ENSTAR

Realising Value

Enstar Group Limited

Asbestos Liabilities – Actuaries working with Claims

September 2019

Topics

- Brief History and Background of A&E
- Challenges with Reserving
- Actuarial Methodologies
- Insurance Allocation

History and Background: Asbestos

Background Asbestos:

- Asbestos was once considered a "**miracle mineral**" for its effectiveness as insulation and preventing the spread of fires
- Late 19th Century: Production began to skyrocket with **commercial mining** operations
- As early as 1906: Scientific evidence linking asbestos fibers to **cancer and other diseases of the lungs**
- Early 20th Century: Asbestos production continued to rise, particularly accelerating during World War II
- 1970s: Regulatory agencies (OSHA, EPA) started calling for bans; global production would not peak until 1977
- 1973: Landmark legal decision in Borel v. Fibreboard. Injured workers could sue employers and asbestos manufacturers in a **products liability** framework rather than through the workers compensation system only
- 1980s: Mounting asbestos losses prompts manufacturer **bankruptcies** (notably, Johns-Manville in 1982)
- 1986: Standard ISO CGL policy form modified to **exclude asbestos exposure**
- Today: Asbestos use has dramatically declined, but significant liability remains from pre-1986 policies. Asbestos now represents the single largest mass tort in US history
- **Current estimated ultimate loss to the insurance industry: $100 billion**

History and Background: Environmental

Background Environmental:

- 1980: Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) signed into law, establishing the **Superfund** program
- Goal is to **clean up** uncontrolled or abandoned hazardous waste sites involving releases of contaminants or other pollution
- Superfund permitted the **EPA** to clean up toxic waste sites and **hold responsible parties accountable** for the costs
- Superfund liability is **retroactive, joint & several, and strict**; any one party may be held accountable for the entire cleanup of the site if deemed responsible for any portion of the hazardous waste at the site
- Defendants typically seek coverage via their CGL policies in place at the time
- ISO's CGL policy language evolved over time; early language intended to exclude pollution was deemed too broad in court, resulting in massive exposure to pollution liability
- **Current estimated ultimate loss to the insurance industry: $46 billion**

History of Asbestos – Asbestos Litigation

Two Important Court Decisions:

- **Borel vs. Fibreboard Paper Products Corp**
  - Suit filed in Oct. 1969 in Federal court in the Eastern District of Texas
  - Eleven different manufacturers sued. Borel had used their products in his work as an insulator
  - Trial started in September 1971 and Borel had died in 1970
  - Manufacturers found to have violated the doctrine of strict liability
  - All appeals were ultimately denied by 1974
    - Liable when exposed to defendant's product and failure to provide adequate warning
  - Led to "greatest avalanche of toxic-tort litigation in the history of American jurisprudence" ***Outrageous Misconduct:Asbestos Industry on Trial*** by Broduer 1985
- **Johns-Manville Products Corp. v. Superior Court**
  - The Johns-Manville Corp. long dominated the asbestos industry. It mined and fabricated asbestos for a wide range of uses, primarily in the construction and maritime industries
  - As early as the 1930s, executives of The Johns-Manville Corp. were aware of an occupational hazard to miners and factory workers who were exposed. The information was not a secret, but neither was it advertised. It was optimistically assumed that the risk of inhalation by others, such as shipyard or construction workers, was negligible.
  - In 1980, CA Supreme Court ruled in relation to a civil suit alleging fraud and conspiracy against the Johns-Manville Company enabled workers to sue their employers in the tort system if the companies conspired to suppress knowledge regarding health hazards caused by asbestos

History of Asbestos – Insurance Litigation

- **Court procedural rules allow consolidation of claims**
  - Attempt to manage the overwhelming number of claims
  - Plaintiff bar strategically bundle claims
  - Leads to non-impaired claimants receiving compensation
- **Comprehensive General Liability Policy (CGL) exposed to asbestos**
  - Late 1970s, Industry introduces asbestos exclusion
  - Mid-1980s Absolute asbestos exclusion becomes effective
  - Products vs. Prem/Ops (no aggregate limits)
- **Wellington Agreement - 1985**
  - Creation of the Asbestos Claims Facility
  - Objective to reduce frictional costs related to coverage issues
  - Replaced by Center of Claims Resolution in 1988 – lasted until 2001
  - Wellington is perpetual and still in effect
- **Significant litigation still exists**
  - Requires product identification and medical impairment
  - Products coverage generally has aggregate limits
  - Premises/Completed Operations do not have aggregate limits
  - Allocation among insurers; different rules by state

Challenges Inherent with A&E Reserving

Traditional actuarial methodologies break down when applied to A&E exposures:

Difficulty determining ground-up loss:

- Lack of a clearly defined accident date
- Reliance upon calendar year paid methods
- Inconsistent definitions of case reserves
- Lack of cumulative data
- Long latency periods between exposure and diagnosis of disease for Asbestos
- ***Sensitivity of output to input assumptions***

Difficulty determining who pays for ground-up losses:

- ***Which policies are triggered?***
- ***How does loss get allocated between policies?***
- ***How are coverage gaps or overlapping coverages handled?***
- ***What happens when coverage detail is missing or vague?***
- ***Which losses fall back to the defendant?***

Nature of A&E claims produce further challenges:

- Bankruptcies among initial defendants leading to suits against other defendants
- Insurer insolvencies leading to liability spreading to remaining solvent companies
- ***Vague policy language leading to substantial legal fees that frequently exceed indemnity payments***
- Class action lawsuits leading to thousands of inactive claims, many of which get dismissed, but still incur legal costs
- ***Alternative explanations for alleged damages (e.g., smoking)***
- Paper records predating
- Asbestos claims from currently unimpaired plaintiffs seeking compensation before asbestos trusts run out
- Asbestos claims from plaintiffs without occupational exposure
- Claims naming dozens of companies as defendants
- Venue shopping for plaintiff-friendly courts

Unique challenges in the A&E environment motivate alternative approaches which require the actuary to work closely with claims to gather information needed for reserving.

