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CONSTRUCTION TENDERING AND CONTRACTING GUIDELINES: AN ECCM TRAINING DOCUMENT



November 2017

This publication was produced for the United States Agency for International Development (USAID) Task Order # AID-OAA-TO-12-00048, under the Global Architecture and Engineering (A&E) Indefinite Quantity Contract (IQC) No. EDH-I-00-08-00027

Construction Tendering and Contracting Guidelines: An ECCM Training Document

FOREWORD

Core Engineering and Construction Contracting Management (ECCM) training program resources have been made available as helpful resource documents for planning, preparing solicitations, and implementing and managing construction projects.

ECCM TRAINING COURSES

The ECCM 201 course was initiated through a task order awarded under the Bureau for Economic Growth, Education, and Environment's (E3's) Architectural and Engineering (A&E) Global IQC and transferred to M/OAA/PDT to complete course development and management. Subsequent to the task order transfer ECCM 211 - Local Systems (LS) was created. ECCM curricula were produced based on adult learning principles and are available for all USAID staff. The program is designed primarily to improve USAID's Acquisition Workforce (AWF)¹ contractual knowledge about and access to A&E and construction services, best practices, lessons learned, and reference materials when undertaking construction projects in the development context. The ECCM training program will assist the USAID AWF to achieve the ultimate objective of a successful construction project - completion according to specifications, within budget, while meeting industry quality standards, notwithstanding all construction challenges. Missions may desire, as appropriate, request technical engineering support services from the E3, Office of Energy and Infrastructure Programs (E&I) or USAID regional missions.

ECCM curricula are intended to emphasize U.S. Government rules and regulations, and USAID operational guidance and policies when implementing construction projects in partner countries. ECCM curricula combine lecture-style presentations with interactive discussions and group activities to provide participants immediate operational skills and knowledge. Course materials include presentation slides, group exercises and discussions, checklists, and many short videos and supporting reference and resource materials.

M/OAA/PDT and E3 sponsored training classes for over 300 USAID AWF members primarily through the two courses -- ECCM 201 and ECCM 211 - LS. All interested USAID staff are strongly encouraged to enroll in ECCM courses through USAID University. Below are brief descriptions of the ECCM 201 and ECCM 211-LS and a list of additional "Supplementary Training Resource Documents":

ECCM 201

The overall goal of ECCM 201 is to provide the USAID AWF with basic operational skills and competencies related to procurement and management of construction projects. This course covers many ECCM contracting subject matter areas including alternative procurement instruments and financing options, the construction program life cycle and its phases, and sequencing relationships including planning, design, procurement, construction, oversight, post construction, operation and maintenance (O&M), and sustainability.

¹ Acquisition Workforce is defined as Contracting/Assistance Specialists, Contracting/Assistance Officer Representatives, Purchasing Series staff, Executive Officers Foreign National Procurement Staff and Personal Services Contractors employed as procurement staff.

ECCM 211- LS

The ECCM 211- LS course curriculum was designed as a follow-on course to ECCM 201. The overall goal is to provide USAID AWF with additional and higher-level knowledge, skills, and competencies for complex construction project situations, choice of implementation instruments and financing options when using direct contract, assistance, host country contracting (HCC), and government-to-government (G2G) instruments. ECCM 211-LS makes extensive use of example documents as learning guides to provide the USAID AWF “real-time” exposure to common procurement, implementation, and management issues.

ECCM SUPPLEMENTARY TRAINING DOCUMENTS

Supplementary training documents were drafted by former senior USAID engineers and funded by M/OAA for the ECCM training program and include updated USAID guidelines and procedures. These training documents have been tailored to support the AWF’s understanding of selected ECCM processes. We anticipate that USAID’s AWF and other staff will find these documents useful and are welcome to read and download them as needed from the M/OAA/PDT web page. The ECCM supplementary training documents completed to date include:

1. Reference for Construction Management and Contracting Processes: An ECCM Training Document prepared by Fred Zobrist, 2017
2. Construction Management, Contracting, and Oversight Principles: An ECCM Training Document prepared by Moenes Youannis, 2017
3. Construction Tendering And Contracting Guidelines: An ECCM Training Document prepared by Michael Gould, 2017
4. A Basic Reference for Architectural and Engineering (A-E) Contracting: An ECCM Training Document prepared by Michael Gould, 2017
5. Use of Government to Government (G2G) Fixed Amount Reimbursement (FAR) in Construction Projects: An ECCM Training Document prepared by Moenes Youannis, 2017
6. Use of Host Country Contracting in Construction Projects: An ECCM Training Document prepared by Moenes, 2017

With my compliments,

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ACRONYMS

A-E	Architect-Engineer
ADS	Automated Directives System
AIDAR	Agency for International Development Acquisition Regulations
CM	Construction Management
CMC	Construction Management Consultant
COR	Contracting Officer's Representative
D-B	Design-Build
D-B-B	Design-Bid-Build
FAR	Federal Acquisition Regulations
FAR-IL	Fixed Amount Reimbursement – Implementation Letter
FIDIC	Fédération Internationale Des Ingénieurs-Conseils
IFB	Invitation for Bid
IGCE	Independent Government Cost Estimate
O&M	Operation and Maintenance
PM	Program Management
RFP	Request for Proposal
USAID	U.S. Agency for International Development
USAID/W	USAID/Washington

EXECUTIVE SUMMARY

PURPOSE OF THIS SUPPLEMENTARY TRAINING DOCUMENT

The purpose of this supplementary training document is to provide general information regarding the tendering process for the United States Agency for International Development (USAID) infrastructure construction projects. Tendering is the construction industry’s terminology for the process when contractors offers a bid or proposal in response to a solicitation for a construction project. The tendering process is used to secure a qualified contractor to build the planned facility based on engineering designs developed by an Architect-Engineer (A-E) firm. For this supplementary training document, USAID’s role is as the Owner and directly contracts with a construction firm using procurement guidelines from the Federal Acquisition Regulations, ADS 302, and AIDAR.

This supplementary training document is intended for USAID staff members involved with direct contracting of infrastructure construction projects under USAID country programs.

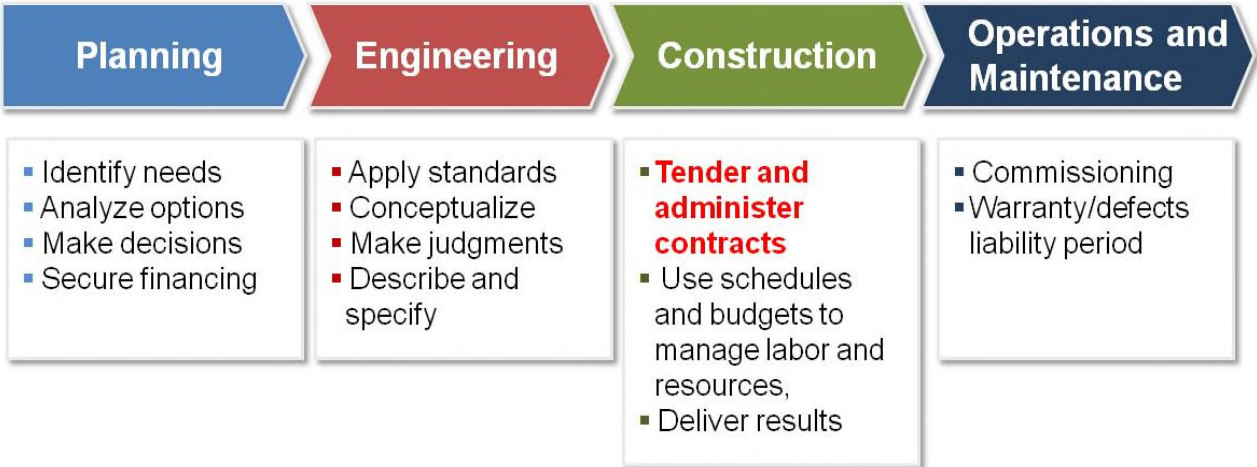
The USAID Project Team manages four primary phases of infrastructure projects, as illustrated below. The tendering process falls under the Construction Phase.

