

DRAFT

THOMAS
JEFFERSON
NATIONAL
ACCELERATOR
FACILITY

PROJECT EXECUTION PLAN



Technology and Engineering
Development Facility

DRAFT

Page Intentionally Left Blank

APPROVALS

Submitted By:

Keith Royston, Project Manager
JLab Facilities Management and Logistics Division

Date

Rusty Sprouse, Project Director,
JLab Facilities Management and Logistics Division

Date

Richard Korynta, Federal Project Director
DOE TJSO

Date

Scott J. Mallette, Deputy Manager
DOE TJSO

Date

Concurrence:

Chris Ackerman, Program Manager
Office of Safety, Security and Infrastructure

Date

Daniel R. Lehman, Director
Office of Project Assessment

Date

Approved By:

Marcus E. Jones, Associate Director of Science for
Safety, Security and Infrastructure

Date

TABLE OF CONTENTS

Change Log	i
List of Acronyms	ii
1. INTRODUCTION.....	1
1.1. Mission Need.....	1
1.2. Project Description	3
1.3. Project Objectives and Goals	3
1.4. Alternatives Considered.....	3
2. ACQUISITION STRATEGY	4
3. PROJECT TEAM AND ROLES AND RESPONSIBILITIES.....	5
3.1. Integrated Project Team	5
3.2. Department of Energy	6
3.3. Thomas Jefferson National Accelerator Facility.....	8
3.4. A/E Firm	9
3.5. CM/GC Subcontractor	9
3.6. Tailoring Plan.....	9
4. RESOURCE REQUIREMENTS.....	10
5. PERFORMANCE BASELINE AND KEY ELEMENTS.....	10
5.1. Scope Baseline and Key Performance Parameters.....	10
5.2. Work Breakdown Structure.....	13
5.3. Project Schedule and Milestones.....	14
5.4. Cost Baseline.....	16
5.5. Basis of Estimate	18
6. Integrated Safety Management (ISM).....	19
6.1. Hazard Analysis.....	20
6.2. Subcontractor Contracting and Oversight.....	20
6.3. Environmental Requirements.....	20
6.4. TJSO ES&H Oversight	21
7. Value Engineering	21
8. Risk Management.....	22
9. Quality Assurance	22
10. Project Controls Systems and Reporting	23

10.1.	Project Performance Measurement.....	23
10.2.	Baseline Change Control Process (BCCP).....	24
10.3.	Configuration Management	26
10.4.	Systems Engineering	26
10.5.	Safeguards and Security.....	26
11.	Transition to Operations	27
11.1.	Final Inspection and Acceptance	27
11.2.	Commissioning	27
11.3.	Occupancy and Start of Operations.....	27
11.4.	Lessons Learned.....	28
12.	Appendix.....	29

TABLE OF FIGURES

Figure 1 - Organization Chart.....	6
Figure 2 - TEDF Project Site Layout	12
Figure 3 - Project WBS	14

TABLE OF TABLES

Table 1 - Funding Profile (\$K)	10
Table 2 - Key Milestones	15
Table 3 - Baseline Cost Summary by WBS (\$K).....	17
Table 4 - Updated Baseline Cost Summary by WBS (K)	18
Table 5 - Baseline Change Control Thresholds.....	25

TABLE OF APPENDICES

Appendix A - IPT Charter.....	30
-------------------------------	----

List of Acronyms

Acronyms and Abbreviations

A/E	Architect/Engineer
A	Actual
AMS	Assistant Manager for Science
BCCB	Baseline Change Control Board
BCP	Baseline Change Proposal
CD	Critical Decision
CDR	Conceptual Design Report
CEBAF	Continuous Electron Beam Accelerator Facility
CFR	Code of Federal Regulations
CM	Construction Manager
CM/GC	Construction Manager/General Contractor
CPD	Contractor Project Director
CPM	Contractor Project Manager
DOE	Department of Energy
DOE HQ	Department of Energy Headquarters
EA	Environmental Assessment
EMS	Environmental Management System
ERL	Energy Recovery Linac
ES&H	Environment, Safety & Health
EVMS	Earned Value Management System
FM&L	Facilities Management & Logistics
FONSI	Finding of No Significant Impact
FPD	Federal Project Director
FPSC	Fixed Price Subcontractor
FY	Fiscal Year
GC	General Contractor
Gsf	gross square feet
GeV	Giga electron Volts
HA	Hazard Analysis
IPR	Independent Project Review
IPT	Integrated Project Team
ISM	Integrated Safety Management
KPPs	Key Performance Parameters
JLab	Thomas Jefferson National Accelerator Facility
JSA	Jefferson Science Associates

LEED	Leadership in Energy and Environmental Design
M&O	Management and Operating
NEPA	National Environmental Policy Act
OSHA	Occupational Safety and Health Act
PARS	Project Assessment and Reporting System
PCS	Project Control System
PED	Preliminary Engineering and Design
PEP	Project Execution Plan
PM&IP	Project Management & Integrated Planning
PEP	Project Execution Plan
PD	Project Director
PM	Project Manager
QA	Quality Assurance
RAM	Responsibility Assignment Matrix
RMP	Risk Management Plan
SC	Office of Science
TEC	Total Estimated Costs
TED	Technology and Engineering Development
TEDF	Technology and Engineering Development Facility
TJNAF	Thomas Jefferson National Accelerator Facility
TJSO	Thomas Jefferson Site Office
TL	Test Lab
TPC	Total Project Costs
VA	Virginia
WBS	Work Breakdown Structure

1. INTRODUCTION

In accordance with Department of Energy (DOE) Order 413.3A, this Technology and Engineering Development Facility (TEDF) Project Execution Plan (PEP) summarizes critical information and processes necessary to manage the project. The PEP is the primary agreement regarding project planning and objectives between the Department of Energy (DOE), Office of Science (SC), the DOE Thomas Jefferson Site Office (TJSO), and the Thomas Jefferson National Accelerator Facility (TJNAF or JLab). Since the start of execution on the project, DOE Order 413.3A was modified to DOE Order 413.3B. The project is being completed following the new requirements consistent with SC policy.

The SC Associate Director for the Office of Safety, Security, and Infrastructure is the delegated Acquisition Executive authority for this project. . The Acquisition Executive approved the initial PEP as part of the Critical Decision (CD)-2 approval process. The PEP is a living document that will be reviewed and revised periodically until the project is complete.

The CD-0, Approve Mission Need was approved in September 2007. The CD-1, Approve Alternative Selection & Cost Range was approved in September 2008. CD-2 Approve Performance Baseline was approved in November 2009. The CD-3A Approve Early Procurement Package Construction was approved in March 2010.. The CD-3B Approve Building Construction was approved in August 2010. The CD-4A Approve start of Operations – New Construction was approved in March 2012. This PEP shows the request for CD-4B scheduled for March FY14 consistent with the CD-2 Performance Baseline.

1.1. Mission Need

This project is needed to ensure TJNAF facilities can reliably support production of advanced cryomodules and develop enabling technologies with the quality required for ongoing and future projects (e.g., 12 GeV, Free Electron Laser, Spallation Neutron Source upgrade, Relativistic Heavy Ion Collider upgrades, Facility for Rare Isotope Beam) and sustain the current high demand for mounting numerous unique large scale particle detectors.

TJNAF occupies a position of world leadership in the field of nuclear physics. This leadership is built upon the unique properties of the Continuous Electron Beam Accelerator Facility (CEBAF), as well as an outstanding array of experimental facilities and strong theoretical support. It is essential for the continuation of this world leadership that core competencies be maintained and enhanced in:

- Nuclear physics, including experimental, theoretical, and computational physics.
- Accelerator science and technology, including radiofrequency superconductivity, high brightness, polarized electron beams, and cryogenics.

