



Unique Aspects of Construction Risks from an Actuarial Perspective

2011 Casualty Loss Reserving Seminar
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Agenda

- ▶ Discussion of unique aspects of construction risks that need to be considered from an actuarial perspective
 1. Exposure is project-based
 2. Sensitivity to state-specific environments
 3. Potential for severe claims
 4. Subject to significant impact from loss control
 5. Specific insurance programs may apply

- ▶ Examples will be presented for each item

Exposure is project-based

- ▶ Exposure is not uniform over life of project
 - ▶ Trades and activity level vary
- ▶ Specific projects can vary significantly in risk
 - ▶ Building type, interior/exterior, venue
- ▶ Completion of project impacts reporting of new claims
- ▶ Actuary may be asked to estimate at project level

Exposure is project-based

Loss cost varies significantly for each project.

State	Start date	End date	Project value	Payroll	Building type	Loss cost per \$1,000 exposure
IL	1/15/05	5/30/08	\$130M	\$37M	High rise residential	WC : \$68.12 GL : \$0.95
NY	10/31/08	3/4/11	\$151M	\$30M	High rise commercial	WC : \$26.01 GL : \$7.69
IL	9/10/07	6/10/10	\$75m	\$14M	Hospital	WC : \$41.58 GL : \$2.19

Exposure is project-based

- ▶ **Take-away:** Understand the types of projects being covered when grouping losses and selecting assumptions

Sensitivity to state-specific legal and labor markets

- ▶ GL and WC environments vary significantly state-by-state
- ▶ A claim with the same facts could lead to very different results in different states
- ▶ Labor market is also of critical importance, specifically level of unionization

Sensitivity to state-specific legal and labor markets – General Liability

▶ Judicial Nightmares

- ▶ Philadelphia, PA
- ▶ California (particularly Los Angeles and Humboldt Counties)
- ▶ West Virginia
- ▶ South Florida
- ▶ Cook County, IL
- ▶ Clark County, NV

▶ Nightmare Watch List

- ▶ Madison County, IL
- ▶ Atlantic County, NJ
- ▶ St. Landry Parish, LA
- ▶ District of Columbia
- ▶ New York City and Albany, NY
- ▶ St. Clair County, IL
- ▶ Others – McLean County, IL; Gulf Coast of Texas

Sensitivity to state-specific legal and labor markets – Workers Compensation

- ▶ Average Cost Per Claim – All Claims
 - ▶ Illinois - \$12,034 (Worst)
 - ▶ Median - \$7,640
 - ▶ Indiana – \$4,452 (Best)
- ▶ Average Cost Per Claim (Claims with > 7 days lost time)
 - ▶ Illinois - \$42,072 (2nd highest; N. Carolina ranked worst)
 - ▶ Median - \$29,121
 - ▶ Indiana - \$25,964 (2nd lowest; Texas ranked best)
- ▶ Ability to Direct Medical Treatment (Employer vs. Employee-control)
 - ▶ Illinois (employee choice)
 - ▶ Indiana (employer choice)
- ▶ Litigation Rates
 - ▶ Illinois – much higher attorney retention rates than average states

Sensitivity to state-specific legal and labor markets

- ▶ **Take-away:** Consider the states and legal/labor environments where exposure exists, and make distinctions where needed

Potential for severe claims

- ▶ Obvious nature of the work leads to this
 - ▶ Heights, heavy machinery, etc.
- ▶ Income levels can also be relatively high, which drives indemnity severity
- ▶ Claim size distribution is also driven by type of project, as noted above

Potential for severe claims

► Examples of severe claims:

Project status	Date of loss	Paid Loss	Incurred Loss	Description
Completed	May '07	\$168K	\$168K	Original issues with failed mock up and performance resulted in significant delays. Subsequent to these issues, investigation into whether subcontractor followed specifications for glass.
Ongoing	Dec '08	\$215K	\$220K	Claimant walked between a forklift and a track hoe. The track hoe rotated and pinned claimant between forklift and track hoe.
Ongoing	Aug '09	\$403K	\$636K	An object hit claimant in the head at job site when wind blew the fence down.

An existing claim for which there was \$200M of incurred development over one quarter.

