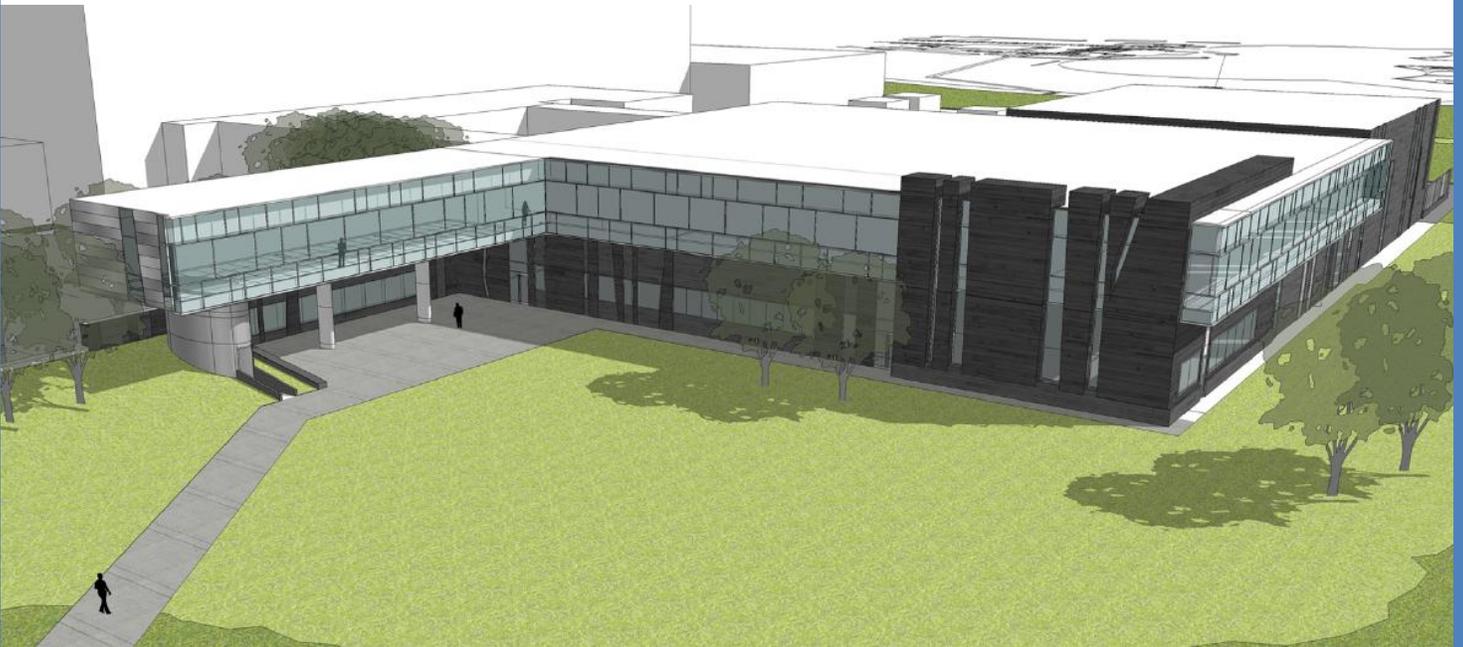


JEFFERSON
SCIENCE
ASSOCIATES,
LLC

WORK BREAKDOWN STRUCTURE DICTIONARY



Technology and Engineering
Development Facility

Project Name: Technology & Engineering Development Facility					Project Funding Type: Capital Line Item Funding		Project Manger: 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	FPSC	
			X		Civil/Site and Early Procurements	1.3.1.1	FPSC	
			X		TED Building Construction	1.3.1.2	FPSC	
			X		TL Building Construction	1.3.1.3	FPSC	
			X		TL Renovation	1.3.1.4	FPSC	
		X			Furnished Furniture/Equipment	1.3.2	JLab/GC	
			X		TED Furniture/Equipment	1.3.2.1	JLab/GC	
			X		TL Furniture/Equipment	1.3.2.2	JLab/GC	
			X		TL Ren Furniture/Equipment	1.3.2.3	JLab/GC	
		X			Construction Management Services	1.3.3		
			X		Construction Management	1.3.3.1	CM/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	

WBS Code: 1.1.1
WBS Title: Conceptual Planning
WBS Manager: Keith Royston
Date: 01/09

Revision #

Cost Content:

- JLab Facilities Management Division (Labor/Materials/Other Costs/Overhead)
- Architect-Engineer (A-E) (Subcontract/Overhead)
- Consultant (Subcontract/Overhead)

Technical Content:

Prepare supporting documents including but not limited to Mission Need, Feasibility Studies, Design Criteria and Conceptual Design Report (CDR) and other documentation as required.

