

AMERICAN UNIVERSITY OF BEIRUT
FACULTY OF ENGINEERING AND
ARCHITECTURE

CIVE 580 / ENMG 502
CONSTRUCTION MANAGEMENT
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Additional Exam Questions

January 2007

Variant Organizational Concepts

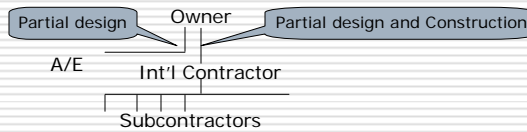
1. The multi-hundred-million, multi-facility Lebanese University Complex project has been completed and made available for occupancy only recently. The project was implemented using a variation from the traditional approach. That is, bidding, which was open to a number of international/regional general contracting companies, was carried out on a partially developed design. The A/E, a local design firm, was the party responsible for supervising the construction contract, which got awarded to a European general contractor. The successful general contractor opted for substantial subcontracting, that was done on the basis of "trade", with such trade works are spread in a number of facilities throughout the project, and not on the basis of the whole works in a "particular facility" within the project.
 - a) Graph the project organizational structure adopted for the project.
 - b) Suggest a name for the adopted structure, and state the type of the construction contract.
 - c) Propose two other structures that could have been considered by the government, one of which shall be of such nature that would have allowed higher chances of involvement by the local general contracting companies.

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1. Answer:

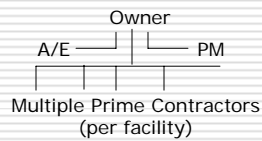
a) Adopted Organizational Structure



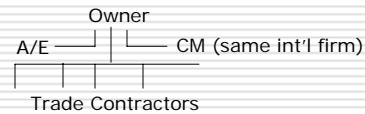
b) Suggested Name: Modified DB Type of Contract: Lump Sum

c) Alternate Structures

Alternative No. 1



Alternative No. 2



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Leading to the Go-Ahead Milestone

2. During the pre-project planning phase:

- The Client expects that all potential project risks to be identified.
- The Client expects that all potential project risks to be resolved.
- The Client expects that mitigation measures for all major project risks to be formulated.
- Any combination of the above a & c.
- None of the above.

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Project Life Span

3. It is correct to say that:
- a) The pre-project planning and pre-construction phases are both concluded with some form of financial evaluation.
 - b) The PM firm may be involved with the owner from as early as possible in the pre-project phase until shortly after the completion of construction.
 - c) Innovative bidding approaches and contract types could involve giving the contractor a more significant role during the early years of a project's operation phase.
 - d) Any combination of the above a, b & c.
 - e) None of the above.

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Quantity Surveying

4. It is correct to say that:
- a) Quantity surveying is a task undertaken during the construction documentation stage of the design phase.
 - b) Quantity surveying is a task that contributes very little, if any, to the administration of the construction contract by the PM firm.
 - c) Quantity surveying is never the concern of the general contracting firm bidding for a lump sum contract.
 - d) Any combination of the above _____.
 - e) None of the above.

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Scheduling

5. Scheduling for the execution of construction activities:
- a) Requires major input from the contractor's bid preparation team.
 - b) Has an aim of graphically representing when activities are likely to be started and completed.
 - c) Is the responsibility of the PM firm.
 - d) Any combination of the above __a & b__.
 - e) None of the above.

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The Construction Contract

6. The construction contract:
- a) Is formed following the analysis of submitted bids.
 - b) Is formed following the selection of the successful bidder.
 - c) Is formed following the readiness of the selected successful contractor to enter into contract.
 - d) Any combination of the above _____.
 - e) None of the above.

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Applied Resources

7. The applied resources:
- a) Can be viewed as major indicators of the contractor's major areas of qualifications.
 - b) Are, in their majority, not re-allocable.
 - c) May require major financial investments to be made by the contractor.
 - d) Any combination of the above a & c.
 - e) None of the above.

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Permanent Resources

8. The procurement of permanent resources:
- a) Is contingent on the prior approval of the A/E of the sources/suppliers of products.
 - b) Is the major responsibility of the contractor.
 - c) May partially be handled by the owner with the help of his CR, the PM, and/or the A/E.
 - d) Any combination of the above a, b, & c.
 - e) None of the above.

