

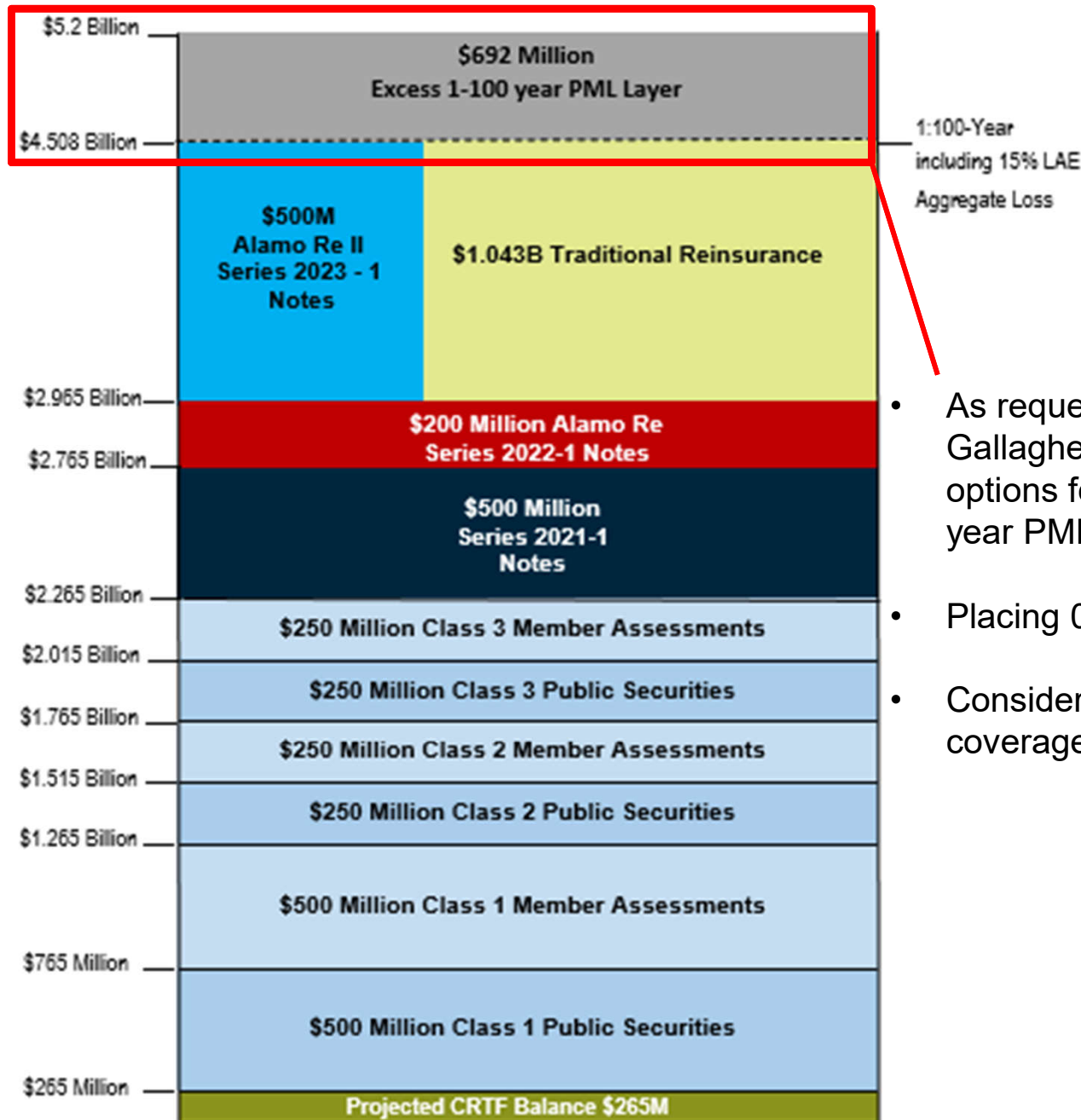
2023 Reinsurance Excess 1-100 PML Layer

April 18, 2023



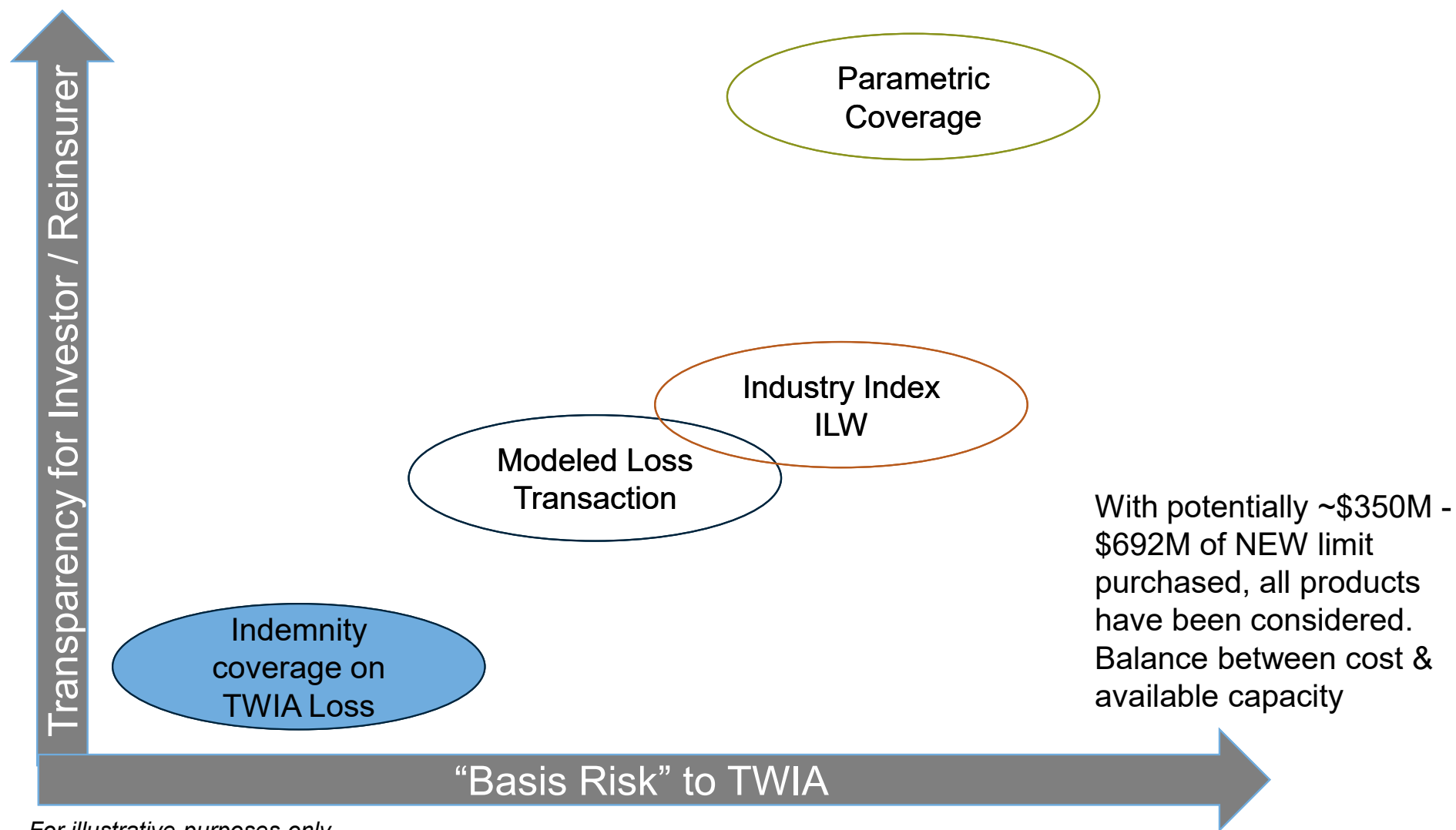
Gallagher Re

2023 Preliminary Funding Structure Approved by TWIA Board



- As requested by Board on 1/19/23, Gallagher Re seeking reinsurance options for coverage excess of the 1-100 year PML
- Placing 0 - 100% of \$692M xs \$4.508B
- Considering all capacity providers and coverage options

Reinsurance Products - Summary



For illustrative purposes only

Industry Loss Warranty (ILW) Market

An ILW is a private reinsurance transaction which is triggered by the total industry loss from an event (as reported by an index, PCS) rather than by the specific loss to the buyer (TWIA)

Property Claim Services (PCS) unit is the internationally recognized authority on insured property losses from catastrophes in the United States, Puerto Rico, and the U.S. Virgin Islands. Property Claim Services® (PCS®) is a division of Verisk Insurance Solution 

ILW Market- 2022

\$4.5bn

Trade Limit
worldwide

70%

USA exposed

Buyers/ Sellers

- Buyers: 40% traditional, 60% Non-traditional
- Sellers: 35% traditional, 65% non-traditional

Why Buy an ILW?

