As of March 31, 2020

***The Strength to Rebuild:* Financial Foundations of the California Earthquake Authority**

Overview

CEA is the largest single-line writer of residential earthquake insurance in the United States. With more than 1.1 million policies in force, generating approximately $817 million in direct written premiums, and approximately $18.3 billion in claim-paying capacity, CEA writes 66% (as of 2018) of all residential earthquake policies sold in California.

CEA's claim-paying capacity consists of its own capital, reinsurance and other risk-transfer contracts, revenue bonds, a policyholder surcharge, and assessments on its participating insurance companies. CEA could cover all its claims if the 1906 San Francisco, 1989 Loma Prieta or 1994 Northridge earthquake reoccurred today.

Since CEA opened its doors in 1996, its available capital has grown to $5.89 billion and has benefited from consistently positive retained earnings.

A.M. Best Co., the world's oldest and most authoritative rating agency of insurance companies, has rated CEA's financial strength as A– (Excellent) since 2002.

CEA Is a Publicly Managed, Privately Financed, Not-for-Profit Entity

CEA is a privately financed entity and receives no funding from the State of California budget. California's budget concerns have no impact on CEA's ability to pay its policyholders' claims.

By law, the State of California is not responsible for CEA's liabilities, and CEA does not pay any state liabilities. Therefore, CEA assets cannot be used by the state for any government purposes, such as repairing infrastructure items like bridges and freeways.

CEA insurance capacity is available only to pay claims to residents who have protected their homes and possessions by purchasing a CEA earthquake insurance policy. CEA is not responsible for damage to commercial properties or to uninsured residential properties or their contents.

Private-insurer contributions, calculated based on individual-company market share, formed CEA's seed capital—all participating insurers, regardless of their initial participation date, are subject to capital-contribution requirements. In addition, all participating insurers retain a legal responsibility to pay defined assessments to CEA in the event of large, damaging earthquakes.

About 45% of the funds CEA collects goes toward buying reinsurance and other risk transfer (and to pay the associated costs), contracting with certain outside consultants and vendors, and toward claim-paying capital accumulation. About 10% is allocated to agent commissions and participating-insurer fees. The California Insurance Code requires CEA's operating expenses to be capped at not more than 6% of the premium income CEA receives. CEA has always complied with this limitation and expects to continue to be able to do so.

CEA does not pay federal income tax, which allows it to maximize the growth of its capital. CEA is not permitted to file for bankruptcy protection, and, unlike a private insurer, it cannot be taken over by the state insurance commissioner.

