04-D-125, Chemistry and Metallurgy Research Building Replacement (CMRR) Project,
Los Alamos National Laboratory (LANL), Los Alamos, New Mexico
Project is for Design and Construction

1. Significant Changes and Summary

Significant Changes
This Construction Project Data Sheet (CPDS) is an update to the FY 2016 President's Budget Request CPDS for CMRR and does not include a new start for the budget year.

This FY 2017 project data sheet describes a restructuring of the scope described in FY 2016 as two subprojects [Radioactive Laboratory/Utility/Office Building (RLUOB) Equipment Installation Phase 2 (REI2) and Plutonium Facility 4 (PF-4) Equipment Installation (PEI)] into four subprojects which correlate to the first two steps of the plutonium infrastructure strategy and are necessary to provide continuity in analytical chemistry (AC) and materials characterization (MC) capabilities and support the cessation of programmatic operations in the existing CMR facility by the end of calendar year 2019. These subprojects are an alternative approach in lieu of constructing the CMRR Nuclear Facility and provide the same AC and MC capabilities described in the FY 2016 data sheet. The CMRR project scope proposed in FY 2016 as two active sub-projects (REI2 and PEI) is now being executed as four active sub-projects [REI2, PEI Phase 1, PEI Phase 2 and Re-categorizing RLUOB to Hazard Category 3 (RC3)] in FY 2017 to better support the commitment to cease programmatic operations in CMR in 2019 and meet program requirements. This restructuring was approved by the Deputy Secretary of Energy on November 25, 2015.

Summary
The most recent DOE Order 413.3B approved Critical Decision (CD) for the CMRR is a revised CD-1, Approve Alternative Selection and Cost Range, that was approved on August 21, 2014 with a cost range of $2.4 billion - $2.9 billion and CD-4 in FY 2024[a]. Accompanying cost tables display upper estimates of the cost. CD-3A requests for long lead procurement were approved during FYs 2015 and 2016. CD-1 estimates for cost and schedule are provided in this data sheet for the newly proposed subprojects based on the Independent Cost Review (ICR) developed for the approved revised CD-1; these will continue to be refined during the CD process. The CMRR Restructuring does not impact the Revised CD-1 estimate from August 2014.

Under the CMRR restructuring, REI2 scope remains unchanged, other project changes are described below:

RLUOB Subproject (04-D-125-01): CD-4 approved on June 24, 2010.
RLUOB Equipment Installation (REI) Subproject (04-D-125-02): CD-4 approved on June 20, 2013.
Nuclear Facility (NF) Subproject (04-D-125-03): This subproject is cancelled.

REI Phase 2 (REI2) Subproject (04-D-125-04): Transfers part of AC and MC capabilities from CMR to RLUOB by designing, purchasing and installing additional equipment in RLUOB. The reconciled cost range at CD-1 for this subproject, after the DOE Office of Acquisition and Project Management (DOE-APM) conducted an ICR, is $505 million - $675 million. A CD-3A request for procurement of long lead equipment and site preparations, following a reconciled Independent Cost Estimate (ICE) conducted by DOE-APM, was approved for REI2 on December 18, 2014. CD-3B for additional long lead procurements for REI2 was approved on December 22, 2015.

PF-4 Equipment Installation Phase 1 (PEI1) Subproject (04-D-125-05): Maximize use of PF-4 by decommissioning and decontaminating (D&D) old gloveboxes and equipment, reconfiguring and reusing existing gloveboxes, consolidating and relocating existing capabilities, and installing new gloveboxes and equipment for AC/MC capabilities. PEI1 will establish the AC and MC capabilities that utilize larger amount of nuclear materials. This subproject scope will make progress toward ceasing program operations in CMR in 2019. The removal and reconfiguration work will be executed as site prep work

[a] FY 2024 represents the estimated completion as of CD-1 approval. At CD-2, the date will be updated to reflect the approved performance baseline CD-4.

within this subproject. The preliminary cost range for the work in this subproject is $264M - $315M. CD-3A for PEI1 was approved on March 18, 2015. CD-3B for long lead procurements was approved on December 22, 2015.