Activities:

During this phase, pre-conceptual planning activities focus on the Program's strategic goals and objectives. User needs are analyzed for consistency with the strategic plan and management direction. Alternative concepts, based on user requirements, risks, costs, and other constraints, are analyzed to arrive at a recommended alternative. This is accomplished using Systems Engineering and other techniques and tools such as alternatives analysis and Value Management/Value Engineering. This ensures the recommended alternative provides the essential functions and capability at optimum life cycle cost, consistent with required performance, scope, schedule, cost, security, and Environment, Safety and Health considerations. During this phase, the required Value Management assessment is completed, and more detailed planning is accomplished which further defines required capabilities. The products produced by this planning provide the detail necessary to develop a range of estimates for the project cost and schedule. This phase also includes efforts to plan and execute advanced procurement for the AE.

Participants:

TJNAF Facilities Division / A-E / Consultant / Other TJNAF organizations as required

Deliverables:

- Conceptual Design Report
- Preliminary Risk Assessment / Risk Management Plan
- Project Data Sheet (PDS) for PED & Construction
- National Environmental Policy Act (NEPA) Checklist
- QA evaluation
- Facility Hazard Screening / Preliminary Hazards Analysis Report
- Value Management/Value Engineering
- High Performance Sustainable Building Considerations
- Economic Analysis of Alternatives
- Advanced Procurement activities for AE/CMGC
- Preliminary Acquisition Plan
- Preliminary Project Execution Plan

Comments:

Charges are other project costs (OPC) and are charged to an expense account.

WBS Code: 1.1.2
WBS Title: Planning
WBS Manager: Keith Royston
Date: 01/09

Revision #

Cost Content:

- JLab Facilities Management Division (Labor/Materials/Other Costs/Overhead)

Technical Content:

Perform additional studies as needed in support of the TEDF project.

Activities:

During this phase,

Participants:

TJNAF Facilities Division / A-E / Consultant / Other TJNAF organizations as required

Deliverables:

- Planning reports

Comments:

Charges are other project costs (OPC) and are charged to an expense account.

WBS Code: 1.2.1
WBS Title: Design Services
WBS Manager: Keith Royston
Date: 01/09

Revision #

Cost Content:

A-E (Subcontract/Overhead)

Technical Content:

Prepare preliminary and final design documents including drawings, specifications and other construction documents. Design activities include calculations, studies, test plans and procedures, field surveys and site visits, bills of materials and/or construction cost estimates.

Activities:

Prepare or expand upon preliminary sketches, flow or single-line diagrams, drawings, equipment lists, layout plans, outline specifications, software descriptions, and reports showing features and characteristics of the proposed design incorporating the results of the project-related assessments and plans. Identify or update long-lead procurement items or other potential supply problems. Prepare the preliminary design (35%) for review and the preliminary design cost estimate, as required. Prepare the final design documents for 60%, 100% and Final completion Milestone(s). Prepare the CFC design documents, including the working drawings, calculations and specifications. Design will be prepared consistent with TJNAF standards. Prepare input for the final design cost estimate. The designer will sign and stamp (Professional Engineer or Registered Architect) all drawings, specifications and calculations. The Verifier/Checker will sign the drawings and calculations.

EVMS progress is based on the completion of the design milestones.

Participants:

A-E and Consultants

Deliverables:

- Preliminary and final design/construction documents
- Construction cost estimates
- Field survey / site visits
- LEED evaluation and checklist

Comments:

WBS Code: 1.2.2
WBS Title: Pre-Construction Services
WBS Manager: Keith Royston
Date: 01/09

Revision #

Cost Content:

Construction Manager or construction subcontractor(s) (CM/GC) (Subcontract/Overhead)
Commissioning Agent (Subcontract/Overhead)
Consultants (Subcontract/Overhead)
TJNAF Facilities Maintenance and Logistics Division (Labor/Materials/Other Direct Costs/Overhead)

Technical Content:

Support the preliminary and final design performed by an Architect-Engineer (A-E) to ensure that the project can be constructed within budget. Perform constructability reviews and prepare construction cost estimates and schedules. Review/comment on the preliminary and final design packages (30%, 60%, 100 and Final), resolve comments on the package, adjust the Cost Estimate input, as required, and submit the design package to the Project Manager (PM) for approval and use as a basis for further design activities.

