

AON

Property Risk Analyzer

City of Hollywood

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Created by:

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Risk Scenario Details

Scenario: City of Hollywood Utilities

Policy Year: 2024

Client: City of Hollywood

Owner: Stephanie Candiano

Last Updated: Aug 8 2024 6:41PM

Loss Analysis: Occurrence

Losses in the occurrence are modeled results representative of the single worst event of one type impacting locations in any year.

The 100, 250 and 500 return periods are commonly used to determine appropriate limits. Risk appetite, model uncertainty, the affordability of coverage and other relevant factors should also be considered when making limit buying decisions. Using the 1 in 250 aggregate exceedance probability as an example, loss exceedance probabilities are interpreted as follows: there is 0.40% chance that occurrence will have insurable losses for that given event.

Loss Analysis: Occurrence Probability Table

Insurance Option	Perils	Regions
City of Hollywood	Named Windstorm (Hurricane)	All Regions

Locations	Total Insurable Value	Average Annual Loss
94	\$420M	\$2M

Loss Statistic	Ground Up Loss	Client Loss	Insurable Loss	Insured Loss	Retained Loss
0.02% One in 5,000 year event	\$209,012,960	\$31,512,840	\$177,500,112	\$40,000,000	\$169,012,960
0.10% One in 1,000 year event	\$138,555,648	\$31,512,840	\$107,042,800	\$40,000,000	\$98,555,640
0.20% One in 500 year event	\$110,628,552	\$31,512,840	\$79,115,712	\$40,000,000	\$70,628,552
0.40% One in 250 year event	\$72,204,768	\$31,512,840	\$40,691,932	\$40,000,000	\$32,204,770
0.50% One in 200 year event	\$61,602,952	\$31,512,840	\$30,090,112	\$30,090,112	\$31,512,840
1% One in 100 year event	\$38,891,388	\$31,512,840	\$7,378,549	\$7,378,549	\$31,512,840
2% One in 50 year event	\$20,692,198	\$20,692,198	\$0	\$0	\$20,692,198
4% One in 25 year event	\$9,971,292	\$9,971,292	\$0	\$0	\$9,971,292

Loss Analysis: Occurrence Loss Modelling Summary Results

The Average Annual Loss (AAL) is expected annual loss on a long-term average basis. The insured AAL serves as a starting point for pricing the portfolio, before the factoring of uncertainty, expense, and profit loads. It is the average modeled loss across all possible return periods. The Standard Deviation Measures the variation/dispersion from the mean. The Coefficient of Variation (CV) gives the spread of loss around the mean and represents the secondary uncertainty in the size of loss.

Loss Analysis: Occurrence Loss Modelling Summary Results

Insurance Option	Perils	Regions
City of Hollywood	Named Windstorm (Hurricane)	All Regions

Loss Statistic	Ground Up Loss	Client Loss	Insurable Loss	Insured Loss	Retained Loss
Average Annual Loss	\$1,716,365	\$1,240,486	\$475,878	\$288,594	\$1,427,770
Coefficient Variation	5.49	3.77	12.97	10.53	4.81
Standard Deviation	\$9,419,707	\$4,672,678	\$6,171,308	\$3,037,557	\$6,867,070

Loss Analysis: Occurrence

Losses in the occurrence are modeled results representative of the single worst event of one type impacting locations in any year.

The 100, 250 and 500 return periods are commonly used to determine appropriate limits. Risk appetite, model uncertainty, the affordability of coverage and other relevant factors should also be considered when making limit buying decisions. Using the 1 in 250 aggregate exceedance probability as an example, loss exceedance probabilities are interpreted as follows: there is 0.40% chance that occurrence will have insurable losses for that given event.

Loss Analysis: Occurrence Probability Table

Insurance Option	Perils	Regions
City of Hollywood	Flood	All Regions

Locations	Total Insurable Value	Average Annual Loss
60	\$255M	\$216K

Loss Statistic	Ground Up Loss	Client Loss	Insurable Loss	Insured Loss	Retained Loss
0.02% One in 5,000 year event	\$87,479,512	\$500,000	\$86,979,512	\$10,000,000	\$77,479,512
0.10% One in 1,000 year event	\$67,767,304	\$500,000	\$67,267,304	\$10,000,000	\$57,767,300
0.20% One in 500 year event	\$57,413,540	\$500,000	\$56,913,540	\$10,000,000	\$47,413,540
0.40% One in 250 year event	\$2,498,518	\$500,000	\$1,998,518	\$1,998,518	\$500,000
0.50% One in 200 year event	\$1,849,718	\$500,000	\$1,349,718	\$1,349,718	\$500,000
1% One in 100 year event	\$158,493	\$158,493	\$0	\$0	\$158,493
2% One in 50 year event	\$36,001	\$36,001	\$0	\$0	\$36,001
4% One in 25 year event	\$4,875	\$4,875	\$0	\$0	\$4,875

Loss Analysis: Occurrence Loss Modelling Summary Results

The Average Annual Loss (AAL) is expected annual loss on a long-term average basis. The insured AAL serves as a starting point for pricing the portfolio, before the factoring of uncertainty, expense, and profit loads. It is the average modeled loss across all possible return periods. The Standard Deviation Measures the variation/dispersion from the mean. The Coefficient of Variation (CV) gives the spread of loss around the mean and represents the secondary uncertainty in the size of loss.

