

DESIGN-BUILD SEMINAR***INSURING DESIGN-BUILD
CONSTRUCTION RISKS***

Presented by

**Fred M. Muse
Senior Vice President
Marsh USA, Inc.**

Monday, October 29, 9:00 a.m.-5:00 p.m.



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involved in
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financial
management...*

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Fred M. Muse
Senior Vice President
Marsh USA, Inc.

Mr. Muse is one of the presenters for Monday's all-day seminar, "Design-Build." He currently serves as the global practice leader for the Marsh Design Firm Practice, which encompasses all risks for architects and engineers, the professional liability risks faced by contractors and design-builders, and single project placements. He also has extensive experience in the field of risk management consulting for contractors, developers, and wrap-ups. In addition, he serves as a senior adviser for a number of major construction companies, architect and engineering firms, and controlled insurance programs.

Mr. Muse is active in all areas of construction including significant experience with industrial, civil, and commercial contractors. He also recently worked with contractors and owners in providing expertise on risk identification and leading-edge solutions for some of the largest projects in the country: seven new office headquarters with total construction cost of over \$1 billion; four new manufacturing facilities valued at more than \$250 million each; a 250-mile parkway/toll road and a \$200 million cable span bridge; three professional sports stadiums and arenas.

A Marsh employee for more than 12 years, Mr. Muse was hired as the first employee in the Associates Program in 1988 and had 2 years of work/study experience in all major operation departments. After that time, Mr. Muse worked as casualty broker in the National Accounts Department and then established the Atlanta Construction Group in 1995. Before his current assignment, he was leading the negotiations of insurance programs for all large construction clients and projects throughout the Southeast.

Before joining Marsh, Mr. Muse worked with a Lloyd's broker in London for 1 year in the North American Casualty and Reinsurance Departments.

He is a frequent speaker and author of articles for industry-related publications. Mr. Muse holds a B.B.A. in finance/risk management and insurance from the University of Georgia. He is affiliated with the Associated Builders and Contractors, Construction Financial Management Association, and Design Build Institute of America, and is a licensed property and casualty agent.

Notes

This file is set up for duplexed printing. Therefore, there are pages that are intentionally left blank. If you print this file, we suggest that you set your printer to duplex.

INSURING DESIGN-BUILD CONSTRUCTION RISKS

***Fred M. Muse
Marsh USA, Inc.***

- I. Professional Risk Activities and Corresponding Liabilities**

- II. Coordinating Coverage with Key Contractual Provisions**

- III. Recovery under Traditional Insurance Programs**

- IV. Professional Liability Insurance Trends**

- V. Contractor Protective Professional Coverage**

- VI. Project-Specific Insurance**

- VII. Risk Management Strategies**

Notes

Discussion Outline

- **State of the Professional Liability Insurance Market**
- **Key Contractual Provisions**
- **Coverage Alternatives**
- **Risk Management Strategies**

Key Questions

- **Will the insurance market continue to tighten?**
- **What impact will recent large losses have?**
- **Does my professional policy tract with my contract?**
- **Can insurance help with design-build?**
- **Where are project specific coverages headed?**
- **What risk mitigation techniques are most effective?**

State of the Professional Liability Insurance Market

Insurance Industry Trends

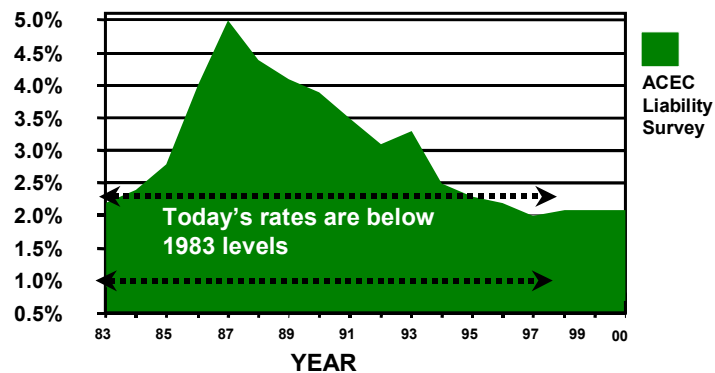
Will the Underwriting Cycle Continue Upward?