Activities:

Provide support services to the Project, including input regarding the selection of materials, building systems and equipment, construction feasibility, factors related to construction and cost estimates including estimates of alternative designs or materials to aid in the design-to-cost objectives and construction schedules detailing the plan for accomplishing the construction scope. The CM/GC will also provide analysis of construction bids as well as providing recommendations of actions designed to minimize adverse effects of labor or material shortages, time requirements for procurement and installation and construction completion.

EVMS is based on the contract schedule of values.

Commissioning Agent will prepare pre-construction Commissioning Plan (Phase I). Phase II (actual Commissioning efforts) will be executed under WBS 1.3.3.2.1, 1.3.3.2.2, 1.3.3.2.3

Participant:

Construction Manger (CM/GC)
Commissioning Agent

Deliverables:

- Constructability reviews
- Construction estimates
- Construction Schedules
- Bid Analysis
- Pre-Construction Commissioning Plan

Comments:

WBS Code: 1.2.3
WBS Title: Pre-Construction Project Management
WBS Manager: Keith Royston
Date: 01/09

Revision #

Cost Content:

- JLab Facilities Management Division (Labor/Materials/Other Costs/Overhead)

Technical Content:

The Project Manager will perform project management of all project elements including meetings, RFP bid preparation/contract evaluation/award(s), coordination of design and pre-construction activities, cost and schedule reviews and coordination between the design team, A-E, vendors, and Construction Manger. PM will provide cost estimates, schedules, cost reports, financial and performance analysis. Review/comment on the preliminary and final design packages (30%, 60%, 100 and Final), resolve comments on the package, adjust the Cost Estimate input, as required, and submit the design package to the Project Manager (PM) for approval and use as a basis for further design activities.

Activities:

Manage assigned projects to ensure planning, design, and pre-construction activities meet project goals and objectives and that the work is done in accordance with DOE, TJNAF and Facilities Management and Logistics requirements. Manage and coordinate Architect-Engineer (A-E) contract. Participate in A-E design reviews and status meetings, LEED and Commissioning planning. Prepare project support documents. The Principal Engineer (PE) will assure that the Intergraded Project Team (IPT) has reviewed the project with regard to environmental protection, radiation protection, fire protection, constructability, etc., and that the design is consistent with TJNAF standards. The Design Team (DT) will issue the design documents for approval and the PE will ensure that electronic drawing files have appropriate drawing numbers assigned by the TJNAF Document Number Reservation System. . The PE will sign the drawings. The PM will sign the documents and issue to Records Management as CFC.

This is a level of effort activity.

Participants:

TJNAF Facilities Management and Logistics Division / Other TJNAF organizations as required

Deliverables:

- Project Execution Plan
- Establishment of Performance Measurement Baseline
- Establish Risk Management Plan
- Earned Value Analysis
- Monthly Cost/Schedule Reports
- Project performance reviews
- Updating Project documentation
- Transition to Operations Plan
- Hazards Analysis

Comments:

WBS is intended for work activities by TJNAF personnel to support design accomplished by A-E.

WBS Code: 1.3.1
WBS Title: Conventional Facilities Construction
WBS Manager: Keith Royston
Date: 02/10 **Revision #** 1

Cost Content:

- Subcontractor (Subcontractor/Overhead)

Technical Content:

The contractor will complete Construction activities as defined by the applicable contract documents. The contractor will perform contracted work per drawings, specifications, bills of materials, regulations, policy as defined in the contract documents and/or directed by JLab.

Activities:

Perform contracted work per drawings, specifications, bills of material, regulations, policy as defined in the contract documents and/or directed by JLab. The contractor will perform all activities in compliance with the health and safety elements of the technical specification. The contractor will alert JLab regarding any technical matters, required coordination of work activities, changes in sequencing of activities, potential field changes and timely notification and reporting of all incidents, occurrences and events, The contractor participates in the pre-bid meetings, pre-construction meetings, periodic project status meetings, etc. The contractor maintains a project working file with relevant construction documents as required/requested by JLab and/or projects execution plan (including concrete test results, QA Inspections, etc.)