PF-4 Equipment Installation Phase 2 (PEI2) Subproject (04-D-125-06): Maximize use of PF-4 by consolidating and relocating existing capabilities, replacing existing equipment, installing gloveboxes and equipment and D&D of existing laboratory space for AC/MC capabilities. PEI2 will establish enduring AC and MC capabilities for supporting NNSA actinide-based missions. The preliminary cost range for the work in this subproject is $523M - $685M.

Re-categorizing RLUOB to Hazard Category 3 (RC3) Subproject (04-D-125-07): Maximize use of RLUOB by reconfiguring existing laboratory space, equipping the remaining empty laboratories with AC and MC capabilities, and enables the RLUOB to be re-categorized from a radiological facility to a hazard category-3 facility with a material limit of 400 grams of Pu-239 equivalent. RC3 will establish enduring AC and MC capabilities for supporting NNSA actinide-based missions. The preliminary cost range for the work in this subproject is $208M - $365M.

Prior year project funds and FY 2015 funds will be used to complete conceptual design activities, long lead equipment procurements, site investigation, and other required documentation. NNSA's Office of Defense Programs and NNSA's Office of Acquisition and Project Management will continue to partner with the appropriate organizations within and outside DOE during the process to achieve an approved Performance Baseline. Estimates will be finalized once the project has achieved 90 percent design maturity to support the baseline approval.

Some Other Project Costs (OPCs) are funded from the prior year funding that was approved for reprogramming from this line item to RTBF Operations of Facilities ($17 million). We will utilize these available funds in accordance with direction provided by the appropriate committees. Additional OPCs are addressed in this budget request.

Of the preliminary cost range of $1,500 million - $2,040 million for the sum of the REI2,PEI1, PEI2, and RC3 subprojects, $17 million of the $43.3M reprogrammed in FY 2013 and $35.7 million of the FY 2015 appropriations are included in this range.

A Federal Project Director at the appropriate level will be assigned to each sub-project. Project funds may be used by the Federal Project Directors for contracted support services for the federal project team.

2. Critical Milestone History of 04-D-125-01 through 04-D-125-07

(fiscal quarter or date)

	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2004	07/16/2002	N/A	1QFY2004		N/A	2QFY2004	N/A	1QFY2011
FY 2005	07/16/2002	N/A	3QFY2004		N/A	3QFY2005	N/A	3QFY2012
FY 2006	07/16/2002	N/A	2QFY2005	4QFY2005	N/A	1QFY2006	N/A	4QFY2010
FY 2007	07/16/2002	N/A	09/30/2005	1QFY2006	N/A	1QFY2006	N/A	1QFY2013
FY 2008	07/16/2002	N/A	09/30/2005	10/21/2005	N/A	1QFY2006	N/A	1QFY2013
FY 2009	07/16/2002	N/A	09/30/2005	TBD	N/A	TBD	N/A	TBD
FY 2010	07/16/2002	N/A	09/30/2005	TBD	N/A	TBD	N/A	TBD
FY 2011	07/16/2002	N/A	05/18/2005	TBD	N/A	TBD	N/A	TBD
FY 2012	07/16/2002	N/A	05/18/2005	4QFY2012	N/A	4QFY2012	N/A	TBD
FY 2012 Rep	07/16/2002	N/A	05/18/2005	TBD	TBD	TBD	N/A	TBD
FY 2016	07/16/2002	N/A	4QFY2014	3QFY2016	2QFY2016	3QFY2016	4QFY2019	4QFY2024
FY 2017	07/16/2002	N/A	08/21/2014	3QFY2016	2QFY2016	3QFY2016	4QFY2019	4QFY2024

RLUOB Subproject (04-D-125-01)