– *That Depends on:*

- Profit ↓ (down in 2000)
- Catastrophes ↑ (up in 2000)
- Investment Returns ↓ (down in 2000)
- Reinsurance Results ↓ (down in 2000)

Professional Liability Insurance Trends

Premiums as a Percent of Gross Annual Design Fees



Professional Liability Markets

Key Underwriters	
• Zurich American	• CNA
• Lexington	• DPIC
• ECS	• Lloyds / London
• Kemper	• St. Paul

Construction Industry Trends

Potential Professional Liability Cost Drivers

- Will the tight labor market persist leading to increased work loads for inexperienced personnel?
- If consolidation continues to accelerate, can firms avoid culture & environmental clashes?
- Do firms have experience & capital to execute geographic growth strategies?
- Will litigation & size of awards continue to increase due to larger, more complex projects?
- Are the liabilities/risk associated with non-traditional services clearly understood & allocated fairly?

Construction Industry Trends

Design-Build Project Delivery

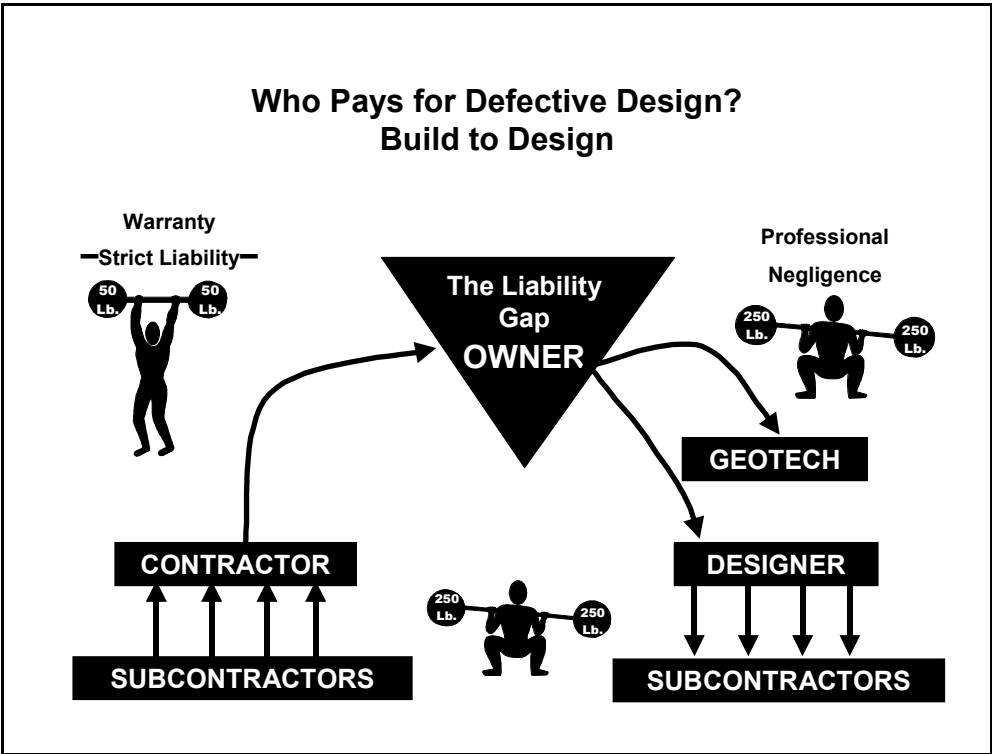
- **Positive Impacts When:**
 - **RFP provides clear scope of services with specific & objective performance criteria**
 - **Contractor & design professional have design-build experience**
 - **Owner's review & approval of design submissions is not overly intrusive**