EVMS progress is based on the contract schedule of values

Participants:

Subcontract

Deliverables:

- Completion of Construction and/or Demolition activities per the contract documents
- Complete Punch-list items

Comments:

WBS Code: 1.3.1.1
WBS Title: Civil/Site and Early Construction
WBS Manager: Keith Royston
Date: 02/10

Revision # 2

Cost Content:

- Subcontract (Subcontract/Overhead)

Technical Content:

Civil/Site Construction activities as defines by the applicable contract documents. The contractor will perform contracted work per the drawings, specification, bills of material, regulations, policy as defined in the contract documents and/or directed by JLab. . The Construction Manager/General Contractor (CM/GC) will provide general construction oversight and coordination with construction subcontractors, facility support, ES&H, waste management, and vendors. The CM/GC will also coordinate construction activities between subcontractors and TJNAF operations. Ensure the construction subcontracted work meets technical and environmental, health and safety requirements. Coordinate quality assurance inspections. Ensure that work is completed in accordance with the contract documents.

Activities:

Perform contracted work per drawings, specifications, bills of material, regulations, policy as defined in the contract documents and/or directed by JLab. The contractor will perform all activities in compliance with the health and safety elements of the technical specification. The contractor will alert JLab regarding any technical matters, required coordination of work activities, changes in sequencing of activities, potential field changes and timely notification and reporting of all incidents, occurrences and events, The contractor participates in the pre-bid meetings, pre-construction meetings, periodic project status meetings, etc. The contractor maintains a project working file with relevant construction documents as required/requested by JLab and/or projects execution plan (including concrete test results, QA Inspections, etc.) .) The CM/GC will be aware of all planned subcontract work activities. They will oversee subcontract adherence to the TJNAF integrated Safety Management Policy by construction subcontractors. Oversee subcontractor work practices for compliance with the health and safety elements of the technical specifications. Serve ass point of contact between the subcontractors and TJNAF regarding technical matters and the coordination of work. Inspect construction for compliance with drawings and specifications. Work with Project Management to coordinate the pre-bid meetings, pre-construction meetings, periodic project status meetings, etc. Coordinate construction activities with TJNAF Project Management. Provide construction counsel to the Project Manager and the project team related to subcontractor schedules, subcontractor pay requests, project completion punch lists, etc. Review subcontractor certified payrolls. Provide timely notification and reporting of incidents, occurrences and events.

EVMS progress is based on the contract schedule of values

Participants:

Subcontract

Deliverables:

- Completion of Construction and/or Demolition activities per the contract documents
- Complete Punch-list items
- Oversight and coordination to endure construction completion in accordance with the contract documents and applicable regulations.

- Maintain the project working file with the relevant construction documents as required/requested by the Project Manager and/or project execution plan (including concrete test results, QA inspections, etc.)
- Required documents per PO (Schedule, Schedule of values, Pay Requests, Subcontractor and Vendor Submittals, Certified Payrolls, etc.)
- Provide data for LEED Certification(s)
- Support Commissioning activities
- Final acceptance/turnover documents
- Operations & Maintenance manuals
- Red line as-built drawings
-

Comments:

WBS Code: 1.3.1.2
WBS Title: TED Building Construction
WBS Manager: Keith Royston
Date: 02/10

Revision # 2

Cost Content:

- Subcontract (Subcontract/Overhead)

Technical Content:

TED Building Construction activities as defines by the applicable contract documents. The contractor will perform contracted work per the drawings, specification, bills of material, regulations, policy as defined in the contract documents and/or directed by JLab. The Construction Manager/General Contractor (CM/GC) will provide general construction oversight and coordination with construction subcontractors, facility support, ES&H, waste management, and vendors. The CM/GC will also coordinate construction activities between subcontractors and TJNAF operations. Ensure the construction subcontracted work meets technical and environmental, health and safety requirements. Coordinate quality assurance inspections. Ensure that work is completed in accordance with the contract documents.

