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***STREAM TWO – QUALITY PROJECT IMPLEMENTATION***

# **Risk and Responsibilities in Infrastructure Development**

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## Risk and Responsibilities in Infrastructure Development

Workshop goals:

- 1) Frame the issues we face in dealing with project risk
- 2) Identify the proper assignment of risk responsibilities
- 3) Outline how professionals can best manage and benefit
- 4) Learn from our collective experiences



## Risk and Responsibilities in Infrastructure Development

- Proper pricing and management of risk is vital to the success of any infrastructure development organization
- Owners seek to transfer risk to those involved in project development
- Owners increasingly expect design professionals to produce “close to perfect” deliverables
- Situation complicated by implementation options:
  - Design-Build
  - Design-Build-Operate
  - Build-Own-Operate-Transfer
  - Public-Private Partnerships



## Risk Allocation Principals

- All involved carry some risk
- Risks belong to those best able to evaluate, control, bear the cost of, and benefit from the risks
- Some risks are best shared
- Proper allocation of risks should lower the overall project cost and reduce the potential for disputes and claims



## Risk and the Owner

- Accept risks that are within their control
- Accept risks that implementing firms have no ability to manage:
  - Property acquisition
  - Hostile acts of terrorism or war
  - Third-party interference
  - Unidentified hazardous waste
- Assume risk for innovative approaches that lower project cost and accelerate project delivery
- Some U.S. engineers' attitude: *"Take the risk, win the job!"*



## Role of Insurers and Insurance in Risk Management

- Fundamental concept is transfer of certain risks to insurer
- Insurer is a professional risk bearer
- Firmwide coverage:
  - General liability (Europe: commercial liability; U.K.: public liability)
  - Auto liability
  - Workers comp
  - Professional liability (U.K.: professional indemnity)
  - Contractors pollution



## Role of Insurers and Insurance in Risk Management (cont.)

- Project-specific coverage:
  - Builder's risk (rare for engineers, common for designer-builder)
  - Cost cap insurance
  - Boiler and machinery insurance (rare for engineers, common for operation services)
- Professionals be aware: Insurance usually provides only a partial transfer of risk!
- Procurement strategy affects the insurability of risk



## Risk Management for Professional Engineers

- Become aware of all risks involved with an infrastructure project
- Establish clear corporate guidelines for acceptable project risks and the “Deal Breakers”
- Effective engagement contract is critical
- Must discuss client responsibilities and educate client on potential problems, risks, and options
- Risks can be reduced if technical and managerial responsibilities are approached and executed in a professional manner
- Concentrate business activities on clients and projects that present minimum risk





## Risk Management for Professional Engineers (cont.)

- Concentrate on clients and projects that minimize risk
- Fee should provide adequate compensation to allow quality deliverables and for the value delivered and risk assumed
- Provide quality control
- Consider proper staffing and schedule
- Minimize risk by quickly recognizing and addressing problems
- Maintain proper project documentation
- Be prepared to walk away from a prospective client or project that presents unacceptable risk



## Project Optimization

- Long-term advantage for rules and practices that avoid unnecessary risks for engineers
- Innovation benefits users through better performances and lower life-cycle costs
- Owners want innovation, but not reasonable responsibilities and risks...
- ...then take legal actions against designers for defects in innovative projects
- Such behavior suppresses innovative will of engineer
- Environment that encourages owners to innovate and accept responsibility will benefit future owners and society



## Final Thoughts

- Risk is an inherent part of any infrastructure project
- We all have a role to play
- We must understand the risks involved and who is best suited to manage them
- The trend in alternative delivery methods complicates the risk issue
- Failure to manage risk properly may not only affect today's projects, but may stifle the innovative spirit within our profession in the future



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## Final Thoughts (cont.)

- These issues create challenges, as well as great opportunities, for each of us
- FIDIC has published a series of manuals that address risk management and insurance



## Questions for workshop discussion:

1. Should FIDIC establish a task force to address inappropriate risk transfer to consultants? What would be the task force objectives?
2. If the risk transfer movement continues, how can engineers manage this risk and price for it?
3. Under what circumstances should the engineer accept guarantees, warranties, liquidated damages, and other similar contract provisions?
4. How could we influence the way risk assignment enables us as consultants to take on our value added role in project innovation? How can FIDIC assist in this process?