Actuarial Methodologies to Determine Asbestos Reserves

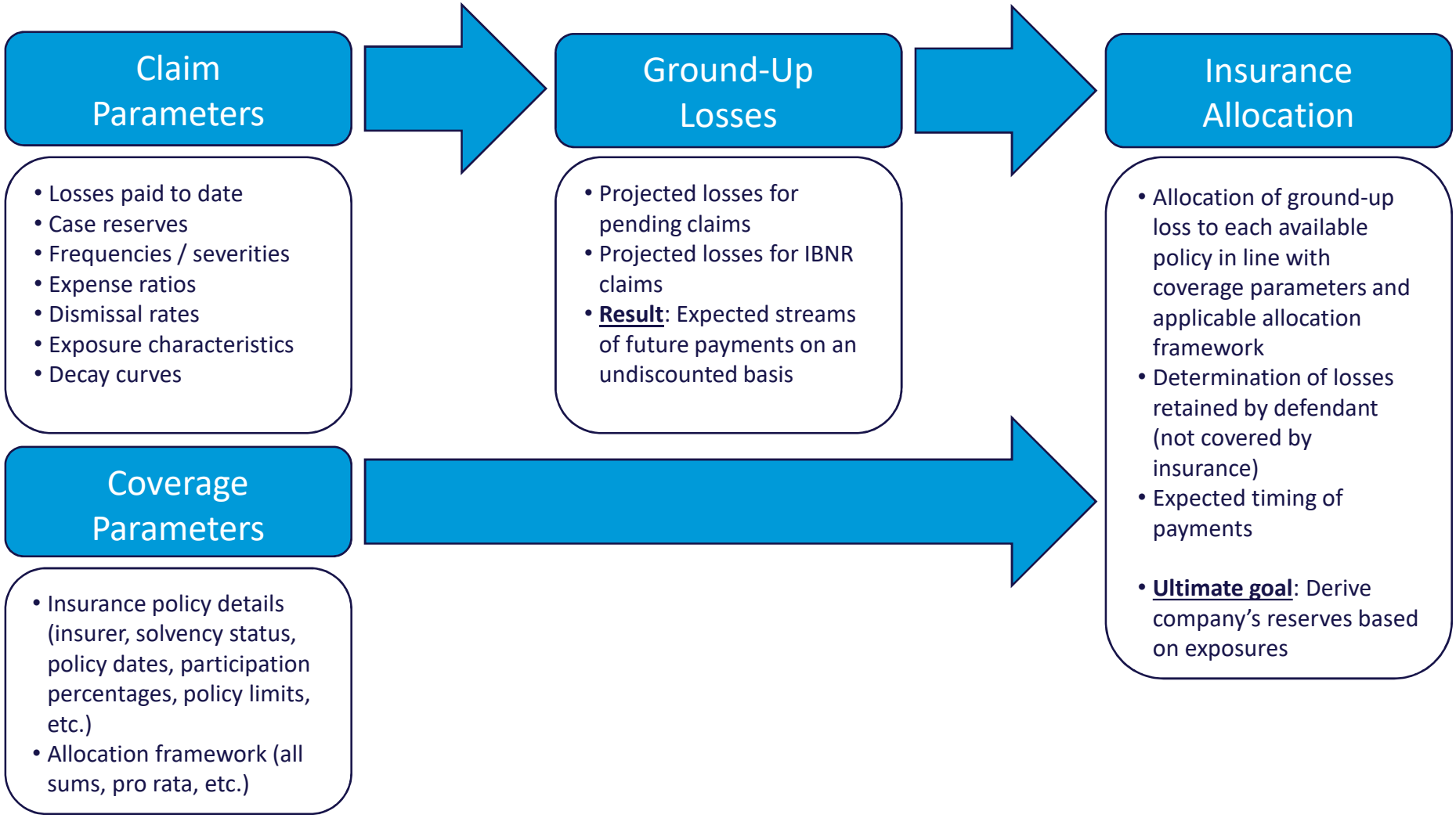
Ground-up defendant approach

- Individual insureds
- Frequency/Severity approach by disease type
  - Future claim filings
  - Average settlement rates (trended)
  - Expense to settlement ratios
  - Dismissal rates
- Allocate to calendar years
- Apply coverage chart
- Requires extrapolation
  - Defendant data not sufficient
- Requires IBNR loads