(fiscal quarter or date)

	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2011	07/16/2002	N/A	05/18/2005	10/21/2005	N/A	10/21/2005	N/A	02/28/2010
FY 2012	07/16/2002	N/A	05/18/2005	10/21/2005	N/A	10/21/2005	N/A	06/24/2010
FY 2012 Rep	07/16/2002	N/A	05/18/2005	10/21/2005	N/A	10/21/2005	N/A	06/24/2010
FY 2016	07/16/2002	N/A	05/18/2005	10/21/2005	N/A	10/21/2005	N/A	06/24/2010
FY 2017	07/16/2002	N/A	05/18/2005	10/21/2005	N/A	10/21/2005	N/A	06/24/2010

RLUOB Equipment Installation (REI) Subproject (04-D-125-02)

(fiscal quarter or date)

	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2011	07/16/2002	N/A	05/18/2005	07/17/2009	N/A	07/17/2009	N/A	04/30/2013
FY 2012	07/16/2002	N/A	05/18/2005	07/17/2009	N/A	07/17/2009	N/A	04/30/2013
FY 2012 Rep	07/16/2002	N/A	05/18/2005	07/17/2009	N/A	07/17/2009	N/A	3QFY2013
FY 2016	07/16/2002	N/A	05/18/2005	07/17/2009	N/A	07/17/2009	N/A	06/20/2013
FY 2017	07/16/2002	N/A	05/18/2005	07/17/2009	N/A	07/17/2009	N/A	06/20/2013

Nuclear Facility (NF) Subproject (04-D-125-03)

(fiscal quarter or date)

	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2011	07/16/2002	N/A	05/18/2005	TBD	N/A	TBD	N/A	TBD
FY 2012	07/16/2002	N/A	05/18/2005	4QFY2012	N/A	4QFY2012	N/A	TBD
FY 2012 Rep	07/16/2002	N/A	05/18/2005	TBD	TBD	TBD	N/A	TBD
FY 2016	07/16/2002	N/A	05/18/2005	Cancelled	Cancelled	Cancelled	N/A	Cancelled
FY 2017	07/16/2002	N/A	05/18/2005	Cancelled	Cancelled	Cancelled	N/A	Cancelled

REI Phase 2 (REI2) Subproject (04-D-125-04)

(fiscal quarter or date)

	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2016	07/16/2002	8/21/2014	8/21/2014	3QFY2016	2QFY2016	3QFY2016	N/A	1QFY2020
FY 2017	07/16/2002	8/21/2014	8/21/2014	3QFY2016	2QFY2016	3QFY2016	N/A	1QFY2020[ab]

	CD-3A	*CD-3B*
FY 2016	12/18/2014	2QFY2015
FY 2017	12/18/2014	12/22/2015

[a] FY 2020 represents the estimated completion as of CD-1 approval. At CD-2, the date will be updated to reflect the approved performance baseline CD-4.

[b] FY 2020 represents the estimated completion as of CD-1 approval. At CD-2, the date will be updated to reflect the approved performance baseline CD-4.

PF-4 Equipment Installation Phase 1 (PEI1) Subproject (04-D-125-05)

(fiscal quarter or date)

	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2016	07/16/2002	4QFY2015	4QFY2014	3QFY2016	2QFY2016	3QFY2016	4QFY2019	1QFY2024
FY 2017	07/16/2002	8/21/2014	08/21/2014	3QFY2016	2QFY2016	3QFY2016	4QFY2019	1QFY2020[b]

	CD-3A	*CD-3B*
FY 2017	03/18/2015	12/22/2015

PF-4 Equipment Installation Phase 2 (PEI2) Subproject (04-D-125-06)

(fiscal quarter or date)

	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2016[a]	07/16/2002	8/21/14	4QFY2014	3QFY2016	2QFY2016	3QFY2016	4QFY2019	1QFY2024
FY 2017	07/16/2002	8/21/14	08/21/2014	4QFY2017	3QFY2017	4QFY2017	4QFY2023	1QFY2024[b]

