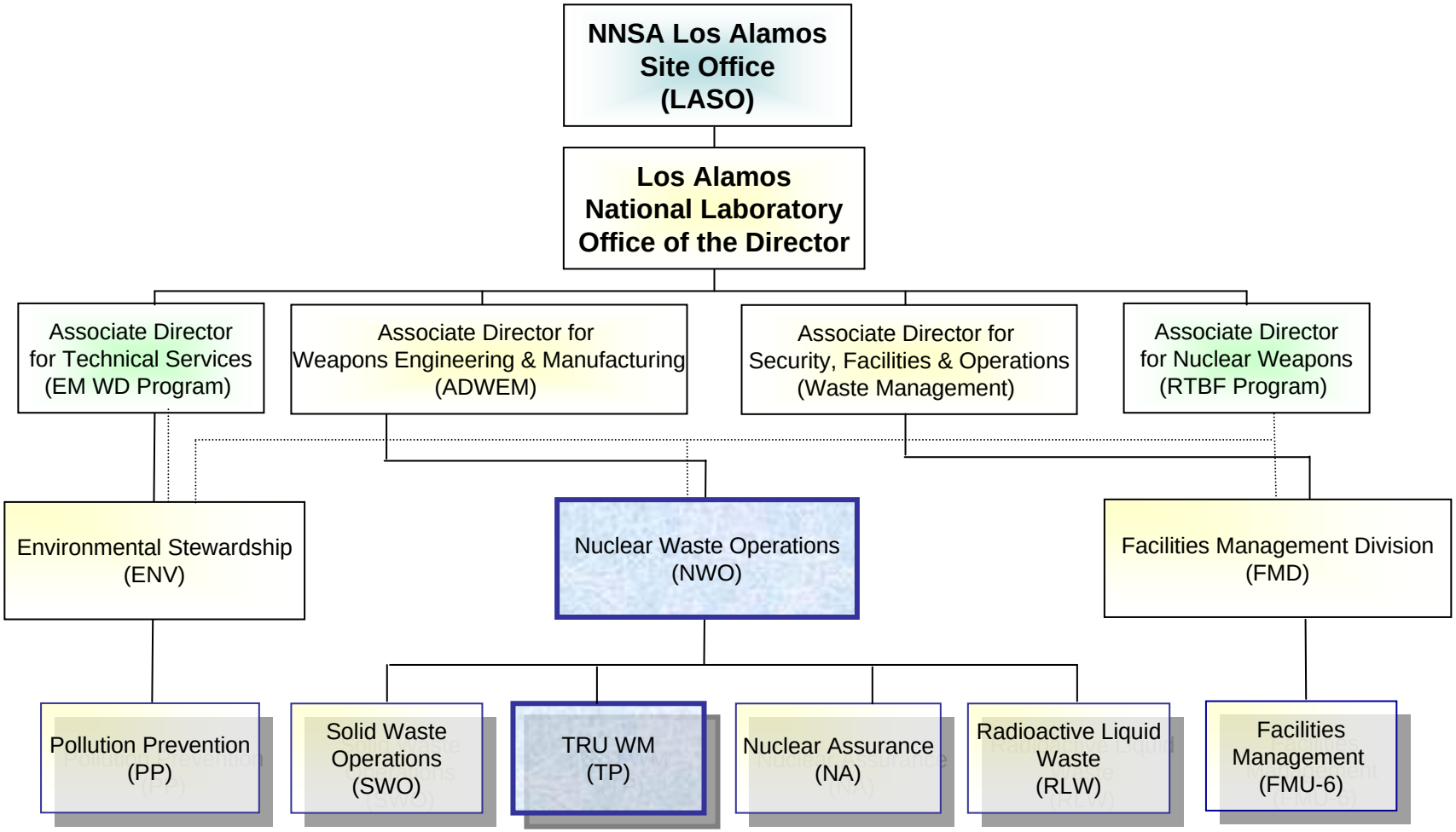
CD-0 Plan

- **Scope**
  - Prepare CD-0 Package @ NNSA Requirements
    - Management Brief
    - Mission Need Statement
    - Program Requirements Document
    - Cost Estimate
    - Conceptual Design Execution Plan
    - IPR Review & CAP
    - ESAAB Briefing
- **Cost** - $400K
- **Schedule**
  - August 2005 - draft to LASO
  - December 2005 – ESAAB
- **Integration**
  - The project has been included in draft FY06 TYCSP submittal
  - LANL is working to include this project in the ICPP

Schedule for CD-0 Package Development



LANL WM Organization



Issues/Concerns

- Impacts of DBT and RLWTF-U changes on facility siting.
- TSD Requirements – we need to understand whether these could be relaxed to reduce on site transportation expense. This would drive decisions on the RANT facility.
- Schedule – the conventional project schedule is reasonable for a HC 2 nuclear facility, however, the completion date will create risk of delay to the ER project final cover activity. After CD-0 definition work is complete, opportunities to accelerate should be considered.
- Funding for all of the projects has not been identified yet