

Research on the Current Status of Design-Build Projects in Overseas Countries

Sept. 2006

Association of Japanese Consulting
Engineers



Background in Japan

- ◆ A trial of the construction under the Design-Build started around year 2000 .
- ◆ This trend has a quite big influence on the industry of consulting engineers and responsibility of the consultant.

Purpose of Research

- ◆ Research how the consulting engineer are involved in Design-Build in Overseas Countries.
- ◆ Provide for proposal and consultation of Design-Build application to the public works in Japanese consulting engineers.

Object of questionnaire survey

- ① the United States of America (USA)
- ② United Kingdom (UK)
- ③ South Africa (S.Afr.)
- ④ France (Fr.)
- ⑤ South Korea (SK)
- ⑥ Denmark (Den.)
- ⑦ Australia (Aus.)

Result 1

-General

	USA	UK	S.Afr.	Fr.	SK	Den.	Aus.	Total
Legislation	○			○	○			3
Standard contract forms	○	○	○	○				4
Application for Civil	○	○	○	○	○	○	○	7
Application for Building	○			○		○	○	4

Result 2

-Advantages for employer

	USA	UK	S.Afr.	Fr.	SK	Den.	Aus.	Total
Shortening project period	○		○		○		○	4
Transferring design responsibility		○			○	○	○	4
Minimizing contract price fluctuation risk	○	○	○	○	○	○	○	7
Simplifying procedures contract, payment, etc.	○	○	○		○			4
Reducing contractor claims	○			○	○	○	○	5

Result 3

-Disadvantages for employer

	USA	UK	S.Afr.	Fr.	SK	Den.	Aus.	Total
Not realizing client's design concepts	○	○	○	○	○	○	○	7
Risk of construction quality deterioration	○	○	○	○	○	○	○	7
Difficulty of preliminary cost/budget estimate.	○	○			○		○	4
Increase of bidding price.		○	○	○	○		○	5

Result 4

-Advantages for construction company

	USA	UK	S.Afr.	Fr.	SK	Den.	Aus.	Total
Increase of contractors' involvement to projects	○			○	○	○	○	5
Flexibility in selection of construction methods/materials	○		○	○	○			4
Increase of cost reduction/profit	○		○		○	○	○	5

Result 5

-Disadvantages for construction company

	USA	UK	S.Afr.	Fr.	SK	Den.	Aus.	Total
Risk of bid price accuracy before detailed design	○	○	○		○		○	5
Increase of work and expenses for preparation of proposal	○		○	○	○	○	○	6

Result 6

-Advantages for design firm/consultant

	USA	UK	S.Afr.	Fr.	SK	Den.	Aus.	Total
Collaboration with construction firm		○	○		○	○		4

Result 7

-Disadvantages for design firm/consultant

	USA	UK	S.Afr.	Fr.	SK	Den.	Aus.	Total
Pressure from construction firms for shorter design periods	○	○		○			○	4
Pressure from construction firms for construction cost reduction	○	○		○			○	5
Risk of quality deterioration due to construction cost reduction		○	○	○			○	4
Responsibility for construction cost due to inappropriate preliminary design	○			○	○		○	4

Result 8

-Role of Consultant in Design-Build in Public Works

	USA	UK	S.Afr.	Fr.	SK	Den.	Aus.	Total
Consultant for client	○	○	○	○	○	○	○	7
Designer for design-builder	○	○	○	○	○	○	○	7
Independent design checker	○	○			○	○	○	5

Result 9

-Is Design-Build desirable for the Consultant?

-YES

	USA	UK	S.Afr.	Fr.	SK	Den.	Aus.	Total
Better business opportunity for consultants					○		○	2
Higher status of consultants								0
In general, higher profits					○		○	3

Result 10

-Is Design-Build desirable for the Consultant?

-NO

	USA	UK	S.Afr.	Fr.	SK	Den.	Aus.	Total
Less business opportunities for consultants				○		○		2
Lower status of consultants		○	○	○		○	○	5
Higher business risks	○	○						3
In general, lower profits		○	○	○			○	4

Summary 1

- 1. The application of Design-Build method in public works tends to increase in the future.**
- 2. The opinion expressed by many is that the Design-Build gives more severe business environment to the consultant in terms of risk exposure and profitability .**

Summary 2

- 3. There is a potential risk to deteriorate the design quality .**
- 4. The independent design checker employed by design-builder is one of the business opportunities for the consultants.**

Research subject in the future

- ◆ Level of design detail and specification (performance specification) which is provided by the client in tender
- ◆ Risk demarcation between the client and design-builder
- ◆ Risk demarcation between construction company and design firm
- ◆ Countermeasures to be taken by the consultant against risks inherent in Design-Build