**STATE OF INDIANA**

**INDIANA UTILITY REGULATORY COMMISSION**

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| **PETITION OF SOUTHERN INDIANA GAS AND ELECTRIC COMPANY D/B/A CENTERPOINT ENERGY INDIANA SOUTH PURSUANT TO INDIANA CODE CH. 8-1-40.5 FOR (1) AUTHORITY TO (A) ISSUE SECURITIZATION BONDS; (B) COLLECT SECURITIZATION CHARGES; AND (C) ENCUMBER SECURITIZATION PROPERTY WITH A LIEN AND SECURITY INTEREST; (2) A DETERMINATION OF TOTAL QUALIFIED COSTS AND AUTHORIZATION OF RELATED ACCOUNTING TREATMENT; (3) AUTHORIZATION OF ACCOUNTING TREATMENT RELATED TO ISSUANCE OF SECURITIZATION BONDS AND IMPLEMENTATION OF SECURITIZATION CHARGES; (4) APPROVAL OF PROPOSED TERMS AND STRUCTURE FOR THE SECURITIZATION FINANCING; (5) APPROVAL OF PROPOSED TARIFFS TO (A) IMPLEMENT THE SECURITIZATION CHARGES AUTHORIZED BY THE FINANCING ORDER IN THIS PROCEEDING, (B) REFLECT A CREDIT FOR ACCUMULATED DEFERRED INCOME TAXES, AND (C) REFLECT A REDUCTION IN PETITIONER'S BASE RATES AND CHARGES TO REMOVE ANY QUALIFIED COSTS FROM BASE RATES; AND (6) ESTABLISHMENT OF A TRUE-UP MECHANISM PURSUANT TO INDIANA CODE § 8-1-40.5-12(c).** | ) | **CAUSE NO. 45722** |

**INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR**

**PUBLIC'S EXHIBIT NO. 7**

**TESTIMONY OF WITNESS PAUL SUTHERLAND**

**AUGUST 3, 2022**

Respectfully submitted,

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**TESTIMONY OF OUCC WITNESS PAUL R. SUTHERLAND**
**CAUSE NO. 45722**
**SOUTHERN INDIANA GAS AND ELECTRIC COMPANY D/B/A CENTERPOINT ENERGY INDIANA SOUTH**

## I. INTRODUCTION

**Q: Please state your name and business address.**

A: Paul R. Sutherland, Saber Partners, LLC ("Saber" or "Saber Partners"), 260 Madison Avenue, Suite 8019, New York, New York 10016.

**Q: By whom are you employed and what is your position?**

A: I am with Saber Partners, LLC, and serve as a Senior Advisor.

**Q: Please describe your duties and responsibilities in that position.**

A: My responsibilities with Saber include work in data management, financial modeling, financial analysis, issuance cost auditing, deal structuring, pricing analysis with respect to relative value and review of issuance advice letters, mostly on behalf of public utility commission clients and generally related to utility sponsored Ratepayer-Backed-Bond ("RBB") financing. I have performed these functions while advising the following regulatory bodies regarding utility securitizations: Public Utility Commission of Texas, West Virginia Public Service Commission, New Jersey Board of Public Utilities, Florida Public Service Commission, the Wisconsin Public Service Commission and the Public Staff of the North Carolina Utilities Commission. I have also provided testimony on behalf of the California Community Choice Association.

**Q: Please describe your educational background and professional experience.**

A: I have a bachelor's degree in electrical engineering from Cornell University. I also have a master's degree in business administration from the University of Chicago.

I began working with Florida Power & Light Company ("FPL") in 1976 doing economic analyses of new energy technologies in the Research and Development ("R&D") Department. After several years, I moved to the Finance Department as a Financial Analyst. Over the next 20 years I held various positions, including Coordinator of Financial Systems, Manager of Corporate Finance, Manager of Financial Analysis and Forecasting, and Assistant Treasurer of both the utility and FPL Group Capital. Before leaving FPL in 1998, I was Director of Finance, Accounting & Systems for the FPL Energy Marketing and Trading Division. During my time with FPL, I testified as an expert witness before the Florida Public Service Commission and the Federal Energy Regulatory Commission on cost of capital and financial integrity. I also taught classes on economic decision-making and on quality improvement. It was during this time (1989) that FPL became the first non-Japanese company to win the Deming Prize for Total Quality Management.

In 2000, after a year as adjunct professor of mathematics at Palm Beach Atlantic College, I joined Saber Partners, LLC, as a Senior Managing Director. I have been associated with Saber Partners since that time in various roles, including my current position as Senior Advisor. While with Saber Partners, I have taken part in 14 investor-owned utility securitization financings that raised over $10 billion in capital for ten different utilities.

**Q: Please provide some of your background and experience with utility financings while you were at FPL.**

A: While at FPL, as Manager of Corporate Finance and Assistant Treasurer, I helped FPL complete over $2 billion of debt and equity financings in the public capital

markets. FPL executed both competitive and negotiated securities offering transactions. FPL was also among the first to issue long-term variable rate tax-exempt debt that could be (and was) later converted to a fixed rate. Part of my job, along with the Treasurer and Chief Financial Officer, was to prepare and deliver rating agency presentations to support the credit ratings from the three major rating agencies, Standard & Poor's Global Ratings, Moody's, and Fitch Ratings.

## II. LIST OF EXHIBITS

**Q: Are you sponsoring any exhibits in this case?**

A: Yes, I am sponsoring:

Exhibit PS-1, List of Prior Utility Securitization Transactions with Tranches and Weighted Average Lives ("WALs");

Exhibit PS-2, Number of Utility Securitizations and Principal Amount by Year;

Exhibit PS-3, IFR Article on Switch to U.S. Treasury Benchmark;

Exhibit PS-4, 2001-2006 Texas vs Non-Texas Deals;

Exhibit PS-5, Citigroup Analysis of Texas Interest Savings;

Exhibit PS-6, 2001 to 2012 – Spreads to Swaps of 9-10 Year WAL Tranches;

Exhibit PS-7, Methodologies for Relative Value Benchmarking – 7/8/2022;

Exhibit PS-8, Duke Energy Florida ("DEF") Interest Savings;

Exhibit PS-9, Securitizations 2021 to Present: Two Ways to Look at Them;

Exhibit PS-10, Net Present Value Revenue Requirements ("NPVRR");

Exhibit PS-11, Transactions with 1-year Interval between Scheduled and Legal Final Maturity;

Exhibit PS-12, Examples of Suggested Financing Order Provisions;

Exhibit PS-13, Glossary; and

Exhibit PS-14 CEI South's response to Indian Office of Utility Consumer Counselor ("OUCC") Data Request ("DR") 4-5.

**Q: On whose behalf are you testifying in this proceeding?**

A: I am testifying on behalf of the OUCC, which represents the interests of Indiana ratepayers before the Indiana Utility Regulatory Commission ("Commission"). The OUCC hired Saber Partners, LLC, as its consultant in this proceeding by Southern Indiana Gas and Electric Company d/b/a CenterPoint Energy Indiana South ("CEI South," "Petitioner," or "Company"), related to its proposed securitization issuance and petition to the Commission for a financing order authorizing the securitization.

## III. PURPOSE OF TESTIMONY

**Q: What is the purpose of your testimony?**

A: The purpose of my testimony is to:

Discuss and demonstrate how to maximize ratepayer benefits from RBB financing, and more specifically, ways in which that benefit can be measured and maximized through optimal structuring and application of "best practices" by a Bond Team, which would include the Company, OUCC, and their advisors,

Explain how negotiated bond pricing can be evaluated under market conditions leading up to, and at the time of pricing based upon relative value with respect to comparable benchmark securities,

Discuss how ratepayers can save up to an additional $15.6 million on a net present value basis, which is a 35% increase, by extending the final scheduled maturity beyond the 15 years proposed by CEI South,

Point out several misleading or erroneous statements, calculations, or assumptions in Petitioner's witnesses Brett A: Jerasa's and Eric K. Chang's testimony,

Suggest certain other changes to the proposed Financing Order, including using provisions similar to those used in other utility securitizations to prevent overcollection of servicing fees and to ensure prompt refunding of excess charges collected after the final bond payment is made.