Construction Industry Trends

Design-Build Project Delivery

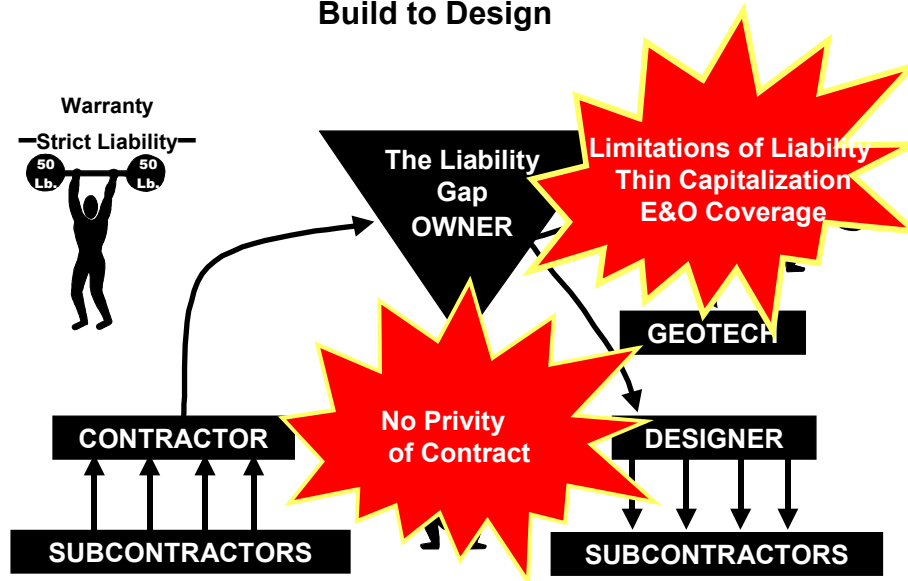
- **Negative Impact When:**
 - **Used only to cut cost & reduce schedule**
 - **Unreasonable allocation of risk**
 - **Specifications that combine performance requirements with final design features**

Key Contractual Provisions



Key Contractual Provisions

**Who Pays for Defective Design?
Build to Design**



Professional Liability Insurance

- Uninsured Design Risk
 - In Build to Design, it belongs to the Owner
 - In Design-Build, it shifts to the Lead Design-Build Firm
 - How is Uninsured Design Risk Allocated in Lump Sum Design-Build Contracts?

Contract Issues-Insurance Implications

- **Scope of Services**
- **Standard of Care**
- **Indemnification**
- **Limitations of Liability**
- **Warrantees/Guarantees**
- **Dispute Avoidance/Resolution**
- **Insurance Requirements**

Contract Issue - Scope of Services

- **Architect & Engineer Basic Services**
 - **Schematic Design**
 - **Design Development**
 - **Construction Phase Oversight**
 - **Additional Services**

Contract Issue - Scope of Services

- Architect & Engineer Basic Services

Insurance Ramifications

- Design

Does the professional liability policy definition of “professional services” and/or application contemplate all services agreed to in contract?

Contract Issues - Standard of Care

- **Baseline for Evaluating Negligence**
- **Even if Unstated it Applies**
- **Standard of Care May be Raised**
 - By Expressed Statement (highest, best)
 - By Special Expertise
- **DBIA & [EJCDC]: Specific?**
 - Used by Members of the Design [Engineering] Profession Practicing Under Similar Conditions & the Same Time & Locality.

Contract Issues - Standard of Care


Insurance Ramifications

Professional Liability policy will not respond if negligence standard is exceeded:

- Liability would have to exist in the absence of a contract or agreement
- Policy wording of: "Error, omission, or negligent act" will not have significant impact

Indemnification Obligations

- Define design/builder's obligation to cover losses or damages sustained by the owner.
- Is indemnification only for damages & costs *to the extent* caused by your negligence?
- Is there an obligation to *defend* the owner?
- Are you responsible only for you & your consultants?



Insurance Ramifications

Professional Liability policies exclude coverage for liability assumed under a contract, unless liability would have been imposed in the absence of a contract

Policy will only respond to professional negligence of the insured.