Activities:

Perform contracted work per drawings, specifications, bills of material, regulations, policy as defined in the contract documents and/or directed by JLab. The contractor will perform all activities in compliance with the health and safety elements of the technical specification. The contractor will alert JLab regarding any technical matters, required coordination of work activities, changes in sequencing of activities, potential field changes and timely notification and reporting of all incidents, occurrences and events, The contractor participates in the pre-bid meetings, pre-construction meetings, periodic project status meetings, etc. The contractor maintains a project working file with relevant construction documents as required/requested by JLab and/or projects execution plan (including concrete test results, QA Inspections, etc.) The CM/GC will be aware of all planned subcontract work activities. They will oversee subcontract adherence to the TJNAF integrated Safety Management Policy by construction subcontractors. Oversee subcontractor work practices for compliance with the health and safety elements of the technical specifications. Serve ass point of contact between the subcontractors and TJNAF regarding technical matters and the coordination of work. Inspect construction for compliance with drawings and specifications. Work with Project Management to coordinate the pre-bid meetings, pre-construction meetings, periodic project status meetings, etc. Coordinate construction activities with TJNAF Project Management. Provide construction counsel to the Project Manager and the project team related to subcontractor schedules, subcontractor pay requests, project completion punch lists, etc. Review subcontractor certified payrolls. Provide timely notification and reporting of incidents, occurrences and events.

EVMS progress is based on the contract schedule of values

Participants:

Subcontract

Deliverables:

- Completion of Construction and/or Demolition activities per the contract documents
- Complete Punch-list items
- Oversight and coordination to endure construction completion in accordance with the contract documents and applicable regulations.

- Maintain the project working file with the relevant construction documents as required/requested by the Project Manager and/or project execution plan (including concrete test results, QA inspections, etc.)
- Required documents per PO (Schedule, Schedule of values, Pay Requests, Subcontractor and Vendor Submittals, Certified Payrolls, etc.)
- Provide data for LEED Certification(s)
- Support Commissioning activities
- Final acceptance/turnover documents
- Operations & Maintenance manuals
- Red line as-built drawings
-

Comments:

WBS Code: 1.3.1.3
WBS Title: TL Building Construction
WBS Manager: Keith Royston
Date: 02/10

Revision # 2

Cost Content:

- Subcontract (Subcontract/Overhead)

Technical Content:

TL Building Construction activities as defines by the applicable contract documents. The contractor will perform contracted work per the drawings, specification, bills of material, regulations, policy as defined in the contract documents and/or directed by JLab. . The Construction Manager/General Contractor (CM/GC) will provide general construction oversight and coordination with construction subcontractors, facility support, ES&H, waste management, and vendors. The CM/GC will also coordinate construction ativities between subcontractors and TJNAF operations. Ensure the construction subcontracted work meets technical and environmental, health and safety requirements. Coordinate quality assurance inspections. Ensure that work is completed in accordance with the contract documents.

Activities:

Perform contracted work per drawings, specifications, bills of material, regulations, policy as defined in the contract documents and/or directed by JLab. The contractor will perform all activities in compliance with the health and safety elements of the technical specification. The contractor will alert JLab regarding any technical matters, required coordination of work activities, changes in sequencing of activities, potential field changes and timely notification and reporting of all incidents, occurrences and events, The contractor participates in the pre-bid meetings, pre-construction meetings, periodic project status meetings, etc. The contractor maintains a project working file with relevant construction documents as required/requested by JLab and/or projects execution plan (including concrete test results, QA Inspections, etc.) The CM/GC will be aware of all planned subcontract work activities. They will oversee subcontract adherence to the TJNAF integrated Safety Management Policy by construction subcontractors. Oversee subcontractor work practices for compliance with the health and safety elements of the technical specifications. Serve ass point of contact between the subcontractors and TJNAF regarding technical matters and the coordination of work. Inspect construction for compliance with drawings and specifications. Work with Project Management to coordinate the pre-bid meetings, pre-construction meetings, periodic project status meetings, etc. Coordinate construction activities with TJNAF Project Management. Provide construction counsel to the Project Manager and the project team related to subcontractor schedules, subcontractor pay requests, project completion punch lists, etc. Review subcontractor certified payrolls. Provide timely notification and reporting of incidents, occurrences and events.