Since some of the terms other witnesses and I use may be unfamiliar to individuals not previously involved in this type of utility securitization financing, I have included a glossary of terms as Exhibit PS-13.

## IV. UPDATE AND CLARIFICATION REGARDING CHANG TABLE EKC-2

**Q: Do you keep track of all utility securitization transactions?**

A: I do. Exhibit PS-1 shows a list of 80 distinct U.S. utility securitization transactions that have occurred since 1997. I maintain this list as part of Saber's database of documents and statistics from each of the 80 prior deals. The exhibit includes principal amount by tranche (sometimes also called "series" in the context of corporate bonds) and the WAL, in years, for each tranche.

**Q: Does your list agree with Mr. Chang's Table EKC-2?**

A: Not exactly. Our list does not include tax exempt utility securitizations. For example, our list includes the $482.9 million taxable portion of the Long Island

Power Authority's ("LIPA") 2013 securitization transaction[1] but does not include the tax-exempt portion of the offering, since those bonds were priced and sold in the municipal market. Because the interest earned on bonds issued into that market is exempt from federal income taxes, the market for those LIPA bonds is different from the market for all other investor-owned utility transactions, as the tax advantage gives those LIPA bonds an advantage in pricing over bonds without federal tax-exempt interest. None of the RBB debt in this proceeding will be tax-exempt municipal securities that have such a different investor base. Therefore, our list excludes a number of other tax-exempt securitizations listed in Table EKC-2.

**Q: Are there any other significant differences with Mr. Chang's Table EKC-2?**

A: Yes. Another difference is that Mr. Chang's list does not include the five most recent utility securitizations: the Louisiana Utilities Restoration Bonds priced on 5/11/2022, the Texas Electric Market Stabilization Funding Bonds priced on 6/8/2022, which was a private placement, the Cleco Power Series 2022-A Senior Secured Storm Recovery Bonds priced on 6/9/2022, the Oklahoma Gas and Electric Oklahoma Development Finance Authority Bonds, Series 2022 priced on 7/8/2022 and the PG&E Wildfire Recovery Funding bonds priced on 7/13/202, which together total an additional $10.4 billion of bonds. As shown in Exhibit PS-2, activity in the issuance of new utility securitizations has increased substantially this

[1] "$2,022,324,000 Utility Debt Securitization Authority, Restructuring Bonds Series 2013T ($482,934,000 Federally Taxable) and Series 2013TE ($1,539,390,000 Federally Tax-Exempt)." Official Statement dated December 12, 2013. https://emmA:msrb.org/ER963613.pdf

year, both in terms of the number of deals and the principal amount financed. Year to date July 2022, there has been more activity than in any year since such financings were first introduced 25 years ago.

**Q: What are the implications from the ratepayer's perspective of such a sudden increase in activity?**

A: Greater use of securitization financing is an overall benefit, creating savings to the ratepayer when compared to the use of conventional debt and equity financing. However, with the rush to market by utilities, there needs to be greater oversight by regulators and ratepayer advocates to make sure that savings are maximized and underwriters are not prioritizing speed over quality of execution to maximize their own profits.

## V. DETERMINANTS OF SAVINGS AND ROLE OF BOND TEAM

**Q: Where do ratepayer savings come from in a utility securitization?**

A: The biggest net present value ("NPV") savings result because rating agencies generally treat utility securitization debt as off-balance sheet. This means that, unlike conventional utility debt, securitization debt does not need to be offset with a similar amount of common equity to maintain an acceptable capital structure. The avoidance of the high cost of equity, together with the associated state and federal income taxes, can account for as much as two thirds of the total savings. Most of the rest of the NPV savings comes from the fact that securitization payments are usually levelized, as will be the case with this securitization financing, whereas traditional utility financing has a structure with declining revenue requirements. A relatively smaller contribution to savings comes from the interest rate differential between AAA-rated securitization debt and traditional, lower rated utility debt. To

some degree, all of these types of savings discussed above are going to be present, regardless of how well the financing is executed.

**Q: What are the biggest determinants of ratepayer savings over which the bond issuer has some control in a securitization financing?**

A: There are two major determinants in addition to various smaller factors that affect ratepayer savings. The first is the interest rate the ratepayer pays on the bonds. The second is the structure of the financing, which can include the period over which the ratepayer repays the principal amount being financed, the size or number of the tranches (or series) that make up the total financing, or even the legal framework used. In each case, the final determination of each of the two factors is limited by constraints that may or may not be beyond the control of the issuer. In most cases the issuer has some control over both the interest rate and the structure. Also, when I refer to the issuer in this context, I am talking about the entire Bond Team, defined as a team comprised of the sponsoring utility and their advisors representing the shareholders, and, in this case, the OUCC and their advisors representing the ratepayers. Ratepayer representation is particularly important in a utility securitization since, unlike conventional utility debt, with securitization financing the ratepayer is directly responsible for repayment of the bonds. In my opinion, this is the strongest reason why the OUCC and its advisors should have equal say with the utilities in planning and execution of the financing in question. The admittedly limited control that the issuer has over interest rates and structure can nonetheless have major impacts on the NPV savings over the life of the bonds.

**Q: In your view, should the Commission give the company broad flexibility to establish the final terms and conditions of the bonds?**

A: No. Were these normal utility bonds subject to the Commission's standard review and approval, the Commission could easily grant that broad flexibility because it would have the authority for an unlimited after-the-fact review. In this case, however, the Commission does not have that opportunity, as described by OUCC witness Leja D. Courter. In this proceeding, once the bonds are issued, there is no opportunity for further review by the Commission. As such, the Commission's Order in this proceeding should require the final terms and conditions be determined in a joint, collaborative process with the OUCC, and/or its independent advisors participating actively, visibly, and in real-time. The exhibits I sponsor amply demonstrate the benefits that accrue to ratepayers from employing best practices, and in particular, from providing the OUCC and its advisors equal authority with other members of a Bond Team formed to make major decisions involving structuring, marketing, and pricing of the bonds while CEI South, as allowed in the statute would have final decision-making authority on the final issuance of the bonds.

## VI. HOW INTEREST RATES ARE ESTABLISHED

**Q: Please explain how the interest rate on RBB financing is determined under any particular set of market conditions.**

A: RBBs are normally priced by establishing a spread between the yield or bond interest rate and a particular benchmark security. Historically, most such bonds have been priced based on a spread known as an interest rate swap security, similar to how asset-backed securities customarily have been priced. However,

securitization debt is not really an asset-backed security, although it may have some characteristics in common. For example, in the 2016 DEF storm recovery financing, the bonds were priced relative to U.S. Treasury bonds, which is the benchmark typically used for corporate debt securities. Either way, the market determines the yields on the pricing benchmark securities. Historically, the pricing benchmark security has most often been the London Inter-Bank Offered Rate ("LIBOR")-based interest rate swaps. LIBOR was the benchmark interest rate at which major global banks would lend to one another. Now, however, the benchmark is almost exclusively U.S. Treasury bonds. After selecting the pricing benchmark, the issuer negotiates a spread based on the benchmark and this determines the actual interest rate on the bonds. As an example, in the case of the DEF nuclear asset recovery bond sale in 2016, the five-year series (the series with a WAL of five years), was priced from the five-year U.S. Treasury bond with a coupon of 1.375% which (because its market price was above par) was yielding 1.131% at the time. The Bond Team negotiated a spread of 60 basis points ("bps") or 0.60%, so the yield on the nuclear asset recovery bond five-year series was set at 1.731%.[2] Since market prices and yields change minute to minute, it is impossible to say exactly what the final yield will be until the moment of pricing. However, the issuer and investors can agree on the spread of 60 bps in the minutes or hours beforehand to avoid worry about last minute movements in the market.