IMPLEMENTATION MODELS

The tendering process is presented within the context of the following three construction implementation models:

Design-Bid-Build (D-B-B). A-E firm is responsible for the planning and engineering design and often serves as the construction supervisor. USAID, with the assistance of the A-E firm, competitively procures the construction contractor based on a detailed design. Selection of the construction contractor is usually based on

Four Phases of USAID Infrastructure Projects



lowest cost responsive bid using an Invitation for Bid (IFB) process.

Design-Build (D-B) USAID hires an A-E firm, which acts as the Construction Management Consultant (CMC). The CMC is responsible for: producing the preliminary engineering design, setting design standards, and developing the specifications and evaluation criteria necessary to select the D-B contractor. USAID is responsible for selecting the D-B construction firm and contracting for its services. The D-B contractor is responsible for the subsequent detailed engineering design. The contractor completes the construction of the facility with oversight and management support provided by the CMC.

Program Management (PM)

PM is often used where there is little upfront definition of the needed facilities, and is often selected in post disaster and conflict situations. USAID selects the PM contractor using Federal Acquisition Regulations (FAR) Part 15 and Part 16 technical assistance procedures. The PM firm performs the necessary studies to define the facilities. After securing USAID's approval, the PM firm then usually subcontracts with local engineering and construction firms to design and construct the facilities.

WHAT IS "TENDERING"?

- Process used to select a construction contractor
- Fair, open, and transparent
- Compliant with the FAR, ADS, and AIDAR
- Professionally sound
- Results in choosing the best available contractor and delivering a successful project

The tendering procedures for the local construction firms would be similar to the

procedures if USAID were directly contracting and procuring the construction firms. All subcontracts are subject to consent by USAID.

A construction contract within each of these models can be structured with various measurement and reimbursement payment terms. The following methods allocate responsibility for managing financial risk between USAID and the construction contractor:

- **Cost Reimbursable** – The construction contractor is reimbursed allowable and reasonable costs and paid a fixed fee for its services. This method is typically used to retain technical assistance, A-E, and Program Management firms, not for construction contractors.
- **Lump Sum** – The contractor is provided a fixed amount to build a facility. This method is typically applied to the D-B-B and D-B implementation methods.
- **Unit Price** – The contractor is paid using fixed unit prices and a measurement of the amount of work performed by line item. This method can be used under the D-B-B method.
- **Time and Materials** – The contractor is reimbursed for all direct labor costs and materials at actual delivered cost including mark up for fee. It is used when it is not possible to accurately estimate the extent and duration of the work.

THE TENDERING PROCESS

The tendering process is used to choose the best available construction contractor in a fair, open, transparent, and professional manner. The tendering process must be compliant with FAR, ADS, and AIDAR policies and regulations.

The tendering process is described below:

Develop Tender Documents – An A-E firm assists USAID by developing the information that describes the facility to be constructed. The information provides guidance on necessary contract conditions defining the obligations of USAID, the construction company, and the A-E firm.

Advertise Tender and Prequalify Bidders – This is a process of screening prospective bidders prior to the tender release. This step ensures that only contractors judged capable of performing the work are permitted to respond to the tender. The tender is then released only to those construction firms that are prequalified.

Release of the Tender – This is the next step after development of the tender documents and prequalification of construction contractors. The tender solicitation will be either an Invitation for Bids (IFB) or a Request for a Proposal (RFP).

Hold Pre-bid Conference and Site Visit(s) – The pre-bid conference provides an opportunity for the prequalified bidders to meet with USAID and the A-E firm and ask questions about the engineering design and other issues. This conference also satisfies the common certification in the tender that a bidder has inspected the site.

Amend Tender as Necessary – It may be necessary to amend the tender solicitation based on the questions received during the site visit, pre-bid conference and those raised throughout the tendering process.

Receive Bids or Proposals – If bids are received via the IFB they are often opened in public with the bidders present. Once the bid amounts are read aloud, the meeting is adjourned and the award process proceeds with a complete review of the lowest bid. If proposals are received in response to an RFP, there is no public meeting.

Evaluate and Award – USAID carefully evaluates each tender to determine its responsiveness to the tender request package. The project is either awarded to the responsive bidder

LESSONS LEARNED

The following lessons should be considered during the tendering process:

- Carefully plan the overall implementation process
- Be strict about pre-qualifying bidders
- Carefully craft the contract
- Focus on communications, foster teamwork, and listen to the contractors and mission colleagues
- Provide pre-solicitation notices and draft copies of the tender document
- Carefully consider the capabilities of local contractors
- Be sensitive to local practices and use local materials to the extent possible
- Use quality contractors. Being cheap can be very costly

with the lowest cost (IFB) or to the Offeror providing the “best value” (RFP).

ELEMENTS OF INVITATION FOR BIDS AND REQUEST FOR PROPOSAL

The **Invitation for Bid (IFB)** tender package for D-B-B contracting includes the following components:

- Cover letter inviting Bidders
- Instructions to Bidders
- Form of Tender
- Form of Agreement
- Forms of Bonds or Guarantees
- General Contract Conditions
- Conditions of Particular Application
- Bill of Quantities
- Technical Package (drawings, specifications, and general requirements)

The **Request for Proposal (RFP)** requires submission of a technical proposal in addition to the submittals required in the IFB. The technical and cost proposals allow USAID to determine a construction firm's ability to provide "best value."

The Contracting Officer (CO) has overall responsibility for the evaluation and award process. Technical support may be provided by the COR, other USAID staff, and the A-E firm.

I. OVERVIEW

I.1 SUPPLEMENTARY TRAINING DOCUMENT ORGANIZATION

This supplementary training document is organized into the following sections:

Section 1. Overview

Section 2. Infrastructure Implementation Models:

Provides detailed information on each of the three common implementation models USAID uses to implement infrastructure programs. The section discusses various reimbursement payment methods used in a construction contract.

Section 3. USAID Regulations and Local Law:

Provides an overview of the U.S. laws and USAID's policies that guide development of the tender package for any USAID-financed project.

Section 4. The Tendering Process:

Describes the overall tender process. It discusses specific components of a tender package.

Section 5. Decisions related to the Tendering Process: Discusses critical issues that should be considered for a successful tendering process.

Section 6. Risk Allocation: Provides an overview of primary construction risks that can be encountered and mitigation measures that can be employed.

Section 7. Lessons Learned: Discusses the critical considerations for an efficient and successful tendering process.



1.2 INTRODUCTION

Tendering is the process used to select a qualified contractor to construct a planned facility based on engineering designs developed by the A-E firm. The tender process should be fair, open, transparent, and competitive.

This supplementary training document is directed towards situations where USAID is the Owner and issues a direct contract to a construction firm.

The tendering process usually begins with USAID engaging an Architect-Engineer (A-E) firm to provide engineering, tender support, and construction management services. The A-E firm assists USAID in the development of the tender package. The tender package provides the information necessary to clearly describe the facility that USAID expects the construction firm to construct. The tender package would also describe the contractual conditions that establish the obligations of USAID, the construction contractor and the A-E firm.

The tendering package typically includes:

- ✓ Contract Terms and Conditions
- ✓ Instructions to Bidders
- ✓ Form of Tender
- ✓ Insurance and Bonding Requirements
- ✓ Technical Information (such as plans, drawings, and specifications)

The A-E firm referenced in the construction contract may or may not be the A-E firm tasked with engineering design. In some cases, another A-E firm or a qualified USAID Engineer may be selected to exercise the responsibilities for oversight and administration of the construction contract.