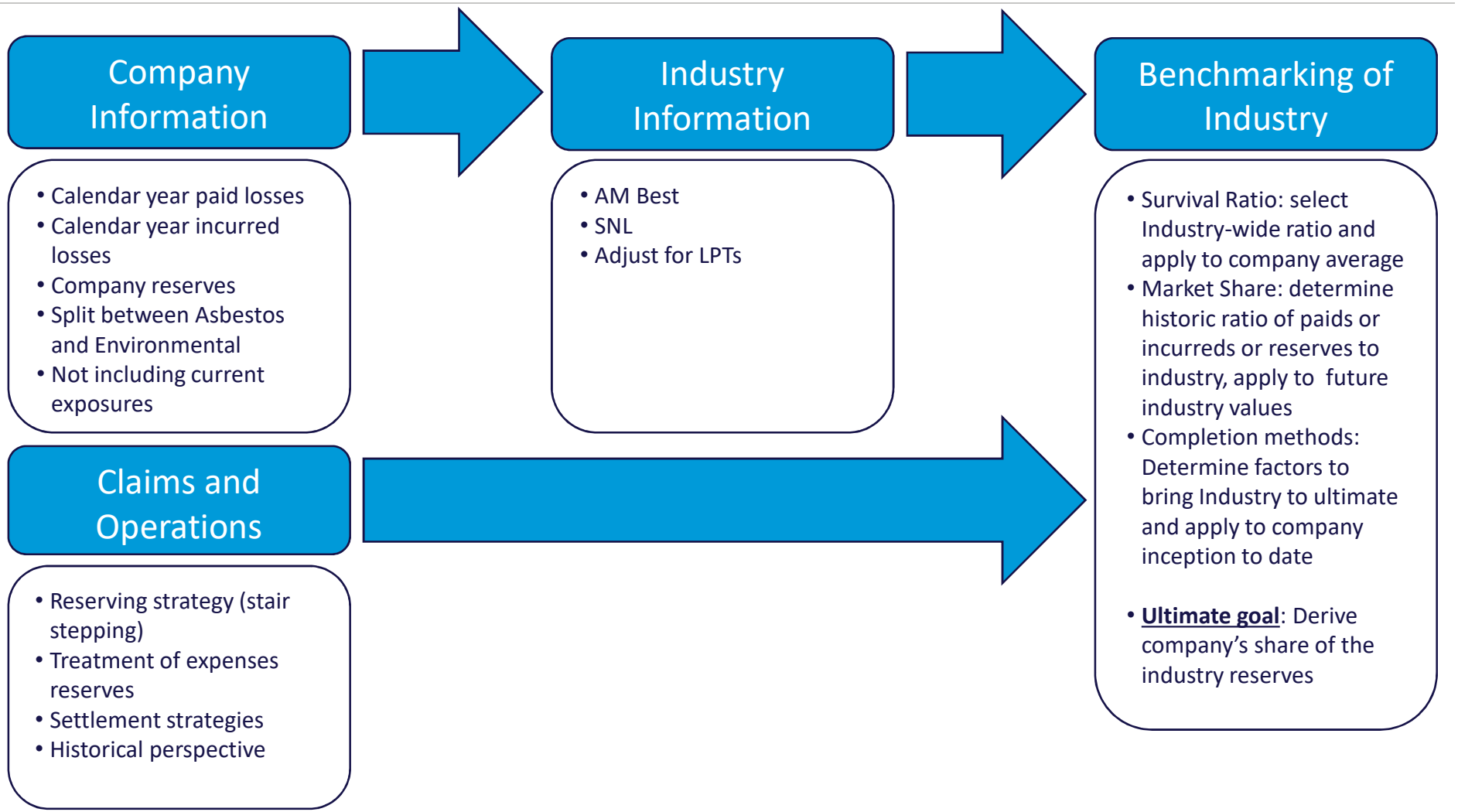
Aggregate approach

- Utilize industry benchmarks
  - Survival Ratio
  - Market Share
  - Development based on AM Best
- Requires historical aggregate company and industry data
  - Footnote 33
  - Exclude large payments
  - Account for commutations

Ground Up Process for Individual Defendant



Aggregate Process



Environmental Loss Reserving

Environmental losses are often grouped with asbestos losses for financial reporting purposes. The two exposure types have key differences requiring different approaches:

Similarities to Asbestos

- Complex allocation issues and insolvent insurers resulting in high legal fees
- Bankrupt entities caused damage
- Overly broad policy language resulting in coverage where coverage was never intended nor priced into rates

Differences with Asbestos

- Environmental loss reserving often requires specialized environmental expertise
- Asbestos claims have a much longer latency period: A polluted site is immediately apparent, while an asbestos worker may go 40 years before developing mesothelioma

Actuarial Methodologies to Determine Environmental Reserves

Ground-up Approach:

- Employ Environmental Expert to evaluate clean up costs for specific sites and allocate costs among responsible parties
- Use of decision tree methodology to determine expected or likely outcomes of things such as:
  - Number of occurrences
  - Insolvent policies include or excluded
  - Different damage scenarios
  - Success of coverage defenses

Aggregate Approach:

- Similar methodology as for Asbestos

Typical Data Available for Asbestos Reserving

The calendar year claim trend report is a fairly standard source for asbestos claims data, however, data availability varies considerably from account to account, with missing data and data corrections fairly common. Reports like this can be used to generate account-specific claim parameters.

Claim Trend Data Report

Year: 2016
Status: All
Book: All

Number of Accounts represented in Data Below: 1
Number of States (counted individually by Account): 1
Total Accounts: 1 All States Completed: 1 Not Fully Completed: 0

Cumulative Data

	Prior	2012	2013	2014	2015	2016
Pending at the End of Year	838	911	887	903	734	828
Filed	26,141	26,557	26,902	27,212	27,536	27,876
Dismissed	25,082	25,385	25,721	25,979	26,437	26,660
Settled	221	261	294	330	365	388
Indemnity	54,058,500	64,721,833	71,478,833	78,756,333	89,993,833	97,083,833
Expense	15,449,954	18,297,057	20,624,306	23,213,079	25,552,680	27,971,393
Avg. Per Claimant Settlement Value	244,609	247,976	243,125	238,656	246,558	250,216
Avg. Per Claimant Resolution Value	2,136	2,524	2,748	2,994	3,358	3,589
Avg. Per Claimant Expense	611	713	793	882	953	1,034

3-Year Averages	2014, 2015 & 2016
Avg. Per Claimant Settlement Value	272,394
Avg. Per Claimant Resolution Value	24,787
Avg. Per Claimant Expense	7,112

Yearly Data

	Prior	2012	2013	2014	2015	2016
Pending at the End of Year	838	911	887	903	734	828
Filed	26,141	416	345	310	324	340
Dismissed	25,082	303	336	258	458	223
Settled	221	40	33	36	35	23
Indemnity	54,058,500	10,663,333	6,757,000	7,277,500	11,237,500	7,090,000
Expense	15,449,954	2,847,103	2,327,249	2,588,773	2,339,601	2,418,713
Avg. Per Claimant Settlement Value	244,609	266,583	204,758	202,153	321,071	308,261
Avg. Per Claimant Resolution Value	2,136	31,088	18,312	24,753	22,794	28,821
Avg. Per Claimant Expense	611	8,301	6,307	8,805	4,746	9,832