[2] "$1,294,290,000 Series A Senior Secured Bonds, Duke Energy Florida, LLC, Duke Energy Florida Project Finance, LLC" prospectus dated June 15, 2016.

https://www.sec.gov/Archives/edgar/data/0001669374/000104746916013865/a2228973z424b1.htm

**Q: What happens if there is no pricing benchmark security with exactly the same maturity as the WAL of the series being priced?**

A: In that case, the issuer and investors will look for pricing benchmarks with maturities that are near to the WAL of the securitization series. In such situations, some underwriters like to negotiate a spread to the pricing benchmark that has the closest maturity to the RBB WAL. For example, consider the 15.2-year WAL series in the DEF deal. Underwriters might prefer to price the series off of the 10-year U.S. Treasury bond. That bond had a coupon of 1.625%, was due on 5/15/26, and yielded 1.608%. The spread to such a pricing benchmark is known as the T-spread and was 125 bps at the time of pricing. However, it is difficult for the issuer to judge the reasonableness of such pricing due to the difference between the WALs of the two securities (10 years versus 15.2 years).

**Q: Is there a better way to price such bond series?**

A: A better way to price such series is to interpolate between the closest pricing benchmark securities on either side of the WAL of the series in question. Thus, in the case of the DEF 15.2-year WAL series, the issuer can interpolate between the 10-year U.S. Treasury bond and the 30-year U.S. Treasury bond to get a rate that corresponds to a theoretical 15.2-year Treasury rate. That interpolated rate would be approximately 1.826%. The spread between the interpolated U.S. Treasury bond rate and the rate on the RBB being priced is known as the G-spread. In this case, the G-spread was approximately 103 bps, so the 15.2-year series was priced a little more than 1.03% above the interpolated U.S. Treasury bond rate of 1.826% to yield 2.858%. The G-spread, although not generally favored by underwriters as a pricing benchmark, is more often used by investors in deciding whether to purchase bonds.

**Q: Why are issuers no longer pricing securitization debt using the LIBOR swap rate as a benchmark?**

A: In 2008 it was discovered that various international lenders had been manipulating the LIBOR market to their advantage and consequently plans were made to migrate away from using LIBOR-based rates, including interest swaps, as benchmarks for pricing financial transactions. Exhibit PS-3 is an article describing how the securitization market set April 11, 2022, as a target date for the securitization market to migrate to using U.S. Treasury rates as the preferred pricing benchmark, either G-spreads or T-spreads. Of 14 utility securitizations priced between February 2021 and July 2022, one used LIBOR-based swaps, 10 used U.S. Treasury T-spreads and 3 used U.S. Treasury G-spreads as pricing benchmarks.

## VII. POWER OF THE ISSUER AND MEASURING PERFORMANCE

**Q: How much ability does the issuer have to negotiate the yield on the bonds?**

A: While the issuer has no ability to negotiate the underlying pricing benchmark rate, be it the swap rate or the U.S. Treasury bond rate, the issuer can certainly negotiate the spread off those pricing benchmark rates. The presence or absence of certain "best practices" as discussed by OUCC witness Joseph S. Fichera and other OUCC witnesses is a major factor in determining the likely success of such negotiations. For example, the financial advisor to the OUCC most directly represents the ratepayer and therefore has the greatest incentive to negotiate aggressively for the lowest interest rate consistent with market conditions. If the advisor has the authority as a Bond Team member to fully participate in the structuring, marketing, and pricing of the bonds, there will be greater ability to negotiate the tightest possible credit spreads and, therefore, the lowest possible yields on the bonds.

**Q: What evidence is there that such best practices have resulted in lower interest costs compared to financings that did not employ best practices?**

A: One of the first regulatory authorities to employ the best practices in question was the Public Utilities Commission of Texas ("PUCT"). During the period from 2001 through 2006, there were 6 utility securitizations completed in Texas with a total of 26 individual tranches with WALs from 1.9 to 13 years. Each of those transactions followed best practices as required by the PUCT, such as requiring the presence of an independent financial advisor on the Bond Team and requiring certification from the Bond Team members that the transaction achieved the lowest possible costs. During that same period, there were 18 transactions outside of Texas which generally did not follow some or all of the best practices required in Texas. Exhibit PS-4 shows how all of those tranches were priced. The two regression lines demonstrate that, on average, the Texas tranches priced significantly better (i.e., lower spreads to the swap benchmark and therefore lower interest rates) compared to the non-Texas tranches.

**Q: Is there a way of quantifying the savings shown in charts such as Exhibit PS-4?**

A: Yes. Exhibit PS-5 is an analysis Citigroup performed in 2003 estimating interest savings from the first three utility securitizations completed in Texas between 2001 and 2003 using best practices. These three securitizations were compared to all utility securitizations completed between 1997 and 2003, graphically comparing securitization pricing spreads to swaps, U.S. Treasury bonds, and credit card securitizations. The study quantifies interest savings based on the swap spread pricing difference between the Texas deals and all other deals. The study calculates

a total present value interest savings for the three Texas deals totaling $7,533,476. Subsequently, Citigroup reran its analysis using a shorter time span, 2001 to 2003, and calculated NPV savings of about $17 million (nominally $23 million) for the same three Texas deals. These were the three transactions which OUCC witness Rebecca Klein oversaw when she served as Chair of the PUCT, and Saber Partners served as financial advisor to the PUCT for each of these three transactions.

**Q: How can the savings calculation be so different for the same three transactions?**

A: The differences in the savings calculation result from the fact that savings estimates are sensitive to the period over which the comparisons are made. Generally, the greater stability in interest rates over the comparison period results in more valid comparisons, since spread relationships change over time, independent of how well any particular pricing is executed. Exhibit PS-6 shows how swap spreads changed dramatically during the 2008-2009 financial crisis.

**Q: Is there any other way of measuring pricing performance besides comparing pricing with benchmark swap spreads or U.S. Treasury Spreads?**

A: Yes, especially after the 2008-2009 financial crisis. Exhibit PS-6 shows pricing spreads to swaps for tranches in the range of nine- to ten-year WAL from 2001 to 2012. There are two important points to note from this chart. First, from 2001 through 2007, in transactions in which Saber Partners acted as financial advisor following best practices, every deal had tighter spreads than the preceding deal in which Saber was not involved. Second, with the financial crisis of 2008-2009 and its aftermath, pricing spreads to swaps widened dramatically, and only partially recovered in the years after. It seems apparent that, with spreads changing so

substantially over short periods of time, it would be misleading to try to compare performance of one deal to others if the deals were more than a year or two apart. The solution is to do what is called relative value benchmarking with types of securities that price closer to utility RBBs than either U.S. Treasury bonds or swaps.

**Q: Please explain what you mean by "relative value benchmarking."**

A: Exhibit PS-7 is a paper I authored explaining in detail what Saber means by relative value benchmarking and how it works. Basically, it involves looking at secondary market trades for a range of types of securities that are, at least in some way, comparable to utility RBBs. These might include AAA-rated corporate bonds such as Johnson & Johnson ("JNJ") and Microsoft ("MSFT"). It could include AAA-rated credit card securitizations, which are in fact asset-backed securities. It could also include AAA-rated U.S. agency debt by such issuers as Fannie Mae ("FNMA"), Federal Home Loan Bank ("FHLB"), or the Tennessee Valley Authority ("TVA"). I refer to this group of similar AAA-rated securities as a "basket of comparables". It is also useful to compare securitization pricing to some electric utility debt, even though there are no AAA-rated utilities. By comparing yields on these types of securities to the indicative rates provided by the underwriters in the weeks and days leading up to pricing, the issuer can get a good sense of the reasonableness of those indicative rates. For example, if the indicative spreads on the RBBs would result in a higher yield than on lower rated electric utility corporate debt, this suggests something is amiss with the price indications the underwriters have given.

**Q: You have explained how relative value benchmarking is used leading up to pricing. How can it be used after pricing to measure the success or failure of pricing relative to other securitization transactions?**

A: Each of the types of comparable securities listed in my previous answer is imperfect in some way as a measure of pricing performance, including JNJ and MSFT because they are the only two corporate AAAs; credit card securitizations because they do not exist for longer maturities and because they carry prepayment risk that utility securitization debt does not; and U.S. agency securities because there is a lack of long maturity U.S. agency debt securities outstanding.