The intent of the tendering process is for USAID to select a construction firm that will construct the desired facility for the least cost, within the expected time frame, while meeting or exceeding



contractual quality standards. In recent years USAID has sometimes used an RFP process to make a “best value” selection rather than a “least cost” selection.

It is important for USAID to choose a contractor that has demonstrated the capability to perform the services required under the contract using pre-specified criteria established prior to USAID’s “responsibility determination” as part of the pre-qualification process. Construction contractors pre-qualified to receive the IFB or RFP must demonstrate that they have the financial, technical, and managerial capacity to perform the required construction services satisfactorily.

USAID determines pre-qualification capability by soliciting and evaluating qualification information from prospective contractors. This information can be obtained either prior to the release of the bidding documents, referred to a “pre-qualification,” or it can be requested to be provided simultaneously with the bid or proposal. It is most commonly done as a pre-qualification step to limit the number of construction firm bids or proposals that need to be evaluated.

Often, USAID holds a Pre-Bid Conference, assisted by the A-E firm, to disseminate

information and answer questions from prospective contractors. The Pre-Bid Conference can be coordinated with a site visit. On the day of the solicitation deadline, the tenders are received at the established time and place.

The following criteria usually form an initial basis for evaluating the bidders' responsiveness:

- ✓ Confirmation that the bidder has not taken any exceptions to the bidding requirements
- ✓ Provision of a properly executed bid bond or security
- ✓ Submission of all requested information without material exceptions or errors

Award is then made to the responsive bidder who provides the lowest cost bid (IFB) or, alternatively, "best value" proposal (RFP).

An award based on a determination of "best value" is more attractive to USAID as projects increase in complexity. It is an evaluation criterion that is used on projects where the contractor is required to provide a greater level of technical judgment and creativity.



"Best value" is determined by having each offeror provide a technical proposal together with a price proposal, as part of the usual tender package. After determining responsiveness, the firms are then scored based on the technical proposal, taking into account factors including, but not limited to: management approach, past performance, quality of proposed staff, and small business utilization. USAID then evaluates the price proposal, which can be the subject of further negotiation to, determine which bidder presents the "best value," and the award is made on that basis.

2. INFRASTRUCTURE IMPLEMENTATION MODELS

This section presents a discussion of the following implementation models that have been used by USAID to provide construction services:

- Design-Bid-Build
- Design-Build
- Program Management

2.1 DESIGN-BID-BUILD

Conventional D-B-B is implemented through two contracts with separate firms for design and construction services. The first contract retains an A-E firm to plan the infrastructure (e.g., identify the sites, assess needs, and establish standards), produce engineering designs and cost estimates, and help manage the tendering procurement of a construction firm. The A-E firm is usually retained by USAID to also provide construction oversight services.

During construction, the A-E is usually given specific responsibilities to represent USAID. The A-E supervises the performance of the construction company in meeting the contract conditions. The A-E is often assigned responsibilities for assisting USAID to resolve any technical issues, disputes, or claims that occur during construction.

After the facility has been placed into operation the A-E is responsible for the engineering soundness and safety related to the design. The

DESIGN-BUILD OVERVIEW

- The Construction Management Consultant provides:
 - Preliminary design
 - Design standards
 - Specifications and evaluation criteria for the RFP
 - Performance-based criteria
- Construction firm provides:
 - Technical proposal
 - Firm fixed price
- Construction firm and their designers are responsible for design integrity
- CMC oversees the work during construction for contract compliance, including quality assurance and assists USAID and the Owner
- Lessens potential use of local firms

construction contractor is responsible for defects in materials and workmanship for a fixed warranty period, typically 2-5 years.

Until about 1990, the D-B-B model was the usual way facilities were engineered and constructed. It is still the most common model in the developing world. D-B-B has been traditionally used to ensure that the design contractor is impartial and aligned with the interests of USAID, while competitive bidding among capable construction

contractors is expected to result in lower construction costs.

An advantage of D-B-B is that risk should be better defined and managed with a full design. This tends to lower bids and price proposals. A criticism of the D-B-B model is that since the A-E firm has full design responsibilities, this may stifle innovation and the ability of the construction firms to lower costs and improve constructability based on their experience.

2.2 DESIGN-BUILD

D-B has become more popular as a means to “fast-track” projects over the last decade.

Procurement of the D-B construction firm can begin earlier because the A-E firm is not required to provide a detailed engineering design, only a preliminary design for the tender documents. It may be financially attractive to have the construction firm provide both construction services and a detailed engineering design under one contract. Because the D-B contract is usually fixed price there is an incentive for the D-B firm to integrate and perform both the engineering and construction services economically and compatibly.

The first step is to hire an A-E firm to provide the initial engineering design services, complete a project scope, produce preliminary engineering drawings, draft tender documents, and help competitively select the D-B construction contractor. The A-E also assists USAID by evaluating proposals, and then supervising the performance of the D-B construction contractor. Because this A-E firm will not be responsible for the final engineering design, the A-E firm is often referred to as the Construction Management Consultant (CMC).

The process for awarding a D-B construction contract requires careful consideration by USAID. There needs to be sufficient detail in the engineering plans and other RFP information to allow firms to submit responsive proposals.

Additionally, USAID needs sufficient detail and criteria to determine which bidder is most attractive to USAID.

The engineering plans produced by USAID’s CMC for the tender documentation are often referred to as the 30 percent or preliminary design. While the general outline of the facility to be built are approved in the preliminary design, the D-B construction firm is responsible for completing the final engineering design including the final details. As part of the tender documents for the D-B construction contractor, extensive design and material specifications and documents must be cited for compliance by the D-B Constructor.

Typically within the D-B process, USAID issues the tender package as a RFP. The competing D-B firms will submit technical as well as financial proposals so that USAID (with the assistance of the CMC) can evaluate this information to select the “best value” proposal. Tendering documents will often require that a proposal provide a financial analysis of the capital requirements and expected operation and maintenance (O&M) costs in order to estimate the cost over the life of the facility.

A distinctive aspect of D-B implementation is that the D-B construction firm is responsible for and retains legal liability for the design of the completed facility rather than USAID’s A-E firm – the CMC. The D-B firm often hires a different A-E firm under a subcontract to provide the detailed engineering design and assist it during construction. Thus, two A-E firms are usually involved during construction – one providing CMC assistance to USAID and one to provide engineering services to the construction contractor.

The CMC is responsible for field supervision and oversight, general administration, and reviewing vouchers and other submittals for contract compliance for USAID. USAID’s A-E firm might hold different opinions on the details of the design and might prefer a different design. However, as long as the D-B construction contractor is in compliance with the contract terms and the design is considered technically adequate, the D-B’s engineering design should be accepted. The reviews for contract compliance requires a high level of engineering competence. Therefore for complex construction projects, USAID is strongly suggested to work with its own A-E firm.

2.3 PROGRAM MANAGEMENT

Program Management (PM) is a means to get the job done efficiently, in terms of time and cost, when there is little definition of what specific facilities are to be planned, engineered, and constructed. USAID used this method to implement more than 500 million USD in infrastructure reconstruction in the Balkans during the 1990s. PM was also used to implement the USAID Sri Lanka Tsunami Reconstruction Project and the USAID Pakistan Earthquake Reconstruction and Rehabilitation Project.

PM is very similar to elements of D-B. PM places a greater reliance on the Project Management contractor to plan the facilities through technical assistance studies using its own A-E capabilities, or subcontracting with U.S. or local A-E firms.

Under the PM model, the contractor provides planning, engineering, and construction management services on a cost-reimbursable plus fixed fee (CPFF) basis, working closely with USAID. In this sense, the PM performs much like an A-E firm and with a similar alignment of interests. A process is established where the PM firm carries out planning and engineering studies to define the needed infrastructure facilities. With

USAID’s approval, the PM firm then procures the services of local and, if needed, US firms as subcontractors to provide supplemental technical, engineering, and construction services.