Insured	Claim Number	State
	10503140726	XX

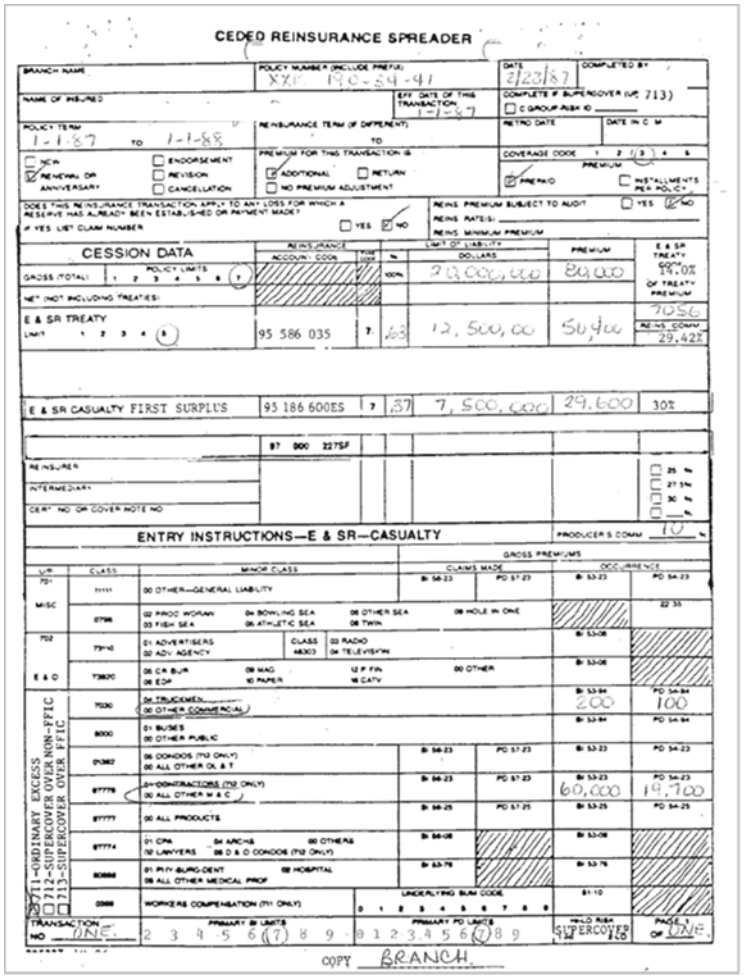
Insured	Claim Number	State

Criteria:

Insured	State	Adjuster
	All	*All*

Insurance Allocation: A Difficult Task

The situation gets more complex knowing the age of relevant policies. Often, grainy photocopies of decades-old documents are all that remain. These complications produce considerable legal expense.



CEDED REINSURANCE SPREADER

CESSION DATA						
GROSS (TOTAL)			100%	20,000,000	80,000	14.0%
NET (NOT INCLUDING TREATIES)						
E & SR TREATY	95 586 035	7	.63	12,500,00	50,400	7056 / 29.42%
E & SR CASUALTY FIRST SURPLUS	95 186 600ES	7	.37	7,500,000	29,600	30%

ENTRY INSTRUCTIONS—E & SR—CASUALTY

SIC	CLASS	MINOR CLASS	CLAIMS MADE	OCCURRENCE
701 MISC		00 OTHER—GENERAL LIABILITY		
702 E & O		00 OTHER		
		00 TRUCKMEN		200 / 100
		00 ALL OTHER COMMERCIAL		
		01 BUSES 00 OTHER PUBLIC		
		00 ALL OTHER O, & T		
		00 CONTRACTORS (712 ONLY) 00 ALL OTHER M & C		60,000 / 19,700
		00 ALL PRODUCTS		
		00 OTHERS		
		00 HOSPITAL		
		WORKERS COMPENSATION (711 ONLY)		

711-ORDINARY EXCESS
712-SUPERCOVER OVER NON-FFIC
713-SUPERCOVER OVER FFIC

TRANSACTION NO ONE — PAGE 1 OF ONE

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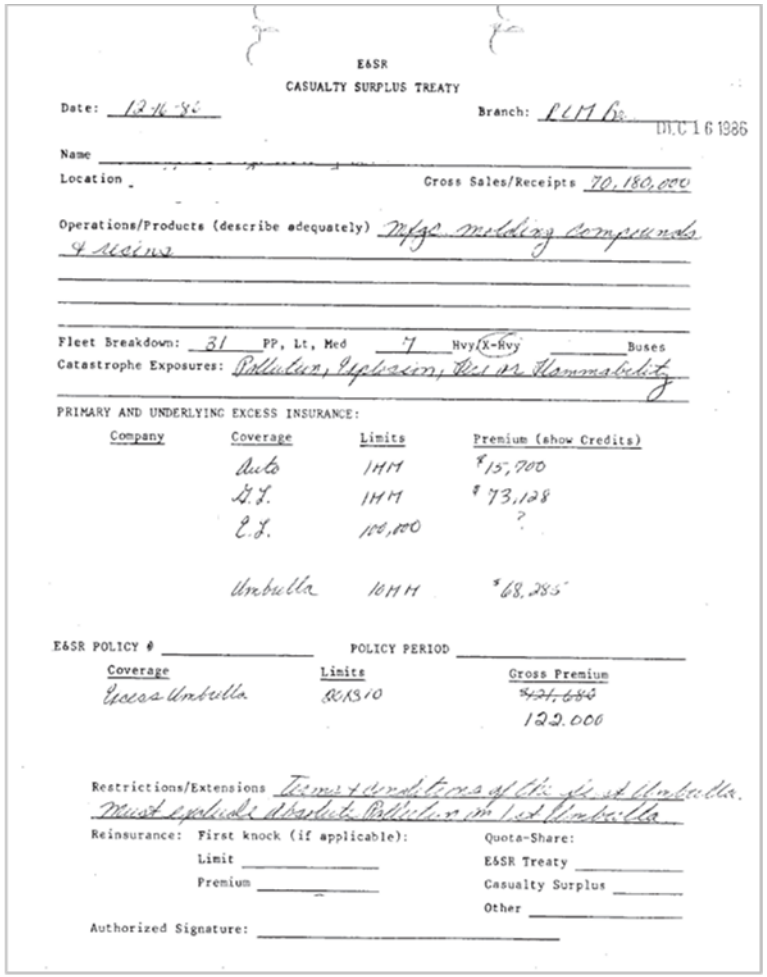