**Q: What is the solution to these problems?**

A: The solution is to put together as broad a basket of AAA corporate and U.S. agency debt securities as possible. One should also try to keep the choice of comparable securities as constant as possible for all the RBB pricings that one wants to evaluate and compare. It may not be possible to keep the exact same basket of comparables for every new issue securitization since some comparable securities may not trade around the time of a RBB pricing. Using this basket of comparables approach will minimize so-called cherry picking of the most advantageous comparable securities from one transaction to the next. To collect the needed data, we use the Bloomberg Terminal, a computer software system that provides financial information and data to financial professionals in all major corporations. The data include information about secondary trades, both recent and historical, including trade date, size, price, yield and G-spread among other things. These data can then be used to calculate expected spreads at the time of pricing any particular utility securitization and to evaluate, after the fact, how well a pricing was executed. Securitization spreads

can be calculated to interpolated AAA corporate and agency yields in the same way that they are calculated to interpolated U.S. Treasury bond yields or alternatively, to "best fit" trendlines creating a yield curve of comparable securities.

**Q: Why is it better to use spreads to a basket of AAA corporate and U.S. agency debt as a measure of performance rather than spreads to swaps as was done in Exhibits PS-2, -3, and -4 or even spreads to U.S. Treasuries?**

A: Before the 2008-2009 financial crisis, it would not have made much difference which benchmark was used. However, the crisis caused the relationship between swaps and utility securitization debt to change significantly.

**Q: In that case, why don't you use G-spreads to do relative value analysis?**

A: While U.S. Treasury bonds are rated AAA and utility securitization bonds are also rated AAA, all AAA debt is not considered to be equal in terms of investor risk. Consequently, there is what is known as a credit spread between the yield on securitization debt and the yield on U.S. Treasury debt. Since credit spreads change over time, it would be apples-to-oranges to compare two pricings at different times based on G-spreads. For this reason, using a spread to a basket of AAA corporate and/or U.S. Agency debt is preferrable since it minimizes the credit spread between the RBBs and the benchmark.

**Q: Besides using different benchmark securities, do you generally follow the methodology used in the Citigroup analysis to calculate interest savings from following best practices?**

A: Generally, yes. We calculate both nominal and NPV savings after each financing for which we act as pricing advisor, comparing the pricing of that transaction to securitizations that have priced in the recently preceding years for which we did not act as advisors. We focus on NPV savings since they are more relevant to the financial interests of the ratepayer than nominal savings, considering the time value

of money. Unlike the Citigroup analysis, we do the analysis for each transaction we complete individually so that each deal has its own set of "other RBBs" for comparison. Citigroup, on the other hand, used a single group of other or "non-Texas" RBBs to evaluate all three Texas deals.

**Q: What interest rate do you use to discount interest savings?**

A: We concluded that the petitioning utility's overall weighted average cost of capital ("WACC") is the best proxy for the ratepayers' cost of capital. That is the theoretically correct rate to use, since securitization debt is a direct obligation of the ratepayers and not the utility. In the present case, CEI South is discounting at the pre-tax WACC. Many utility commissions choose to use the RBB rate to discount interest savings, which is much lower and likely understates interest savings from the ratepayers' perspective.

**Q: Can you show an example of the application of your approach to calculating interest savings in a utility securitization post financial crisis?**

A: Yes, the DEF nuclear asset recovery issue priced on 6/15/2016. Exhibit PS-8 shows how the five series priced relative to all other utility securitizations from 2010 to 2016 in terms of spreads to the Bloomberg I-26 U.S. agency bond yield curve. The chart shows that the first three series, with WALs of 2, 5, and 10 years, respectively, priced almost exactly on the regression line for all other transactions in that timeframe. However, the two longer series, with WALs of 15.2 and 18.7 years, respectively, priced well below the regression line. The difference between the regression line, which one could consider as average pricing performance, and the actual spread to U.S. agency bonds represents interest savings to the ratepayers. Discounted at DEF's 8.12% WACC at that time, the NPV savings for ratepayers

amounts to over $6.8 million.

**Q: Does this mean that in the future, when you price this type of security, the agreed-upon price with the underwriters will be based on a spread to U.S. agency bonds rather than a spread to swaps or spread to U.S. treasury bonds?**

A: No. When setting the final pricing of such securities, we must follow the market convention, which (now that pricing to swaps has been discontinued) dictates that the pricing be stated as a spread to U.S. Treasury bonds. However, for negotiating prior to that point as well as for evaluating performance after the deal is done, a basket of AAA corporate and/or U.S. agency securities represent the best relative value benchmark among all the comparable debt types.

**Q: In the case of your DEF benchmarking, you used only U.S. Agency securities in your basket of comparables. Do you have any examples where you have used a basket of AAA Corporate and Agency securities as a benchmark to compare the relative pricing success of recent securitizations?**

A: Yes, Exhibit PS-7 shows a variety of methodologies used to compare the relative efficacy of utility security pricings. The basket of comparable securities approach is shown on page 13 to 23 for securitization deals from 2016 to 2022.

**Q: Can you use benchmarking to a basket of comparables to measure relative benefits for each transaction rather than just comparing one transaction to the average of all others?**

A: Yes, Exhibit PS-9, shows the NPV cost of pricing a particular transaction above the basket of comparables for 13 securitizations from the Southern California Edison ("SCE") deal on 2/17/2021 to the recent Pacific Gas and Electric Company ("PGE") deal on 7/13/2022. In this analysis, the tranches of each transaction are combined to a single number by taking a weighted average yield, weighted by principal amount and WAL, and then compared to what it would have been if priced the same as the basket of comparables. The difference is then discounted at an

assumed WACC of 6.75% for all the transactions for consistency.

**Q: Does your analysis show any particular transactions that stand out from the rest, either positively or negatively?**

A: Yes. On the positive side, the analysis seems to show that the two SCE securitizations, one on February 17, 2021, and the second on February 8, 2022, nearly a year apart, both priced very close to the basket of comparables benchmark. It is noteworthy because three securitizations in between priced substantially wider than the same basket of comparables. There appears to be no reason for the disparity in pricing other than good execution on the part of SCE and its advisors. On the negative side, we note the Electric Reliability Council of Texas securitization priced substantially worse than all 10 other securitizations when benchmarked against the basket of comparables. One might claim it was because of the large principal amount, $2.1 billion. However, just one month before, Louisiana Utilities priced an even larger $3.19 billion deal and did so at a significantly tighter spread to the basket of comparable securities. The most likely explanation appears to be that the Texas deal, unlike all previous Texas securitizations and all other recent securitizations, was a private placement rather than a Securities Exchange Commission ("SEC") registered public offering. In fact, very few utility securitizations have been done through private placements. The advantage of a private placement is that it can be done more quickly but the disadvantage is that the universe of potential investors is usually much smaller and, therefore, the pricing not as advantageous to the issuer.

**Q: Is it possible to benchmark individual tranches and to use AAA securities that are not chosen by you?**

A: Yes. Page 2 of Exhibit PS-9 shows the results for all tranches between 14 and 17 year weighted average lives benchmarked off of an index of AAA Corporate G-spreads provided by the Federal Reserve of St. Louis.[3] It shows the same relative performance as page 1 of Exhibit PS-9 but for specific tranches in terms of spreads rather than for entire deals in terms of net present value cost or benefit. In addition, it shows that, while AAA corporate G-spreads have gone up by 0.2 to 0.3% (20-30 bps), spreads to AAA corporates have gone from negative 0.04% (negative 4 bps) with SCE priced on 2/17/2021, to positive 1.08% (positive 108 bps) in the most recent PGE transaction priced on 7/13/ 2022.

## VIII. SAVINGS THROUGH STRUCTURAL CHANGES

**Q: Previously you stated there is a second determinant that can have a large impact on ratepayer savings, namely the structure of the bonds. Plesae give an example of how a structural change might increase savings.**

A: In the 2016 DEF securitization, at the suggestion of the Florida Public Utilities Commission's financial advisor, the planned four-tranche structure was changed to a five-tranche structure about a week before final pricing. The original 16.9-year 4th tranche of about $525 million was split into two smaller tranches. The A-4 tranche became a 15.2-year WAL, $250 million tranche and the A-5 tranche was

[3] BofA AAA Corp. Index (BAMLC0A1CAAA) This data represents the Option-Adjusted Spread (OAS) of the ICE BofA AAA US Corporate Index, a subset of the ICE BofA US Corporate Master Index tracking the performance of US dollar denominated investment grade rated corporate debt publicly issued in the US domestic market. This subset includes all securities with a given investment grade rating AAA: The ICE BofA OASs are the calculated spreads between a computed OAS index of all bonds in a given rating category and a spot Treasury curve. https://fred.stlouisfed.org/series/BAMLC0A1CAAA

created as an 18.7-year WAL, $275 million tranche. Bankers originally quoted the A-4 tranche with a G-spread (spread to US Treasuries) of 117 bps (1.17%). The final pricing of the two new tranches was a spread of 103 bps on the new A-4 tranche and a spread of 116 bps on the new A-5 tranche. This resulted in a savings of 14 bps on $250 million and a savings of one basis point on $275 million. This created an additional NPV savings of over $3 million by just one small structural change that affected neither the total principal amount, nor the overall WAL life of the transaction.