Re-categorizing RLUOB to Hazard Category 3 (RC3) Subproject (04-D-125-07)

(fiscal quarter or date)

	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2016[d]	07/16/2002	08/21/2014	4QFY2014	3QFY2018	2QFY2017	4QFY2017	N/A	1QFY2024
FY 2017	07/16/2002	08/21/2014	08/21/2014	3QFY2018	2QFY2017	3QFY2018	N/A	1QFY2024[b]

CD-0 – Approve Mission Need
CD-1 – Approve Alternative Selection and Cost Range
CD-2 – Approve Performance Baseline
CD-3 – Approve Start of Construction/Execution
CD-4 – Approve Start of Operations or Project Completion
D&D Start – Start of Demolition & Decontamination (D&D) work
D&D Complete – Completion of D&D work
CD-3A – Long Lead Procurement for equipment
CD-3B – Long Lead Procurement for equipment

[a] The PEI2/RC3 subprojects were not included in the FY 2016 Construction Project Data Sheet but dates are included here for purposes of comparison.
[b] FY 2020 (PEI1) and FY 2024 (PEI2) represents the estimated completion as of CD-1 approval. At CD-2, the date will be updated to reflect the approved performance baseline CD-4.

3. Project Cost History

(dollars in thousands)

	TEC Design 03-D-103	TEC Design/Construction 04-D-125	TEC, Total	OPC Except D&D	OPC, D&D	OPC Total	TPC
FY 2004	N/A	N/A	500,000	100,000	N/A	N/A	600,000
FY 2005	N/A	N/A	500,000	100,000	N/A	N/A	600,000
FY 2006	N/A	N/A	750,000	100,000	N/A	N/A	850,000
FY 2007	N/A	N/A	738,097	100,000	N/A	N/A	838,097
FY 2008	65,939	672,158	738,097	100,000	N/A	N/A	838,098
FY 2009	TBD	TBD	TBD	TBD	N/A	TBD	TBD
FY 2010	65,138	TBD	TBD	TBD	N/A	TBD	TBD
FY 2016	63,646	2,295,936	2,359,582	463,721	54,000	517,721	2,877,303
FY 2017	63,646	2,243,436	2,307,082	516,221	54,000	570,221	2,877,303

RLUOB Subproject (04-D-125-01)

(dollars in thousands)

	TEC Design 03-D-103	TEC Design/Construction 04-D-125	TEC, Total	OPC Except D&D	OPC, D&D	OPC Total	TPC
FY 2011	N/A	159,130	159,130	4,870	N/A	4,870	164,000
FY 2012	N/A	159,130	159,130	4,870	N/A	4,870	164,000
FY 2012 Rep	N/A	159,130	159,130	4,870	N/A	4,870	164,000
FY 2016	N/A	194,130	194,130	4,870	N/A	4,870	199,000
FY 2017	N/A	194,130	194,130	4,870	N/A	4,870	199,000

RLUOB Equipment Installation (REI) Subproject (04-D-125-02)

(dollars in thousands)

	TEC Design 03-D-103	TEC Design/Construction 04-D-125	TEC, Total	OPC Except D&D	OPC, D&D	OPC Total	TPC
FY 2011	N/A	152,900	152,900	46,500	N/A	46,500	199,400
FY 2012	N/A	152,900	152,900	46,500	N/A	46,500	199,400
FY 2012 Rep	N/A	152,900	152,900	46,500	N/A	46,500	199,400
FY 2016	N/A	151,963	151,963	44,797	N/A	44,797	196,760
FY 2017	N/A	151,963	151,963	44,797	N/A	44,797	196,760

Nuclear Facility (NF) Subproject (04-D-125-03)

(dollars in thousands)