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er loc or
sultants?

Contract Issues - Limitations of Liability

- Limiting Liability for Defective work to Cost of Redesign or Repair
- Cap on Damages (including consequential damages): Set Figure, Tied to Fee, Tied to Insurance Coverage
- Excluding Claims by Third Parties

Contract Issue Limitation

Insurance Ramifications

Professional Liability insurer will only pay damages that insured is legally obligated for (amount agreed in "limitation of liability")

Cost of

Re

trial to

• E

•

Contract Issues – Performance Guarantees / Warranties

- An obligation that all or part of the project will perform in a certain way
- Strict Liability
- Like Performance Specifications in Design-Build
- Product Output, Energy Usage, Pollution Discharges
- Enforceable in Clear & Unambiguous
- No Proof of Negligence Required

Contract Issues - Performance Guarantees & Warranties

- A professional liability policy will

Insurance Ramifications

Professional Liability Policies exclude coverage for breaches of guarantees & warranties. Policy can be endorsed to provide coverage to the extent loss is caused by professional negligence.

- Endorsement of Professional Liability Policy
- No coverage for negligence if Required

Contract Issues - Dispute Resolution

- **Litigation**
 - Expensive & time consuming, with unpredictable results
- **Arbitration**
 - Less expensive, no (or limited) discovery
 - Decisions may be arbitrary - with no explanation
- **Alternative Dispute Resolution (ADR)**
 - Neutral third party facilitates resolution of dispute
 - Non-binding results to get parties to agree to a solution acceptable to all
 - Control remains with parties
 - Less expensive & faster results (85% success)

Insurance Ramifications

Professional liability carriers will offer credits for claims utilizing ADR. In addition, can obtain carrier's advance agreement on appointment of specific counsel or arbitration boards.

Contract Issues - Professional Liability Insurance Requirements

Key Provision	Ramification
• Limits	<ul style="list-style-type: none"> • Low • Shared with all past & present projects • Exhausted by defense cost
• Additional Insured	<ul style="list-style-type: none"> • Policy will not provide • Coverage will not defend or respond to negligence of others
• Policy Period / Duration	<ul style="list-style-type: none"> • Claims made policy • Extended Reporting Period (ERP) is not guaranteed.
• Coverage Terms & Conditions	<ul style="list-style-type: none"> • Individually manuscripted policies • Policy voided for project specific projects

Coverage Alternatives

Special Challenges - Insurance

- **Coverage does not track with specific contract clauses or risk**
- **Difficult to determine general liability vs. professional liability exposure**
- **E&O does not cover construction errors**
- **CGL does not cover design errors**
- **Inconsistent limits & deductible**

Professional Liability Insurance

Contractors vs. Design Firms – Differences in Professional Insurance

CRITICAL DIFFERENCES		
	General Liability	Professional Liability / E&O
Coverage Trigger	Occurrence	Claims Made
Defense Cost	In addition to limit	Within limit
Pure Financial Loss	Only if associated with bodily injury / property damage	Not Excluded
Liquidated Damages	Excluded	Not Excluded
Pollution	Often Excluded	Rarely Excluded

Professional Liability Insurance

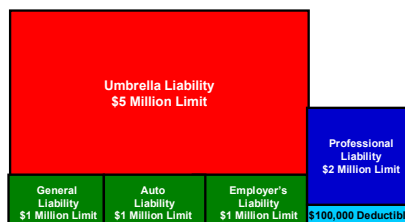
Contractor vs. Design Firm - Options for Covering Losses Arising From Design Error

FORMS OF COVERAGE AVAILABLE		
	Contractor	Design Firm
Endorsement to General Liability (CG 2279, CG 2280)	✓	Not Available
General Liability	✓	Not Available
Endorsement to Umbrella	✓	Not Available
Stand Alone Protective Cover	✓	??
Stand Alone Primary Policy (plus indemnity cover)	✓	✓