**Q: Would this additional savings have happened if there had not been a financial advisor representing ratepayers on the bond team subsequent to issuance of the Financing Order?**

A: No. As Mr. Heller explains in his testimony, it was through his analysis that the underwriters were convinced to modify their suggested structure. This is just one example of the types of important decisions that are made between the time the financing order is issued and when the bonds are priced that affect the final NPV savings to the ratepayer. Also, Mr. Fichera discusses in his testimony the inherent tension that exists between the utility's desire to get the bond proceeds as soon as possible and the ratepayers' desire to achieve the lowest cost. Consequently, it is imperative that the ratepayer have adequate representation during this period to maximize savings.

## IX. PROBLEMS WITH TESTIMONY OF MESSRS. JERASA AND CHANG

**Q: Are there other types of structural changes that might produce significant incremental NPV savings for ratepayers?**

A: Yes. In Mr. Jerasa's testimony, he says "…CEI South recommends a 15-year scheduled final payment date of the longest-termed tranche of the securitization

bonds in order to balance customer savings with intergenerational equity issues."[4] Significant incremental NPV savings can be achieved by using a structure with a final scheduled maturity of 19 years rather than 15 years. A proper net present value analysis of revenue requirements together with a correct understanding of rating agency requirements shows that ratepayers would save an additional $15.6 million by extending the final scheduled maturity from 15 to 19 years.

**Q: What did your review of the NPV analysis used in Mr. Jerasa's calculation of savings for the structures he examined reveal?**

A: I found his NPV analysis of the 3 alternative structures that he examined, 10-year, 15-year and 18-year, to be both miscalculated and misleading.

**Q: What were the quantitative errors in his analysis?**

A: In his NPV revenue requirements for his securitization cases shown in Attachment BAJ-3 and summarized in Attachment BAJ-4 Tenor Comparison, he calculated a result both overstating the NPV savings from securitization and understating the additional NPV savings that can be achieved by lengthening the tenor or final maturity.

**Q: Please explain the source of Mr. Jerasa's miscalculation.**

A: Exhibit PS-10, page 1, shows the results of his calculations in a slightly different format to highlight the problem. It shows his calculations for both his 15-year structure and his 18-year structure. The numbers in my Exhibit PS-10, page 1, tie exactly to his Attachments BAJ-3 and BAJ-4. The problem is he is discounting the first half year and the last half year revenue requirements by a full year in each case,

[4] Petitioner's Exhibit No. 2, Direct Testimony of Brett A: Jerasa, p. 10, lines 12-15.

so that in all, he is discounting his 15-year cash flows over 16 years and his 18-year cash flows over 19 years.

**Q: What is the result when you correct for this error?**

A: Exhibit PS-10, page 2, shows the same cashflows but now discounted semi-annually to the initial issuance date so that cashflows for the 15-year structure are discounted over 15 years and the 18-year structure over 18 years. As you can see, the nominal totals are the same as in Mr. Jerasa's calculations, but the NPV revenue requirement savings are now less. The corrected NPV savings for the 15-year structure is now $44.98 million rather than $57.55 million, and for the 18-year case is now $56.83 million rather than $68.41 million. More importantly, the correct NPV savings that can be achieved by extending the 15-year maturity to 18 years is $11.84 million rather than Mr. Jerasa's $10.86 million estimate, or about 9% greater when calculated correctly.

**Q: Is the 18-year structure the maximum tenor or final scheduled maturity that should be considered for this transaction?**

A: No. There is a 20-year maximum legal maturity limitation set by the Securitization Act. As Mr. Chang states, the legal maturity "is typically set approximately two years after the scheduled final maturity date."[5] This would seem to limit the final scheduled maturity to 18 years. However, what Mr. Chang fails to mention is that by increasing the frequency of true-ups in the last year of scheduled payments, it is possible to reduce the gap between scheduled and legal final maturity to just one year with no objections from the rating agencies. In the past year and a half, two

[5] Petitioner's Exhibit 3, Direct Testimony of Eric K. Chang, p. 20, lines 16-17.

of the 11 utility securitizations done (DTE Electric on 3/10/2022, and Entergy Texas on 3/24/2022) were structured with just a year between the scheduled and final maturity. Looking further back, my Exhibit PS-11 shows a total of 17 transactions between April 2000 and March 2022 that had a 1-year Interval between scheduled and legal final maturity for the longest tranche. Of that total, three were CenterPoint Energy transactions, in 2005, 2009, and 2012.

**Q: How much do you estimate ratepayer savings would increase by extending the final scheduled maturity to either 18 or 19 years?**

A: Exhibit PS-10 shows extending the maturity from 15 to 18 years would increase NPV savings by about $11.84 million. By extending the final scheduled maturity one more year, when compared to Mr. Jerasa's recommended structure of a 15-year scheduled final maturity, a 19-year structure would save an additional $15.6 million in NPV. In other words, it would increase total NPV savings from the corrected $44.98 million to $60.59 million, as shown in Exhibit PS-11, for a 35% increase.

**Q: Are there, in your opinion, any non-quantifiable reasons for or against extending the scheduled final maturity beyond 15 years?**

A: Yes. Consideration of intergenerational equity, as mentioned by Mr. Jerasa,[6] is a valid consideration when determining the appropriate time period over which to amortize an investment or, in this case, structure a non-bypassable charge to ratepayers.

**Q: What is generally meant by the term intergenerational equity?**

A: Intergenerational equity generally refers to the idea that ratepayers who benefit from a utility investment should be the ones who pay for that investment. For

[6] Jerasa Direct, p. 26, lines 14-18.

example, in some jurisdictions with certain types of plant, ratepayers are not required to pay for utility plant during construction, known as construction work in process ("CWIP"). Rather, such costs are capitalized and recovered once the plant is placed in service. However, in other jurisdictions, including in Indiana, utilities are permitted CWIP ratemaking treatment, and consequently there is not an exact match between who pays and who benefits. In other situations, it is not always easy to quantify exactly who is benefitting, by how much, and when. As CEI South stated in its response to OUCC DR 4-5, "This term [intergenerational equity] is subjective and is a qualitative consideration when deciding the structure of the bonds."[7] Intergenerational equity is only one element to consider when determining the NPV benefit to ratepayers. In this situation, the NPV benefit to ratepayers outweighs any intergeneration concerns in extending the maturity of the bonds. Therefore, my recommendation is to structure the securitization with the maximum possible scheduled maturity of 19 years in order to maximize the NPV benefit to ratepayers.

## X. OTHER SUGGESTED CHANGES TO THE PROPOSED FINANCING ORDER

**Q: Are there any other changes to the Company's proposed Financing Order included as Attachment BAJ-6 with the Petition that you would suggest that would result in material ratepayer savings?**

A: There are several, which involve charges during the life of the bonds and also collections after the bonds mature. Mr. Jerasa has requested that CEI South be "entitled to receive a return on its equity contribution equal to its WACC," by which

[7] Exhibit PS-14.

he means its pre-tax WACC.[8] The Company should be allowed to collect no more than the actual investment return on the capital subaccount. This issue is discussed in more detail in OUCC witness Shawn Dellinger's testimony.