These core competencies enable TJNAF to deliver its mission, to perform a complementary role within the DOE laboratory system, and to attain its vision for scientific excellence and pre-eminence in the structure of nuclear building blocks, the structure of nuclei, and symmetry tests in nuclear physics. In addition to nuclear physics, TJNAF contributes to enabling technologies and emerging fields – photon science and electron-light ion colliders – including advanced radiofrequency superconductivity, 2K cryogenic engineering technology, photon science, advanced high power free electron lasers, energy recovering linacs, and electron-light ion collisions at ultra-high luminosity. These technologies support the ongoing research programs and projects at TJNAF which include 6-GeV, 12-GeV, and Free Electron Laser as well as other DOE national and international projects such as the Spallation Neutron Source, the Relativistic Heavy Ion Collider, and the Facility for Rare Isotope Beams.

This project is needed to support the ability of the laboratory to perform these core competency activities safely and efficiently. The Office of Science believes that these core competencies will enable TJNAF to pursue its vision for scientific excellence and pre-eminence in the following areas of nuclear physics:

- The structure of the nuclear building blocks including: the nucleon's charge and magnetization distribution; the separation of the individual quark contributions to those distributions of charge and magnetization; the degrees-of-freedom governing the nucleon's excitation; the internal structure of the nucleon in the valence region, notably the distribution of momentum and spin on the valence quarks; the nature of quark confinement; and the experimental and theoretical tools necessary to carry out a program of nucleon tomography.
- The structure of nuclei including: the nuclear interior with controlled impurities; the short-range component of the nucleon-nucleon interaction in nuclei; the neutron radius of ^{208}Pb ; and the underlying quark-gluon structure of the nucleus.
- Symmetry tests in nuclear physics, including the weak charge of the proton, to test predictions of the Standard Model.
- Enabling technologies and emerging fields - photon science and electron ion colliders – including advanced radiofrequency superconductivity, 2K cryogenic engineering technology Energy Recovering Linacs (ERL),

advanced high power free electron lasers, and electron-light ion collisions at ultra-high luminosity.

1.2. Project Description

The TEDF Project will provide modern, 21st century technical workspace, high-bay space, office space and associated space for support functions. The design of the facility will emphasize more open, collaborative environments and flexibility to respond to future mission changes.

The scope of the project includes design, site work, construction of new facilities, renovation of the Test Lab building, commissioning, building demolition, and removal of trailers. The new facilities will consist of laboratories, equipment rooms, offices, and support space. In addition to the technical workspace and high-bay space, the facilities will include offices for staff, small group conference rooms, equipment areas, restrooms, circulation space and needed supporting infrastructure. The key performance parameters for the project are shown in section 5.1.

1.3. Project Objectives and Goals

The Technology and Engineering Development Facility has established the following overall project goals:

- Construct new facilities to allow for the co-location of various groups scattered throughout the Lab.
- Renovate an existing facility (circa 1965) to provide modern work space.
- Plan and design the new facilities to maximize research efficiencies and optimize space usage.
- Ensure that environmental, safety & health (ES&H), and security requirements are fully incorporated and properly implemented into the project's design and construction.
- Minimize any negative impact to ongoing research operations.
- Implement the Technology and Engineering Development Facility within the baseline cost and schedule.
- Achieve Leadership in Energy and Environmental Design (LEED).

1.4. Alternatives Considered

JLAB is in need of new modern laboratory space to support the growth and continued operations at the lab. Two alternatives were analyzed for obtaining the needed space; renovating portions of the existing Test Lab building (Building 58) including deferred maintenance and compliance modifications and leasing additional space at an off-site location (Alternative #2); or constructing new facilities and completely renovating the existing Test Lab building

(alternative #1). For the basis of this analysis the ‘do nothing’ approach (Alternative #3) was not considered viable because of safety concerns and because this would have serious impacts on the ability of the Lab to fulfill its mission. The best alternative to fulfill the mission of JLab was determined to be alternative 1 – New Construction and Complete Renovation.

2. ACQUISITION STRATEGY

The JLab Management and Operating (M&O) Contractor, Jefferson Science Associates, LLC (JSA), under the direction, guidance, and oversight of DOE Thomas Jefferson Site Office (TJSO), is managing a Fixed-Price Architectural/Engineering (A/E) Design subcontract, and will manage and administer a Fixed-Price Construction Management/General Contractor (CM/GC) subcontract consisting of a base contract and an option. JSA will also manage any other service-type subcontracts required by JLab in the execution of this project.

The A/E was awarded a fixed price subcontract that utilizes the design-to-cost approach. The A/E will prepare all drawings, calculations, and specifications for the construction activity. The A/E will coordinate with the CM/GC during the final design phase and provide support during the construction phase.

The subcontract with the CM/GC will be for two phases of fixed-price work. The base contract will be for the CM/GC to provide support services to the A/E, including input regarding material selection, equipment, construction feasibility, and factors relating to construction, and cost estimates including cost estimates of alternative designs or materials. The CM/GC will also provide cost and schedule validation services, and provide recommendations of actions designed to minimize adverse effects of labor or material shortages, time requirements for procurements and installation and construction completion to JLab. The contract option will be to execute the construction project, including the management, ES&H oversight, and the administration of construction subcontracts. The option will be inclusive of all material, labor, equipment, etc. necessary to perform the work in accordance with the contractual requirements in order to meet the defined scope and schedule.

JLab will procure most of these services through a best value solicitation process. A list of CM/GC's was developed based on responses to an Expression of Interest (EOI) posting. Only those subcontractors approved based on the responses to the EOI posting were provided the Request for Proposal (RFP) for pricing.

All work performed by the CM/GC will be monitored by JLab personnel, with support from the A/E. The TJSO will provide oversight to ensure safety and quality performance.

3. PROJECT TEAM AND ROLES AND RESPONSIBILITIES

This section presents the organizational structure along with the roles and responsibilities for project participants of the Technology and Engineering Development Facility Project.

3.1. Integrated Project Team

The Integrated Project Team (IPT) for the TEDF project consists of personnel from the TJSO and from JLab. The objective of the IPT is to provide professional management and subject matter expertise to assure the safe, timely, and cost-effective completion of the project. The IPT supports the Federal Project Director (FPD) during DOE oversight and review. The Integrated Project Team Charter describes the organization, and designates members, operating principles and roles and responsibilities; a copy of the charter is included as Appendix A.

The FPD will work closely with the program manager for the SC Office of Safety, Security and Infrastructure, to assure that the project execution is consistent with program goals and objectives and to ensure the Acquisition Executive and appropriate DOE Headquarters (DOE HQ) personnel are apprised of the project status. This will be accomplished through routine conference calls, site visits, reviews, and other formal and informal communications.