Design-Build Professional Exposure & Risk

	Exposure	Risk
Development & Pre-Construction	<ul style="list-style-type: none"> •Secure Financing •Establish Budget •Legal Authorization/Zoning •Differing Site Conditions •Subsoil Air & Water Conditions 	<ul style="list-style-type: none"> •Project Abandonment •Contingency Fund Exceeded •Code Violation •Discovery of Unknown Pollutants •Environmental Contamination
Design & Construction	<ul style="list-style-type: none"> •Timeliness of Design •Incomplete Design •Structural Failure •Specialty Subcontractors Design/ Shop Drawings •CM Cost Estimating & Scheduling •Faulty Workmanship of Subs. •Liquidated Damages •Guarantees & Warrantees 	<ul style="list-style-type: none"> •Lost Revenue •Rework Change in Scope •Bodily Injury / Property Damage •Collapse of Curtain Wall / Trenching •Budget Exceeded / Project Delayed •Cost to Rectify Work •Delay / Performance Penalties •Financial Loss
Operations	<ul style="list-style-type: none"> •Collapse •Economic Performance •Maintenance •Product / Material Design Failure 	<ul style="list-style-type: none"> •Third Party Injury / Business Interruption •Revenue Shortfall •Business Interruption •Financial Loss

Design Firms – Traditional Program



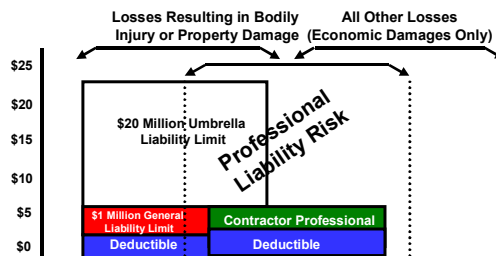
General Liability Endorsements

- + ISO Form CG 2243 - Excludes liability arising from professional services.
- + ISO Form CG 2279 - Covers professional services included within means and methods.
- + Completed Operations Coverage.

Design-Build Professional Exposure & Risk

		Exposure	Risk
Development & Pre-Construction		<ul style="list-style-type: none"> •Secure Financing •Establish Budget •Legal Authorization/Zoning •Differing Site Conditions •Subsoil Air & Water Conditions 	<ul style="list-style-type: none"> •Project Abandonment •Contingency Fund Exceeded •Code Violation •Discovery of Unknown Pollutants •Environmental Contamination
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Contractor - Expanded Program



* ISO Form CG 2280 (Limited Exclusion - Contractor Professional Liability Endorsement) - Covers bodily injury or property damage from professional services.

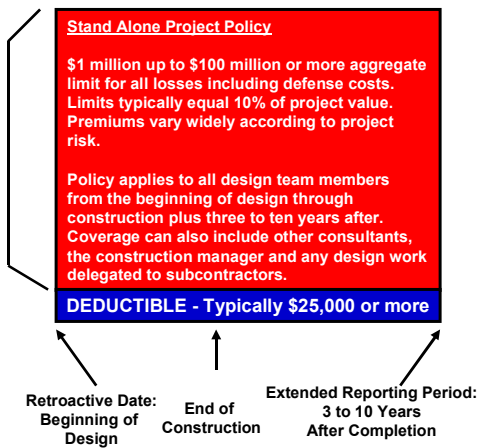
Other Endorsements

- + ISO Form CG 2279 - Only covers professional services Included within construction means and method.
- + ISO Form CG 2243 - Excludes liability arising from design error.