**Q: Does the proposed form of Financing Order call for the Company to credit back all periodic servicing fees in excess of the Company's incremental costs of performing servicing and administrative functions, and for the expenses incurred by the Company to perform obligations under the Servicing Agreement or Administration Agreement not otherwise recovered through the securitization charge to be included in the Company's cost of service "in the next rate case"?**

A: No, it does not. This is also a problem. In the absence of some mechanism to credit back to the ratepayer amounts received by the Company exceeding their costs incurred in providing these services, the Company would likely recover the same costs twice from customers, once through base rates and once through the bond servicing fee. It is possible that the Company may incur virtually no incremental costs to service the bonds once the transaction is set up since the utility already bills ratepayers on a monthly basis and will simply need to add a line-item charge to the existing bill. Using Mr. Jerasa's estimated cost of serving fees of .05 percent of the original principal amount per year, that amounts to $175,062 per year or over $2.6 million over 15 years.

**Q: How have other utilities handled such situations to avoid over collection of servicing fees?**

A: Exhibit PS-12 shows language from the AEP Texas Financing order filed June 17, 2019. To avoid double collection or collection of servicing and administrative fees in excess of actual incremental cost to the utility acting as servicer, the order calls

[8] Jerasa Direct p. 16, lines 32-33.

for such fees collected to be included as a revenue credit and reduce revenue requirements in each subsequent rate case and that the actual expenses incurred to perform the servicing and administrative function be included in each subsequent base rate case.

**Q: Does providing these rate credits to customers "in the next rate case" provide adequate and appropriate protection for customers against over collections by the Company?**

A: Because utilities do not file base rate cases every year, I recommend that the Commission's Financing Order:

(i) direct CEI South to establish two deferred accounts with respect to the securitization bonds: a "securitization excess fees account" and a "securitization excess collections account;"

(ii) provide that the positive or negative balance in each of these deferred accounts, adjusted if appropriate for income taxes and accrued carrying costs at the Company's net-of-tax weighted average cost of capital; and

(iii) direct that the balances in these deferred accounts be credited to customers in an appropriate fashion in the next general rate case, without regard to the test year used for that next rate case. The recovery of the deferred credit may or may not be accompanied by an ongoing credit to reflect continuing expected excess fees and collections, subject to further true-up. This approach would provide adequate and appropriate protection for customers against the Company over collecting.

**Q: Have commissions in other states devised any other mechanisms to provide greater protection for customers against such overcollections of securitization charges?**

A: Yes. In the Duke Energy Florida financing order issued on 11/19/2015, the utility is required to credit back to ratepayers through a periodic adjustment clause any servicing and administration fees in excess of actual costs until the next rate case, when the associated costs and revenues will be reflected in base rates. This approach, shown in Exhibit PS-12, eliminates the lag in returning savings to ratepayers in between rate cases. Alternatively, also as shown in Exhibit PS-12, the Duke Energy Carolinas and Duke Energy Progress financing order from May 2021 requires the utility to establish a regulatory account to track incremental servicing and administrative costs the utility incurred and requires it to accrue carrying charges at the utility's net-of-tax WACC until the next rate case. Any of these approaches would be fairer than simply charging ratepayers a flat charge of .05% of the initial principal amount per year over the life of the bonds without any consideration of actual incremental costs incurred.

**Q: Will the Company and its special purpose entity ("SPE") continue to collect securitization charge revenues after all the securitization bonds have been repaid?**

A: Yes. Customers will no longer be obligated to pay the securitization charge with respect to electricity consumed after all the securitization bonds have been repaid. However, the Company will still be collecting securitization charges that were billed but not collected by the date when the last bond payment is made. There will also be a certain amount of what is known as float, that is to say funds that have been collected but not processed by last bond payment date by either the servicer or the trustee. We sometimes refer to these amounts as "tail-end collections."

**Q: Can you estimate the amount of tail-end collections in connection with the proposed securitization bonds?**

A: Based on my experience with past securitizations, I expect the Company and its SPE with a deal of $350 million size could receive over $3 million of tail-end collections. In one way or another, these excess collections should be credited back to ratepayers prior to any subsequent rate case.

**Q: Does the proposed form of Financing Order call for "tail-end collections" of securitization charges to be credited back to customers in the Company's "next rate case"?**

A: No, unfortunately it does not. Exhibit PS-12 shows the way in which the financing order for the Duke Energy Florida securitization in 2016 required the utility to credit back excess collections to ratepayers without waiting until the next rate case to do so.

## XI. SUMMARY AND RECOMENDATIONS

**Q: Plesae briefly summarize your testimony.**

A: The market for utility securitization financing is not a 100% efficient market. Therefore, it is important that the OUCC have an experienced representative with co-equal authority to CEI South, who follow established best practices to act on behalf of ratepayers in negotiating the structuring and pricing of the proposed securitization financing. Without such expert representation, it is unlikely the bonds will meet the objective of lowest securitization charge at the time the bonds are priced.

**Q: Please list your recommendations for the Commission.**

A: In general, the Commission should modify the proposed Financing Order to allow for the Best Practices identified in my testimony as well as that of Mr. Fichera and other OUCC witnesses.

Most importantly, the Financing Order should provide that the Company and the OUCC, with its independent financial advisor, have equal authority with respect to major decisions involving structuring, marketing, and pricing of the proposed bonds and selection of underwriters and other transaction participants;

Second, the Financing Order should allow for a final scheduled maturity of up to 19 years; and

Third, the Financing Order should contain provisions preventing excess charges, where possible, or returning excess charges to the ratepayer in a timely fashion, if not.

**Q: Does this complete your testimony?**

A: Yes, it does.

# Utility Securitization - Transaction Data Base (Through July 13, 2022)

| Deal # | Deal Name and Pricing Date | Tranche or Series | Principal Amount ($) | Wtd. Avg. Life (yrs.) |
|---|---|---|---|---|
| 81 | PGE Wildfire Recovery Bonds | A-1 | 613080000 | 4.99 |
| | (7/13/2022) | A-2 | 600000000 | 12.09 |
| | | A-3 | 500040000 | 16.96 |
| | | A-4 | 1149960000 | 22.42 |
| | | A-5 | 1036920000 | 27.94 |
| | | Total | 3,900,000,000 | 18.86 |
| 80 | Oklahoma Development Recovery Bonds | A-1 | 161,654,000 | 5.34 |
| | (7/8/2022) | A-2 | 300,000,000 | 15.66 |
| | | A-3 | 300,000,000 | 24.43 |
| | | Total | 761,654,000 | 16.92 |
| 79 | Cleco Securitization LLC | A-1 | 125,000,000 | 4.79 |
| | (6/9/2022) | A-2 | 300,000,000 | 15.00 |
| | | Total | 425,000,000 | 12.00 |
| 78 | Electric Market Stabilization Funding N LLC Texas Stabilization N Bonds | A-1 | 600,000,000 | 6.78 |
| | (6/8/2022) | A-2 | 600,000,000 | 16.21 |
| | PRIVATE PLACEMENT | A-3 | 457,900,000 | 22.12 |
| | | A-4 | 457,800,000 | 26.11 |
| | | Total | 2,115,700,000 | 16.96 |
| 77 | Louisiana Utilities Restoration Recovery Bonds | A-1 | 750,000,000 | 2.74 |
| | (5/11/2022) | A-2 | 743,505,000 | 6.81 |
| | Taxable Muni | A-3 | 700,000,000 | 10.19 |
| | | A-4 | 1,000,000,000 | 13.61 |
| | | Total | 3,193,505,000 | |
| 76 | PGE Recovery Bonds | A-1 | 540,000,000 | 4.33 |
| | (5/3/2022) | A-2 | 540,000,000 | 11.08 |
| | | A-3 | 360,000,000 | 15.52 |
| | | A-4 | 1,260,000,000 | 21.55 |
| | | A-5 | 900,000,000 | 27.70 |
| | | Total | 3,600,000,000 | 18.33 |
| 75 | Entergy Texas Restoration Funding II, LLC | A-1 | 100,000,000 | 3.02 |
| | (3/24/2022) | A-2 | 190,850,000 | 9.97 |
| | | Total | 290,850,000 | 7.58 |
| 74 | DTE Electric Securitization Funding LLC | A-1 | 183,593,000 | 2.73 |
| | (3/10/2022) | A-2 | 52,207,000 | 9.66 |
| | | Total | 235,800,000 | 4.26 |
| 73 | SCE Green Recovery Bonds | A-1 | 100,000,000 | 3.72 |
| | (2/8/2022) | A-2 | 305,000,000 | 14.01 |
| | | A-3 | 128,265,000 | 22.80 |
| | | Total | 533,265,000 | 14.19 |
| 72 | Duke Energy Carolinas NC Storm Funding LLC | A-1 | 100,000,000 | 5.10 |
| | (11/17/2021) | A-2 | 137,219,999 | 15.00 |
| | | Total | 237,219,999 | 10.83 |
| 71 | Duke Energy Progress NC Storm Funding LLC | A-1 | 221,000,000 | 3.60 |
| | (11/17/2021) | A-2 | 352,000,000 | 11.30 |
| | | A-3 | 196,627,000 | 17.80 |
| | | Total | 769,627,000 | 10.75 |
| 70 | PG&E Recovery Funding, LLC | A-1 | 266,127,000 | 4.99 |
| | (11/4/2021) | A-2 | 160,309,000 | 11.99 |
| | | A-3 | 433,963,000 | 19.93 |
| | | Total | 860,399,000 | 13.83 |