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Construction Financing

9. Money can be viewed as an applied resource by the contractor because:
- a) Sufficient money is required to keep the construction wheel rolling.
 - b) Progress payments made by the owner facilitates the recycling of cash available to the contractor through the credit facility given to him.
 - c) The owner recovers the down payment as the construction process progresses.
 - d) Any combination of the above __a & b__.
 - e) None of the above.

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The LS Contract

10. When opting for a lump-sum type contract, the Client:
- a) Strives to reduce the uncertainty inherent in construction cost estimating.
 - b) Shifts certain design-related risks to the contractor.
 - c) Attempts to relieve the PM from some of his major responsibilities.
 - d) Any combination of the above _____.
 - e) None of the above.

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The UP Contract

11. When opting for a unit-price type contract, the Client:
- a) Encourages the A/E's quantity surveying team to be less concerned about the accuracy of estimated quantities to be listed in the BOQ.
 - b) Encourages the contractor to front-load his bid price.
 - c) Unintentionally makes room for contractors to consider unbalancing by speculating on quantity overrun or underrun.
 - d) Any combination of the above _____.
 - e) None of the above.

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The C+ Contract

12. When opting for a cost-plus type contract, the Client:
- a) May be making a compromise of not having a fixed budget in return for definitely better quality.
 - b) May be making a compromise of not having a fixed budget in return for shorter duration.
 - c) Wants to avoid having to go through a bidding process.
 - d) Any combination of the above _____.
 - e) None of the above.

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Subsurface Conditions

13. Geotechnical studies are:
- a) Normally paid for by the owner, except under a unit-price type construction contract.
 - b) Commissioned by the owner, based on the recommendations devised by the A/E in connection with the scope of such required studies.
 - c) Required mainly when dealing with infrastructure-type projects
 - d) Any combination of the above_____.
 - e) None of the above.

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Project Site Location

14. Traffic-related studies:
- a) Are a must when considering the construction of large-scale commercial building projects.
 - b) May pose difficulties causing the owner to look for alternative locations for the intended project.
 - c) Shall be undertaken by a specialty consultant appointed by the owner based on the recommendation of his CR or PM.
 - d) Any combination of the above _a, b, & c_.
 - e) None of the above.

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The Built Environment

15. The environmental impact assessment:
- a) Recommends whether the environmental damages can be mitigated.
 - b) Is concerned only with the impact of the construction process on the environment.
 - c) Tackles issues of pollution to air and water only.
 - d) Any combination of the above _____.
 - e) None of the above.

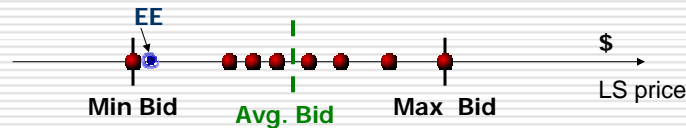
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PM's Role

16. Draft three Client-PM Agreement's requirements describing the PM's role in analyzing the bid prices proposed by participating bidders:
- 1) The PM is to compile all proposed bids in one comprehensive electronic document so as to facilitate comparative analyses of received offers.
 - 2) The PM shall carry out the bid analysis exercise at all levels of bid price breakdown, including overall price, division level, and unit price level.
 - 3) The PM shall examine potential bid unbalancing prior to recommending the preferred/successful bidder to the Owner for consideration.

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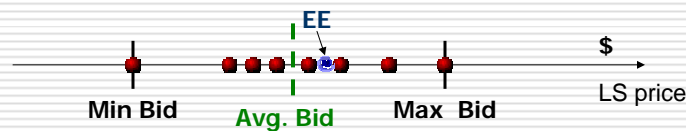
Bid Prices Distribution



17. Consider the distribution above:
- The Engineer shall be required to redesign since only one price falls under the EE.
 - The lowest bidder may be mistaken, and the PM shall carefully examine the reasons behind this price being outside the population.
 - The lowest price is definitely unbalanced.
 - Any combination of the above _____.
 - None of the above.

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Successful Bidder



18. Consider the different distribution above, if the owner opts to accept the price that is closest to the average of the offered prices, the aim:
- May be to avoid unbalanced bids.
 - May be to avoid dealing with claim-conscious contractors.
 - Is to maintain his original budget.
 - Any combination of the above _____.
 - None of the above.

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Bidding Systems

19. Adopting a low-cost bidding system, which incorporates an incentive for early completion, for a project on hand is a major step towards entertaining the adoption of a cost-time bidding system for future projects.
- a) True.
 - b) False.