



Design–Build Contracting

OUTLINE

- The Basics—What is Design-Build? What is Design-Bid-Build? What is Best Value?
- Specifications—proscriptive vs. performance based-- finding the right balance for the selected contracting strategy
- Contractor selection criteria for D-B contracts
- Energy project case examples



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Two basic contracting approaches for project execution:

- **Design-Bid-Build.** Owner specifies what is to be delivered in sufficient detail such that the contractor can be selected primarily upon price alone (low bid).
- **Design-Build.** Owner specifies what is to be achieved (end state) and selects contractor based upon the best value proposal considering the design features offered for the proposed price (design + construction)



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Best Value

- Design/performance features offered for the price proposed that results in the best deal for the buyer when considering both.
- Gives the Government the option of awarding a contract to other than the lowest bidder.
- Design-Build almost always uses Best Value as its basis for contractor selection



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Specifications—Two types

- **Proscriptive.** Tells contractor what to deliver in specific terms. Little, if any allowances for alternative approaches
- **Performance based.** Defines project objective or end state, i.e., what is to be achieved. Allows contractor to propose any approach that will accomplish the project objective/end state.
- **Neither** type should dictate performance means and methods



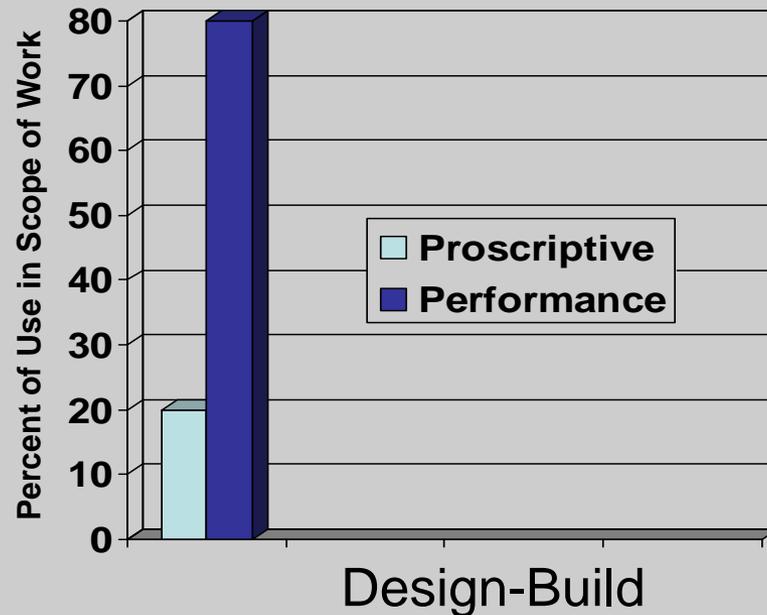
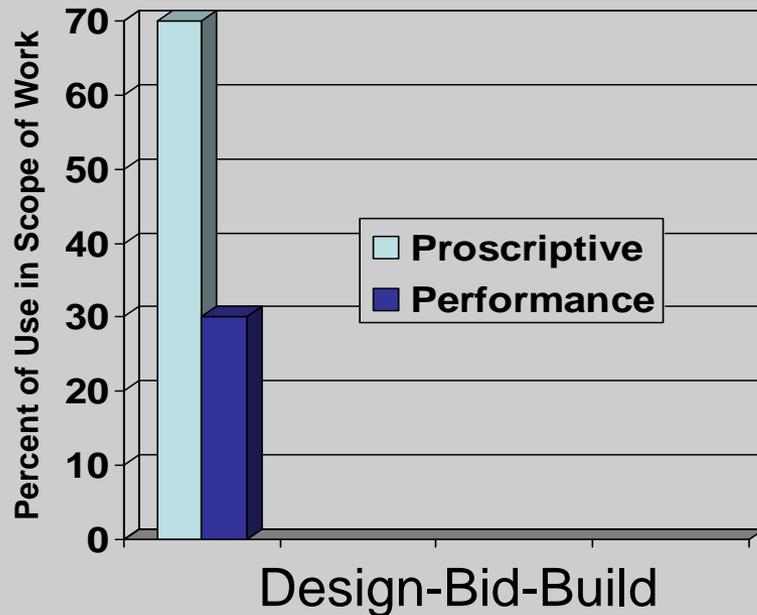
Design-Build Contracting

- Proscriptive specs are not all bad– often necessary to define project scope limits and to satisfy specific requirements where consistency and conformity are paramount
- Performance specs are a powerful tool for ensuring that project expectations are met.
- Federal policy is to use performance based specs to the maximum extent practical
- Blending the two types of specs into an effective Performance Work Statement is the key to success



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The optimum mix of proscriptive versus performance specs depends upon the selected contracting strategy





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Best Value Selection Criteria for Design-Build

- Must specify the evaluation criteria in the solicitation
- Must select contractor accordingly—deviations will be protested and likely require a do-over.
- Best Value D-B takes more time and effort to select contractor, but avoids disputes over design requirements during construction.