# Utility Securitization - Transaction Data Base (Through July 13, 2022)

| Deal # | Deal Name and Pricing Date | Tranche or Series | Principal Amount ($) | Wtd. Avg. Life (yrs.) |
|---|---|---|---|---|
| 69 | WEPCO Environmental Trust Finance I, LLC | A-1 | 118,814,000 | 6.81 |
| | (5/4/2021) | Total | 118,814,000 | |
| 68 | SCE Recovery Funding LLC | A-1 | 137,783,000 | 5.68 |
| | (2/17/2021) | A-2 | 100,000,000 | 14.00 |
| | | A-3 | 100,000,000 | 20.16 |
| | | Total | 337,783,000 | 12.43 |
| 67 | AEP Texas Restoration Funding | A-1 | 117,641,000 | 3.05 |
| | (9/11/2019) | A-2 | 117,641,000 | 7.87 |
| | | Total | 235,282,000 | 5.46 |
| 66 | PSNH Funding LLC 3 | A-1 | 235,900,000 | 3.02 |
| | (5/01/2018) | A-2 | 111,600,000 | 7.02 |
| | | A-3 | 288,163,200 | 11.64 |
| | | Total | 635,663,200 | 7.63 |
| 65 | Duke Energy Florida Project Finance LLC | A-1 | 183,000,000 | 2.00 |
| | (6/15/2016) | A-2 | 150,000,000 | 5.00 |
| | | A-3 | 436,000,000 | 10.00 |
| | | A-4 | 250,000,000 | 15.20 |
| | | A-5 | 275,290,000 | 18.70 |
| | | Total | 1,294,290,000 | 11.14 |
| 64 | Entergy New Orleans Storm Recovery Funding I | A-1 | 98,730,000 | 4.98 |
| | (7/14/15) | Total | 98,730,000 | |
| 63 | Dept of Business, Econ Devel. & Tourism (Hawaii) | A-1 | 50,000,000 | 3.05 |
| | (11/04/2014) | A-2 | 100,000,000 | 10.21 |
| | | Total | 150,000,000 | 7.82 |
| 62 | Louisiana Local Government System Restoration/ELL | A-1 | 91,700,000 | 3.00 |
| | (7/29/2014) | A-2 | 152,150,000 | 8.90 |
| | [taxable munis] | Total | 243,850,000 | 6.68 |
| 61 | Louisiana Local Government System Restoration/EGSL | A-1 | 71,000,000 | 6.72 |
| | (7/29/2014) (Taxable munis) | Total | 71,000,000 | |
| 60 | Consumers 2014 Securitization Funding LLC | A-1 | 124,500,000 | 3.00 |
| | (7/14/2014) | A-2 | 139,000,000 | 8.00 |
| | (3:55 PM) | A-3 | 114,500,000 | 12.26 |
| | | Total | 378,000,000 | 7.64 |
| 59 | Utility Debt Securitzation Authority [LIPA] | T-1 | 100,000,000 | 4.91 |
| | (12/12/2013) | T-2 | 100,000,000 | 5.92 |
| | (4:00 PM) | T-3 | 100,000,000 | 6.70 |
| | | T-4 | 182,934,000 | 8.77 |
| | NB Total includes taxable debt only. An additional $1.5B of tax | Total | 482,934,000 | 6.95 |
| 58 | Appalachian Consumer Rate Relief Funding LLC | A-1 | 215,800,000 | 5.00 |
| | (11/6/2013) | A-2 | 164,500,000 | 12.24 |
| | | Total | 380,300,000 | 8.13 |
| 57 | Ohio Phase-In-Recovery Funding LLC | A-1 | 164,900,000 | 2.25 |
| | (7/23/2013) | A-2 | 102,508,000 | 5.08 |
| | | Total | 267,408,000 | 3.33 |
| 56 | FirstEnergy Ohio PIRB Special Purpose Trust | A-1 | 111,971,000 | 1.60 |
| | (6/12/2013) | A-2 | 70,468,000 | 5.07 |
| | (Issued as pass-through certificates, backed by bonds issued by CEI, OE and TE) | A-3 | 262,483,000 | 13.70 |
| | | Total | 444,922,000 | 9.29 |

## Utility Securitization - Transaction Data Base (Through July 13, 2022)

| Deal # | Deal Name and Pricing Date | Tranche or Series | Principal Amount ($) | Wtd. Avg. Life (yrs.) |
|---|---|---|---|---|
| 55 | AEP Texas Central Funding III | A-1 | 307,900,000 | 3.00 |
| | (3/7/2012) | A-2 | 180,200,000 | 7.00 |
| | | A-3 | 311,900,000 | 10.76 |
| | | Total | 800,000,000 | 6.93 |
| 54 | Centerpoint Energy Transmission Bond Co. IV | A-1 | 606,222,000 | 3.00 |
| | (1/11/2012) | A-2 | 407,516,000 | 7.00 |
| | | A_3 | 681,262,000 | 10.82 |
| | | Total | 1,695,000,000 | 7.10 |
| 53 | Entergy Louisiana Investment Recovery Funding I, LLC | A-1 | 207,156,000 | 5.27 |
| | (9/15/2011) | Total | 207,156,000 | 5.27 |
| 52 | Entergy Arkansas Energy Restoration Funding LLC | A-1 | 124,100,000 | 5.44 |
| | (8/11/2010) | Total | 124,100,000 | 5.44 |
| 51 | Louisiana Utilities Restoration Corporation Project/ELL | A-1 | 112,000,000 | 2.00 |
| | (7/15/2010) | A-2 | 111,000,000 | 5.00 |
| | [taxable munis] | A-3 | 121,000,000 | 8.00 |
| | | A-4 | 124,900,000 | 10.90 |
| | | Total | 468,900,000 | 6.63 |
| 50 | Louisiana Utilities Restoration Corporation Project/EGSL | A-1 | 97,000,000 | 3.00 |
| | 7/15/2010 [taxable munis] | A-2 | 60,000,000 | 7.00 |
| | | A-3 | 87,100,000 | 10.40 |
| | | Total | 244,100,000 | 6.62 |
| 49 | MP Environmental Funding LLC | A-1 | 64,380,000 | 19.02 |
| | (12/16/2009) | Total | 64,380,000 | 19.02 |
| 48 | PE Environmental Funding LLC | A-1 | 21,510,000 | 19.02 |
| | (12/16/2009) | Total | 21,510,000 | 19.02 |
| 47 | CenterPoint Energy Restoration Bond | A-1 | 224,788,000 | 3.00 |
| | (11/18/2009) | A-2 | 160,152,000 | 7.00 |
| | | A-3 | 279,919,000 | 10.82 |
| | | Total | 664,859,000 | 7.26 |
| 46 | Entergy Texas Restoration Funding | A-1 | 182,500,000 | 3.00 |
| | (10/29/09) | A-2 | 144,800,000 | 7.00 |
| | | A-3 | 218,600,000 | 10.86 |
| | | Total | 545,900,000 | 7.21 |
| 45 | Louisiana Public Facilities Authority | A-1 | 103,000,000 | 2.66 |
| | (8/20/2008) | A-2 | 90,000,000 | 6.24 |
| | | A-3 | 85,400,000 | 8.97 |
| | | Total | 278,400,000 | 5.75 |
| 44 | Louisiana Public Facilities Authority | A-1 | 160,000,000 | 1.99 |
| | (7/22/2008) | A-2 | 367,000,000 | 5.97 |
| | | A-3 | 160,700,000 | 9.32 |
| | | Total | 687,700,000 | 5.83 |
| 43 | Cleco Katrina/Rita Hurricane Recovery Funding LLC 2008 | A-1 | 113,000,000 | 5.00 |
| | (2/28/2008) | A-2 | 67,600,000 | 10.58 |
| | | Total | 180,600,000 | 7.09 |
| 42 | CenterPoint Energy Transition Bond Company III | A-1 | 301,427,000 | 5.00 |
| | (1/29/2008) | A-2 | 187,045,000 | 10.52 |
| | | Total | 488,472,000 | 7.11 |