Design-Build Professional Exposure & Risk

	Exposure	Risk	
Development & Pre-Construction	<ul style="list-style-type: none"> •Secure Financing •Establish Budget •Legal Authorization/Zoning •Differing Site Conditions •Subsoil Air & Water Conditions 	<ul style="list-style-type: none"> •Project Abandonment •Contingency Fund Exceeded •Code Violation •Discovery of Unknown Pollutants •Environmental Contamination 	
Design & Construction	<ul style="list-style-type: none"> •Timeliness of Design •Incomplete Design •Structural Failure •Specialty Subcontractors Design/ Shop Drawings •CM Cost Estimating & Scheduling •Faulty Workmanship of Subs. 	<ul style="list-style-type: none"> •Lost Revenue •Rework Change in Scope •Bodily Injury / Property Damage •Collapse of Curtain Wall / Trenching •Budget Exceeded / Project Delayed •Cost to Rectify Work 	Expanded Program
	<ul style="list-style-type: none"> •Liquidated Damages •Guarantees & Warranties 	<ul style="list-style-type: none"> •Delay / Performance Penalties •Financial Loss 	
Operations	<ul style="list-style-type: none"> •Collapse •Economic Performance •Maintenance 	<ul style="list-style-type: none"> •Third Party Injury / Business Interruption •Revenue Shortfall •Business Interruption 	Expanded Program
	<ul style="list-style-type: none"> •Product / Material Design Failure 	<ul style="list-style-type: none"> •Financial Loss 	

Project Specific Professional



Advantages

- Limits are dedicated to project
- Align coverage with contractual risk allocation
- Avoiding overlapping coverage
- Single source of responsibility for claims

Owners and / or Contractor's Protective

Insurance for the Design Firm's Insurance

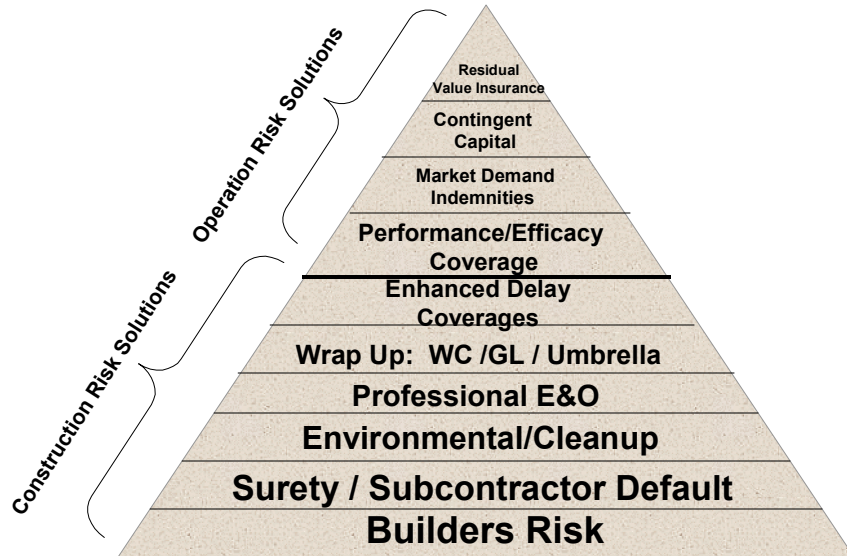


Key: ■ Policy Excess Limits ■ Underlying Professional Limits Self-Insured Retention

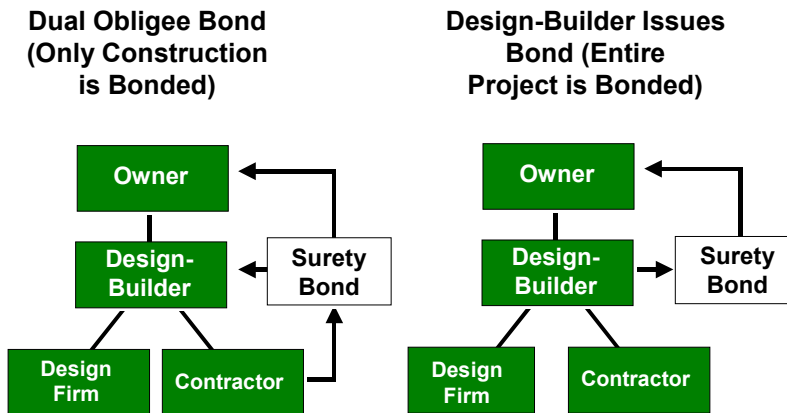
Design-Build Professional Exposure & Risk

