

Memorandum

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Conventional Facilities

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Date: March 6, 2019
To: Project File
From: S. Dixon
Re: Construction Subcontract Procurement Durations
Proton Improvement Plan II (PIP-II)
PIP-II-doc-321

This memo describes the historical data and assumptions used to estimate the durations required to procure construction subcontracts for the conventional facilities portion of the PIP-II project.

Background

A July 15, 2015 presentation titled “Fermilab Projects Procurement Support” by Joe Collins indicated that the procurement cycle (defined as the time frame when an approved requisition is received in FI/Procurement until a purchase order is issued) for construction subcontracts can range from 30 to 160 calendar days depending on complexity.

Historic Data

Five (5) recent purchase orders construction subcontracts were reviewed to understand current trends in construction procurements. Listed below is a summary chart of those purchase orders with the summary average below.

| | Durations in Working Days | | | |
|-----------------------------|---------------------------|--------------|--|------------------|
| | Base Cost | Req Approval | Approved Req to NTP (Procurement Cycle) | Req Start to NTP |
| SBN Far Detector Building | \$7,367,422 | 13 | 77 | 89 |
| SBN Near Detector Building | \$4,855,000 | 7 | 95 | 101 |
| UUP Backbone Piping | \$10,997,151 | 55 | 14 | 68 |
| Master Substation | \$24,975,000 | 90 | 222 | 311 |
| Master Substation Site Prep | \$4,814,000 | 90 | 39 | 92 |
| | Average | 51 | 89 | 132 |
| | Average Under \$10m | 37 | 70 | 94 |
| | Average Over \$10m | 73 | 118 | 190 |

The “**Base Cost**” column is the requisition amount for the construction work. The “**Req Approval**” column indicates the number of working days that was required to receive the electronic approvals. This time frame started when the requisition was entered into the system until it was received at FI/Procurement. The “**Approved Req to NTP**” column is the working days required for the procurement

cycle. The “Req Start to NTP” column is the overall duration from the start of the requisition until a notice to proceed for the construction work was issued.

The historic data indicated that there is a breakpoint in the procurement cycle for projects over \$10m. This is driven by additional review and signature requirements.

PIP-II Assumptions

The construction subcontract procurement periods for the conventional facilities portion of the PIP-II project assumes that the historic data is a good indicator for this type of procurement and will use the historic averages. Listed below is the work breakdown structure of the conventional facilities along with the assumptions:

| WBS | Construction Package | Base Cost (FY18\$) | Req Approval | Approved Req to NTP (Procurement Cycle) | Requisition Start to NTP | Basis |
|-----------|------------------------|--------------------|--------------|---|--------------------------|--|
| | | | | | | |
| 121.06.02 | Site Preparation | \$14,270,155 | 73 | 118 | 191 | Based on average of recent projects <i>over</i> \$10m |
| 121.06.03 | Cryo Plant Building | \$14,923,579 | 73 | 118 | 191 | Based on average of recent projects <i>over</i> \$10m |
| 121.06.04 | Utility Plant Building | \$8,841,692 | 37 | 70 | 107 | Based on average of recent projects <i>under</i> \$10m |
| 121.06.05 | Linac Complex | \$63,114,561 | 73 | 118 | 191 | Based on average of recent projects <i>over</i> \$10m |
| 121.06.06 | Booster Connection | \$5,646,477 | 37 | 70 | 107 | Based on average of recent projects <i>under</i> \$10m |

The durations for those subcontract packages below \$10m fall within the 30-160 calendar day recommendations contained in the “Fermilab Projects Procurement Support” presentations while the durations for those packages above \$10m are above the recommendation. The additional time is considered acceptable since it is based on the review of the existing historic data.

Summary

This memo describes the basis for the subcontract procurement durations for the conventional facilities portions of the PIP-II project. These assumptions will be revisited as necessary in subsequent design phases to validate the assumptions.

Update History

- May 2018 with costs in FY18 dollars and revised WBS
- December 2018 based on reorganized WBS structure.
- March 2019 based on updated estimates from room data sheet validation

Encl: Fermilab Projects Procurement Support, dated July 15, 2015
Historic Data Breakdown

Cc: L. Meringa, PIP-II, M. Kaducak, PIP-II, L. Lari, PIP-II, F. Minton, PIP-II-doc-321



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Fermilab Projects Procurement Support

Joe Collins

FESS Presentation

July 15, 2015

WHAT WE DO

- Acquire Goods and Services for the Laboratory
- Support Procurement Requirements from Initial Development to Closeout
- Adhere to a Best Value Philosophy

WHO WE ARE

Joe Collins, Procurement Manager, x4169
Joanne Hall, Administrative Assistant, x4168
Monika Lasota, Functional Analyst, x2114

Operations Procurement

Bill Koncelik, Supervisor, x4173
Chris Rossman, x4439
Gary Davis, x4171
Pamela Noyes, x5779
Scott Engel, x2733
Brian Niccolai, x4177
Joe Morgan, x4181
Bob Johnson, x4179
Mark Graczyk, x4895
Don Rogus, x4177
Nancy Yackle, x2555