PROGRAM MANAGEMENT OVERVIEW

- Sometimes referred to as Construction Management-at-risk
- Has been used to build large, complex facilities such as electric power and petrochemical facilities
- Applied to other multifaceted projects – London Olympics, Panama Canal, Sri Lanka Tsunami Reconstruction, and the Balkans reconstruction projects in the 1990s
- PM more directly reflects the Owner’s and USAID’s interests

The PM firm is procured using FAR Part 15 and FAR Part 16 technical assistance procurement approach soliciting technical and financial proposals evaluated to determine a “best value” proposal.

Typically, construction of infrastructure facilities are built by local construction constructors who are selected through competitive procedures after the PM firm designs the facilities (with local A-E subcontractors) and prepares the tender packages. USAID reviews and approves the selection of the construction subcontractors.

The following box provides an example of how the PM model was implemented by USAID in Sri Lanka.

TSUNAMI RECONSTRUCTION PROGRAM

USAID Sri Lanka
2005 – 2008

The PM firm, responding to directions from USAID, assessed the needs for the following facilities and infrastructure:

- New and repaired vocational schools
- Replacement of a damaged major bridge
- Municipal water supply system
- Repairs and upgrades to several fishing harbors

The PM firm provided written recommendations to USAID on specific facilities to be built providing information about size, location, special issues, and construction budget estimates. These recommendations were supported by technical assistance background studies in vocational education, coastal zone management, and environmental assessment. The PM also established an extensive community collaboration network to involve local participants, stakeholders, and decision makers and gain their support for the infrastructure construction program.

After review of the PM's recommendations, USAID authorized it to proceed with engineering and preparation of tender documents to procure construction firms using either a D-B-B or D-B contract to build the facilities. USAID reviewed and approved all of the PM's subcontracts. The PM firm then supervised field construction and procured commodities to equip all facilities. After commissioning, the facilities were turned over to the Sri Lankan government.

In summary, the PM approach in Sri Lanka provided for rapid conceptual definition of the facilities, allowed rapid integration of technical assistance guidance, facilitated the use of local firms as subcontractors, limited USAID's contractual liabilities, and acted as a useful management approach for USAID contracting and technical staff to implement this infrastructure program more quickly and efficiently.

An advantage of PM is that it facilitates the use of local engineering and construction firms as subcontractors. This is particularly attractive when work is anticipated in rural areas and numerous small facilities are to be built. The local A-E and construction firms are procured as subcontractors to the PM firm rather than directly by USAID under separate contracts. The PM approach allows local A-E and construction firms to be used with minimal contractual liability incurred by USAID.

There is a negligible possibility of conflict of interest by hiring local A-E and construction firms as subcontractors to the PM firm because the PM's profit is limited by a fixed fee on the subcontracts and doesn't escalate. The subcontractors are competitively procured, and the PM may not directly provide construction

services, thereby avoiding a "cost plus" situation. Furthermore, the PM is "at-risk" because it is responsible for the performance of the subcontractors.

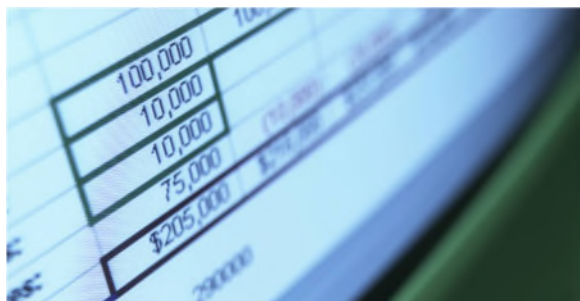
2.4 DESIGN-BUILD WITH LOCAL CONSTRUCTION FIRMS

The main issues of D-B Contracts are the capabilities of the local construction and supporting A-E firms, especially their experience implementing D-B. More often than not in developing countries, the available local construction firms have little experience working under D-B contracts. Even so, local firms may express interest in bidding on a D-B contract. In the end, it may cost USAID more and the design

and construction process may take longer to complete if a D-B method is implemented.

After the D-B construction contract award is made, the construction firm would often be expected to use a local A-E firm to complete the final engineering design by referencing and interpreting the CMC's preliminary design documentation and specifications provided in the solicitation and contract. The draft detailed final design package then goes for review to the CMC, who in turn would discuss its findings and constructability concerns with USAID. USAID would then return the proposed final design either as accepted, accepted with specified revisions, or for revisions to be incorporated prior to another approval review. This cycle can continue for some time if the local D-B firm (and its A-E subcontractor) struggles to comply with the contract requirements, specifications, and other constructability issues.

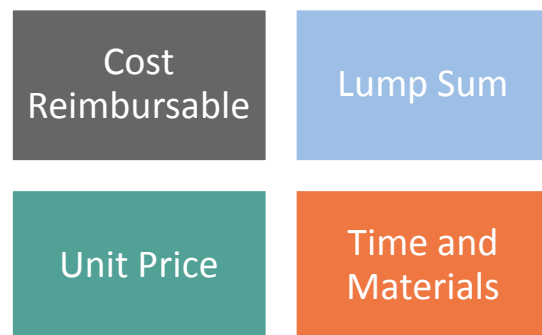
The inexperience of the local construction and engineering companies with D-B can result in frustration, higher costs, and delays, thus negating any potential cost and schedule efficiencies that would be the expected benefits of D-B. Further, local firms very often quickly begin to lose profitability and interest if they struggle to finalize the detailed engineering requirements based on the CMC's preliminary design and schedule resulting in additional project scheduling slippage.



In practice there is often little realized saving in engineering, construction, and other costs through D-B with local engineering and construction firms, even when this process works as expected. It may be more efficient to use local A-E firm engineering support as a subcontractor to a U.S A-E firm, and proceed with a final detailed engineering design using a D-B-B method.

2.5 METHOD OF MEASUREMENT, REIMBURSEMENT, AND PAYMENT

Contracts can be structured with various measurement and payment terms. The following methods allocate responsibility for managing financial risk between USAID and the construction contractor:



Each method is discussed in more detail in the following section.

Cost Reimbursable – The contractor is reimbursed for costs specified in the contract that are reasonable, allowable, and allocable. This option is most often employed when the details of the construction project are not well defined in advance. CPFF reimbursement approaches are primarily used for contracts with A-E and PM technical assistance firms. CPFF approaches are rarely used to hire construction firms under the D-B-B and D-B methods. The FAR expressly requires USAID to use, to the maximum extent possible, firm fixed price construction contracts.

Under cost reimbursable approaches, the contracted firm is paid a fixed fee for its services, a percentage of the contract amount. If the final reimbursed cost is less or more than the budget on which the fee was based, there is usually no adjustment in the fee.

The advantages of this approach are that the contractor's interests are more closely aligned with USAID. USAID has knowledge of the contractor's costs, and the contractor can minimize contingency costs. The disadvantages are that the contractor has less incentive to minimize costs or expedite the work unless an incentive fee is provided for cost containment and schedule performance. Also, USAID has less certainty as to the final cost of the contract.

Lump Sum – The contractor is paid a fixed price amount for the defined work. This is traditionally applied to D-B-B contracts where the facility is well defined. All the known construction risks need to be clearly identified so the contractor can cost them into its lump sum price.

The advantages of the Lump Sum approach are that USAID has some certainty of the final cost. Most of the financial risk is placed on the construction contractor, and it is easier to evaluate the bid prices. The disadvantages are that USAID and the contractor have divergent interests. A primary reason is that when construction changes (change orders) are needed, they usually involve additional costs or a delay in the construction schedule and an adversarial relationship is potentially established. Second, the contractor will increase the price to account for risks it may not be able to effectively control. Third, there is a lack of visibility for internally accounting for “contingency” costs.

