

# ClauseLens + MARL Investor Report

This report summarizes 4 multi-agent treaty bidding episodes powered by ClauseLens. It includes KPIs, winning bids, and full regulatory clause documentation.

## Portfolio Summary KPIs

Episodes: 4

Average Profit: \$73,824

Average CVaR: \$125,834

Compliance Rate: 100%

## Episode 1 - Pacific Assurance

Peril: Tsunami

Region: Japan

Exposure: \$12,000,000

Limit: 50%

Quota Share Cap: 40%

Notes: Tsunami-prone coastal exposure; requires multi-event XOL coverage.

### Winning Bid (MARL Agent)

Quota Share: 28%

Premium: \$575,721

Expected Loss: \$454,815

Tail Risk: \$207,119

### ClauseLens Explanation

This bid proposes a 28% quota share with a premium of \$575,721, covering an expected loss of \$454,815 and tail-risk exposure (CVaR) of \$207,119. It aligns with the following regulatory and structural requirements:

- [Clause 6] (Catastrophe Risk) Catastrophe treaty exposures must pass 1-in-200 year Probable Maximum Loss (PML) stress tests.
- [Clause 13] (Catastrophe Risk) All catastrophe treaties must comply with local solvency stress testing for hurricane and earthquake scenarios.
- [Clause 16] (Contract Structure) Excess-of-loss treaties should consider reinstatement provisions to ensure multi-event protection.

Rationale:

- The premium exceeds the expected loss, ensuring a positive risk margin.
- Quota share and tail-risk are within regulatory thresholds.
- Retrieved clauses confirm compliance with capital and reporting standards.

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### Retrieved Clauses

[Catastrophe Risk] Catastrophe treaty exposures must pass 1-in-200 year Probable Maximum Loss (PML) stress tests. (Jurisdiction: Global)

[Catastrophe Risk] All catastrophe treaties must comply with local solvency stress testing for

hurricane and earthquake scenarios. (Jurisdiction: Global)

[Contract Structure] Excess-of-loss treaties should consider reinstatement provisions to ensure multi-event protection. (Jurisdiction: Global)

## Episode 2 - Sunrise Insurance

Peril: Wildfire

Region: California

Exposure: \$4,200,000

Limit: 50%

Quota Share Cap: 50%

Notes: Wildfire-heavy portfolio; XL protection for seasonal spikes.

### Winning Bid (MARL Agent)

Quota Share: 47%

Premium: \$244,894

Expected Loss: \$189,647

Tail Risk: \$50,487

### ClauseLens Explanation

This bid proposes a 47% quota share with a premium of \$244,894, covering an expected loss of \$189,647 and tail-risk exposure (CVaR) of \$50,487. It aligns with the following regulatory and structural requirements:

- [Clause 19] (Emerging Risk) Climate change risk assessments should be incorporated into property catastrophe reinsurance treaties.
- [Clause 2] (Risk-Based Capital) NAIC Risk-Based Capital (RBC) guidelines require tail-risk stress testing for catastrophe treaties.
- [Clause 3] (Accounting & Reporting) IFRS 17 mandates transparent reporting of expected losses and reinsurance recoverables.

Rationale:

- The premium exceeds the expected loss, ensuring a positive risk margin.
- Quota share and tail-risk are within regulatory thresholds.
- Retrieved clauses confirm compliance with capital and reporting standards.

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### Retrieved Clauses

[Emerging Risk] Climate change risk assessments should be incorporated into property catastrophe reinsurance treaties. (Jurisdiction: Global)

[Risk-Based Capital] NAIC Risk-Based Capital (RBC) guidelines require tail-risk stress testing for

catastrophe treaties. (Jurisdiction: US)

[Accounting & Reporting] IFRS 17 mandates transparent reporting of expected losses and reinsurance recoverables. (Jurisdiction: Global)

## Episode 3 - Southern General

Peril: Hurricane

Region: Gulf Coast

Exposure: \$6,500,000

Limit: 35%

Quota Share Cap: 55%

Notes: Hurricane quota share program; cedent retains 45% of risk.

### Winning Bid (MARL Agent)

Quota Share: 42%

Premium: \$378,168

Expected Loss: \$322,187

Tail Risk: \$145,545

### ClauseLens Explanation

This bid proposes a 42% quota share with a premium of \$378,168, covering an expected loss of \$322,187 and tail-risk exposure (CVaR) of \$145,545. It aligns with the following regulatory and structural requirements:

- [Clause 12] (Underwriting & Retention) Quota share treaties must limit cessions to preserve primary insurer risk appetite and alignment.
- [Clause 4] (Underwriting & Retention) Treaty coverage must align with the insurers capital buffer and retention strategy.
- [Clause 9] (Diversification) Retrocession agreements must not concentrate exposure in a single reinsurer beyond 25% of total ceded risk.

Rationale:

- The premium exceeds the expected loss, ensuring a positive risk margin.
- Quota share and tail-risk are within regulatory thresholds.
- Retrieved clauses confirm compliance with capital and reporting standards.

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### Retrieved Clauses

[Underwriting & Retention] Quota share treaties must limit cessions to preserve primary insurer risk appetite and alignment. (Jurisdiction: Global)

[Underwriting & Retention] Treaty coverage must align with the insurers capital buffer and retention

strategy. (Jurisdiction: Global)

[Diversification] Retrocession agreements must not concentrate exposure in a single reinsurer beyond 25% of total ceded risk. (Jurisdiction: Global)

## Episode 4 - Southern General

Peril: Hurricane

Region: Gulf Coast

Exposure: \$6,500,000

Limit: 35%

Quota Share Cap: 55%

Notes: Hurricane quota share program; cedent retains 45% of risk.

### Winning Bid (MARL Agent)

Quota Share: 29%

Premium: \$323,194

Expected Loss: \$260,032

Tail Risk: \$100,186

### ClauseLens Explanation

This bid proposes a 29% quota share with a premium of \$323,194, covering an expected loss of \$260,032 and tail-risk exposure (CVaR) of \$100,186. It aligns with the following regulatory and structural requirements:

- [Clause 12] (Underwriting & Retention) Quota share treaties must limit cessions to preserve primary insurer risk appetite and alignment.
- [Clause 4] (Underwriting & Retention) Treaty coverage must align with the insurers capital buffer and retention strategy.
- [Clause 9] (Diversification) Retrocession agreements must not concentrate exposure in a single reinsurer beyond 25% of total ceded risk.

Rationale:

- The premium exceeds the expected loss, ensuring a positive risk margin.
- Quota share and tail-risk are within regulatory thresholds.
- Retrieved clauses confirm compliance with capital and reporting standards.

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### Retrieved Clauses

[Underwriting & Retention] Quota share treaties must limit cessions to preserve primary insurer risk appetite and alignment. (Jurisdiction: Global)

[Underwriting & Retention] Treaty coverage must align with the insurers capital buffer and retention



strategy. (Jurisdiction: Global)

[Diversification] Retrocession agreements must not concentrate exposure in a single reinsurer beyond 25% of total ceded risk. (Jurisdiction: Global)

# Profit vs Tail-Risk (CVaR)

Profit vs Tail-Risk Comparison