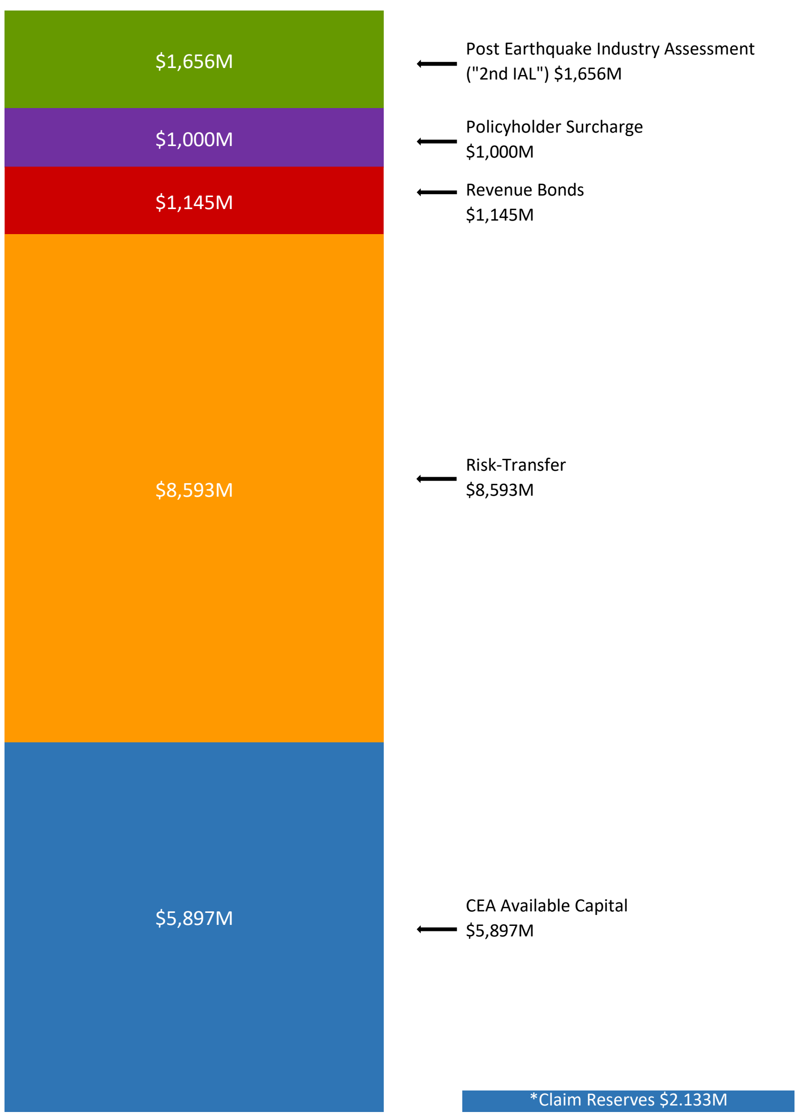
CEA Has Multiple Layers of Claim-Paying Capacity

CEA had approximately $18.3 billion in claim-paying capacity as of March 31, 2020. The components of this capacity (and the order in which these funds would be accessed to pay claims) are approximately as follows:

- CEA capital: $5.89 billion.
- Reinsurance and other risk transfer: $8.59 billion, including six "transformer" reinsurance contracts that together total $1.975 billion.
- Revenue bonds: $1.145 billion.
- Policyholder surcharge: $1 billion.
- Participating-insurer assessments: $1.65 billion.

Total: $18.3 billion (CPC Layers use rounding when calculating the total amount(s) of the CPC Tower)

California Earthquake Authority
Claim-paying Capacity
as of March 31, 2020



Total Capacity $18,291M

*Claims Reserves not drawn to scale

Questions and Answers

Question: **Natural disasters are becoming increasingly costly. Estimates of total damage caused by Superstorm Sandy in November 2012 exceed $50 billion. The 1994 Northridge earthquake caused more than $40 billion in damage, but CEA has only $18.3 billion in claim-paying capacity. How can you cover all the claims after a major earthquake?**

Answer: CEA would have liability only for a defined portion of the total cost of the economic damage caused by a major California earthquake, because CEA assets are available only to pay claims of residents who have protected their homes and possessions by buying a CEA earthquake insurance policy.

Put another way, like any insuring entity, CEA is responsible for paying its insured losses, not the total cost of all the damage. CEA is not responsible for losses to uninsured residential properties or their contents; commercial properties; or public infrastructure, such as bridges and freeways.

CEA claim-paying capacity is carefully established according to financially conservative standards: CEA aims to maintain a claim-paying capacity sufficient to ensure that only once in 400 years would CEA be unable to pay 100 percent of every claim from all earthquakes occurring in one year.

CEA is a not-for-profit, publicly managed, privately funded organization that provides residential earthquake insurance and encourages Californians to reduce their risk of earthquake loss. People choosing CEA insurance get peace of mind from knowing they can afford to repair, rebuild or replace their covered property that may be damaged by the next damaging earthquake.

Question: **Why 1-in-400 years?**

Answer: The rating agencies that rate CEA's debt (Moody's and Fitch) and the agency that rates CEA's financial strength (A.M. Best Co.) presently require CEA to maintain a 1-in-400-year capacity.