EVMS progress is based on the contract schedule of values

Participants:

Subcontract

Deliverables:

- Completion of Construction and/or Demolition activities per the contract documents
- Complete Punch-list items

- Oversight and coordination to endure construction completion in accordance with the contract documents and applicable regulations.
- Maintain the project working file with the relevant construction documents as required/requested by the Project Manager and/or project execution plan (including concrete test results, QA inspections, etc.)
- Required documents per PO (Schedule, Schedule of values, Pay Requests, Subcontractor and Vendor Submittals, Certified Payrolls, etc.)
- Provide data for LEED Certification(s)
- Support Commissioning activities
- Final acceptance/turnover documents
- Operations & Maintenance manuals
- Red line as-built drawings
-

Comments:

WBS Code: 1.3.1.4
WBS Title: TL Renovation
WBS Manager: Keith Royston
Date: 02/10

Revision # 1

Cost Content:

- Subcontract (Subcontract/Overhead)

Technical Content:

TL Renovation activities as defines by the applicable contract documents. The contractor will perform contracted work per the drawings, specification, bills of material, regulations, policy as defined in the contract documents and/or directed by JLab. The Construction Manager/General Contractor (CM/GC) will provide general construction oversight and coordination with construction subcontractors, facility support, ES&H, waste management, and vendors. The CM/GC will also coordinate construction ativities between subcontractors and TJNAF operations. Ensure the construction subcontracted work meets technical and environmental, health and safety requirements. Coordinate quality assurance inspections. Ensure that work is completed in accordance with the contract documents.

Activities:

Perform contracted work per drawings, specifications, bills of material, regulations, policy as defined in the contract documents and/or directed by JLab. The contractor will perform all activities in compliance with the health and safety elements of the technical specification. The contractor will alert JLab regarding any technical matters, required coordination of work activities, changes in sequencing of activities, potential field changes and timely notification and reporting of all incidents, occurrences and events, The contractor participates in the pre-bid meetings, pre-construction meetings, periodic project status meetings, etc. The contractor maintains a project working file with relevant construction documents as required/requested by JLab and/or projects execution plan (including concrete test results, QA Inspections, etc.) The CM/GC will be aware of all planned subcontract work activities. They will oversee subcontract adherence to the TJNAF integrated Safety Management Policy by construction subcontractors. Oversee subcontractor work practices for compliance with the health and safety elements of the technical specifications. Serve ass point of contact between the subcontractors and TJNAF regarding technical matters and the coordination of work. Inspect construction for compliance with drawings and specifications. Work with Project Management to coordinate the pre-bid meetings, pre-construction meetings, periodic project status meetings, etc. Coordinate construction activities with TJNAF Project Management. Provide construction counsel to the Project Manager and the project team related to subcontractor schedules, subcontractor pay requests, project completion punch lists, etc. Review subcontractor certified payrolls. Provide timely notification and reporting of incidents, occurrences and events.

EVMS progress is based on the contract schedule of values

Participants:

Subcontract

Deliverables:

- Completion of Construction and/or Demolition activities per the contract documents
- Complete Punch-list items

- Oversight and coordination to endure construction completion in accordance with the contract documents and applicable regulations.
- Maintain the project working file with the relevant construction documents as required/requested by the Project Manager and/or project execution plan (including concrete test results, QA inspections, etc.)
- Required documents per PO (Schedule, Schedule of values, Pay Requests, Subcontractor and Vendor Submittals, Certified Payrolls, etc.)
- Provide data for LEED Certification(s)
- Support Commissioning activities
- Final acceptance/turnover documents
- Operations & Maintenance manuals
- Red line as-built drawings
-

Comments:

WBS Code: 1.3.2
WBS Title: Furnished Furniture/Equipment
WBS Manager: Keith Royston
Date: 01/09

Revision #

Cost Content:

- Vendor (s) (Subcontract/Materials/Overhead)

Technical Content:

Provide and install casework, office furnishings, furniture, equipment and services for data/communications in accordance with the contract documents.

Activities:

Provide materials and/or equipment required to furnish and install casework, office furnishings, furniture, equipment and services for data/communications in accordance with the contract documents. (Purchase Order)

EVMS progress is based on the delivery and installation of the furniture and equipment.

Participants:

Vendors

Deliverables:

- Delivery of materials, equipment and/or services
- Installation of materials, equipment and/or services
- Testing of materials, equipment and/or services

Comments:

WBS Code: 1.3.2.1
WBS Title: TED Furniture/Equipment
WBS Manager: Keith Royston
Date: 01/09

Revision #

Cost Content:

- Vendor (s) (Subcontract/Materials/Overhead)

Technical Content:

Provide and install casework, office furnishings, furniture, equipment and services for data/communications in accordance with the TED contract documents.

Activities:

Provide materials and/or equipment required to furnish and install casework, office furnishings, furniture, equipment and services for data/communications in accordance with the contract documents. (Purchase Order)

EVMS progress is based on the delivery and installation of the furniture and equipment.