	Exposure	Risk
Development & Pre-Construction	<ul style="list-style-type: none"> •Secure Financing •Establish Budget 	<ul style="list-style-type: none"> •Project Abandonment •Contingency Fund Exceeded
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		Cutting Edge Insurance
Operations	<ul style="list-style-type: none"> •Collapse •Economic Performance •Maintenance •Product / Material Design Failure 	<ul style="list-style-type: none"> •Third Party Injury/Business Interruption •Revenue Shortfall •Business Interruption •Financial Loss

Project Specific Solutions



Surety Bonds for Design-Build



Special Challenges - Bonding

- **Many Sureties Do Not Like to Bond Design-Build**
- **Generally Do Not Bond Design Liability**
- **Fearful of Confusion Between Design & Construction**
- **Higher Premiums & Stricter Underwriting**
- **High Risk For Dispute Over Whether Claim Is A Design (E&O) Issues or Construction Issues**

Controlled Insurance Programs

- | | |
|--|--|
| • For Owners (OCIP) | • For Contractors (CCIP) |
| – Enhanced Coverage | – Better allocation of risk |
| – Potential Savings | – To be competitive |
| – Coordinated claims & safety program | – Better control of subcontractors |
| – Timing - use existing program | – Enhanced underwriter relationship |

A Controlled Insurance Program Is Headed for Trouble If ...

- **Focus is on insurance & not construction**
- **Coverage is not broad enough**
- **Limits & deductibles are not coordinated**
- **Financial projections are overstated**
- **Financial Close-out not addressed**

Risk Management Strategies

Lessons Learned

- If you could improve one thing in the way ABC manages risk, what would it be?

- More information on “Lessons Learned
- Formal Training using senior people
- Consistent application of contracting procedures
- Establish qualifications for project managers
- Mentor / train new project managers
- Use friendly go/no go form

Project Managers

Lessons Learned

- When work has to be redone for a dissatisfied client, could it be recorded & should it be?



“You bet!”

SM's & PM's

Suggestion: Cost Codes by Project Phase. Post Mortems on Major Projects. Validate 3% “Rework” Cost.

Lessons Learned

- Is enough training available?



“No”

PM's

Suggestion: Format & home study course. Work with training consultant PM ideas - Proj. Del., ABC Resources, Design/Build + more.

Lessons Learned

- How do you assess risk & determine what are acceptable business risks?

“No set criteria. Some subsidiaries further along than others.”

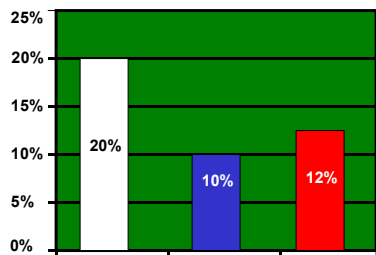
SM's & PM's

Suggestion: Assess Best Current Practices. Develop Company-Wide Standards. Adapt to Different Subs. & Work Put On E-mail Database.

Lessons Learned

- Do you think formal partnering is effective & do you use it?

Projects Using Formal Partnering Have 10% Fewer Professional Losses




“Not everyone agreed, but some said: “It's fantastic!”

SM's & PM's

Suggestion: Help PM's sell concept - brochure. Develop a relationship with a facilitator.

Lessons Learned

- Do you assume unnecessary risks either by contract, or by actions taken to “solve problems” that aren’t yours



**“Yes!” Not informed
of contract nego-
tiations.**

PM’s

Suggestion: Identify & solve problems promptly. Respect the party complaining & accept seriousness of complaint.

Summary: Managing Design-Build Risk

- **Greater Tolerance By Participants To Project Risks**
 - Well-Defined/Quantifiable
 - Equitable Allocation
 - Risk vs. Reward
- **Incremental Value of Project Insurance To The Transaction**
 - Linked Solutions
 - More Meaningful Role
 - Exploit Inefficiencies In Insurance Market
- **Continued Evaluation of Risk Mitigation Techniques**