E&SR
CASUALTY SURPLUS TREATY

Date: 12-4-86 Branch: LUMBE

DEC 16 1986

Name

Location Gross Sales/Receipts 70,180,000

Operations/Products (describe adequately) Mfgs. molding compounds & resins

Fleet Breakdown: 31 PP, Lt, Med 7 Hvy (X-Hvy) Buses

Catastrophe Exposures: Pollution, Explosion, Riot or Flammability

PRIMARY AND UNDERLYING EXCESS INSURANCE:

Company	Coverage	Limits	Premium (show Credits)
	Auto	1MM	$15,700
	G.L.	1MM	$73,128
	E.L.	100,000	?
	Umbrella	10MM	$68,285

E&SR POLICY # POLICY PERIOD

Coverage	Limits	Gross Premium
Excess Umbrella	10/10/10	~~$27,600~~ 122,000

Restrictions/Extensions Terms & conditions of the 1st Umbrella. Must exclude Absolute Pollution on 1st Umbrella

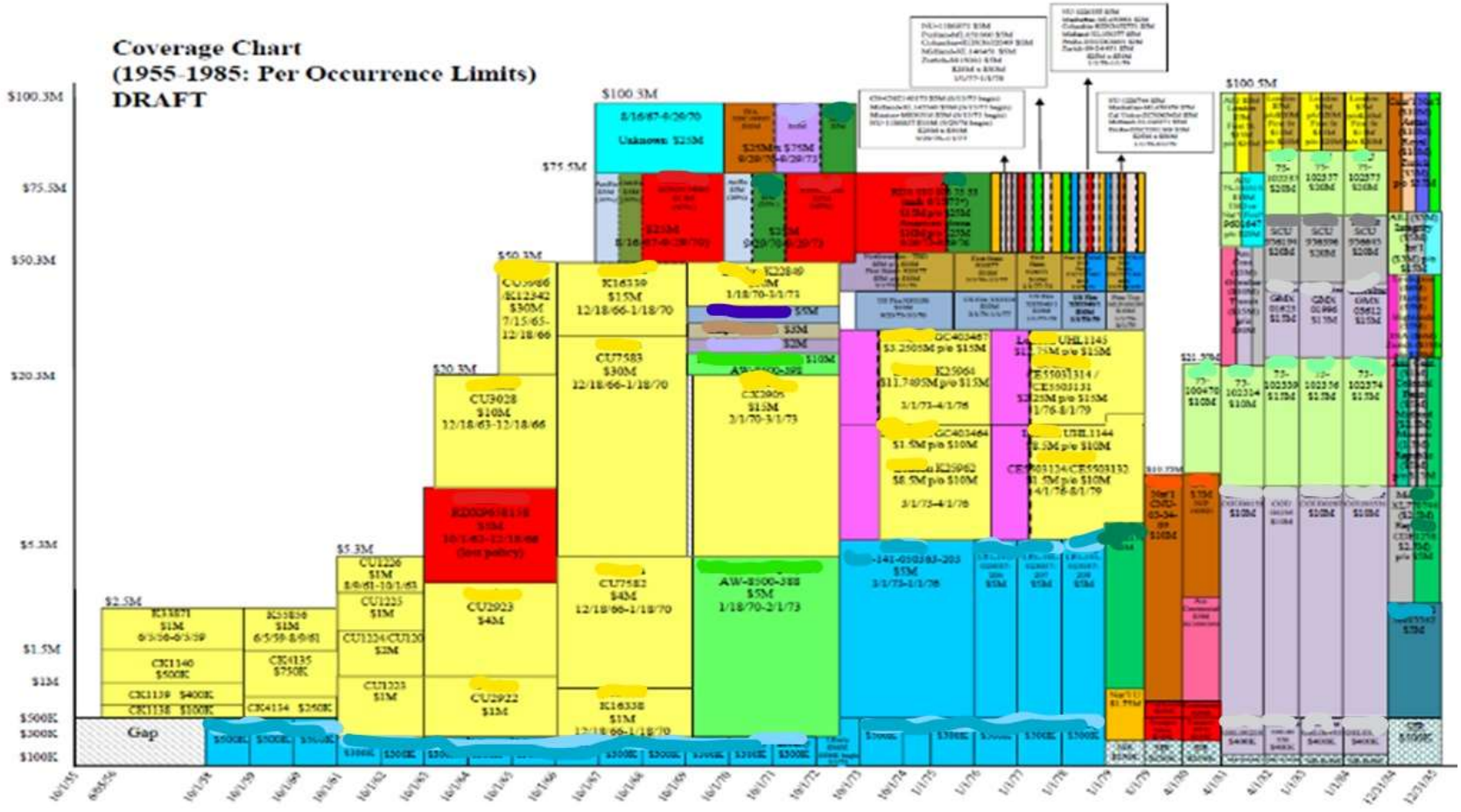
Reinsurance: First knock (if applicable): Limit Premium

Quota-Share: E&SR Treaty Casualty Surplus Other

Authorized Signature:

Insurance Allocation: A Difficult Task

Insurance coverage detail can get incredibly complex with multiple parties, missing documentation, insolvent insurers, disputed coverages, and other complications. Insurers' exposure often arises via small portions in various layers of loss across dozens of different accounts.