Unit Price – The construction contractor is reimbursed against fixed unit prices and a measurement of the amount of work performed by line item. Using a Bill of Quantities (BOQ) prepared by the A-E firm as one of the deliverables in the engineering design process

summarizes the work items and quantities to be performed and prices bid by the construction contractor. This method of payment is used when it is difficult or impossible to quantify the work items in advance. Unit price payment option can be used for D-B-B or D-B. Good examples of construction contracts that are well suited for unit price option reimbursements are pipelines and roads.



The advantages of this method are that the contractual risks are clearly on the contractor. The contractor is paid for actual work performed, there are means to vary the work amounts if needed, and the assessment of the tender bids is straightforward against estimated quantities, and unit price reimbursements has familiarity worldwide.

Disadvantages include: the need to objectively measure the work amounts and quantities, there is no incentive for the contractor to minimize the quantity of work performed, and the final cost may be substantially higher than the initial estimated costs. Local contractors in the developing world are familiar with Unit Price contracts and perceive a lower level of financial risk.

Note on Firm Fixed-Price – This is defined in the FAR as providing a price that in most cases is not subject to adjustment based on the contractor's actual costs to complete the project. This is consistent with both lump sum and unit

price contracts. The intent is to provide maximum incentive to the contractor to control costs and to perform effectively. The CO may modify the reimbursement or payment terms of the construction contract to also provide for economic cost adjustments and fee incentives.

Time and Materials – This method of payment is based on reimbursing the contractor for direct labor costs, including wages, overhead, general

and administrative, and profit as well as materials at actual cost, including transportation. It can be used when it is not possible to accurately estimate the extent and duration of the work. The advantage of this method is that it is flexible. However, it requires a high level of surveillance and there is no positive incentive for the contractor to control cost or improve labor efficiency. This is best employed for smaller tasks, or situations involving critical renovation or rehabilitation activities in post-conflict or natural disaster situations.

3. USAID REGULATIONS AND LOCAL LAWS

3.1 USAID REGULATIONS

Construction projects financed by USAID must comply with U.S. laws, in addition to USAID's policies and regulations, as provided in the FAR, ADS and AIDAR

The Contracting Officer (CO) is responsible for drafting the contract used in the tendering process. Technical input support can be provided by the A-E firm after review and approval by the CO, Contracting Officer's Representative (COR), and other staff. This information includes the drawings, specifications, plans, and other information such as topographic and geotechnical data.

The following information illustrates the guidance relevant to tendering construction projects found in the FAR:

Part 6 – Competition Requirements: Encourages full and open competition; explains procedures; and provides guidance on situations where competition is not in USAID's best interest.

Part 7 – Acquisition Planning: How to plan the procurement.

Part 14 – Sealed Bidding: Procedures to collect and evaluate bids leading to award.

Part 15 – Contracting by Negotiation: How USAID selects technical assistance contractors with source selection procedures.

Part 16 – Types of Contracts: Fixed price, Cost Reimbursement, and Indefinite Delivery Indefinite Quantity (IDIQ) Contracts.

USAID REGULATIONS

Starting point is FAR Part 36 for A-E and construction contracts. Other sections of the FAR, ADS, and AIDAR provide further guidance.

THIS IS CONTRACTING OFFICER TERRITORY – DON'T TRY IT BY YOURSELF!

Part 25 – Foreign Acquisition: Buy America Act.

Part 28 – Bonds and Insurance: Bid and performance guarantees and payment bonds for labor and materials.

Part 33 – Protests, Disputes, and Appeals.

Part 36 – Construction and A-E Contracts: The heart of guidance on construction contracting; subpart 36.2 covers construction while A-E guidance is found in Subpart 36.6. Contract clauses for construction are provided in Subpart 36.5.

Part 48 – Value Engineering: How to include this important activity into construction and A-E contracts.

Part 52 – Clauses which should be directly or by reference incorporated into construction solicitations and contracts.

Overall the ADS provides guidance on USAID’s policy, personnel, management services, and other topics – including Acquisition and Assistance in Series 300. Within this lengthy series, Chapter 302 is devoted to USAID Direct Contracts. It is organized to provide information on policies, planning, solicitation requirements, pre-award requirements, and award and post-award administration. The intent is to provide overall guidance to USAID officials.

Other ADS chapters relevant to construction contracting include ADS 220 (Government to Government – G2G) Chapter 303 (Assistance and Cooperative Agreements – supplemented with 2 CFR 200), 305 (Host Country Contracting -- HCC), 308 (Public International Organizations, 310 (Source, Origin, and Nationality) and Chapter 320 (Branding).

More specific guidance is found in the AIDAR, section subtitled, “A Mandatory Reference to ADS Chapter 302.” This guidance elaborates on the FAR and ADS in the areas of acquisition planning, contracting methods, contract requirements such as insurance and bonds, liquidated damages, and contract management. Special contracting categories such as A-E contracting are covered in AIDAR 736.6 and for construction in AIDAR 736.5. More importantly, the AIDAR provides the mandatory USAID clauses which must be included or referenced. These clauses are generic to USAID contracts, whereas the contract clauses in FAR Parts 36.5 and 52 are more specific to construction and A-E contracts.

3.2 LOCAL LAWS

Although USAID and its direct hire contractors usually enjoy certain tax exemptions and may import project commodities duty-free, USAID contractors must also comply with local laws and

regulations. This requires careful examination and study by Mission staff during the planning process (ADS 201). Therefore the costs can be properly estimated and arrangements can be made administratively for the construction contractor (and when appropriate if a local A-E is awarded as the Prime) to become a legal employer.

USAID and USAID’s direct award construction contractors are usually exempt of paying certain local taxes because of bilateral agreements with cooperating countries receiving USG development assistance. However, this exemption usually doesn’t extend to labor laws for all contractors and for taxes assessed on local subcontractors. US-based A-E and construction firms should be prepared to establish themselves as legal businesses in the country if they are not already legally established. They should also be prepared to carry out all local and legal responsibilities as an employer, such as withholding income taxes and making social insurance payments for local employees. There may also be restrictions imposed on the movement and exchange of currencies with which the construction contractor may need to comply. USAID ordinarily helps secure customs exemptions for imported commodities to be used for construction projects and for equipment needed to be purchased by the construction contractor for use on the project (e.g., bulldozers, trucks, etc.). Because the construction contractor’s equipment is usually on a temporary customs release, the contractor may need to post a customs bond to guarantee that, prior to the end of the project, the equipment is re-exported.

Many countries have laws requiring that engineering design plans be certified by a locally registered or chartered engineer. This is similar to US requirements and should not be viewed as an undue burden. Most US A-E firms use local engineering subcontractors. These firms can provide the necessary review and certification of the engineering drawings and design.

Obtaining local permits can be a troublesome process prior to initiating a construction project. These permits include building, construction, environmental, right of way, utility, and street excavation. The permits are issued by local governments and can be a cause of delay if not proactively planned and managed. The common practice is to place the responsibility for obtaining

these permits on the construction contractor, although local authorities may be able to provide administrative help. While tasking the construction contractor with this responsibility may have the advantage of administrative clarity, it also may place the contractor in an administratively vulnerable position for exploitation by the local authorities.

4. THE TENDERING PROCESS

4.1 TENDERING

The objective of the tendering process is to secure the services of a contractor to perform the work described in its contract. The intent is to choose a construction firm that will complete the project within the contract time frame, meet all quantitative and qualitative requirements and specifications, and work efficiently – if not harmoniously – with all parties. It is critical that the tendering process by USAID should be fair and transparent to all parties.