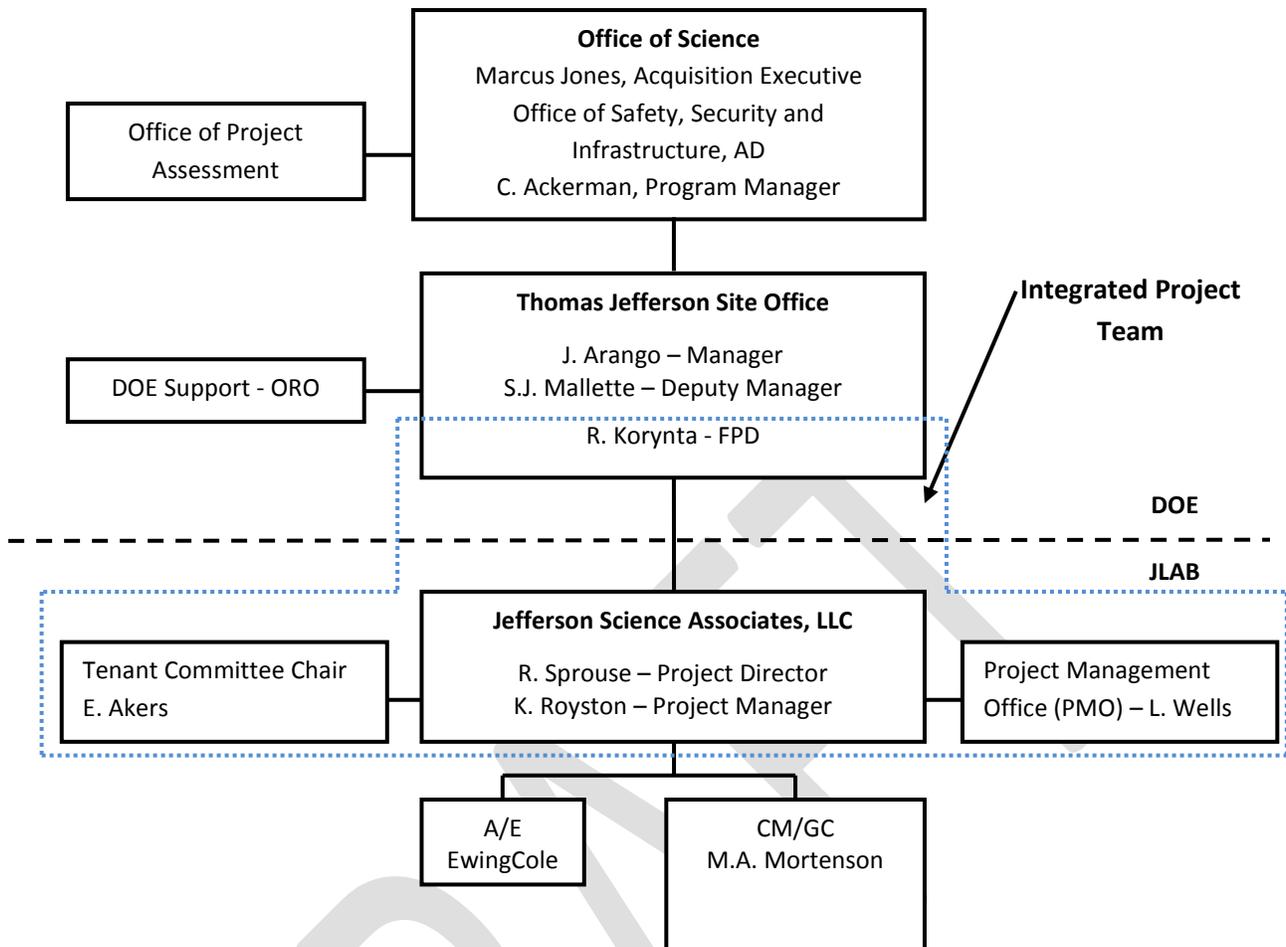


Figure 1 - Organization Chart

3.2. Department of Energy

Associate Director, Office of Safety, Security and Infrastructure

The Associate Director, Office of Safety, Security and Infrastructure, will serve as the Acquisition Executive.

- Approves Critical Decisions (with the exception of CD-0)
- Appoints and Chairs Acquisition Advisory Board to provide advice and recommendations on key project decisions.
- Approves Level-1 baseline changes.
- Approves appointment of FPD.
- Monitors the effectiveness of Federal Project Director and their support staff.
- Conducts quarterly project performance reviews.

Office of Safety, Security and Infrastructure Program Manager

The DOE/SC Program Manager reports to the Acquisition Executive. The Program Manager serves as the primary interface between the FPD and the program. The Program Manager's role and responsibilities are summarized as follows:

- Communicates direction from the Acquisition Executive to the FPD.
- Oversees development of project definition, scope, and budget.
- Defines mission requirements and objectives.
- Prepares, defends, and provides the project budget with support from the field and SC Headquarters organizations.
- Reviews and provides recommendations to the Acquisition Executive on Level-1 baseline changes.
- Functions as the primary point-of-contact at DOE HQ for project matters to all parties external to the project team and SC.
- Develops project performance measures, and monitors and evaluates project performance throughout the life cycle of the project.
- Organizes reviews as necessary.
- Ensures that ES&H requirements are implemented by the project.
- Coordinates with other SC offices and the DOE Office of Engineering and Construction Management as needed to execute the project.

DOE TJSO – FPD

The TJSO reports to SC and administers the M&O contract with JSA, which includes day-to-day oversight of JLab. The execution of the Technology and Engineering Development Facility Project is the responsibility of the FPD. The FPD's responsibilities and authorities include the following.

- Develop, staff, and issue the IPT charter.
- Single point of contact between federal and contractor staff.
- Plan, implement and complete the project using a systems engineering approach.
- Tailor DOE project management requirements to the project.
- Develop and implement the Acquisition Strategy and the Project Execution Plan.
- Define project objectives and technical, schedule, and cost scopes.
- Ensure timely completion and quality of required project documentation.
- Assess contractor project performance versus contract requirements.
- Proactively identify and resolve critical issues within Federal control.
- Integrate and manage the timely delivery of government reviews, approvals, property, services and information.

- Ensure the design, construction, environmental, safety, health and quality efforts performed are in accordance with the contract, public law, regulations, and Executive Orders.
- Evaluate and verify reported progress and report project performance in the Project Assessment and Reporting System (PARS).
- Approve changes in accordance with the PEP change control process.
- Manage project contingency funds.

3.3. Thomas Jefferson National Accelerator Facility

The JLab Project Director will be supported by the JLab Project Management and Integration group and a project team that includes a, Project Manager, Facility User Representative, Procurement, Environmental Safety and Health Representative, Construction Field Representative, and other JLab support in the execution of the project.

JLab Project Director (JLab PD or PD)

The Technology and Engineering Development Facility Project will be executed by a JLab project team that is headed by the PD. The JLab PD has established a project organization to accomplish the Technology and Engineering Development Project, which includes the project manager, engineering support, ES&H, Quality Assurance (QA), construction oversight and safety, procurement, project controls, and finance personnel.

The project director provides senior management oversight, chairs the Baseline Change Control Board (BCCB) and approves Level 3 Baseline Change Proposals (BCPs).

JLab Project Manager (JLab PM or PM)

The JLab PM is responsible for the day-to-day design, construction, testing and turnover to operations of the Technology and Engineering Development Facility and provides support to the JLab PD. Specific responsibilities of the PM include:

- Manages day-to-day execution of the project at JLab.
- Establishes technical and administrative controls to ensure the project is executed within approved cost, schedule, and technical scope.
- Implements an Earned Value Management System (EVMS) to track performance against the approved project baseline.
- Ensures that project activities are conducted in a safe and environmentally sound manner.
- Ensures ES&H responsibilities and requirements are integrated into the project.

- Participates in management meetings and communicates the project status and issues.
- Identifies and manages project risks.
- Prepares and provides recommendations for baseline change control proposals.
- Leads the JLab project engineering team.

Tenant Committee

Representatives from the JLab customer community that will be occupying the new facility will provide technical guidance on the programming requirements for the project and will serve as a technical advisor through project completion. The representatives will interface during programming and design reviews with the entire scientific team that will be occupying the facility. The tenant committee chair is a single point of contact for JLab customer input into the project.

Project Management Office (PMO)

Representatives from the Project Management Office (PMO) provide Earned Value Management and scheduling support.

3.4. A/E Firm

The A/E firm prepared the final design, and the construction documentation (i.e., technical Request for Proposal). The A/E will also provide construction support including submittal review, and field change resolution.