	TEC Design 03-D-103	TEC Design/Construction 04-D-125	TEC, Total	OPC Except D&D	OPC, D&D	OPC Total	TPC
FY 2011	65,138	TBD	TBD	TBD	N/A	TBD	TBD
FY 2012	65,138	3,239,862 - 5,169,862	3,305,000 - 5,235,000	405,000 - 625,000	N/A	405,000- 625,000	3,710,000 - 5,860,000
FY 2012 Rep	65,138	TBD	TBD	4,870	N/A	TBD	TBD
FY 2016	63,646	391,324	454,970	40,274	N/A	40,274	495,244
FY 2017	63,646	391,324	454,970	40,274	N/A	40,274	495,244

REI Phase 2 (REI) Subproject (04-D-125-04)

(dollars in thousands)

	TEC Design 03-D-103	TEC Design/Construction 04-D-125	TEC, Total	OPC Except D&D	OPC, D&D	OPC Total	TPC
FY 2016	0	540,000	540,000	135,000	N/A	135,000	675,000
FY 2017	0	540,000	540,000	135,000	N/A	135,000	675,000

04-D-125-05, PF-4 Equipment Installation Phase 1 (PEI1)

(dollars in thousands)

	TEC Design 03-D-103	TEC Design/Construction 04-D-125	TEC, Total	OPC Except D&D	OPC, D&D	OPC Total	TPC
FY 2016	0	1,071,000	1,071,000	240,000	54,000	294,000	1,365,000
FY 2017	0	257,595	257,595	57,405	N/A	57,405	315,000

04-D-125-06, PF-4 Equipment Installation Phase 2 (PEI2)

(dollars in thousands)

	TEC Design 03-D-103	TEC Design/Construction 04-D-125	TEC, Total	OPC Except D&D	OPC, D&D	OPC Total	TPC
FY 2017	0	471,500	471,500	159,500	54,000	213,500	685,000

04-D-125-07, Re-categorizing RLUOB to HC3 (RC-3)

(dollars in thousands)

	TEC Design 03-D-103	TEC Design/Construction 04-D-125	TEC, Total	OPC Except D&D	OPC, D&D	OPC Total	TPC
FY 2017	0	289,405	289,405	75,595	N/A	75,595	365,000

4. Project Scope and Justification

Scope

The CMRR Project as originally proposed relocated and consolidated mission critical analytical chemistry (AC), material characterization (MC), actinide research and development (R&D) capabilities, provided special nuclear material (SNM) storage and large vessel handling capabilities. This data sheet provides information related to four subprojects to transition AC and MC capabilities into RLUOB and PF-4 to ensure continuity in plutonium support capabilities and enable the cessation of program operations in CMR by the end of calendar year 2019.

The complete list of CMRR line Item Project Sub-projects since inception is:

- **RLUOB Subproject (04-D-125-01):** Construction of a 203,686, gross square foot (gsf) facility to house laboratory space capable of handling radiological quantities of SNM; a 22,071 gsf utility building sized to provide utility services (including chilled and hot water, potable hot/cold water, compressed air, and process gases) for all CMRR facility elements; office space for CMRR workers located outside of perimeter security protection systems; and space for centralized TA-55 training activities. The RLUOB became fully functional and operational after the completion of the equipment installation effort for this facility in the REI phase.

- **RLUOB Equipment Installation (REI) Subproject (04-D-125-02):** Equipment installation included gloveboxes, hoods, AC/MC instrumentation, security and communication hardware, and final facility tie-ins and operational readiness/turnover activities. RLUOB equipment fabrication, installation, testing, and acceptance physically

completed in FY 2012. Staff occupation of the office spaces has occurred and CD-4 has been approved. The facility exceeded its sustainability goal of LEED Silver by achieving LEED Gold in June 2012.

- **Nuclear Facility (NF) Subproject (04-D-125-03):** This subproject is hereby cancelled with the remaining mission need for CMRR to be met by REI2, PEI1, PEI2, and RC3.