Insurance Allocation Simplified – All Sums

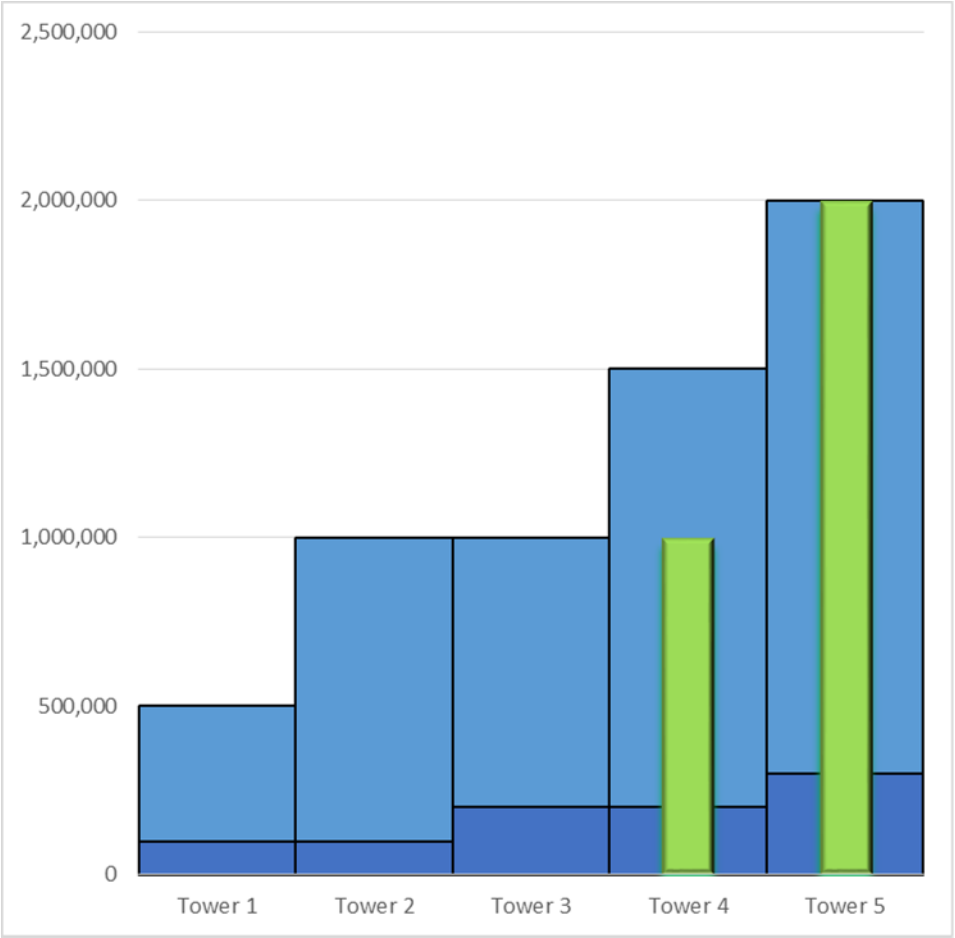
All Sums Allocation Example

Total Claims	$3,000,000
Total Limits	$6,000,000

	Tower Limits	Tower Costs
Tower 1	$500,000	$
Tower 2	$1,000,000	$
Tower 3	$1,000,000	$
Tower 4	$1,500,000	$1,000,000
Tower 5	$2,000,000	$2,000,000

All Sums Allocation is the simplest allocation type to conceptualize and calculate.

The insured targets specific year(s) of coverage and damages “spike” up through tower(s).



Insurance Allocation Simplified – Pro Rata

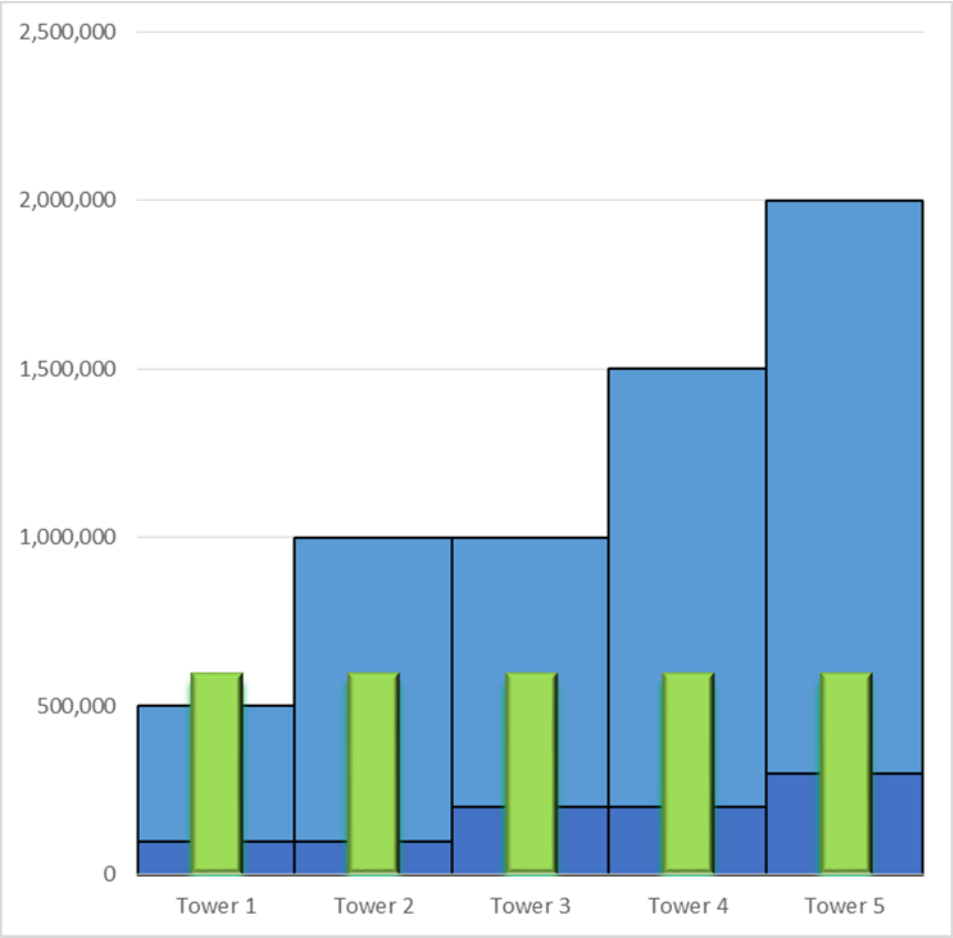
Pro-Rata Allocation Example

Total Claims		$3,000,000
Total Limits		$6,000,000

	Years	Damages/ Year	Tower Damages
Tower 1	1	$3M/5 =	$600,000
Tower 2	1	$3M/5 =	$600,000
Tower 3	1	$3M/5 =	$600,000
Tower 4	1	$3M/5 =	$600,000
Tower 5	1	$3M/5 =	$600,000

Pro Rata Allocation is where the allocation is based on damages divided by years of coverage and then allocated up through each tower.