Potential for severe claims

- ▶ **Take-away:** Understand the specific exposure for large claims on the business being analyzed

Subject to significant impact from loss prevention or control

- ▶ Contractor has a certain degree of control over project, leading to potential benefit
- ▶ Numerous programs or initiatives can be used to impact frequency and severity
- ▶ Examples of Return to Work, Onsite Medical, Drug Testing, Stretch and Flex
- ▶ Presents a challenge to the actuary to quantify the benefit

Subject to significant impact from loss prevention or control

- ▶ Below are several examples of safety programs seen on specific projects, as well as the associated credits that were given to the loss picks

Safety Program	Credits	
	WC	GL
Drug testing	20%	10%
Medical Trailer	15%	5%
Stretch and Flex	10%	5%
Interior Fit-Out	10%	10%
GMR's	5%	5%

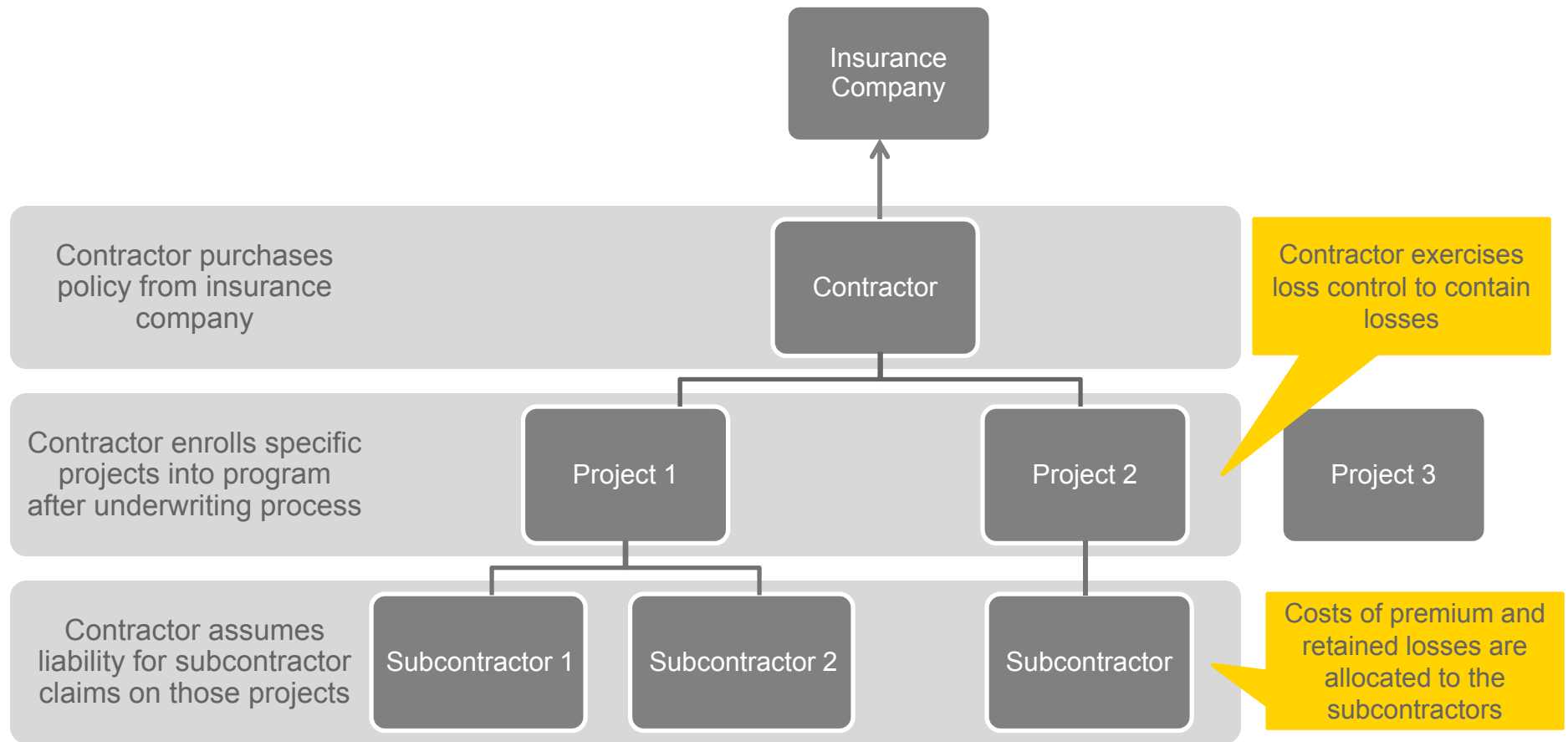
Subject to significant impact from loss prevention or control

- ▶ **Take-away:** Pay attention to specific loss control and safety measures, and attempt to quantify where possible, particularly when using industry data or when the safety measures have changed over time

Specific insurance programs have been designed and are used

- ▶ Wrap-ups, otherwise referred to as CCIP/OCIPs are a risk sharing mechanism
- ▶ Subguard coverage is also used for subcontractor default (surety) exposure
- ▶ Some contractors or owners also purchase guaranteed cost coverage

Specific insurance programs have been designed and are used



Bottom line: Contractor's aim is to earn a net profit while improving safety of projects.

Specific insurance programs have been designed and are used

- ▶ **Take-away:** Learn about the details of the programs you are analyzing, as they are unique to construction, and also be aware of what is being used in the market, as your company or client may be interested



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