- **REI Phase 2 (REI2) Subproject (04-D-125-04):** Maximizes the use of RLUOB laboratories by both reconfiguring some existing laboratory space and equipping empty laboratories with AC and MC capabilities. The RLUOB will operate at the increased radiological limit, 38.6 g of Pu-239 equivalent, which enables additional AC and MC operations to move in. New gloveboxes/hoods and equipment will be installed in RLUOB through this subproject. This project makes progress toward ceasing program operations in CMR in 2019. Specific capabilities in REI2 scope include, but are not limited to:
  - Trace Elements Sample Preparation
  - Mass Spectrometry Sample Preparation
  - X-Ray Fluorescence Sample Preparation and Instruments
  - Radiochemistry Counting Laboratory and Sample Preparation
  - Oxide and Metal Sample Distribution
  - Coulometry
  - AC and MC Capabilities for R&D and Troubleshooting

- **PF-4 Equipment Installation Phase 1 (PEI1) Subproject (04-D-125-05):** The PEI1 subproject involves the following: relocation of existing PF-4 processes to create open consolidated space, reusing existing gloveboxes for new processes, decontamination and decommissioning (D&D) of old gloveboxes/equipment in PF-4 to create open laboratory space; and, installation of new gloveboxes/equipment in the created open space. PEI1 will support the AC and MC capabilities that require the processing of larger amounts of nuclear material. This project makes progress toward ceasing program operations in CMR in 2019. These capabilities support pit production, pit surveillance, plutonium science and other national security programs. The removal work will be executed as site-prep work within this subproject. Specific capabilities in PEI1 scope include, but are not limited to:
  - Sample Preparation Surface Science
  - Mechanical Testing
  - Physical Properties
  - Small Sample Fabrication and Preparation

- **PF-4 Equipment Installation Phase 2 (PEI2) Subproject (04-D-125-06):** Maximize use of PF-4 by consolidating and relocating existing capabilities, replacing existing equipment, installing gloveboxes and equipment and D&D of existing laboratory space for AC/MC capabilities. PEI2 will establish enduring AC and MC capabilities for supporting NNSA actinide-based missions. Specific capabilities in PEI2 scope include, but are not limited to:
  - Physical Properties
  - Small Sample Fabrication and Preparation
  - Mechanical Testing
  - Sample Preparation
  - Surface Science

- **Re-categorizing RLUOB to Hazard Category-3 (RC3) Subproject (04-D-125-07):** Maximize use of RLUOB by reconfiguring existing laboratory space, equipping the remaining empty laboratories with AC and MC capabilities, and recategorizing RLUOB to a hazard category-3 facility with a material limit of 400 grams of Pu-239 equivalent. RC3 will establish enduring AC and MC capabilities for supporting NNSA actinide-based missions. Specific capabilities in RC3 scope include, but are not limited to:
  - AC Sample Preparation
  - Pu Assay
  - Interstitial Analysis
  - Beryllium Analysis

Justification

As defined in the most recent revision of the Mission Need Statement (MNS), the mission of the Chemistry and Metallurgy Research Replacement Project is to ensure continuity in enduring analytical chemistry and materials characterization capabilities for NNSA actinide-based missions in support of stockpile stewardship. The AC and MC capabilities provided by this project support pit production, pit surveillance, plutonium science and other national security programs. During development of the plutonium strategy, the joint DOD-CAPE business case analysis (BCA) indicated that optimizing RLUOB and repurposing space in PF-4 should be started as soon as possible to maintain continuity in AC and MC capabilities.

The project is being conducted in accordance with the project management requirements in DOE Order 413.3B, Program and Project Management for the Acquisition of Capital Assets.

Funds appropriated for this project may be used to provide independent assessments and other direct contractual support determined necessary by the FPD for the planning and execution of this project.