Allocating can be fairly simple. Only need to know damages, trigger period, and the policy limits/attachments. The entire coverage chart is not needed.



Insurance Allocation Simplified – Bathtub

Horizontal Allocation Example

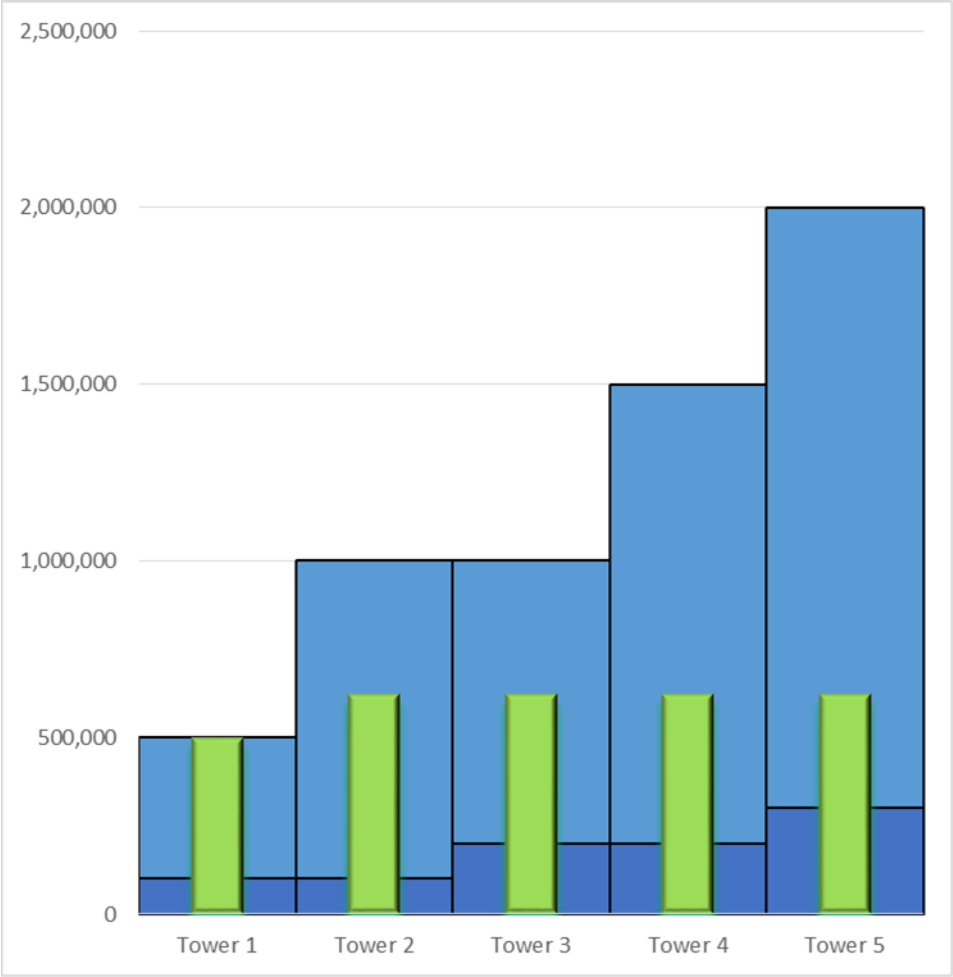
Total Claims	$3,000,000
Total Limits	$6,000,000

	Primary Lims	Ex < $500K	Addl Tower	Total Tower
Tower 1	$100,000	$400,000	$	$500,000
Tower 2	$100,000	$400,000	$125,000	$625,000
Tower 3	$200,000	$300,000	$125,000	$625,000
Tower 4	$200,000	$300,000	$125,000	$625,000
Tower 5	$300,000	$200,000	$125,000	$625,000

Horizontal allocation is over the entire trigger Period.

Typically, primary limits are exhausted before umbrella/excess limits are impacted. Damages are allocated up through the coverage in a straight horizontal line.