The preparation of the Invitation for Bid (IFB) or Request for Proposal (RFP) is the first major step in this process. IFBs are most commonly used for D-B-B contracts. RFPs are used for D-B and Program Management because in addition to cost information, USAID will want to also solicit a technical proposal from prospective contractors to understand their technical approach, their capabilities to perform the work, and information to evaluate the overall attractiveness of their approach. It should be noted that RFPs have been increasingly used, and have been allowed, for D-B-B construction contracts because of the flexibility RFPs allow USAID to negotiate the award and obtain a “best value”.

An RFP is different from an IFB in that it requires the submission of a technical proposal that provides information about a contractor’s project approach.

The USAID tendering solicitation uses Standard Form 1442 (Solicitation, Offer, and Award) with Sections B through M and Attachments included. This is the same format USAID uses for technical

assistance contracting. Modifications or changes to the award are accomplished by the CO issuing Standard Form 30, Amendment of Solicitation/Modification of Contract.

The overall drafting of the IFB and other solicitations should be performed by or under the supervision of contracting professionals.

In this manner, USAID is able to develop tendering procedures that in substance duplicates most U.S. engineering and construction sector industry practices with one important difference. Whereas the rest of the world primarily uses a General Conditions of Contract, based on the Fédération Internationale Des Ingénieurs-Conseils (FIDIC), USAID uses a collection of clauses compiled from the FAR, ADS, and AIDAR to accomplish the same purposes. Although the compiled information is compliant with USAID’s needs and FAR, ADS, and AIDAR requirements, it can be confusing to firms unaccustomed to USAID direct contracting procedures for construction services.

Construction industry practice is to use an established General Conditions of Contract for construction services suitably modified by an amendment (i.e., Conditions of Particular Application) to meet the needs of USAID and provide specific information.

4.2 ELEMENTS OF A TYPICAL IFB

The following components comprise the major sections of an IFB and are based on standard U.S. engineering and construction industry procedures. The USAID SF 1442 contains similar information.

Cover Letter Inviting Bids – This is provided to each of the prospective bidders that have either been prequalified or that have requested the tender document after issuance of a public notice. It may provide a listing of the IFB elements.

Instructions to Tenderers – This document provides information on how to assemble the bid package, where and when to submit it, and to whom questions should be directed. It may also include procedural information on site visits and pre-tender meetings. Other information may be included, such as cautioning bidders that USAID retains the right to reject any and all bids, that material modifications are not acceptable, and that unbalanced bids will be rejected.

Form of Tender – This document constitutes the bidder’s legal offer to perform the work for the prices submitted under the conditions of the tender.

Form of Agreement – This is the legal document that binds the two parties after USAID selects the awardee. It usually lists the documents that form the actual construction contract.

Forms for Bonds or Guarantees – The tender document provides information and forms for bid, performance, and payment bonds or guarantees. Bonds are usually issued from surety bond companies or insurance companies and are usual practices for international contractors. In many developing countries, bank guarantees, rather than surety bonds, are the preferred practice, reflecting the fact that surety bonds are not generally available. The bank guarantee is often in the form of an irrevocable letter of credit issued by the construction contractor’s bank.

A bid bond is submitted by a construction contractor with a bid, assuring that the construction contractor will undertake the project at the quoted price if it wins the bid. A

THE IFB TENDER PACKAGE TYPICALLY INCLUDES

- Cover Letter inviting Bidders
- Instructions to Tenderers
- Form of Tender
- Form of Agreement
- Forms for Bonds or Guarantees
- General Contract Conditions
- Conditions of Particular Application
- Bills of Quantities
- Technical Specifications and Drawings

performance bond is issued after the bid is awarded. It protects USAID from default or breach of contract. It also guarantees that the construction contractor or the issuer of the bond will complete the project to specifications and that the facility will provide services as planned. Payment bonds ensure that the construction contractor will meet all of its payment obligations with its employees, suppliers, and subcontractors. This protects USAID from claims from the construction contractor’s suppliers and individuals in case of non-payment, default, or bankruptcy.

General Contract Conditions – This is the basic contractual document that defines the relationships and obligations of the two parties (USAID and the construction contractor) as well as third parties, such as the A-E firm (or when FIDIC based contracts are used, the “Engineer.”)

Conditions of Particular Application – This modifies and augments the clauses contained in the general contract conditions. For USAID contracts, mandatory and other clauses can be easily added that cover topics such as the legal effect of USAID approvals, nationality/source requirements, insurance, Workman’s Compensation, Defense Base Act, cooperating

country taxes, Equal Opportunity provisions, marking and branding, corrupt practices, and scores of other topics referenced from the FAR, ADS, and AIDAR.

Bills of Quantities – This itemizes the components of the constructed facility and is usually broken down into schedules such as: civil, mechanical, electrical, etc. The bidders fill in prices for the items on a unit or lump sum basis against estimated quantities. Training activities, commodities, O&M support, and other items can be included.

Technical Specifications and Drawings – These documents describe the facility to be constructed in great detail. Commodities and materials are described and quality control and administrative procedures are established. This is often a part of a more general section titled “Employer’s Requirements.”

4.3 USE OF RFPs FOR CONSTRUCTION CONTRACTING

In the case of D-B contracting, the contractor provides a price proposal, much like the IFB process, and additional technical information such as: a proposed project approach, management and quality plans, resumes of key personnel, and evidence of successful past performance. The combined submittal is evaluated to determine the acceptability and attractiveness of the offer.

The RFP provides a preliminary design, sometimes referred to as a “30 percent design”, detailed design standards, and other supporting documentation. In effect, USAID, with the assistance of its A-E firm and technical staff, provides a description of the facility to be built and performance criteria to be met. The D-B construction contractor estimates what it will require to complete the design and the associated constructed price.

In summary, a technical proposal is developed in addition to much of the same information provided by the IFB tenderer. RFPs are not only used for D-B contracting but have enjoyed increasing popularity for D-B-B construction contracting. Many COs and technical staff believe it is to their advantage to choose firms based on “best value” rather than be locked into accepting the lowest responsive price.

4.4 PREQUALIFICATION OF BIDDERS

Prequalification is the process of screening prospective bidders prior to the release of the solicitation requesting bids or proposals. This ensures that only firms that are believed to be capable of performing the work are permitted to participate in the bidding or proposal process. The

The prequalification process focuses the tendering process on only those firms capable of performing the work.

following factors are usually considered in prequalifying bidders: satisfactory completion of similar projects, financial capability, availability of key staff and equipment, annual revenue, and work backlog. Other project-specific prequalifying factors may also be considered. Firms that are prequalified are considered to meet the requirement of being “responsible” bidders.

Projects can be bid without prequalification or with a determination of technical capability made later as part of the tender evaluation process. However, both practices are strongly discouraged. Risk of failure during the execution of the work is much greater when the construction firm under contract does not have the demonstrated capability to undertake the work. Likewise, it isn’t fair to poorly qualified construction firms that will be rejected later during the tender evaluation to incur the expense of preparing the tender and paying for a bid bond.

4.5 PRE-BID CONFERENCES AND SITE VISITS

After release of the solicitation, the usual practice is to hold a pre-bid conference. This is an opportunity for the pre-qualified bidders to meet with USAID, the A-E firm, and the technical staff to: ask questions, be presented with any additional information, and obtain answers to their questions. This is in addition to the usual practice of firms sending written questions to USAID during the tendering process. The advantage of the pre-bid conference is that all parties hear the same information and can collectively participate to increase understanding of the technical and other requirements.

Site visits are often arranged in conjunction with the pre-bid conference. This allows all bidders access to the site and satisfies the common certification in the tender that the bidder has inspected the site.