3.5. CM/GC Subcontractor

A fixed-price CM/GC I performs two major tasks. The base contract includes preconstruction CM/GC support services during the design phase. Duties during the design phase include constructability reviews, developing independent cost and schedules, performing feasibility studies and qualification and award of construction subcontractors. In Option 1, during the construction phase, the CM/GC acts as the General Contractor for the project managing and administering all construction subcontracts for the project.

3.6. Tailoring Plan

Table 4 lists the Critical Decision Milestones. Tailoring requirements have been determined to effectively manage the acquisition and all other project processes commensurate with the risk, complexity, safety, cost, and schedule factors of this project and consistent with the DOE Order 413.3A. Tailoring activities include:

- An A/E developed the conceptual design and assisted in the development of the CDR that was reviewed by the JLab project team for CD-1.
- The project A/E completed the Advanced Conceptual Design that was, reviewed and approved by both the JLab project team and the DOE.
- An independent review team performed the design review for CD-2.
- CD-3 is split into two (2) parts: CD-3a approved the early procurement packages, and CD-3b approved the start of general construction and renovation.
- CD-4 is split into two (2) parts: CD-4a approved start of operation of the new facilities and CD-4b will approve start of operation of the renovated Test Lab building.

The project schedule is used to plan and track progress over the life of the project. The project team will evaluate status the project schedule monthly to maintain the critical path and determine the earliest completion date for the project.

4. RESOURCE REQUIREMENTS

The baseline Total Project Costs (TPC) of this project is \$73.1M, and the Total Estimated Cost (TEC) is \$72.1M. The final funding profile is shown in Table 1.

FY	2008	2009	2010	2011	2012	TOTAL
PED		3,700				3,700
Construction			27,687	28,419	12337	68,443
TEC		3,700	27,687	28419	12337	72,143
OPC	314	686				1,000
Total Project Cost	314	4,386	27,687	28419	12337	73,143

Table 1 - Funding Profile (\$K)

5. PERFORMANCE BASELINE AND KEY ELEMENTS

5.1. Scope Baseline and Key Performance Parameters

The construction elements for this project are shown as colored items in Figure 2. Areas that are not part of the construction are shown as black and white. The facilities will occupy sites that are currently developed or previously identified for development. The technical scope of the project for the baseline is:

- Construction of a new 65,000 to 80,000 gsf Technology and Engineering Development (TED) building.
- Construction of a new 25,000 to 40,000 gsf Test Lab building Addition
- Renovation of the Test Lab building (approximately 90,000 gsf)

- Demolition of 7,000 to 10,000 gsf of inadequate and obsolete workspace in and adjacent to the Test Lab building and 2,000 to 12,000 gsf of dilapidated trailers.

The CD-2 approval established the performance baseline for the project.

DRAFT

Figure 2 - TEDF Project Site Layout



5.2. Work Breakdown Structure

The project work has been organized into a Work Breakdown Structure (WBS) for purposes of planning, managing, and reporting project activities. Figure (3) represents the planned WBS for the Technology and Engineering Development Facility project. The WBS reflects all scope defined in the project baseline and represents a family tree relationship of all work necessary to project accomplishment. The WBS provides a common framework to define and integrate project scope, schedule and cost.

Each WBS element is described in a written narrative and collected in the project WBS Dictionary. This clarifies original scope composition and intent and serves as a common reference for the project team. The WBS dictionary helps avoid work duplications or omissions.

The WBS 1.1 Conceptual Design scope includes all of the activities necessary to complete the conceptual design and documents required to achieve CD-0 and CD-1 per DOE Order 413.3A.

The WBS 1.2 Design scope includes all of the activities necessary to complete the preliminary and final design of the project. WBS 1.2 includes the preparation of drawings, specifications, calculations, schedules, estimates and the final procurement package. These activities are defined as Project Engineering and Design (PED) in DOE Order 413.3B.

The WBS 1.3 Construction scope includes all of the activities necessary following PED to complete the construction and turnover of the project to operations. All management, labor, material and equipment for construction activities and management, inspection, testing and oversight of these activities are included.

Project Name: Technology & Engineering Development Facility					Project Funding Type: Capital Line Item Funding		Project Manager: Keith Royston	
WBS Level					WBS Title	WBS Number	Primary / Secondary Participant	Funding Category
1	2	3	4	5				
X					TEDF Project	1.0		
	X				Project Planning	1.1		Expense
		X			Conceptual Planning	1.1.1	JLab/A/E	
		X			Planning	1.1.2	JLab	
	X				Engineering and Design	1.2		PED
		X			Design Services	1.2.01	A/E	
		X			Pre-Construction Services	1.2.02	CM/GC/FPSC	
		X			Pre-Construction Project Management	1.2.03	JLab	
	X				Construction	1.3		CONSTRUCTION
		X			Conventional Facilities Construction	1.3.1	CM/GC	
			X		Civil/Site and Early Procurements	1.3.1.1	CM/GC	
			X		TED Building Construction	1.3.1.2	CM/GC	
			X		TL Building Construction	1.3.1.3	CM/GC	
			X		TL Renovation	1.3.1.4	CM/GC	
		X			Furnished Furniture/Equipment	1.3.2	JLab/FPSC	
			X		TED Furniture/Equipment	1.3.2.1	JLab/FPSC	
			X		TL Furniture/Equipment	1.3.2.2	JLab/FPSC	
			X		TL Ren Furniture/Equipment	1.3.2.3	JLab/FPSC	
		X			Construction Management Services	1.3.3		
			X		Construction Management	1.3.3.1	JLab	
			X		Commissioning	1.3.3.2	FPSC	
			X		A/E Support	1.3.3.3	A/E	
		X			Project Management	1.3.4	JLab	

Figure 3 - Project WBS

5.3. Project Schedule and Milestones

The Project Schedule is a dynamic document that is used to plan and track progress over the life of the project. The baseline schedule has been developed using critical path methodology applied to project work activities representative of this project. The schedule contingency for the CD-4 completion milestone is approximately 8 months. Table 2 shows actual completion dates and currently approved project milestone dates.

Level	Milestone Description	Date
1	CD-0, Approve Mission Need	9/18/2007 (actual)
1	CD-1, Approve Alternate Selection and Cost Range	9/23/2008 (actual)
3	Award Design A/E Subcontract	9/08/2008 (actual)
3	Preliminary Design Notice to Proceed (NTP)	4/15/2009 (actual)
2	National Environmental Policy Act (NEPA) Document Approved	05/29/2009 (actual)
2	DOE Approve CM/GC Solicitation	06/26/2009 (actual)
2	DOE Approve CM/GC Subcontract	10/16/2009 (actual)
3	Award CM/GC Subcontract	10/29/2009 (actual)
1	CD-2, Approve Performance Baseline	11/12/2009 (actual)
3	100% Early Procurement Package (EPP) Design Submission	1/8/2010 (actual)
3	100% EPP Design Complete	1/20/2010 (actual)
2	Complete Early Procurement Package Design	2/12/2010 (actual)
3	CM/GC – Start EPP Bid & Evaluate	2/13/2010 (actual)
3	100% Design Submission	3/5/2010 (actual)
3	Start TEDF Final Design Effort	04/01/2010 (actual)
1	CD-3a, Approve Start of Early Procurement Package	3/26/2010 (actual)
2	Start Early Procurement Package Construction	04/16/2010 (actual)
3	Site Clearing & Grading	5/28/2010 (actual)
2	Complete Final Design	6/1/2010 (actual)
1	CD-3b, Approve Start of General Construction	8/4/2010 (actual)
2	Start New Construction	8/4/2010 (actual)
3	TED Startup & System Checkout	4/30/2012 (actual)
3	TL Addition Startup & System Checkout	6/29/2012 (actual)
2	New Construction Beneficial Occupancy	3/16/2012 (actual)
2	Start Renovation Construction	9/15/2011 (actual)
2	Approve Start of Operation – New Construction	3/16/2012 (actual)
1	CD-4a, Approve Start of Operation - New Construction	3/24/2012 (actual)
3	TL Ren Startup & System Checkout	June 2012
2	Building Renovation Complete	July 2012
1	CD-4b, Approve Start of Operation – Renovation	March 2014

Table 2 – Key Milestones

5.4. Cost Baseline

The TEC of \$72,143,000, with other project costs of \$1,000,000 is the revised cost baseline for this project. Table 3 shows a breakdown of costs for the TEC of \$72,200,000 at CD-2.