Like filling a bathtub



Insurance Allocation Simplified – Carter-Wallace

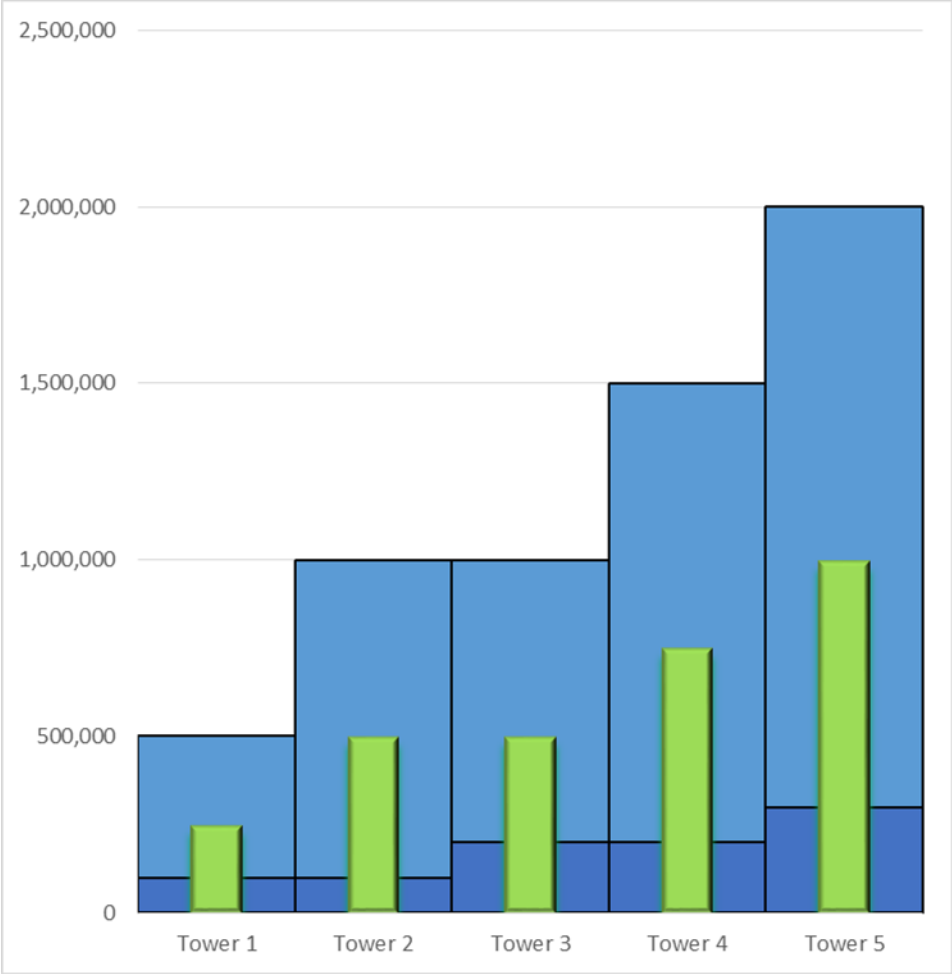
Carter-Wallace Allocation Example

Total Claims	$3,000,000
Total Limits	$6,000,000

	Tower Lims/ Total Lims	Tower C-W Share	Tower Damages
Tower 1	$500K/$6M	8.33%	$250,000
Tower 2	$1M/$6M	16.67%	$500,000
Tower 3	$1M/$6M	16.67%	$500,000
Tower 4	$1.5M/$6M	25.00%	$750,000
Tower 5	$2M/$6M	33.33%	$1,000,000

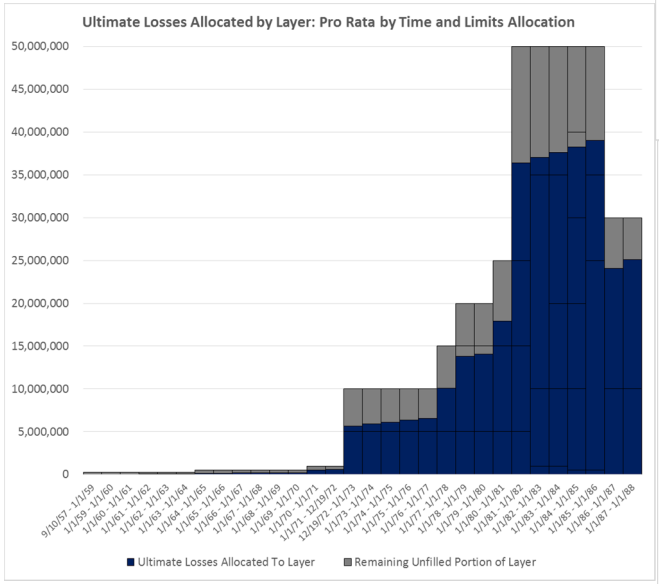
Carter-Wallace Allocation distributes damages based on proportion of total limits in each tower.

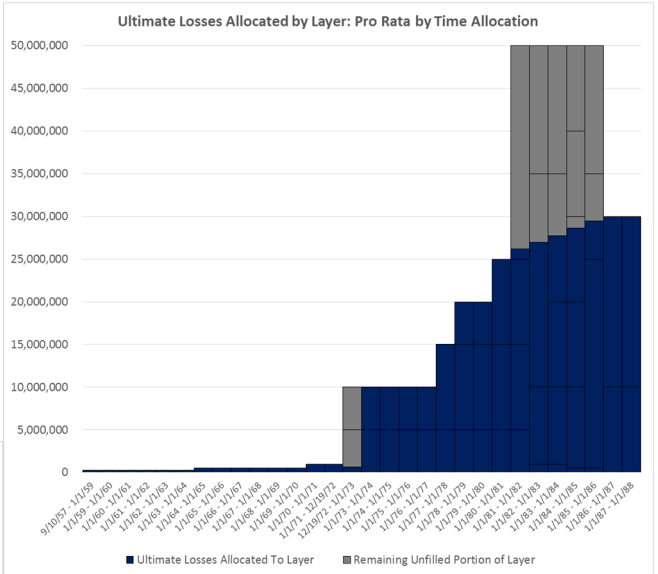
Carter-Wallace share of damages are then allocated vertically up through each tower.

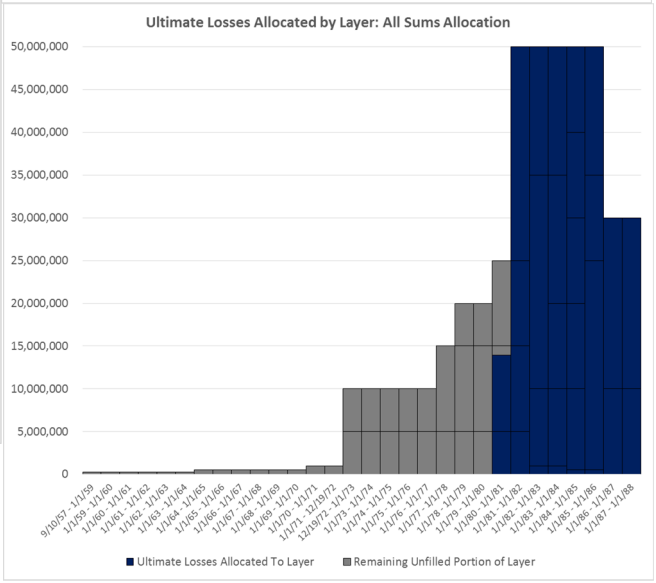


Allocation of Loss to Policy: Without Insolvencies

After deriving ultimate claims, loss must be allocated to policy. Different allocation methods can produce dramatically different indications per policy. The appropriate allocation method is a matter of legal interpretation and detailed scrutiny of policy language. Need to interact with claims to understand which law applies.







Allocation of Loss to Policy: With Insolvencies

Insolvencies complicate the allocation. Losses are allocated to policies in the same manner as before, however, coverage holes appear where losses are allocated to insolvent insurers. Coverage gaps can be spread to remaining solvent insurers or back to the defendant to retain without coverage.

Additionally, currently insolvent insurers may have partially paid loss before insolvency. The examples shown here allocate currently paid loss to all insurers, but future unpaid loss to solvent insurers only.

Need to interact with claims to know about insolvencies.