Project Procurement

Bob Cibic, Supervisor, x3258
Ron Evans, x4166
Steve Gaugel, x5782
Jim Hohbein, x6782
Steve Cozzens, x4183
Jane Graves, x4194
Terry Cross, x3763

Construction Procurement

Tom Powers, Supervisor, x4255
Jerry King, x2697
Sandra Efstathiou, x5784
Gordon Bagby, x3388

ProCard Administration

Nancy Yackle, x2555

Support Staff

Joyce Serritella, x4155
Julie Wiley, x8048

PROJECT LIAISON

The Procurement Liaison is assigned to a specific project, and acts as the point of contact for all procurement issues. This person will generally handle the Project's high dollar value, and complex procurements, from planning through closeout, while also tracking status, coordinating all other Project Procurement actions, and keeping Procurement staff members advised of Project schedules, and priorities.

The Liaison also acts in the capacity of Procurement Department representative at Project meetings, and DOE reviews.

Project Liaisons:

- Sandra Efstathiou, x5784, LBN
- Steve Gaugel, x5782, Mu2e
- Bob Cibic, x3528, LCLSII
- Gary Davis, x4171, CMS
- Jim Hohbein, x6782, UUP

RESPONSIBILITY

- Serve the customer
 - You
 - DOE
 - Stakeholders

OPERATING RULES

Procedural Requirement based on:

- FRA Prime Contract
- Commercially Accepted Practice
- DOE Acquisition Regulations
- Federal Acquisition Regulations
- DOE Property Management Regulations

OPERATING RULES

- Ethical
- Equitable
- Transparent

OPERATING RULES

- Maximum Practical Opportunities to:
 - Small Disadvantaged Businesses
 - Small Businesses
 - Women-Owned Businesses
 - HUBZones
 - Veterans
 - Service Disabled Veterans
- Annual Goals Established
- SB Set Asides
- All Construction subcontracts \$3.5 million or less, are set aside for Small Business; per the Prime Contract, Appendix H

VISIBILITY

- Audits
 - Department of Energy
 - Office of Inspector General
 - General Accounting Office
 - Small Business Administration
 - Internal Auditors
 - External Auditors
- Lab Management
- Lab Customers

VISIBILITY

- Vendors
- Socioeconomic Program Advocates
- Business Community
- Competition Advocates
- Congress
- News Media
- General Public
- Unions

OPERATION

Buyers Responsible “From Cradle to Grave”

- Planning
- Developing
- Negotiating
- Awarding
- Administration
- Close-Out

REQUIREMENTS

- Over \$10,000
 - Competition Required
- Over \$150K
 - Advanced Notification to DOE/FSO is required, for sole source actions, and procurements that include a patent rights clause.
- Over \$5M
 - Advanced Procurement Plan (APP) and proposed Solicitation (RFP) must be approved by FSO prior to distributing the solicitation to potential subcontractors
- Over \$10M
 - Acquisition Plan (AP) must receive FSO approval. FSO has the authority to approve, an AP estimated up to \$25M.
- Over \$25M
 - AP and Solicitation must be reviewed by the Science Deputy Director for Field Operations/Head of the Contracting Activity (HCA)
- Over \$50M
 - The review chain also includes the DOE Director, Office of Procurement and Assistance Management, and the DOE Acquisition Planning and Liaison Division (ALPD-Business Clearance Unit). Note: This step may take six weeks to complete.

PROCUREMENT CYCLE TIME - COMMERCIAL

Procurement cycle time extends from receipt of the approved requisition (with complete drawings, specifications and other attachments) to subcontract award.

PROCUREMENT CYCLE TIME - COMMERCIAL

Commercial, Off-the-Shelf Items and Services from Domestic Sources

- \$10,000 or less 1-9 calendar days
- >\$10,000-\$50,000 10-30 calendar days
- >\$50,000-\$1,000,000 31-50 calendar days
- Greater than \$1,000,000 51-60 calendar days
- Greater than \$5,000,000 61-90 calendar days
- Greater than \$25,000,000 91-120 calendar days
- Greater than \$50,000,000 121-160 calendar days

– Note: Use the Stockroom as needed. Use a ProCard if it benefits you.

PROCUREMENT CYCLE TIME

NON-COMMERCIAL

Non-Commercial (Construction, T&M, University A&E, Labor Hour Subcontracts, Unique Equipment and Fabrications, Sole Source Foreign Procurements)

- 30-160 calendar days depending on complexity
- University subcontracts are closer to 60 days while A&E, labor hour, major construction, security, and cafeteria services may take 160 days
- Sole source foreign procurements may take up to 160 days; especially those priced in excess of \$500,000.