The baseline scope was revised at CD-3A to include additional scope in the Civil/Site and Early Procurements element of work that was originally planned for in other WBS elements. Specifically the Structural Steel and Electrical Substation work has been included in the Early Procurement Package (CD-3A) scope of work. This baseline change moved the associated cost from the construction scope in FY10 to the Early Procurement Scope. Additionally, \$300,000 of structural steel scope has been reprogrammed from FY12 to FY10. Table 4 shows a breakdown of the Updated Baseline Cost Summary by WBS with the revised TEC.

WBS	Description	Base Line Total
1.1	Project Planning	\$ 1,000
1.1.1	Conceptual Planning	\$ 800
1.1.2	Planning	\$ 200
1.2	Engineering and Design	\$ 3,350
1.2.01	Design Services	\$ 2,791
1.2.02	Pre-Construction Services	\$ 422
1.2.03	Pre-Construction Project Management	\$ 137
1.3	Construction	\$ 56,672
1.3.1	Conventional Facilities Construction	\$ 47,723
1.3.1.1	Civil/Site and Early Procurements	\$ 4,411
1.3.1.2	TED Building Construction	\$ 19,005
1.3.1.3	TL Building Construction	\$ 16,444
1.3.1.4	TL Renovation	\$ 7,863
1.3.2	Furnished Furniture/Equipment	\$ 1,966
1.3.2.1	TED Furniture/Equipment	\$ 1,038
1.3.2.2	TL Furniture/Equipment	\$ 290
1.3.2.3	TL Ren Furniture/Equipment	\$ 638
1.3.3	Construction Management Services	\$ 6,258
1.3.3.1	Construction Management	\$ 5,716
1.3.3.1.1	TED Construction Management	\$ 2,759
1.3.3.1.2	TL Construction Management	\$ 1,891
1.3.3.1.3	TL Ren Construction Management	\$ 1,066
1.3.3.2	Commissioning	\$ 240
1.3.3.2.1	TED Commissioning	\$ 99
1.3.3.2.2	TL Commissioning	\$ 65
1.3.3.2.3	TL Ren Commissioning	\$ 76
1.3.3.3	A/E Support	\$ 302
1.3.3.3.1	TED A/E Support	\$ 122
1.3.3.3.2	TL A/E Support	\$ 80
1.3.3.3.3	TL Ren A/E Support	\$ 100
1.3.4	Project Management	\$ 726
	TEC Subtotal	\$ 60,022
	PED Contingency (10.5)	\$ 350
	Construction Contingency (20.9)	\$ 11,828
	TEC Contingency (20.3%)	\$ 12,178
	Total TEC	\$ 72,200
	Other Project Costs	\$ 1,000
	Total Project Costs (\$K)	\$ 73,200

Table 3 – CD-2 Baseline Cost Summary by WBS (\$K)

WBS	Description	Base Line Total
1.1	Project Planning	\$ 1,000
1.1.1	Conceptual Planning	\$ 886
1.1.2	Planning	\$ 114
1.2	Engineering and Design	\$ 3,646
1.2.01	Design Services	\$ 2,975
1.2.02	Pre-Construction Services	\$ 525
1.2.03	Pre-Construction Project Management	\$ 146
1.3	Construction	\$ 66,680
1.3.1	Conventional Facilities Construction	\$ 60,322
1.3.1.1	Civil/Site and Early Procurements	\$ 10,806
1.3.1.2	TED Building Construction	\$ 18,073
1.3.1.3	TL Building Construction	\$ 18,438
1.3.1.4	TL Renovation	\$ 13,005
1.3.2	Furnished Furniture/Equipment	\$ 2,485
1.3.2.1	TED Furniture/Equipment	\$ 1,289
1.3.2.2	TL Furniture/Equipment	\$ 530
1.3.2.3	TL Ren Furniture/Equipment	\$ 693
1.3.3	Construction Management Services	\$ 2,777
1.3.3.1	Construction Management	\$ 1,157
1.3.3.2	Commissioning	\$ 305
1.3.3.3	A/E Support	\$ 1,315
1.3.4	Project Management	\$ 1,096
	TEC Subtotal	\$ 70,326
	PED Contingency	\$ 54
	Construction Contingency (23%)	\$ 1,764
	TEC Contingency (20.9%)	\$ 1,818
	Total TEC	\$ 72,143
	Other Project Costs	\$ 1,000
	Total Project Costs (\$K)	\$ 73,143

Table 4 – Updated Baseline Cost Summary by WBS (K)

5.5. Basis of Estimate

Design Phase

The Design Phase cost is comprised of several components. The Architect/Engineer providing the Preliminary and Final Design for the design to cost construction contract based on the awarded contract value. The Pre-Construction Construction Management/General Contractor contract is based on the JLab independent cost estimate for the CM/GC to provide pre-construction services. The other WBS cost elements for the design phase are

based on cost account manager (CAM) estimated man-hours to complete the activities required in each WBS element. Detailed design and cost estimate reviews were conducted at the 60%, 100% and final stages of design.

Construction

The Construction Phase of the project accounts for the construction of the facilities, fitting out, commissioning, management and other supporting costs. The CM/GC cost estimate used the anticipated award value for the CM/GC at Risk services for the design to cost construction of the facility. The Conventional Facilities Construction cost was the contracted design to build cost of \$43.5M for the facilities.

The design to cost budget was validated at the 35% design stage through estimates performed by the A/E and the Independent Cost Estimator (ICE). The estimate was based on “take-off” quantities from the 35% design. Construction contingency of approximately 20% was established for this estimate. The labor rates were based on wages and benefits rates for all trades in the Newport News, VA area. All costs were escalated, at an average escalation rate of 4%, to the mid-point of construction.

The Early Procurement Package (EPP) Basis of Estimate was validated at the 100% design stage through estimates performed by the A/E and the CM/GC for the project. The A/E estimate was based on “take-off” quantities from the 100% EPP design. Construction contingency of approximately 20% was established for this estimate. The labor rates were based on wages and benefits rates for all trades in the Newport News, VA area. All costs were escalated, at an average escalation rate of 4%, to the mid-point of construction. The CM/GC estimate was based on “take-off” quantities and lower tier subcontractor estimates for some of the work packages. The documents used for estimating the cost were the 100% EPP design documents. Construction contingency is carried by the project.

Other Project Costs

In addition to design and construction, the estimate includes planned costs for project management, design support, construction management, testing and inspection. These project costs were estimated using percentages from cost data from recent projects at TJNAF.

6. Integrated Safety Management (ISM)

The JLab ISM System will be utilized for the design and execution of the Technology and Engineering Development Facility project. Subcontractors will be required to demonstrate both safety philosophy and practices through binding subcontract language. Proposed project work will be performed under the standards and codes

set forth in the TJNAF DOE JSA contract, Federal Occupational Safety and Health Act (OSHA), 29 Code of Federal Regulations (CFR) 1926, 10 CFR851, and Virginia OSHA as supplemented by JLab work rules dictate the minimum baseline requirements for safe work on the project.