Participants:

Vendors

Deliverables:

- Delivery of materials, equipment and/or services
- Installation of materials, equipment and/or services
- Testing of materials, equipment and/or services

Comments:

WBS Code: 1.3.2.2
WBS Title: TL Furniture/Equipment
WBS Manager: Keith Royston
Date: 01/09

Revision #

Cost Content:

- Vendor (s) (Subcontract/Materials/Overhead)

Technical Content:

Provide and install casework, office furnishings, furniture, equipment and services for data/communications in accordance with the TL contract documents.

Activities:

Provide materials and/or equipment required to furnish and install casework, office furnishings, furniture, equipment and services for data/communications in accordance with the contract documents. (Purchase Order)

EVMS progress is based on the delivery and installation of the furniture and equipment.

Participants:

Vendors

Deliverables:

- Delivery of materials, equipment and/or services
- Installation of materials, equipment and/or services
- Testing of materials, equipment and/or services

Comments:

WBS Code: 1.3.2.3
WBS Title: TL Renovation Furniture/Equipment
WBS Manager: Keith Royston
Date: 01/09 **Revision #**

Cost Content:

- Vendor (s) (Subcontract/Materials/Overhead)

Technical Content:

Provide and install casework, office furnishings, furniture, equipment and services for data/communications in accordance with the TL Renovation contract documents.

Activities:

Provide materials and/or equipment required to furnish and install casework, office furnishings, furniture, equipment and services for data/communications in accordance with the contract documents. (Purchase Order)

EVMS progress is based on the delivery and installation of the furniture and equipment.

Participants:

Vendors

Deliverables:

- Delivery of materials, equipment and/or services
- Installation of materials, equipment and/or services
- Testing of materials, equipment and/or services

Comments:

WBS Code: 1.3.3
WBS Title: Construction Management Services
WBS Manager: Keith Royston
Date: 01/09

Revision #

Cost Content:

Technical Content:

Summary WBS to include all Construction Management, Commissioning Services and A-E Support for the TEDF project.

Activities:

Summary WBS.

Participants:

Deliverables:

Comments: .

WBS Code: 1.3.3.1
WBS Title: Construction Management
WBS Manager: Keith Royston
Date: 01/09

Revision # 2

Cost Content:

- JLab Construction Manager (JLabCM)
- Testing Company

Technical Content:

The JLab Construction Manager JLabCM will provide general construction oversight and coordination with the CM/GC, construction subcontractors, facility support, ES&H, waste management, and vendors. The JLabCM will also coordinate construction activities between subcontractors and TJNAF operations. Ensure the construction subcontracted work meets technical and environmental, health and safety requirements. Coordinate quality assurance inspections. Ensure that work is completed in accordance with the contract documents. .Coordinate testing as needed.

Activities:

The JLabCM will be aware of all planned subcontract work activities. Will provide oversight of the subcontract for adherence to the TJNAF integrated Safety Management Policy by construction subcontractors. Oversee subcontractor work practices for compliance with the health and safety elements of the technical specifications. Serve as point of contact between the subcontractors and TJNAF regarding technical matters and the coordination of work. Inspect construction for compliance with drawings and specifications. Work with Project Management to coordinate the pre-bid meetings, pre-construction meetings, periodic project status meetings, etc. Coordinate construction activities with TJNAF Project Management. Provide construction counsel to the Project Manager and the project team related to subcontractor schedules, subcontractor pay requests, project completion punch lists, etc. Provide timely notification and reporting of incidents, occurrences and events.

Participants:

JLab Construction Manger
Construction Manager/General Contractor (CM/GC)
Testing & inspection Company

Deliverables:

- Oversight and coordination to endure construction completion in accordance with the contract documents and applicable regulations.
- Maintain the project working file with the relevant construction documents as required/requested by the Project Manager and/or project execution plan (including concrete test results, QA inspections, etc.)
- Support Commissioning activities
- Red line as-built drawings

Comments:

See change 10-006

WBS Code: 1.3.3.1.1
WBS Title: TED Construction Management
WBS Manager: Keith Royston
Date: 01/09

Revision # 2

Comments:

Not Used – See change 10-006

WBS Code: 1.3.3.1.2
WBS Title: TL Construction Management
WBS Manager: Keith Royston
Date: 01/09

Revision # 2

Comments:

Not Used – See change 10-006

WBS Code: 1.3.3.1.3
WBS Title: TL Renovation Construction Management
WBS Manager: Keith Royston
Date: 01/09 **Revision #** 2

Comments:

Not Used – See change 10-006

WBS Code: 1.3.3.2
WBS Title: Commissioning
WBS Manager: Keith Royston
Date: 01/09

Revision # 2

Cost Content:

- Subcontractor (Subcontract/Overhead)

Technical Content:

Provide Commissioning services to ensure the project performance requirements and functional needs are met.