EMERGENCIES

If your requirement is urgent:

- 1) Contact your Procurement Liaison
- 2) Call a Group Leader or the Procurement Manager
- 3) Ensure that the urgency is stated on the requisition

ORACLE HELP

Joanne Hall, x4168

Authority to Commit the Laboratory

- FRA, Fermilab Director
 - CFO
 - Deputy Head, Finance
 - Procurement
 - ProCard Holders (\$2,500)
 - Construction Coordinators (\$5,000 field changes)
 - Engineering Department Head, FESS (\$25,000 field change)

Responsibility of Staff in Dealing with Outside Organizations

- Do not commit the Lab unless you possess specific delegated signature authority

AFTER-THE-FACT REQUISITIONS/RATIFICATIONS:

- Personnel without the authority to commit the Lab
- Specific authority is delegated in a written memo from the Deputy Head, Finance; Procurement Manager, or as delegated by job position such as Construction Manager, Construction Coordinator, or ProCard holder.
- Ratifications are the acts of approving unauthorized agreements (purchase commitments) with vendors (or other parties) made by FRA personnel who do not possess authority to make such commitments. The Lab Director, CFO, Deputy Head, Finance, and Procurement Manager (or designee) are the only individuals with authority to ratify actions.

- Ratification of an unauthorized action may only be exercised when:
 - Supplies or services have been provided to and accepted by FRA, or if FRA otherwise has obtained or will obtain a benefit resulting from performance of the unauthorized commitment;
 - The resulting subcontract would otherwise have been proper if made by the appropriate Procurement Administrator,
 - The Procurement Administrator reviewing the unauthorized commitment determines the price to be fair and reasonable;
 - Funds are available and were available at the time the unauthorized commitment was made.

NON-COMPETITIVE CONTRACTING

- The Lab has a responsibility to obtain competition. It generally results in securing best value. This does not mean that we have to accept the lowest price.
- Trade offs between price and technical evaluation factors are acceptable. We must plan together and document accordingly.

If you have a Procurement question,
please call:

Joe Collins, x4169

Bob Cibic, x3528

Tom Powers, x4255

Bill Koncelik, x4173

Joanne Hall, x4168

History - Details

SBN Far Detector Building

\$7,367,422 Req 254759 Amount

| | | Calendar Days | Work Days |
|-----------|---------------------------|---------------|---|
| 18-Mar-15 | Start Req Approval | | |
| 3-Apr-15 | Req in Procurement | 16 | 13 |
| | Assemble RFP Documents | 10 | 7 <i>Doesn't Include Work in Advance of Req Arrival</i> |
| 13-Apr-15 | Issued for Proposal | | <i>Included 5 Amendments, 2 time extensions</i> |
| 28-May-15 | Proposals Received | 45 | 34 <i>11 bids received</i> |
| 20-Jul-15 | NTP Issued | 98 | 71 |
| | Procurement Period | 108 | 77 |
| | Start Req to NTP | 124 | 89 |

SBN Near Detector Building

\$4,855,000 Req 258035 Amount

| | | Calendar Days | Work Days |
|-----------|---------------------------|---------------|---|
| 18-Aug-15 | Start Req Approval | | |
| 26-Aug-15 | Req in Procurement | 8 | 7 |
| | Assemble RFP Documents | 8 | 7 <i>Doesn't Include Work in Advance of Req Arrival</i> |
| 3-Sep-15 | Issued for Proposal | | <i>Included 4 Amendments</i> |
| 7-Oct-15 | Proposals Received | 34 | 25 <i>14 bids received</i> |
| 5-Jan-16 | NTP Issued | 124 | 89 |
| | Procurement Period | 132 | 95 |
| | Start Req to NTP | 140 | 101 |

UUP Backbone Piping

\$10,997,151 Req 259024 Amount

| | | Calendar Days | Work Days |
|-----------|---------------------------------|---------------|-----------|
| 14-Jul-15 | Start Req Approval (Paper) | | |
| 28-Sep-15 | Req in Procurement (Electronic) | 76 | 55 |
| | Assemble RFP Documents | -42275 | -30196 |
| | Issued for Proposal | | |
| | Proposals Received | 0 | 0 |
| 15-Oct-15 | NTP Issued | 42292 | 30209 |
| | Procurement Period | 17 | 14 |
| | Start Req to NTP | 93 | 68 |

Master Substation

\$24,975,000 Req 260193 Amount

| | | Calendar Days | Work Days |
|-----------|---------------------------------|---------------|----------------------------------|
| 15-Jul-15 | Start Req Approval (Paper) | | |
| 17-Nov-15 | Req in Procurement (Electronic) | 125 | 90 |
| | Assemble RFP Documents | -42325 | -30232 |
| | Issued for Proposal | | |
| | Proposals Received | 0 | 0 <i>Included Prebid meeting</i> |
| 21-Sep-16 | NTP Issued | 42634 | 30453 |
| | Procurement Period | 309 | 222 |
| | Start Req to NTP | 434 | 311 |

Master Substation Site Prep

\$4,814,000 Req 259083 Amount

| | | Calendar Days | Work Days |
|-----------|---------------------------------|---------------|-----------|
| 15-Jul-15 | Start Req Approval (Paper) | | |
| 28-Sep-15 | Req in Procurement (Electronic) | 75 | 54 |
| | Assemble RFP Documents | -42275 | -30196 |
| | Issued for Proposal | | |
| | Proposals Received | 0 | 0 |
| 19-Nov-15 | NTP Issued | 42327 | 30234 |
| | Procurement Period | 52 | 39 |
| | Start Req to NTP | 127 | 92 |