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Case Example 1

Construct geothermal heat pumps for 7 buildings.

You have:

- ✓ A study identifying expected energy savings
- ✓ A concept design upon which the study was based
- ✓ A competent staff of engineers and geologists

You don't have:

- ❖ A detailed design
- ❖ Soil borings to confirm subsurface conditions—only expectations based on regional geological data
- ❖ Confidence that the concept design is the best solution



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What should be the contracting strategy for the geothermal heat pump project?

Choices:

- Hire an A-E to finalize the concept design and go Design–Bid-Build?
- Solicit Design-Build to either finalize the concept design and construct or to propose an alternative design and construct?



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Case Example: Construct geothermal heat pumps for 7 buildings.

- Assume D-B approach selected
- What are some applicable performance specs?
- What proscriptive specs should be used?
- What best value evaluation criteria should be specified?
- How do you manage risk of unknowns with subsurface geological conditions?



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Case Example: Construct geothermal heat pumps for 7 buildings.

Sample performance specs:

- Meet or exceed the system performance criteria established by the geothermal heat pump study
- Provide an extended warranty to include verification that system performance has not degraded one year after initial testing and acceptance

Sample proscriptive specs:

- Identify the 7 buildings to be served
- Identify where visible equipment shall be located to not detract from the appearance of the buildings.



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Case Example: Construct geothermal heat pumps for 7 buildings.

Suggested best value evaluation criteria

- Corporate experience and successful past performance with similar projects using the same technical approach as proposed for this project.
- System performance guarantees offered by the contractor that are above and beyond the specified minimums.
- Expected system reliability/maintenance cost associated with the proposed approach



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Case Example: Construct geothermal heat pumps for 7 buildings.

- What to do about the subsurface risks?
- Choices: (1) Separately contract soil borings and publish findings as part of the solicitation, (2) require contractor to assume all cost risk for unforeseeable subsurface conditions, or (3) request FFP unit cost for each linear foot of rock drilling, (1) and (2); (1) and (3).



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Case Example 2

Construct solar walls on 3 buildings.

You have:

- ✓ Several buildings where it has been done before
- ✓ Lessons learned on which design worked best
- ✓ Confidence that there has been no recent technology advances or innovations for solar wall construction

You don't have:

- ❖ A detailed solar wall design for the 3 new buildings
- ❖ Reliable energy performance statistics associated with the existing solar walls for use in predicting project outcome with any certainty



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Case Example: Construct solar walls on 3 buildings.

- What should be the contracting strategy for the solar wall project?
- Choices:
- Hire an A-E to adapt the best existing solar wall design to the new buildings and solicit Design–Bid–Build?
- Solicit Design-Build?
- Solicit Adapt Design–Build? (contractor site –adapts owner furnished design)



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Case Example: Construct solar walls on 3 buildings.

Assume Adapt Design--Build approach selected

- What are some applicable performance specs?
- What proscriptive specs should be used?



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Case Example: Construct solar walls on 3 buildings.

Suggestions:

- Performance: Provide 5 year warranty against water leaks (workmanship)
- Proscriptive: Construct the solar wall in accordance with attached plans and specifications after adjusting dimensions to fit the building width and height



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Case Example: Construct solar walls on 3 buildings.

Suggested proposal evaluation criteria:

- Technically Qualified Lowest Price
- Successful past performance track record
- Realistic price



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Recap

- Design–Build is a great contracting tool but is not always the best approach
- Performance specifications play a critical role in Design–Build but also serve Design-Bid-Build contracting
- Proposal evaluation criteria is key to successful D-B contracting
- Strive to reduce cost risk for both parties posed by things outside either party’s control.



Design-Build Contracting

Sources for more information and guidance on Design-Build Contracting:

Army Source Selection Manual

[https://www.alt.army.mil/portal/page/portal/oasaalt/documents/ASSM final 051609.pdf](https://www.alt.army.mil/portal/page/portal/oasaalt/documents/ASSM_final_051609.pdf)

USACE Technical Instructions 800-03 July 1998

www.hnd.usace.army.mil/techinfo

Design Build Institute of America www.dbia.org