6.1. Hazard Analysis

A Hazard Analysis (HA) report has been issued. It identifies construction hazards and operational hazards and mitigation plans for the hazards. The operational hazards are due to work activities and building design features associated with the usage of the new buildings. The HA report serves as the basis for planning physical and administrative controls to protect the health and safety of workers, contractors, and the environment. A project specific Safety Plan per 10 CFR 851 will be prepared for the construction phase.

6.2. Subcontractor Contracting and Oversight

JLab has employed a Best Value procurement policy that includes ES&H performance as a critical parameter to assure that subcontractors can meet these requirements. The JLab ES&H Manual is utilized as the basis for this evaluation. Subcontractors must have a safety record with demonstrated performance in similar construction activities. Their management team must have a strong commitment to the safety program, in particular in applying the principles and core functions of ISM, to assure outstanding worker and ES&H and safety performance. Subcontractor management is held accountable for the safety performance of their workers, and will be responsible for ensuring all work is performed safely.

To ensure that ES&H oversight is maintained on a continual basis for all activities, the CM and GC will be responsible for ES&H oversight of the construction subcontractors. The CM/GC Safety professionals shall have the authority to assist subcontractor management in the enforcement of subcontract agreement safety requirements.

6.3. Environmental Requirements

No environmental issues have been identified that would significantly impact this project. The environmental risk is low. The project will comply with all requirements of the NEPA and its implementing regulations. An Environmental Assessment (EA) including the elements of this project was completed in December of 2006 and a Finding of No Significant Impact (FONSI) was issued. A NEPA Analysis was completed in May of 2009 to address the evolution of the project since the FONSI was issued. The NEPA Compliance Officer made a determination that additional NEPA documentation is not required. Construction of the new facilities and renovation has been coordinated with JLab operations and will not impact ongoing research at TJNAF.

TJNAF has implemented an Environmental Management System (EMS). Requirements of the EMS flow down to construction subcontracts. Oversight of construction activities will be conducted by JLab to ensure subcontractors are in compliance with EMS requirements. Throughout construction, environmentally sensitive construction practices will be followed to reduce site disturbance, minimize construction waste, and improve indoor air quality. As a LEED registered project, the Technology and Engineering Development Facility construction project will include erosion and sedimentation control plans. Waste management requirements will include recycling and waste minimization actions.

Sustainable design features were incorporated into the TEDF Project as required by the Energy Policy Act of 2005 and DOE Order 430.2B, Departmental Energy, Renewable Energy and Transportation Management including incorporation of the Guiding Principles of Executive Order 13423 to the extent practical and life cycle cost effective. The design will achieve energy savings of a least 30 percent below ASHRAE Standard 90.1-2004. The highest possible LEED certification will be pursued consistent with the budget and performance goals of this project. A preliminary LEED Checklist for New Construction has been completed in conjunction with the design.

6.4. TJSO ES&H Oversight

The FPD is the primary point of contact for the TJSO ES&H oversight activities and will maintain cognizance of all project activities. TJSO oversight activities are designed to ensure that the planned JLab ESH&Q oversight will be performed in an effective manner and that ESH&Q oversight will be conducted in accordance with JLab safety policies and the TJSO Project Specific Oversight Plan established prior to start of construction.

Oversight activities during construction include participation in site walkthroughs and contractor work planning meetings, and safety meetings. TJSO oversight will be conducted primarily by TJSO staff, but additional resources will be obtained as necessary.

7. Value Engineering

Consideration of sustainable design and energy savings will be made during the design phase of the project. A value engineering study has been completed during preparation of the preliminary design to evaluate the effectiveness of possible alternative design approaches, sustainability, and energy conservation features. The purpose of the study was to evaluate the impacts to the project initial and life cycle cost as well as schedule of any suggested changes to the design. Value engineering principles will be applied throughout the life of the project.

8. Risk Management

The Risk Management Plan (RMP) has been issued that identifies the potential risks and provides a comprehensive strategy for management of these risks. The objective of this plan is to proactively identify and manage project related risks throughout the project's life cycle. The mitigation of risks minimizes their impact on the project's cost and schedule as well as on the facility's operational performance

The RMP includes a risk registry that indicates assigned responsibilities of the project personnel in performing the risk management actions. The risk registry will be updated monthly to contain all comprehensive risk information as the project progresses. The RMP will be maintained to ensure that the project incorporates appropriate, efficient and cost-effective measures to handle project risk and to address and successfully manage any new risks that may surface during the execution of the project.

The risks anticipated during construction of the proposed facilities are typical of standard building design and construction. The risks associated with this project and acquisition strategy are judged to be manageable

Prior to CD-2 quantitative risk analysis, including Monte Carlo simulation (Oracle – Crystal Ball software), was utilized to assess the impact of the identified risks on the project cost and schedule, and provide an evaluation of the level of confidence in achieving the project cost and schedule objectives. The probability of success of the TEDF project is considered high based on these analyses. The analysis indicated that adequate schedule and budget contingency exists for the successful completion of the project within the desired objectives. Subsequent analysis has continued to support this determination.

9. Quality Assurance

This project will follow the JLab established quality assurance program. This project falls under Standard industry Quality Level 3. A tailored QA plan has been developed for the project. The industry standard practices for industrial construction projects will apply.

Specific quality control requirements involving program requirements, personnel training and qualifications, documentation and record keeping, work process, design, procurement, inspection and testing, and independent assessment will be addressed in the procurement documents. Division 1 General Requirements of the construction documents will identify the general requirements of the subcontractor's quality

control program and the technical specifications (Divisions 2 – 44) will identify the specific technical requirements.

TJNAF QA procedures will be implemented during project development, design, and construction to ensure that all safety, operational, and subcontract requirements are met. Design reviews included consideration of reliability, maintainability, and operability to ensure the development of systems that are reliable, safe and easy to operate, and maintainable with minimal resources. The facilities and systems will be inspected during construction to ensure that the building is constructed in accordance with the approved construction documents. In addition, an independent commissioning agent will test the operation of the building systems to ensure accurate operations based on the design.

10. Project Controls Systems and Reporting

10.1. Project Performance Measurement

The project was initially conducted in accordance with the project management requirements in DOE Order 413.3A, “Program and Project Management for the Acquisition of Capital Assets”. The principles of project management maintained in DOE Order 413.3B continue to be applied to the project with guidance from the Acquisition Executive and the SC Office of Project Assessment. The PM is responsible and accountable for management of the project’s scope, schedule and budget. Earned value analysis will be performed and reported on a monthly basis.

The DOE TJSO and the M&O contractor (JSA) have implemented a certified EVMS that complies with the American National Standards Institute/Electronic Industries Alliance-748-A-1998. This system, as described in the JLab Project Control System (PCS) Manual, will be used to monitor and evaluate the project progress and performance for the duration of the project

The earned value process flows down through the JLab contract documents to the A/E, and CM/GC. A project-level critical path schedule has been developed, and will be maintained by the JLab Project Management & Integration (PM&I) group. Updates will come from the Project Manager. The A/E will submit a monthly progress report in sufficient detail to monitor and track design progress. The CM/GC will submit a monthly progress report in sufficient detail to monitor and track progress and the CM/ GC will submit a critical path Construction Schedule and schedule-of-values for approval by the PM. Each month the CM/GC will provide, for approval, a Schedule-of-Values Progress Report that directly correlates to the construction schedule. The PM will perform field verification to verify the progress reported by the CM/GC.

Technical scope will be monitored throughout the project to assure conformance to approved project requirements. Design reviews, inspections, and performance testing of completed systems will be used to ensure that the facility meets all project requirements.