5. Financial Schedule

Prior Subprojects (RLUOB/REI/Nuclear Facility) (04-D-125-01-03)

(dollars in thousands)

	Appropriations	Plan	Obligations	Cost
Design (03-D-103-10)				
FY 2004	N/A	9,500	N/A	0
FY 2005	N/A	13,567	N/A	1,848
FY 2006	N/A	27,910	N/A	19,147
FY 2007	N/A	12,669	N/A	27,213
FY 2008	N/A	0	N/A	15,079
FY 2009	N/A	0	N/A	-329
FY 2010	N/A	0	N/A	44
FY 2011	N/A	0	N/A	0
FY 2012	N/A	0	N/A	339
FY 2013	N/A	0	N/A	188
FY 2014	N/A	0	N/A	44
FY 2015	N/A	0	N/A	0
FY 2016	N/A	0	N/A	73
Total Design (03-D-103-10)	N/A	63,646	N/A	63,646
Design (04-D-125)				
FY 2007	N/A	11,489	N/A	3,109
FY 2008	N/A	41,581	N/A	24,713
FY 2009	N/A	92,196	N/A	47,102
FY 2010	N/A	57,000	N/A	62,252
FY 2011	N/A	146,699	N/A	101,924
FY 2012	N/A	38,610	N/A	132,593
FY 2013	N/A	0	N/A	15,158
FY 2014	N/A	0	N/A	656
FY 2015	N/A	0	N/A	-1,718
FY 2016	N/A	0	N/A	1,786
Total Design (04-D-125)	N/A	387,575	N/A	387,575

(dollars in thousands)

	Appropriations	Plan	Obligations	Cost
Total Design				
FY 2004	N/A	9,500	N/A	0
FY 2005	N/A	13,567	N/A	1,848
FY 2006	N/A	27,910	N/A	19,147
FY 2007	N/A	24,158	N/A	30,322
FY 2008	N/A	41,581	N/A	39,792
FY 2009	N/A	92,196	N/A	46,773
FY 2010	N/A	57,000	N/A	62,296
FY 2011	N/A	146,699	N/A	101,924
FY 2012	N/A	38,610	N/A	132,932
FY 2013	N/A	0	N/A	15,346
FY 2014	N/A	0	N/A	700
FY 2015	N/A	0	N/A	-1,718
FY 2016	N/A	0	N/A	1,859
Total Design	N/A	451,221	N/A	451,221
Construction (04-D-125)				
FY 2004	N/A	9,941	N/A	0
FY 2005	N/A	39,684	N/A	0
FY 2006	N/A	54,450	N/A	15,933
FY 2007	N/A	41,933	N/A	29,214
FY 2008	N/A	32,560	N/A	50,236
FY 2009	N/A	4,998	N/A	62,288
FY 2010	N/A	40,000	N/A	40,515
FY 2011	N/A	59,000	N/A	82,942
FY 2012	N/A	14,795	N/A	16,306
FY 2013	N/A	0	N/A	-5
FY 2014	N/A	0	N/A	-68
Total Construction (04-D-125)	N/A	297,361	N/A	297,361
Total TEC				
FY 2004	N/A	19,441	N/A	0
FY 2005	N/A	53,251	N/A	1,848
FY 2006	N/A	82,360	N/A	35,080
FY 2007	N/A	66,091	N/A	59,536
FY 2008	N/A	74,141	N/A	90,028
FY 2009	N/A	97,194	N/A	109,061
FY 2010	N/A	97,000	N/A	102,811
FY 2011	N/A	205,699	N/A	184,866
FY 2012	N/A	53,405	N/A	149,238
FY 2013	N/A	0	N/A	15,341
FY 2014	N/A	0	N/A	632
FY 2015	N/A	0	N/A	-1,718
FY 2016	N/A	0	N/A	1,859
Total TEC	N/A	748,582	N/A	748,582

(dollars in thousands)