Question: **CEA has more than $534 billion in total exposure but only $18.3 billion in claim-paying capacity. How can CEA pay all its claims in a major earthquake?**

Answer: The total exposure of $534 billion (as of March 31, 2020), also called "total insured value" or "in-force liability," is the total amount of coverage CEA has written for <u>all</u> its policies in all parts of the state.

Even the biggest earthquake damages only one region. And within that region, damage varies greatly, ranging from total destruction of some homes and other buildings to minor, cosmetic damage.

No insurance company maintains claim-paying capacity equal to the total insured value. Instead, insurance companies use mathematical and statistical models to assess and project their potential liabilities. They maintain enough claim-paying capacity to achieve the desired level of safety, often as assessed by rating agencies or regulators, or both.

The rating agencies that rate CEA's debt (Moody's and Fitch) and the agency that rates CEA's financial strength (A.M. Best Co.) expect CEA to maintain a conservative level of capacity, with the presently required level set at sufficient capacity that only once in a 400-year period would CEA be unable to pay 100% of its claims accruing in one year—this is sometimes called a 1-in-400 capacity level.

Put another way, CEA has the ability to pay 100% of its annual claims 99.75% of the time—there is a 0.25% chance that CEA wouldn't be able to pay 100% of its claims in one year.

Applying the 1-in-400-year benchmark requires CEA to maintain about $18.3 billion in claim-paying capacity for its current exposure.

Question: How does CEA estimate its losses from earthquakes? How did CEA determine that $18.3 billion in claim-paying capacity is the correct amount needed to cover $534 billion in total exposure?

Answer: CEA calculates its claim-paying capacity needs by using the best available catastrophe-loss models.

There are three widely recognized, commercial catastrophe-loss models/modelers: CoreLogic, RMS and AIR-Worldwide.

Since 1996, CEA has contracted with CoreLogic for loss-modeling services. And since 2004, CEA has worked with CoreLogic, RMS and AIR-Worldwide to help CEA analyze and understand the nature and financial magnitude of risks presented by CEA's insurance portfolio.

CEA uses modeled-loss output from the three modeling firms, with adjustments for "demand surge" and loss adjustment expense.

The aggregate adjusted results based on modeled output from the three modeling firms, compiled by CEA (using the method described below), indicate that $18.3 billion is the correct capacity to cover adequately CEA's current insured risks. If CEA maintained less capacity, its ability to cover its claims would fall short of the required target; if CEA maintained excess capacity, policyholders would be paying more than necessary for earthquake insurance.

The three models—CoreLogic, RMS and AIR-Worldwide—are equally weighted.

Question: What is "demand surge"?

Answer: Demand surge is post-event inflation of the costs of reconstruction and repair, caused by short supplies of both construction material and construction labor; typically, the larger the event, the larger the inflationary effect. CEA includes projections for demand surge in determining its claim-paying capacity.

Question: What are CEA participating-insurer assessments?

Answer: CEA has the statutory and contractual right under various circumstances to assess the residential property insurers that participate in CEA and issue CEA policies, in order to bolster CEA claim-paying capacity or return CEA's capital to the minimum statutory level. Available total assessments stood at $1.656 billion as of March 31, 2020. CEA participating insurers commit to paying these assessments, as and when needed, when they execute CEA's insurer-participation agreement.

Question: Where does CEA obtain reinsurance?

Answer: CEA's reinsurance program as of March 31, 2020, was placed with 125 financially sound reinsurers, using contracts providing a total of $8.59 billion in reinsurance coverage.

Question: What is CEA's transformer reinsurance program?

Answer: As a major part of CEA's risk-diversification strategy, transformer reinsurance allows CEA to obtain reinsurance capacity backed by capital sourced from the capital markets rather than solely from reinsurance companies, replacing a portion of what would otherwise be a traditional reinsurance purchase.

Under CEA's transformer-reinsurance program, Embarcadero Reinsurance Ltd. and Ursa Re Ltd., Bermuda-based special purpose reinsurance vehicles established for CEA transactions, provide CEA with reinsurance cover under contract. In 12 transformer transactions since 2011, Embarcadero Re (not CEA) and Ursa Re (not CEA) have sold more than $3.925 billion in catastrophe bonds to qualified investors.