Project status update meetings will be held monthly and chaired by the PM. The PM will send a monthly status report to JLab Management as well as DOE TJSO, the DOE HQs Program Manager and Project Team Members. Corrective actions for significant variances will be included in the report. Earned Value status will be reported monthly by the FPD using the PARS. The overall project performance will be documented by the FPD and a monthly status sheet submitted to the DOE HQ program manager. The FPD will report on project performance to the Acquisition Executive during quarterly progress reviews.

10.2. Baseline Change Control Process (BCCP)

The change control process will be governed by DOE O 413.3, Project Management for the Acquisition of Capital Assets and the JSA Project Control System Manual. During design, periodic reviews will be held to assure that the technical baseline is maintained, quality assurance is maintained, the design is in compliance with engineering standards and the requirements of the specifications, and the design is adequate for the intended purpose. After CD-2 change control will be handled in accordance with authorities established in Table 4.

Routine Project Changes: Project changes which DO NOT modify the Performance Baseline.			
Routine Project Change Authority			
	Acquisition Executive¹ (Associate Director)	Federal Project Director	JLab Project Director
Scope	Any change in the KPPs as referenced in the PEP section 5	Any change at WBS Level 2 as referenced in PEP section 5	Any change at WBS Level 3 and below as referenced in PEP section 5
Schedule	Any change to a Level 1 milestone (except CD-4 project completion) as referenced in the PEP Table 2.	Any change to a Level 2 milestone as referenced in the PEP Table 2.	Any change to a Level 3 milestone and below as referenced in PEP table 2.
Cost	A change to TEC or OPC, or A cumulative use of greater than \$ 6M in contingency. ²	Any cumulative change of \geq \$5M or 50% to each level 3 WBS element BAC as defined in Table 3 – Cost Estimate. Or A cumulative use of \geq \$500k of contingency. (i.e., Management Reserve). ²	Changes to cost below the FPD thresholds.

Performance Baseline Deviations: Project changes which DO modify the Performance Baseline.	
Performance Baseline Change Authority³	
Secretarial Acquisition Executive (SAE)	Under Secretary (Program Secretarial Officer, if delegated)
A change in scope that affects the ability to satisfy the mission need, an inability to meet a KPP, or nonconformance with the current approved PEP, which must be reflected in the PDS.	A change in scope that affects the ability to satisfy the mission need, an inability to meet a KPP, or nonconformance with the current approved PEP, which must be reflected in the PDS.
A delay of 6-months or greater (cumulative) from the original project completion date.	A delay of less than 6-months cumulative from the original project completion date.
An increase in excess of the lesser of \$25M or 25% (cumulative) of the original CD-2 cost baseline.	An increase that is less than \$25M or 25% (cumulative) of the original CD-2 cost

Table 5 - Baseline Change Control Thresholds

¹ With the exception of CD-0, the Acquisition Executive still approves the Critical Decisions. These tables only apply to baseline change controls.

² After the cumulative threshold has been reached and the change has been approved, the cumulative threshold will reset. The DOE FPD must approve any use of contingency.

³ New performance Baselines to be established as a result of a deviation must be validated by OECM if the new TPC exceeds \$100M.

10.3. Configuration Management

Configuration of the project baseline documents will be maintained through a formal baseline change control process described in Section 10.2 above. Configuration defining documents for the project consist of the following;

- Project Data Sheet
- Project Execution Plan (PEP)
- Project Change Control Logs
- Final Design Packages

The JLab PM, acting under the direction of the JLab PD, will be responsible for implementing a necessary and sufficient approach to configuration management for the project and will identify and implement actions that affect the baseline

10.4. Systems Engineering

Systems engineering principles will be employed by the project team, subcontractors, and stakeholders in the development of the project from conceptual design through construction and completion. Over the course of the project, systems engineering will be utilized to:

- Assess and analyze alternatives incorporating user requirements, risks, costs, and constraints to arrive at a recommended alternative;
- During Preliminary Design, integrating technical requirements, risk, acquisition needs, and value management to arrive at a cost-effective, preferred solution to meet the mission need; and
- In the Execution Phase (Final Design and Construction), balance requirements, cost, schedule, safety basis, and other factors to optimize a design that matches the approved integrated baseline, and that satisfies the mission need.

10.5. Safeguards and Security

Safeguards and Security requirements for this project have been coordinated with TJNAF Security and DOE TJSO. Security needs of this project are adequately covered by the existing site security arrangements. TJNAF access requirements and procedures were written into project contract documents and will be followed by all project personnel accessing the site. The construction contractor was required to fence the project site for both safety as well as security considerations.

A security analysis was completed for this project. The recommendations were incorporated into the project design.

11. Transition to Operations

11.1. Final Inspection and Acceptance

The JLab project team shall evaluate the building, equipment, and systems to ensure that:

- Equipment, systems, and the facility checks out
- Inspections and walk downs have been completed and a punch list has been developed for incomplete work.
- The assigned building operations staff have received building equipment operational training and manuals.
- An inspection of corrective actions has been conducted and punch list work has been completed.
- JLab FM&L Personnel and the City of Newport News Fire Department have inspected all the life safety systems for proper operation.

These activities are defined in more detail in a Transition to Operations Plan.

11.2. Commissioning

A third party commissioning agent has been engaged to review design documents to ascertain performance and operational test requirements for all major building systems. A commissioning plan to test and evaluate system performance both individually and collectively as compared to approved design criteria has been prepared and was completed prior to the start of building construction. Functional performance tests have been established and all designated systems will be tested against the performance criteria. Results will be recorded, and corrective actions initiated if required.

11.3. Occupancy and Start of Operations

Beneficial occupancy may occur prior to the completion of all of the commissioning and punch list items but all building life safety systems must be operational prior to any occupancy. A readiness assessment will be completed when the construction is complete, prior to occupancy. Training of the TJNAF Facilities Management staff on the use of all building equipment and systems will be performed as the equipment and systems become operational. This training is part of regular operating costs and not part of the project costs. At the point of beneficial occupancy the responsibility for the operation and safety of the facility will transfer to the TJNAF Facilities Management and Logistics Division (FM&L).

The laboratory, not this project, will be responsible for relocating all personnel and program equipment into the Technology and Engineering Development Facility and for their transition to operations costs.

11.4. Lessons Learned

The ongoing efforts to integrate lesson learned into the project will be continued at all stages of the Project. The Project will incorporate the lessons learned from past projects at JLab in recent years such as CEBAF Center Addition and 12 GeV Upgrade projects.

Throughout the project, instances of right and wrong approaches will be documented as lessons learned and will be distributed through the JLab and DOE Lessons-Learned System. At the conclusion of the project, the project manager and FPD will analyze these lessons learned and review them with the IPT. The results of this review will also be distributed through the JLab and DOE Lessons-Learned System.

12. Appendix

Appendix A – IPT Charter

Appendix A - IPT Charter

Integrated Project Team Technology and Engineering Development Facility Thomas Jefferson National Accelerator Facility

Revision 2

Mission Statement:

Provide strategic planning, coordination and communication for the Technology and Engineering Development Facility (TEDF) project that ensures project objectives are achieved on schedule, within budget and fully capable of meeting the mission goals, and quality, environment, safety, and health standards. Ensure that project management is carried out with integrity and in compliance with applicable laws.