4.6 RECEIPT OF TENDERS

The opening of IFB tenders is a critical event in the process and is usually done in public with bidders present. This is performed at a set location and time. Bids received after this time may not be accepted and opened. Usually the bid amount from each firm is read aloud. USAID, with the assistance of the A-E and/or technical staff, manages this event. After the opening of the tenders, the bidders are collectively thanked and the meeting is adjourned. For RFPs there usually is no public meeting but rather a requirement for

receipt of proposals at a specific location and time.

4.7 EVALUATION OF THE TENDERS AND AWARD

USAID, usually with the assistance of the A-E, carefully examines each tender to determine if it is complete, does not contain any material mistakes, does not take exception to the solicitation requirements, and is therefore judged fully responsive to the IFB or RFP.

The usual practice has been to award the contract to the technically acceptable, lowest “responsive” bidder when using an IFB. For RFPs the contractor is chosen based on “best value” to USAID. The FAR defines “best value” as providing the greatest overall benefit in response to the requirements. This allows USAID to solicit and consider technical and management information in addition to cost.

4.8 COST ESTIMATES

The CO requires an estimate of construction cost to examine the reasonableness of bid and proposal prices. This is referred to as the Independent Government Cost Estimate (IGCE). It is usually developed as a draft estimate by an A-E firm or technical staff based on preparation of a BOQ during the final detailed engineering design process. The IGCE is reviewed and modified as needed by the CO and the USAID technical staff and is often preceded by other estimates of cost based on prior Mission or staff experience.

At various points during the engineering design process, the A-E firm will provide a series of draft cost estimates of the facility. At the beginning of the planning phase, a cost estimate can only be considered a rough, budgetary estimate – at best no more or less accurate than 30 percent. As further information is gathered, both about local costs and with further detail about what will be built, the cost estimate will become more accurate. By the time the “official” IGCE is provided, the

variance from the actual expected cost should be in the range of under or over 10 percent. The two primary issues related to development of reliable cost estimates are how they are developed and how they differ from contractors' bids.

Bottom-Up Cost Estimate – When developing a draft cost estimate for use by USAID as input for the IGCE, the A-E firm and USAID technical staff take the BOQ and, using local cost information, fill it out. The A-E and USAID technical staff work from the perspective of a local construction contractor making appropriate assumptions about risk, contingencies, and profit margins. This is referred to as a “bottom-up” estimate. This cost estimate should then be compared with a “top-down” estimate.

Top-Down Cost Estimate – A top-down cost estimate simply uses recent bidding information for similar facilities in the area, if this information exists. If the A-E and USAID technical staff have a good understanding of local costs and the bidding environment has been competitive, then the two types of estimates should yield similar results.

Bid or proposal prices received during the tender process may differ significantly from the IGCE due to differences in the local competitive environment and a variety of other factors. It is therefore important to make the solicitation attractive to potential bidders. If they perceive a high level of construction risks, whether justified or not, local construction firms may increase their bids to reflect these risks or decline to bid. Potential bidders may already be busy and decide not to bid. Conversely, if there is little available work, local construction contractors may bid aggressively with attractive prices.

Corruption is another factor influencing bids. Bidders have been known to collude, resulting in higher bids. USAID should be prepared to take steps to mitigate or prevent collusion or other contracting improprieties from occurring.

5. DECISIONS RELATED TO THE TENDERING PROCESS

Decisions related to the following issues can affect the tendering process and should be carefully considered in the development and management of the tendering process.

5.1 TIME FOR TENDERING

Often there is pressure from management to reduce the time allowed to prepare bids and proposals. This experience is not unexpected since by the time the solicitation is ready for release, the construction project may already be behind the planning schedule proposed in the Project Assessment Document (PAD). However, it is a mistake not to provide enough time for the construction contractors to gather information carefully and make informed decisions when preparing bids or completing technical proposals. Lack of sufficient preparation time can be counterproductive and costly. This is particularly true in when USAID is contemplating use of firm fixed-price construction contracting.

The usual response if sufficient time is not provided by USAID is for the construction contractors to add “contingency” amounts to their budgets for costing items for which they lack good pricing. This will drive up bid prices for all bidders resulting in an unnecessarily higher cost award. It may also undermine the confidence the bidders have in USAID, the A-E, and technical staff to manage the work post-award. This again, adds risk and cost where it isn’t justified. Another result may be that more experienced construction constructors may decide that they will decline to bid if their cost-estimating department is already busy.

If time needs to be saved, then a better strategy is to release draft (pre-solicitation) tendering documents to the pre-qualified bidders as quickly as possible so that their cost estimating departments can start gathering complex cost information early. If this is done, then the tendering period may be able to be shortened. However it is best to provide ample time, even when the CO, the A-E, and the technical staff believe that no matter how much time is provided, one or more bidders will request an extension. Examples are not available that definitively demonstrate that USAID has ever been harmed by providing bidders ample time to carefully prepare bids or proposals.

5.2 PERFORMANCE PERIOD IN THE CONTRACT

The same pressures that often compel USAID to reduce the time allowed for the bidding period sometimes also affects the performance period. USAID justifiably wants development results to occur in a timely manner and sometimes there are political pressures to demonstrate that USAID is responding quickly to difficult development situations, including post-disaster and post-conflict events. However, setting an unrealistic time frame in the construction contract to build a facility is often counterproductive. First, it drives up competitive bids as the contractors are forced to re-organize their financial needs, equipment, material suppliers, and work forces in a less than efficient manner. The additional costs for supplementary overhead, field labor, materials, machinery, and equipment often greatly outweigh

any intended savings due to a shortened performance period. Second, the likelihood of schedule delays increases, and the likelihood of disputes and claims initiated by the construction contractor also increase.

Because the contractor is working in a more time-critical fashion and the compressed construction schedule, job-site situations that cause a loss of time beyond the contractor's control will be documented which will trigger a request for a change order, and possibly a request for equitable adjustment (REA) which will increase USAID's cost. When the construction contractor gets behind schedule, it also gets concerned about having to pay USAID "liquidated damages" (see below).

5.3 LIQUIDATED DAMAGES

Liquidated damages can be assessed against the construction contractor if the facility is completed after the contract completion date. It is meant to represent the value of the daily loss of facility service benefits, or additional costs to USAID from the completion delay. A good example of liquidation damages is a water treatment plant or an electric power generation plant. Each facility produces a product that is sold and therefore the liquidated damage may represent the estimated lost revenue or profit expected from delayed delivery of these services. The liquidated damage on a daily basis must be estimated and included in the tender documents – usually in the Conditions of Particular Application.

According to U.S. commercial law, liquidated damages are lawful when the amount of the damage is difficult to estimate and the liquidated damage daily cost is reasonable. It may not be structured to be a "penalty." (A penalty being when the amount is disproportionate to the actual harm.)

FAR Subpart 11.5 provides guidance on liquidated damages and indicates that the damages may include the additional cost of USAID supervision during the extended period of service losses. Interestingly, the FAR does not cap the liquidated

damages at a ceiling, as is the usual practice in the construction industry.

It is very likely that a construction contractor will defend itself against liquidated damages by carefully stockpiling claims for time extensions over the course of the work. The usual negotiation strategy for the construction contractor is to balance its potential set of claims along with other issues that need to be resolved with USAID. A common remediation tactic is for a construction contractor to offer spare parts against the portion of liquidated damages that are considered to be implemented. This is a win-win for all parties because the cost of the spare parts to the contractor is considerably less than the spare parts contract price USAID might have to pay if these parts were obtained directly.

5.4 BONDS AND GUARANTEES

USAID complies with the 1935 Miller Act, which requires construction contractors to provide performance and payment bonds equal to 100 percent of the contract amount; unless the CO determines that a lesser amount provides sufficient protection to the Agency, or that such bonds are inappropriate in the cooperating country overseas using FAR 28 waiver condition. U.S. and European construction industry practice is to use surety bonds rather than performance and payment bonds, also referred to as irrevocable letters of credit, because they are less expensive than bank guarantees. Developing countries prefer bank guarantees because they are easier to "call" than surety bonds.

For international or U.S. contractors, surety bonds are an alternative that should be considered. However, for procurements involving local construction firms in countries that don't have access to surety bonds, bank guarantees should be used. In this case, as a "best practice" the amount is often set at no more than 10 percent of the contract amount using construction sector standard operating practices.

In difficult post-conflict country environments, such as Afghanistan, USAID expects U.S. contractors to provide surety bonds securing performance and payment. The typical amount required by the CO in this situation is approximately 20 percent for each bond.

In developing the tender document, careful consideration must be given to the needs and costs of providing appropriate financial security to reduce construction risks to USAID for contractor bid, performance, and payment situations. Excessive bonding levels increases the contractor's costs and will be reflected in the bid or RFP price – and should be avoided.

5.5 PROVISIONAL SUMS

The construction contract awarded when based on FIDIC provisions should contain a provisional sums line item for HCC or G2G construction contracting arrangements. The provisional sums line item provides for “contingency costs” which are not allowed under FAR direct contracting procedures. Provisional sums provide financial

flexibility and the ability to implement change of scope decisions without undue delay. Such undue delay may involve additional costs.

With a direct USAID construction contract, the contract needs to modify every time a change order is approved by the CO, or a set of minor change orders is combined into a larger change order. However, change orders take time to process. To be in compliance with the Anti-Deficiency Act, it would be necessary to not only have the CO approve the contract modification, but to have to wait until Financial Management amends the Direct Letter of Commitment.

With a provisional sums line item, the contract clauses will specify the different levels of authority to review and approve various levels of variation orders that will be able to access the funding in the provisional sums line item.

The provisional sum is usually fixed as a percentage of the contract amount and is typically 3 to 5 percent of the total contract amount.

6. RISK ALLOCATION

6.1 CONSTRUCTION RISK

All development activities involve some level of different types of risk. Construction projects are particularly risky; therefore contract conditions are used to identify risks, define responsibilities, and provide a means to mitigate risk. An example is through insurance. The table below identifies some of the typical construction risks that may be encountered and mitigation measures. The overall management principle is that the responsibility for a particular construction risk should be placed with the party in the best position to manage it.

The USAID *Construction Assessment Report (2014)* recommended that the Agency develop guidelines

on Risk Assessment and Risk Mitigation for infrastructure construction projects. It further recommended that the Agency begin systematic experimentation with construction risk management processes.

The report lists five general risk factors:

Budget Overrun Risk (Cost)

Schedule Delay Risk (Time)

Quality Risk

Sustainability Risk

Compliance Risk

EXAMPLES OF RISKS AND MITIGATION MEASURES

Risk Factor	Potential Impact	Mitigation
Default by the contractor	Stopping the work on the site causing delays	Calling the performance bond causing the surety company to complete the work; not releasing any retention funds; seizing the contractor's equipment and materials onsite.
Non-payment	The contractor doesn't get paid	The contractor can claim that USAID is in default and make a request against the financial instrument securing the contract.
Late performance	The facility is completed later than agreed in the contract	Liquidated damages are often included in contract conditions. They reimburse USAID for the loss of benefits. Generally the cause of delay(s) is in dispute and requires resolution – sometimes through arbitration.
War, civil unrest, riots	Disrupts the work site causing delays or suspension of the work	This is ordinarily a risk borne by USAID. Could be mitigated with insurance, but usually is not mitigated
Acts of nature	Damage to the constructed facilities or site	Covered with Builder's Risk insurance. Coverage usually includes fire, lightning, wind, and vandalism; exempted are earthquakes, floods, and acts of war and civil disturbances. Purchased by USAID or by the contractor.
Accidents causing death or injury	Death or injury	Generally, the contractor indemnifies USAID for these losses and is required to purchase insurance.
Loss or damage to property	Loss or damage	Generally the contractor indemnifies USAID for these losses and is required to purchase insurance.

Risk Factor	Potential Impact	Mitigation
Defects after turnover	Loss of use of the facility by USAID	USAID is protected from latent defects by establishing in the contract a warranty period and having the contractor provide a bond or continuing to hold a portion of the retention amount.
Exchange rate fluctuations	Loss of funds by the contractor	Contractors sometimes hedge local currency but in many countries this isn't possible. They can estimate the impact and add this contingency to their bid. Sometimes USAID will share in this risk using a formula in the contract or by using local currency for a portion of payment.
Restrictions on repatriating capital	Impact on contractor	Insurance from Overseas Private Investment Corporation.
Design errors	Delays to the work and loss of benefit to USAID	This is the responsibility of the A-E firm and is covered by insurance.
Differing site conditions	Delay to contractor	The plans often provide geotechnical and other information to describe the site. If the site later is found to be materially different, the contractor may file a REA to obtain relief and compensation – both time and cost.
Unforeseen conditions	Delay to contractor	This includes unknown buried utilities and archaeological artifacts. The contractor may file a REA to obtain relief and compensation – for both time and cost.
Labor unrest	Delay to contractor	The contractor can use labor brokers; make greater efforts to work with local labor.
Unavailability or slowness issuing local permits	Delay to contractor	Use local subcontractors to facilitate issuance of permits. Enlist the local beneficiaries to assist.

7. LESSONS LEARNED

Tendering is the process whereby USAID has the opportunity to choose a construction contractor to build its facility. It should be well engineered and well-built if it is to provide the intended benefits over its economic life of 20, 30, 50, or more years. Given the longevity of this investment, it is important for USAID to carefully and thoughtfully manage the tendering process. The following should be considered:

1. Tendering is a major step for USAID in a carefully crafted construction implementation strategy. It should be consistent, not only with USAID's regulations, but also with engineering and construction industry professional practices.
2. USAID should focus on quality. The cost of well-qualified contractors is worth it when USAID considers the additional costs related to poor performance.
3. USAID should carefully plan and then continue to regularly review scheduled performance, milestones met, and be prepared to revise the construction schedule if necessary. Construction schedules are vital to monitoring successful performance.
4. USAID should always prequalify bidders. This is not only fair, but is in USAID's interest to ensure performance. Qualified construction contractors will frequently not participate in procurements where they know poorly qualified bidders will be allowed to participate.
5. Diligence in the prequalification process by USAID is paramount. Resist pressure to prequalify demonstrably marginal construction contractors. Hoping that



marginally qualified bidders will not secure the award is a bad strategy.

6. USAID needs to carefully develop the solicitation materials for the tendering document package. Later, the construction contract will provide the rules and parameters under which problems will be resolved.
7. USAID should allocate risk thoughtfully between the parties based on who is in the best position to manage and mitigate the risk. When USAID introduces exculpatory contract language placing the risk of unknown factors on the construction contractor, this will increase bid prices and will likely generate a higher number of disputes and claims.
8. USAID must focus on communications by fostering trustful relationships between all parties. Communities and other stakeholders

need to know what is happening during the planning, engineering design, and constructions processes and provide input.

9. USAID should provide pre-solicitation notices and advance draft copies of solicitations whenever possible.
10. Constructability of engineering designs should be assessed from the local construction sector's perspectives and capabilities. The more time construction firms

have to plan and gather information, the lower their perception of construction risks will be. This will result in lower bid prices.

11. USAID should carefully consider the capabilities of local construction contractors and the local construction sector during the planning and engineering design processes. Current USAID policy emphasizes the use of, and development of the capacity of local A-E and construction contractors.

ACKNOWLEDGMENT

An earlier version of this document was originally drafted by Dr. Michael Gould, P.E. in 2012, under a USAID contract with International Resources Group. The document was updated, revised, and expanded on in 2017 by Dr. Michael Gould.

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