In the ordinary course, CEA's reinsured losses and loss adjustment expenses would be paid by operation of the CEA/Ursa Re reinsurance contracts. But in a measure designed to provide CEA extra security, Ursa Re has placed the catastrophe-bond sale proceeds into a collateral trust account, from which CEA can draw funds, if and as necessary, to fund insured losses and loss-related expenses covered by the reinsurance contract.

A key element of CEA's transformer deals is that CEA has taken what are usually complex, expensive, one-off transactions and established a regular, repeatable risk-transfer method that uses uniform documentation. The transformer transactions are multi-year deals that provide excellent diversification of CEA's sources of claim-paying capacity. Using the same structure in repeated transactions makes it easier for investors to understand and become comfortable with the terms and conditions, which directly and indirectly builds the catastrophe-bond investor base to increase market capacity for follow-on transactions.

Although CEA was the first single-line earthquake insurer to establish a transformer-reinsurance program, this funding method is common in other sectors.

Transformer transactions to date:

- August 2011 — Embarcadero Re, $150 million (expired August 2014).
- February 2012 — Embarcadero Re, $150 million (expired February 2015).
- August 2012 — Embarcadero Re, $300 million (expired August 2015).
- December 2014 — Ursa Re, two transactions, each $200 million, for a total of $400 million (expired November 2017).
- September 2015 — Ursa Re, $250 million (expired September 2018).
- December 2016 — Ursa Re, $500 million (expired December 2019).
- May 2017 — Ursa Re, two transactions, for a total of $925 million.
- December 2017 — Ursa Re, two transactions for a total of $400 million.
- September 2018 — Ursa Re, $250 million.
- December 2019 — Ursa Re, $400 million.

As of March 31, 2020, the transformer reinsurance program has $1.975 billion of sources to pay claims.

CEA has a well-known, ongoing commitment to diversify and expand its claim-paying resources. While traditional reinsurance will continue to be indispensable for CEA, diverse risk-transfer tools that combine traditional, collateralized and transformer reinsurance will help make CEA earthquake insurance more affordable and valuable, and more widely used.

Question: Is CEA the issuer of these catastrophe bonds?

Answer: To clarify, no. The bonds are issued by Embarcadero Reinsurance Ltd. and Ursa Re Ltd., both Bermuda-based special-purpose reinsurers; Embarcadero Re and Ursa Re are completely separate from CEA and are not subject to CEA's control. As of March 31, 2020, Ursa Re provides CEA with reinsurance under six contracts totaling $1.975 billion while contracts with Embarcadero Re have expired.

Question: Other insurance providers arrange reinsurance deals, buying reinsurance from a special purpose reinsurance vehicle (SPRV) that issues catastrophe bonds. What is different about the relationship between CEA and Embarcadero Reinsurance Ltd. and Ursa Re Ltd.?

Answer: It is typical in other reinsurance deals that the cedent insurer (the reinsurance buyer) controls the SPRV and the catastrophe-bond transaction. In the case of CEA, Embarcadero Re and Ursa Re issued the bonds independently; CEA did not control any aspect of the bond terms, sales method or pricing. Ursa Re and Embarcadero Re are owned by a charitable trust in Bermuda and are managed by separate management companies.

Question: What is CEA's relationship with private residential property insurers?

Answer: By law since 1985, insurance companies that offer residential property insurance (such as homeowners or renters coverage) in California must also offer earthquake insurance. Insurers that are accepted as CEA participating insurers (and that accept the operational and financial obligations of that participation) satisfy their legal earthquake-insurance-offer requirement by offering CEA policies.

CEA participating insurers are not permitted to issue their own basic residential earthquake policies. CEA participating insurers are subject to irrevocable capital contributions to CEA as a condition of entry, and they become subject to assessments to support CEA's claim-paying capacity.

CEA has no relationship with private residential property insurers that are not CEA participating insurers.