Purpose/Goals:

1. Support the Federal Project Director and JLab Project Manager in performance of their project management responsibilities.
2. Develop and implement an appropriate project contracting strategy.
3. Assure all project interfaces are identified, completely described/defined and managed to completion.
4. Identify, define and meet appropriate and adequate project performance parameters.
5. Perform quarterly reviews and assessments of project performance and status against established performance parameters, baselines, milestones and deliverables taking corrective action as appropriate.
6. As necessary, plan and participate in project reviews, audits and appraisals.
7. Support development of all Critical Decision (CD) packages.
8. Review and comment on applicable project deliverables, e.g., drawings, specifications, procurement and construction packages.
9. Review baseline change requests (as appropriate) and support change control boards as requested.
10. Plan and participate in coordinating vacating structures and occupation of the new or updated facilities.
11. Support the preparation, review and approval of project completion and closeout documentation.
12. Delivery of a quality, cost effective project.

Members:

Core Members:

DOE TJSO Federal Project Director – Richard Korynta
JLab Project Director – Rusty Sprouse
JLab Project Manager – Keith Royston
JLab Project Management Office – Lyn Wells
JLab Tenant Committee Chair – Evelyn Akers

Members

DOE TJSO Contracting Officer – Wayne Skinner
DOE TJSO Site Manager (Observer) – Joe Arango
DOE TJSO Deputy Site Manager (Observer) – Scott Mallette
JLab Subcontracting Officer – Teresa Danforth
JLab Environmental Health and Safety Rep – Dick Owen
JLab Environmental Specialist – Bill Rainey
JLab Engineering Support
 Carroll Jones – Mechanical and Plumbing
 Paul Powers – Electrical
 David Kausch – Fire Protection and Life Safety
JLab 12Gev Project Manager (Observer) – Claus Rode
JLab Chief Operating Officer (Observer) – Mike Dallas

Primary Team Interfaces:

Multiple interfaces are necessary for the Technology and Engineering Development Facility Integrated Project Team (IPT) to ensure well coordinated, timely project performance. These include the HQ Program Manager, other DOE Headquarters Programs and Project Management organizations, Jefferson Lab management, the project performance teams and other affected Jefferson Lab personnel.

The Federal Project Director will be the primary point of contact with the Program Manager for coordination and submittal of CD documentation. The Federal Project Director will also routinely contact the Program Manager to communicate project status and discuss issues or concerns. Input will also be solicited from the Program Manager on institutional developments that may impact project performance.

For CD approvals and project reviews it may be necessary for the Federal Project Director to interface with other DOE Headquarters Program and Project Management organizations. However the Program Manager will be the point of contact for day-to-day IPT interface with DOE Headquarters.

Interface with Jefferson Lab management and affected personnel will be necessary for coordination with site activities that may impact project performance or where project activities may have broader site impacts. These interfaces will also be necessary for planning and implementing a well-organized occupation of the TEDF. The JLab Project Manager will be the IPT point of contact for day-to-day interfaces with Jefferson Lab management and other affected personnel, including the tenant committee, to obtain input for coordination of project activities.

The project teams will be responsible for implementing project elements of work. The JLab Project Manager and/or IPT team members directly associated with the elements of work being performed will be the primary points of contact with the project teams.

Team Member Responsibilities:

DOE TJSO Federal Project Director (FPD)

The FPD will lead the IPT and will be the primary point of contact for communication and coordination with entities external to the IPT. The FPD is responsible, with the assistance of the IPT members, for the following tasks:

- Develop, staff, and issue the IPT charter.
- Single point of contact between federal and contractor staff.
- Plan, implement and complete the project using a systems engineering approach.
- Tailor DOE project management requirements to the project.
- Develop and implement the Acquisition Strategy and the Project Execution Plan.
- Define project objectives and technical, schedule, and cost scopes.
- Ensure timely completion and quality of required project documentation.
- Assess contractor project performance versus contract requirements.
- Proactively identify and resolve critical issues within Federal control.
- Integrate and manage the timely delivery of government reviews, approvals, property, services, and information.
- Ensure the design, construction, environmental, safety, health, and quality efforts performed are in accordance with the contract, public law, regulations, and Executive Orders.
- Evaluate and verify reported progress and report project performance in the Project Assessment and Reporting System (PARS).
- Approve changes in accordance with the Project Execution Plan (PEP) change control process.
- Manage project contingency funds.

DOE TJSO Contracting Officer

The Contracting Officer (CO) provides contracts-related support to the IPT to include, but not be limited to, the review of project related subcontracts submitted for DOE approval. In general, the CO has the authority to enter into, administer, and/or terminate contracts and make related determinations and findings. Only the CO is authorized to modify the Statement of Work and issue written modification(s) to the contract; accept non-conforming work; waive any requirements of the contract; or modify any term or condition of the contract.

JLab Project Director

The Technology and Engineering Development Facility Project will be executed by a Jefferson Science Associates project team that is headed by the JLab PD. The JLab PD has established a project organization to accomplish the Technology and Engineering Development Facility Project which includes the project manager, engineering support, ES&H, Quality Assurance (QA), and safety, procurement, project controls, and finance personnel.

The project director provides senior management oversight, chairs the Baseline Change Control Board (BCCB), approves the use of Management Reserve and approves Level 3 Baseline Change Proposals (BCPs).

JLab Project Manager

The project manager is responsible for the design, construction/renovation, testing and turnover to operations of the Technology and Engineering Development Facility. Specific responsibilities of the PM include:

- Manages day-to-day execution of the project at TJNAF.
- Establishes technical and administrative controls to ensure the project is executed within approved cost, schedule, and technical scope.
- Implements an Earned Value Management System (EVMS) to track performance against the approved project baseline.
- Ensures that project activities are conducted in a safe, healthful and environmentally sound manner.
- Ensures ES&H responsibilities and requirements are integrated into all phases of the project.
- Participates in management meetings and communicates the project status and issues.
- Identifies and manages project risks.
- Prepares and provides recommendations for BCPs.

- IPT point of contact for interface with TJNAF management

JLab Engineering Support

JLab Engineering Support will provide technical and engineering support and review of the design, construction, testing and startup of the facility.

JLab Subcontracting Officer

The Subcontracting Officer is responsible for subcontract administration and contractual support. Specific responsibilities include:

- Solicit sources/vendors and administer subcontracts.
- Assists in source selection.
- Directs preparation of the Request for Proposals.
- Performs price and cost analysis.
- Ensures all contractual provisions are approved and met. Negotiates terms, recommends award of contract and prepares necessary justification documentation.
- Prepares subcontract modification changes in scope of work, funding and schedules.
- Monitors expenditures and reviews invoices.
- Recommends resolution of disputes and subcontractor claims.
- Upon completion performs subcontract closeout.

JLab Tenant Committee Chair

The Tenant Committee Chair interfaces with the Jefferson Lab IPT as necessary for planning and implementing well coordinated design, construction and occupation of the TEDF. The Tenant Committee Chair is the Tenant Committee point of contact for interfaces with the TEDF IPT and other members of the committee to obtain input for coordination of project activities. Functions of the Tenant Committee are documented in the Tenant Committee Charter.

JLab Environmental, Health & Safety Representative(s)

The environmental, Health and Safety representative(s) will:

- Review the design and participate in the oversight of construction activities.
- Provide advice and support to the PM on continuous improvements of safety throughout the project.

- Approve the construction subcontractor hazard assessment and safety plans.

Meetings

The Integrated Project Team shall meet as necessary to accomplish the stated goals and mission. Team members shall meet with each other and external interfaces as necessary to address and/or resolve specific issues.

Integrated Project Team Life

This charter will expire when CD-4B, Project Closeout, has been approved by the Acquisition Executive. The charter is a living document and the IPT membership may change during the life of the project. The FPD will issue revisions to the charter as necessary.

Approved:

Signature on File
Keith A, Royston, JLab Project Manager

10/11/2012
Date

Signature on File
Richard Korynta, TJSO Federal Project Director

10/11/2012
Date