Loss Analysis: Occurrence Loss Modelling Summary Results

Insurance Option	Perils	Regions
City of Hollywood	Flood	All Regions

Loss Statistic	Ground Up Loss	Client Loss	Insurable Loss	Insured Loss	Retained Loss
Average Annual Loss	\$216,068	\$5,242	\$210,826	\$39,204	\$176,865
Coefficient Variation	16.83	8.39	17.11	15.38	17.34
Standard Deviation	\$3,636,190	\$43,977	\$3,607,122	\$602,808	\$3,066,058

APPENDIX

Glossary

Aggregate Exceedance Probability(AEP): Measures the probability that one or more occurrences will combine in a year to exceed a dollar amount threshold. The inverse of an exceedance probability is called a return period, expressed in years. For example, the 100 year return period should be interpreted as there being a 1% chance that loss exceeds a certain dollar amount in a given year.

Annual Cost: Please find the annual costs of each program option. The program option “Before Insurance” is the annual cost without the purchase of insurance. Other program options provide the annual costs of retentions and premiums.

Average Cost: The average cost a client should expect to pay for each insurance option over a year.

Average Annual Loss(AAL): is expected annual loss on a long-term average basis. Mathematically, it is calculated by summing the product of the annual probability and mean loss for each event that affects the risk portfolio. The insured AAL serves as a starting point for pricing the portfolio, before the factoring of uncertainty, expense, and profit loads.

CAT Zone: Geographic sub- regions specific to particular perils as referenced in a client’s policy. For example Tier 1 Named Windstorm, High Hazard Earthquake, etc.

Catastrophic Cost: The average of the worst losses above a given percentile, which is generally the worst 95% losses and above. It is everything a client should expect to pay for each insurance option over a year of a catastrophic loss.

Client Loss: Losses below the deductible.

Coefficient of Variation(CV): Gives the spread of loss around the mean and represents the secondary uncertainty in the size of loss.

Construction: Type of materials or frame used in the construction of the building. Construction types have different resistance to different perils.

Glossary

Earthquake: One or more seismic disturbances emanating from the same or adjacent geological faults.

Flood: A general and temporary condition of partial or complete inundation of normally dry land areas resulting from the overflow of water bodies or the unusual and rapid accumulation of surface water runoff from any source.

Geocoding: The precision of which the address information within the statement of values was able to be located. Quality address information aids the model in properly assessing a location's risk relevant to natural hazards.

Ground Up Loss: Total financial loss regardless of insurance structure.

Insurable Loss: Losses excess of deductible.

Insured Loss: Losses covered by insurance policy. Ground up loss less deductible, excess of attachment and capped capped at limit.

Loss Statistic: the return period or percentile of which a modeled loss is representative of.

Named Windstorm(Hurricane): A hurricane, typhoon, tropical cyclone, cyclonic storm or any other windstorm which which is assigned a name by the Responsible Meteorological Service.

Number of Stories: Number of stories above ground of the entire structure. The height of a structure can impact the impact the resistance to different perils.

Occupancy: The use or functionality of the structure. Depending on the business type, the model will use different different assumptions of how quickly after an event a location returns to operations.

Occurrence Exceedance Probability(OEP): Similar to AEP, measures the annual probability that loss due to a single single occurrence will exceed a dollar amount threshold.

Perils: The specific type of modelled event.

Retained Losses: Losses retained by insured. Includes deductibles as well as losses excess of modeled limits.

Glossary

Severe Convective Storm: Unnamed weather disturbance inclusive of extreme winds, hail, and tornadic activity.

Standard Deviation: Measures the variation/dispersion from the mean.

TCOR (Total Cost of Risk): The total average annual loss within a clients retention combined with program premium for a given program option. Client retention includes both deductible and any modeled over limit loss.

TCOR Differential: The difference in total cost between the no insurance option (all losses retained) and a given program option.

Terrorism: An activity that involves a violent act or the unlawful use of force or an unlawful act dangerous to human life, tangible or intangible property or infrastructure, or a threat thereof.

Wildfire: An unplanned, unwanted wildland fire, including unauthorized human-caused fires, escaped wildland fire use events, escaped prescribed fire projects, and all other wildland fires where the objective is to extinguish the fire.

Winter Storm: A winter weather phenomenon (such as snow, sleet, ice, wind chill) that impacts public safety, transportation, and/or commerce.

Year Built: Year during which construction of structure was completed. Newer buildings will be assumed to be built to relevant code by the model, resulting in the potential for added resistance to certain perils.