Price



- A defined and flat premium - no penalty for any increase in exposures

Security



- Increasing amount of capacity in 2023 during hard market conditions
- Fully collateralised or highly rated fronted balance sheets

Simplicity of Execution



- Very quick to place and bind coverage – 1-7 days
- Zero underwriting information required (not based on TWIA exposures or historical losses)
- Standardised wordings

Transparency



- Very easily understood protection for TWIA – reinsurance kicks in when industry loss exceeds the trigger
- When triggered, immediate payment

Commodity



- Sellers understand that an ILW is a commodity, and that there is no obligation to renew - even post loss

ILW Considerations

ILWs introduce “basis risk” to TWIA

1. Basis Risk

- The term used to describe the potential mismatch between TWIA actual loss and the ILW contract (e.g. the client has a significant loss following a cat event, but the ILW does not trigger)
- Basis risk can be mitigated by:
 - Lowering the trigger (e.g. modelled loss \$55bn → ILW trigger \$50bn)
 - Binary recovery vs. buying a layered ILW e.g. \$10bn xs \$50bn (pro rata recovery through the layer, full recovery \$60bn and above)

ILWs are simple but effective contracts which offer large amounts of capacity, easy to transact and administrate, and often bought as a compliment to indemnity purchases.

TWIA Top 2 Events	TWIA Actual Loss & LAE	PCS Reported Loss	TWIA / PCS
Hurricane Ike	2,443,932,614	9,800,000,000	25%
Hurricane Harvey	1,532,443,784	19,100,000,000	8%
	3,976,376,398	28,900,000,000	14%
TWIA on PCS \$50B - Ike	12,469,043,950	50,000,000,000	
TWIA on PCS \$50B - Harvey	4,011,632,942	50,000,000,000	

ILW Relative to Modeled Loss

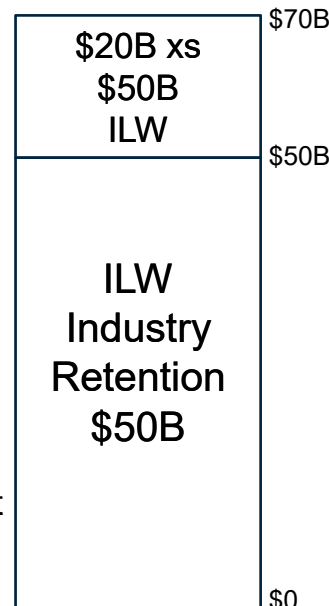
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Metric	Excluding 15% LAE	Including 15% LAE	Model detail
TWIA's RMS 1-100	3,920,300,000	4,508,345,000	RMS v21 All Perils (LT) AEP
TWIA's RMS&AIR Blend 1-100	4,560,000,000	5,244,000,000	AIRv9 & RMS v21 All Perils (LT) AEP
Industry RMS 1-100 x LAE	58,382,128,039		RMS v21 Hurricane only (NT) - OEP Texas
Industry RMS&AIR Blend 1-100 x LAE	55,095,076,630		AIRv9 & RMS v21 Hurricane only (NT) - OEP Texas

Note: ILW sellers commonly use the following modeled losses to price index based reinsurance products: RMS & AIR models, hurricane only, Near Term rates, Occurrence (OEP), including storm surge and demand surge

ILW Terms (demonstration purposes only):

- Cost: 5% Rate on Line (RoL) - \$50k / \$1M of limit; \$34,600,000 for \$692,000,000 of limit for TWIA
- TWIA maximum recovery: \$692M or so elected by Board
- Texas Named storm only, per occurrence
- PCS industry event includes all lines as reported by PCS; excluding NFIP (contract provisions TBD)



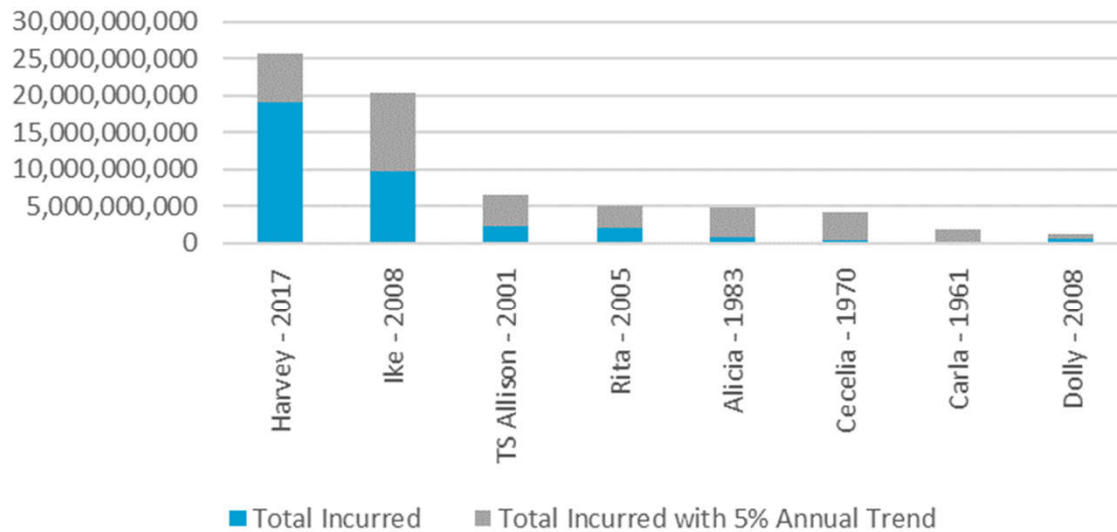
Industry Loss Curve - OEP

%ile	1 in n years	RMS - TX WS	AIR - TX WS
		(All Lines)	(All Lines)
98%	50	33,472,642,388	31,020,679,466
99%	100	58,382,128,039	51,808,025,221
99.5%	200	90,806,933,537	85,012,959,681
99.6%	250	102,355,290,738	93,332,347,883

Historical Texas Hurricanes

PCS Index

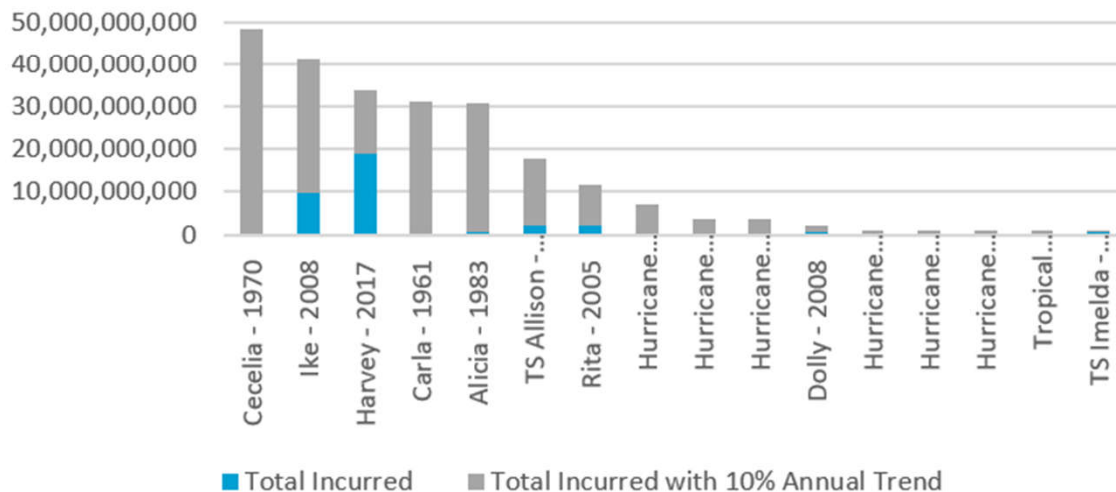
Historical Texas Named Storms > \$1B Trended
PCS 1957 - 2022



5% annual trend

- Since 1957 when PCS began recording, Texas has experienced 31 named storms
- 2 events >\$20B on trended basis
- Hurricane Harvey (2017) \$25.6B

Historical Texas Named Storms > \$1B Trended
PCS 1957 - 2022



10% annual trend

- 5 events >\$20B on trended basis
- Hurricane Cecelia (1970) \$48.4B

Reinsurance Options for TWIA

Coverage Excess of 1-100 year PML

Projected Gross Cost for ILW & Indemnity

Limit	Attachment	Low ROL	Low Cost	High ROL	High Cost
200,000,000	4,508,000,000	5.00%	10,000,000	5.00%	10,000,000
400,000,000	4,508,000,000	5.25%	21,000,000	5.50%	22,000,000
692,000,000	4,508,000,000	6.00%	41,520,000	7.00%	48,440,000

Depending on Board selection of capacity, Gallagher Re suggests approaching reinsurers with the above costs noted in green

- Secure as much indemnity coverage as possible
- Suggested terms for indemnity coverage (traditional Ultimate Net Loss):
 - \$692M xs \$4.508B per occurrence
 - 6% ROL, \$41,520,000
 - No reinstatement
 - Named storm only
- Suggested terms for non-indemnity coverage (ILW):
 - \$20B xs \$50B Industry Loss Warranty
 - 6% ROL, or \$41,520,000
 - Named storm only, per occurrence
 - Prorata recovery within the \$20B ILW layer; TWIA receives reinsurance recoveries on a prorata basis
 - \$692M recovery to TWIA on \$70B PCS loss
 - PCS index used to determine industry loss (all lines, excluding Loss Adjustment Expense and National Flood Insurance Program)