Activities:

Commissioning will be performed to ensure the building performance requirements and the systems function and operations are met in accordance with the approved project commissioning plan.

EVMS progress is based on the contract milestones and schedule of values

Participants:

Subcontractor

Deliverables:

- Final commissioning report

Comments:

See change 10-006

WBS Code: 1.3.3.2.1
WBS Title: TED Commissioning
WBS Manager: Keith Royston
Date: 01/09

Revision # 2

Comments:

Not Used – See change 10-006

WBS Code: 1.3.3.2
WBS Title: TL Commissioning
WBS Manager: Keith Royston
Date: 01/09

Revision # 2

Comments:

Not Used – See change 10-006

WBS Code: 1.3.3.2
WBS Title: TL Renovation Commissioning
WBS Manager: Keith Royston
Date: 01/09

Revision # 2

Comments:

Not Used – See change 10-006

WBS Code: 1.3.3.3
WBS Title: A-E Support
WBS Manager: Keith Royston
Date: 01/09

Revision # 2

Cost Content:

- A-E (Subcontract/Material/Overhead)

Technical Content:

Review technical submittals, requests for information, construction field change orders for technical contents and provide field inspection, as requested by TJNAF. When the need arises to change any design documents already issued to the CM/GC, the PM must utilize a Design Change Notice (DCN) to communicate the reason for the change and the design documents that are impacted. The A-E will incorporate the design changes in to the design drawings/documents.

Activities:

Review technical submittals, requests for information, construction field change orders for technical contents and provide field inspection, as requested by TJNAF. When the need arises to change any design documents already issued to the construction contractor, the PM must utilize a Design Change Notice (DCN) to communicate the reason for the change and the design documents that are impacted. The A-E will incorporate the design changes into the design drawings/documents and prepare as-built drawings

This is a level of effort activity.

Participants:

A-E

Deliverables:

- Revised drawings, DCN's, RFI responses, Inspection Reports

Comments:

See change 10-006

WBS Code: 1.3.3.3.1
WBS Title: TED A-E Support
WBS Manager: Keith Royston
Date: 01/09

Revision # 2

Comments:

Not Used – See change 10-006

WBS Code: 1.3.3.3.2
WBS Title: TL A-E Support
WBS Manager: Keith Royston
Date: 01/09

Revision # 2

Comments:

Not Used – See change 10-006

WBS Code: 1.3.3.3.3
WBS Title: TL Renovation A-E Support
WBS Manager: Keith Royston
Date: 01/09

Revision # 2

Comments:

Not Used – See change 10-006

WBS Code: 1.3.4
WBS Title: Project Management
WBS Manager: Keith Royston
Date: 01/09

Revision #

Cost Content:

- JLab Facilities Management and Logistics Division (Labor/Materials/Other Direct Costs/Overhead)
- Other TJNAF Divisions as required (Labor/Materials/Other Direct Costs/Overhead)
- Travel (Other Direct Costs/Overhead)
- Miscellaneous Reproduction (Other Direct Costs/Overhead)

Technical Content:

During construction, the Project Manager will perform project management of all elements including planning, meetings, coordination of construction activities, cost and schedule reviews, and coordination between TJNAF, the CM/GC, the A-E, and vendors. The PM will provide cost estimates, schedules, cost reports, performance reporting and financial analysis.

Activities:

Management to ensure construction activities meet the project goals and objectives and that work is done in accordance with DOE Cost and Estimating Guides. Participate in contingency analysis in conjunction with updates to the risk management plan.

Other TJANF Divisions – as required to support the management of the project

Participants:

TJNAF Facilities management and Logistics Division / Other TJNAF organizations as required

Deliverables:

- Monthly Cost/Schedule reports
- Earned Value performance reporting
- Baseline change documentation
- Project Closeout report

Comments: