

Energy Savings Brief Design Build Agreement *Introduction Webinar*

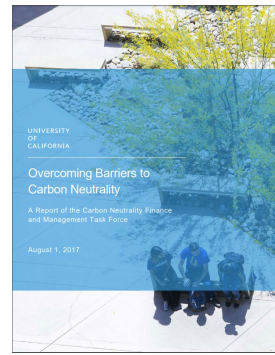
UCOP Design & Construction – Lauren Friedman, Director and Ellen Owens, Assoc. Director
UCOP Energy & Sustainability – Eric Eberhardt, Director
UCI Health – Tony Dover, Energy Manager and Kim Kerwin, Project Governance Manager
ARC Alternatives – Russel Driver, Principal Consultant

June 7, 2021

Agenda

1. Background and Overview
2. The Agreement
3. Procurement
4. New Contract Documents
5. Test Case
6. Summary and Next Steps
7. Questions

Background and Overview



Key Drivers to develop the agreement

- *Overcoming Barriers to Carbon Neutrality and Energy Project Finance Initiative* recommend ESAs
- UC Health Energy Managers working group request

Development team supporting the effort

- Team includes UCI Health, UCOP D&C, E&S, ARC
- Leveraged Brief Design Build Agreement development
- Ran pilot solicitation with a UCI Health project

Capture ESA benefits, avoid pitfalls- within the rules

- Streamline competitive turn-key energy projects <\$5M
- Self-finance to eliminate risk premium and simplify
- Performance monitoring for persistence, timely closeout

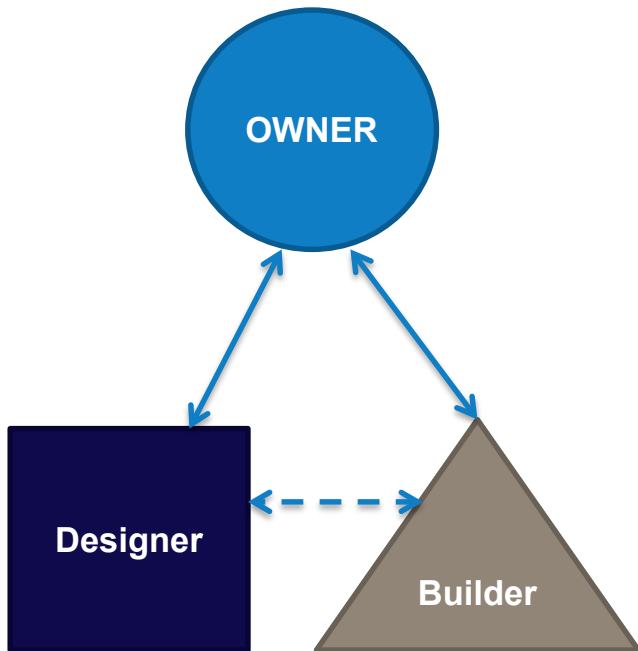
The Agreement

Agreement Details

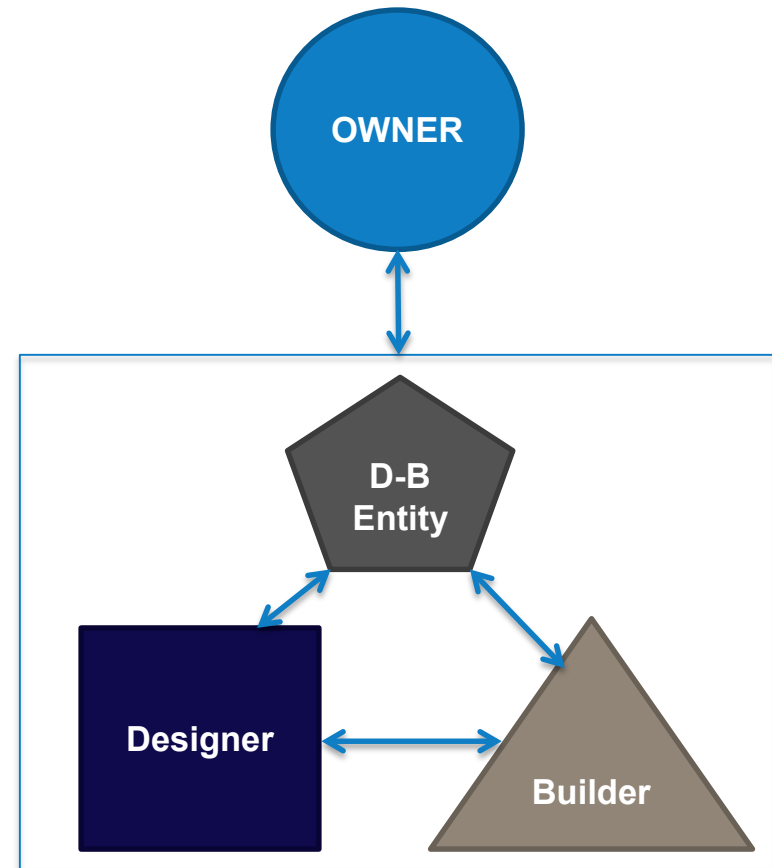
- Based on Brief Design Build Agreement
- Operational Commissioning Requirements
- Performance Specifications
- Contract amount does not exceed \$5M
- University sets Maximum Acceptance Cost (MAC)
- Streamlined process:
 - Single phase contract
 - University approves Design & Cost prior to CDs

The Agreement - Design Build Structure

Design Bid Build



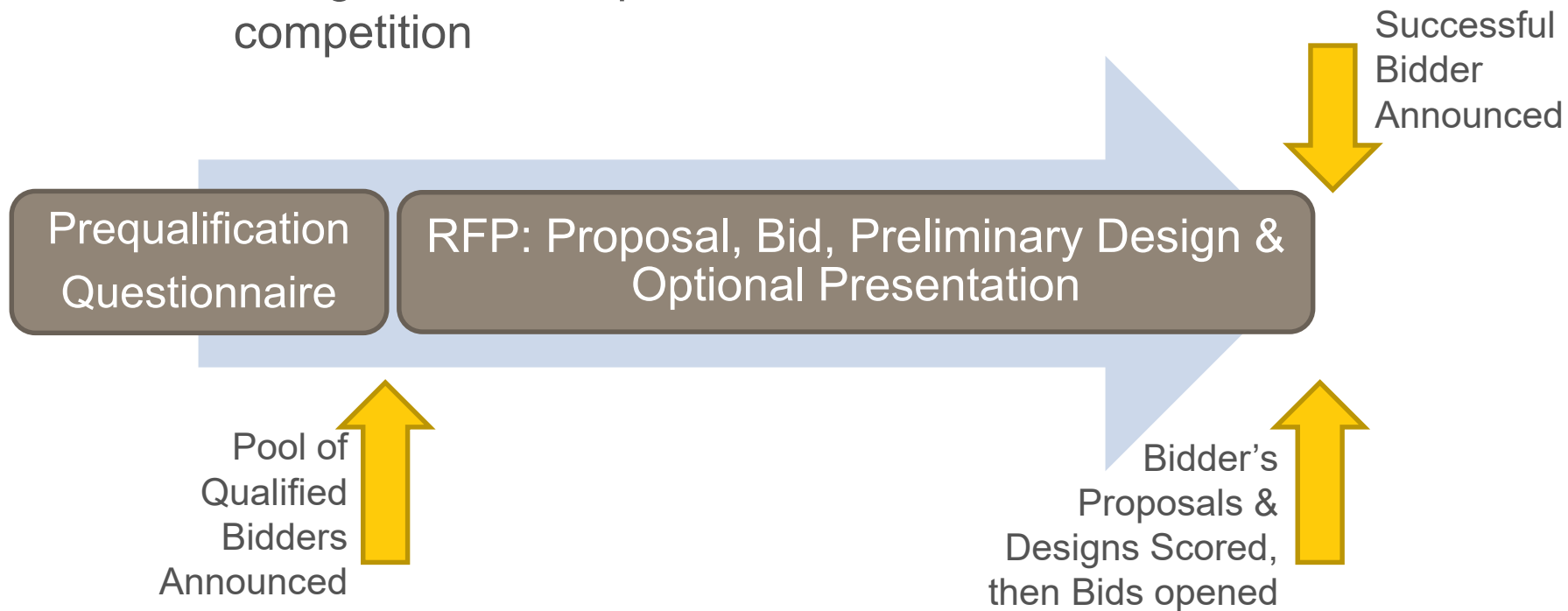
Energy Savings Brief Design Build



The Agreement

Procurement Steps

- Step 1: Prequalification Questionnaire
 - After this step the prequalified bidders are announced
- Step 2: Request for Proposal and Presentation/Interview
 - Design Work is required, does not need to be a competition



Procurement - Details

Prequalification

- Financial data, License, Experience, ENR, Safety
- Assures Pool of bidders qualified for the individual project
- Ask the appropriate questions tailored to the individual project
- After this step the prequalified bidders are announced

Request for Proposal & Preliminary Design

- Proposal Narrative shows the team is qualified for the specific project
- Preliminary Design required per Statute
- Financial Bid (Cost proposal) is reviewed separately and after grading of the rest of the proposal
- Stipend for the preliminary design is optional
 - If offered, it allows University to use all teams' work

Procurement - Request For Proposal

Owner

University provides Information to bidders, including Audit

Request For Proposal Details submittal requirements

Preliminary Schedule, Maximum Acceptance Cost (MAC)

Proposer

Design Builder prepares the Proposal (narrative)

Preliminary Design Submittal and Presentation (if required)

Financial Bid (separate from Qualitative data above)

Procurement – Grading Proposals

Each Bidder Completes

1. Proposal and Preliminary Design submittal
2. Lump Sum Price Proposal

Review Panel

- The Review Panel determines if each Proposal and Preliminary Design Proposal are responsive to the RFP requirements.
- Members of the panel each determine a Technical Score for each responsive bidder. Scores are added together and divided by the number of panel members to determine the **Net Technical Score**, for each bidder.
- Determine **Established Lump Sum**, which includes the price proposal, unit prices, and daily rates for compensable delays for each bidder. Process is described in the Proposal Evaluation document.
- Divide the bidder's **Established Lump Sum** by their **Net Technical Score**, to determine the **Cost per Point**.
 - The bidder with the **lowest** Cost Per Point is the lowest bidder.

New Contract Documents

Contract Documents

- Advertisement for Prequalification
- Prequalification Questionnaire, Evaluation & Announcement
- Request for Proposals, Requirements, Evaluation
- Price Proposal Form
- Agreement
- General Conditions
- Supplementary Conditions

New Exhibits

- Change Order
- Cost Proposal
- Technical Performance Specifications Template

Available at: <https://ucop.box.com/s/8h3cthylw2vj38s3n85tx6tj9t9bcakg>

Documents - Technical Specifications

Model Performance Specification

- Starting point for technical consultant
- Should be modified to be measure-specific
- Includes process (e.g., design) and implementation requirements
- References Operational Commissioning (OCx) specifications
- Represents a baseline for the minimum that should be included in a performance specification

Documents - Operational Commissioning

Emphasis on Long-Term Operations

- Streamlining of traditional commissioning process
- Monitoring of data related to design and performance requirements
 - Energy use
 - Indoor air quality
 - Occupant comfort

In Lieu of Guaranteed Savings Model

- Provide building operators with useful data
- Focus on persistence of system performance
- Eliminate vendor-driven M&V in cases where value is limited

Test Case

UCI Health Energy Savings Project

- Whole Building Retrofit Project - MOB
 - 7 EEMs, <\$1M project
 - 3 Qualified Bidders, 1 Response
- Contract Process - Differences vs Similarities
 - Prequalification
 - Streamlined – Technical Evaluation Process
 - Project Scope Documents
 - Audit
 - Performance Spec.



Measure #	Measure Name
EEM-1	Pneumatic to DDC Air-Side Controls Upgrade
EEM-2	Interior Lighting & Controls Upgrade (add/alt)
EEM-3	Exterior Lighting & Controls Upgrade (add/alt)
EEM-4	Water-Side Equipment Controls Upgrade
EEM-5	Replace Pony Chiller and Optimize Chiller Staging
EEM-6	Optimize Heating Hot Water Control Sequences
EEM-7	Retrofit constant-speed HHW Pumps with New Motors and VFDs

Test Case

Performance Specification

Table of Contents

Summary of Work.....
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Commissioning Requirements.....
Project Scope.....

Project Scope:

The Design-Build team shall be responsible for compiling a complete project design package that meets the performance parameters outlined for each energy efficiency measure included in the scope.

EEM-5: Replace Pony Chiller and Optimize Chiller Staging

Project Description

The measure will upgrade the existing pony chiller with a new, more energy-efficient, water-cooled chiller. The project shall also optimize the chiller staging programming with the goal of operating the most efficient combination of chillers for the building load at any given time.

Key Details and Performance Requirements

The design team shall consider the following additional performance requirements, design targets, and customer preferences in their design package.

- Proper demolition and disposal procedures for existing 150-ton pony chiller
- New water-cooled chiller meeting the following parameters
 - Basis of design is a centrifugal VFD chiller, but the design team shall identify alternatives including water-cooled scroll chillers that can more cost-effectively meet the specified performance targets.
 - Design target is a rated efficiency of 0.500 kW/ton or better. At a minimum, chiller shall exceed Title24, efficiency better than 0.610 kW/ton (0.550 IPLV).
 - Design and minimum chilled water and condenser water temperatures shall match or be less restrictive than the existing chillers.
 - Low-GWP refrigerants are preferred (R-123 or better) but not required. Selected refrigerant shall not be scheduled for phase-out within the next 15 years.
 - New chiller to be tied into existing condensing water loop
- Drawings and contractor scope to include any new piping or valves on the chilled water side and condensing water side as-needed.

In addition to the hardware installation, the design team shall specify the programming required to maximize the energy savings for this measure. This programming is expected to include:

- Controllers, integration, programming, and graphics required to control the chiller from the central BAS including the following key sequences:
 - Chilled water and condenser water temperature resets, as specified in EEM-5
 - Optimal staging for both the 150 ton and 300-ton chillers. Specific staging points shall be selected to maximize the efficiency of the plant under all loading conditions.

Test Case – Lessons Learned

UCI Health Energy Savings Project



Contract Feedback

- Operational Commissioning
 - 12 month proving period
 - Bidder list
- Audit
- MAC – Maximum Acceptance Cost

Summary and Next Steps

- *Agreement is approved and ready for campus use now*
- Development team is available for support
- Please provide suggestions for improvements and other feedback on agreement to:
 - Eric Eberhardt (E&S) – eric.eberhardt@ucop.edu
 - Ellen Owens (D&C) – ellen.owens@ucop.edu
- Documents available on Box, moving to Facilities Manual
 - <https://ucop.box.com/s/8h3cthylw2vj38s3n85tx6tj9t9bcakg>





Questions?