	Appropriations	Plan	Obligations	Cost
Other Project Costs Non D&D				
FY 2002	N/A	1,665	N/A	1,665
FY 2003	N/A	12,177	N/A	10,853
FY 2004	N/A	7,214	N/A	7,702
FY 2005	N/A	7,164	N/A	4,934
FY 2006	N/A	1,209	N/A	4,265
FY 2007	N/A	4,187	N/A	1,196
FY 2008	N/A	0	N/A	2,335
FY 2009	N/A	9,000	N/A	9,075
FY 2010	N/A	14,403	N/A	14,666
FY 2011	N/A	30,668	N/A	19,240
FY 2012	N/A	1,051	N/A	9,142
FY 2013	N/A	0	N/A	3,665
FY 2014	N/A	0	N/A	-17
FY 2015	N/A	0	N/A	0
FY 2016	N/A	0	N/A	17
Total OPC	N/A	88,738	N/A	88,738
Total Project Costs				
FY 2002	N/A	1,665	N/A	1,665
FY 2003	N/A	12,177	N/A	10,853
FY 2004	N/A	26,655	N/A	7,702
FY 2005	N/A	60,415	N/A	6,782
FY 2006	N/A	83,569	N/A	39,345
FY 2007	N/A	70,278	N/A	60,732
FY 2008	N/A	74,141	N/A	92,363
FY 2009	N/A	106,194	N/A	118,136
FY 2010	N/A	111,403	N/A	117,477
FY 2011	N/A	236,367	N/A	204,106
FY 2012	N/A	54,456	N/A	158,380
FY 2013	N/A	0	N/A	19,006
FY 2014	N/A	0	N/A	615
FY 2015	N/A	0	N/A	-1,718
FY 2016	N/A	0	N/A	1,876
Total Project Costs	N/A	837,320	N/A	837,320

REI Phase 2 (REI2) Subproject (04-D-125-04)

(dollars in thousands)

	Appropriations	Plan	Obligations	Cost
Design (04-D-125)				
FY 2012	N/A	32,000	N/A	0
FY 2013	N/A	0	N/A	0
FY 2014	N/A	0	N/A	909
FY 2015	N/A	16,000	N/A	19,288
FY 2016	N/A	0	N/A	27,803
Total Design (04-D-125)	N/A	48,000	N/A	48,000
Construction (04-D-125)				
FY 2012	N/A	15,000	N/A	0
FY 2013	N/A	0	N/A	0
FY 2014	N/A	0	N/A	0
FY 2015	N/A	8,000	N/A	3,298
FY 2016	N/A	108,000	N/A	108,098
FY 2017	N/A	115,000	N/A	134,000
FY 2018	N/A	123,000	N/A	123,000
FY 2019	N/A	104,000	N/A	104,000
FY 2020	N/A	19,000	N/A	19,604
Total Construction (04-D-125)	N/A	492,000	N/A	492,000
Total TEC				
FY 2012	N/A	47,000	N/A	0
FY 2013	N/A	0	N/A	0
FY 2014	N/A	0	N/A	909
FY 2015	N/A	24,000	N/A	22,586
FY 2016	N/A	108,000	N/A	135,901
FY 2017	N/A	115,000	N/A	134,000
FY 2018	N/A	123,000	N/A	123,000
FY 2019	N/A	104,000	N/A	104,000
FY 2020	N/A	19,000	N/A	19,604
Total TEC	N/A	540,000	N/A	540,000
Other Project Costs Non D&D				
FY 2012	N/A	27,000	N/A	0
FY 2013	N/A	0	N/A	0
FY 2014	N/A	0	N/A	4,371
FY 2015	N/A	0	N/A	363
FY 2016	N/A	9,000	N/A	31,266
FY 2017	N/A	10,000	N/A	10,000
FY 2018	N/A	12,000	N/A	12,000
FY 2019	N/A	40,000	N/A	40,000
FY 2020	N/A	37,000	N/A	37,000
Total OPC	N/A	135,000	N/A	135,000