## Utility Securitization - Transaction Data Base (Through July 13, 2022)

| Deal # | Deal Name and Pricing Date | Tranche or Series | Principal Amount ($) | Wtd. Avg. Life (yrs.) |
|---|---|---|---|---|
| 41 | Entergy Gulf States Reconstruction Funding I, LLC | A-1 | 93,500,000 | 2.99 |
| | (6/22/2007) | A-2 | 121,600,000 | 7.99 |
| | [N/B. These securities were sold with variable pricing] | A-3 | 114,400,000 | 12.24 |
| | | Total | 329,500,000 | 8.05 |
| 40 | RSB BondCo LLC (BG&E sponsor) | A-1 | 284,000,000 | 2.99 |
| | (6/22/2007) | A-2 | 220,000,000 | 6.99 |
| | | A-3 | 119,200,000 | 9.27 |
| | | Total | 623,200,000 | 5.60 |
| 39 | FPL Recovery Funding LLC | A1 | 124,000,000 | 1.97 |
| | (5/15/07) | A2 | 140,000,000 | 4.98 |
| | | A3 | 100,000,000 | 7.31 |
| | | A4 | 288,000,000 | 10.38 |
| | | Total | 652,000,000 | 7.15 |
| 38 | MP Environmental Funding LLC | A-1 | 86,200,000 | 4.00 |
| | (4/3/2007) | A-2 | 76,000,000 | 10.00 |
| | | A-3 | 153,250,000 | 16.00 |
| | | A-4 | 29,025,000 | 20.00 |
| | | Total | 344,475,000 | 12.01 |
| 37 | PE Environmental Funding, LLC | A-1 | 28,450,000 | 4.00 |
| | (4/3/2007) | A-2 | 25,700,000 | 10.00 |
| | | A-3 | 50,700,000 | 16.10 |
| | | A-4 | 9,975,000 | 19.94 |
| | | Total | 114,825,000 | 12.07 |
| 36 | AEP Texas Central Transition Funding II | A-1 | 217,000,000 | 2.00 |
| | (10/4/2006) | A-2 | 341,000,000 | 5.00 |
| | | A-3 | 250,000,000 | 7.58 |
| | | A-4 | 437,000,000 | 10.00 |
| | | A-5 | 494,700,000 | 12.68 |
| | | Total | 1,739,700,000 | 8.44 |
| 35 | JCP&L Transition Funding II | A-1 | 56,348,000 | 3.00 |
| | (8/4/2006) | A-2 | 25,693,000 | 7.00 |
| | | A-3 | 49,220,000 | 10.00 |
| | | A-4 | 51,139,000 | 13.40 |
| | | Total | 182,400,000 | 8.37 |
| 34 | Centerpoint Energy Transition Bond Co. II Series A | A-1 | 250,000,000 | 2.02 |
| | (12/9/2005) | A-2 | 368,000,000 | 5.00 |
| | | A-3 | 252,000,000 | 7.47 |
| | | A-4 | 519,000,000 | 10.01 |
| | | A-5 | 462,000,000 | 12.71 |
| | | Total | 1,851,000,000 | 8.26 |
| 33 | PG&E Energy Recovery Funding LLC Series 2005-2 | A-1 | 351,000,000 | 2.00 |
| | (11/3/2005) | A-2 | 372,000,000 | 5.00 |
| | | A-3 | 121,461,000 | 6.83 |
| | | Total | 844,461,000 | 4.02 |
| 32 | West Penn Power | A-1 | 115,000,000 | 4.24 |
| | (9/22/2005) | Total | 115,000,000 | 4.24 |

**Utility Securitization -**
**Transaction Data Base**
**(Through July 13, 2022)**

| Deal # | Deal Name and Pricing Date | Tranche or Series | Principal Amount ($) | Wtd. Avg. Life (yrs.) |
|---|---|---|---|---|
| 31 | PSE&G 2005-1 | A-1 | 25,200,000 | 2.00 |
| | (9/9/2005) | A-2 | 35,000,000 | 5.00 |
| | | A-3 | 20,000,000 | 7.47 |
| | | A-4 | 22,500,000 | 9.16 |
| | | Total | 102,700,000 | 5.66 |
| 30 | Massachusetts RRB Special Purpose Trust 2005-1 | A-1 | 109,200,000 | 1.00 |
| | (BEC Funding ll, LLC $265.5M and CEC Funding, LLC $409.0M) | A-2 | 154,000,000 | 2.50 |
| | 2/15/2005 | A-3 | 266,500,000 | 5.00 |
| | (Nstar (FKA Boston Edison) | A-4 | 144,800,000 | 7.40 |
| | | Total | 674,500,000 | 4.30 |
| 29 | PG&E Energy Recovery Funding LLC Series 2005-1 | A-1 | 268,000,000 | 1.00 |
| | (2/3/2005) | A-2 | 647,000,000 | 3.00 |
| | | A-3 | 320,000,000 | 5.00 |
| | | A-4 | 468,000,000 | 6.50 |
| | | A-5 | 184,864,000 | 7.68 |
| | | Total | 1,887,864,000 | 4.38 |
| 28 | Rockland Electric Company | A-1 | 46,300,000 | 8.70 |
| | (7/28/04) | Total | 46,300,000 | 8.70 |
| 27 | Oncor (TXU) 2004-1 | A-1 | 279,000,000 | 3.00 |
| | (5/28/2004) | A-2 | 221,000,000 | 7.00 |
| | | A-3 | 289,777,000 | 10.43 |
| | | Total | 789,777,000 | 6.85 |
| 26 | Atlantic City Electric | A-1 | 46,000,000 | 2.97 |
| | (12/18/2003) | A-2 | 52,000,000 | 8.24 |
| | | A-3 | 54,000,000 | 12.90 |
| | | Total | 152,000,000 | 8.30 |
| 25 | Oncor 2003-1 | A-1 | 103,000,000 | 2.00 |
| | (8/14/2003) | A-2 | 122,000,000 | 5.00 |
| | | A-3 | 130,000,000 | 8.00 |
| | | A-4 | 145,000,000 | 10.83 |
| | | Total | 500,000,000 | 6.85 |
| 24 | Atlantic City Electric | A-1 | 109,000,000 | 3.00 |
| | (12/11/2002) | A-2 | 66,000,000 | 7.00 |
| | | A-3 | 118,000,000 | 10.50 |
| | | A-4 | 147,000,000 | 15.39 |
| | | Total | 440,000,000 | 9.75 |
| 23 | JCP&L Transition Funding LLC | A-1 | 91,111,000 | 3.00 |
| | (6/4/2002) | A-2 | 52,297,000 | 7.00 |
| | | A-3 | 77,075,000 | 10.00 |
| | | A-4 | 99,517,000 | 13.40 |
| | | Total | 320,000,000 | 8.57 |
| 22 | CPL Transition Funding LLC | A-1 | 128,950,233 | 1.90 |
| | (1/31/2002) | A-2 | 154,506,810 | 4.70 |
| | | A-3 | 107,094,258 | 7.20 |
| | | A-4 | 214,926,738 | 10.00 |
| | | A-5 | 191,856,858 | 13.00 |
| | | Total | 797,334,897 | 8.01 |
| 21 | PSNH Funding LLC 2 | A-1 | 50,000,000 | 3.50 |
| | (1/16/2002) | Total | 50,000,000 | 3.50 |

**Utility Securitization -**
**Transaction Data Base**
**(Through July 13, 2022)**

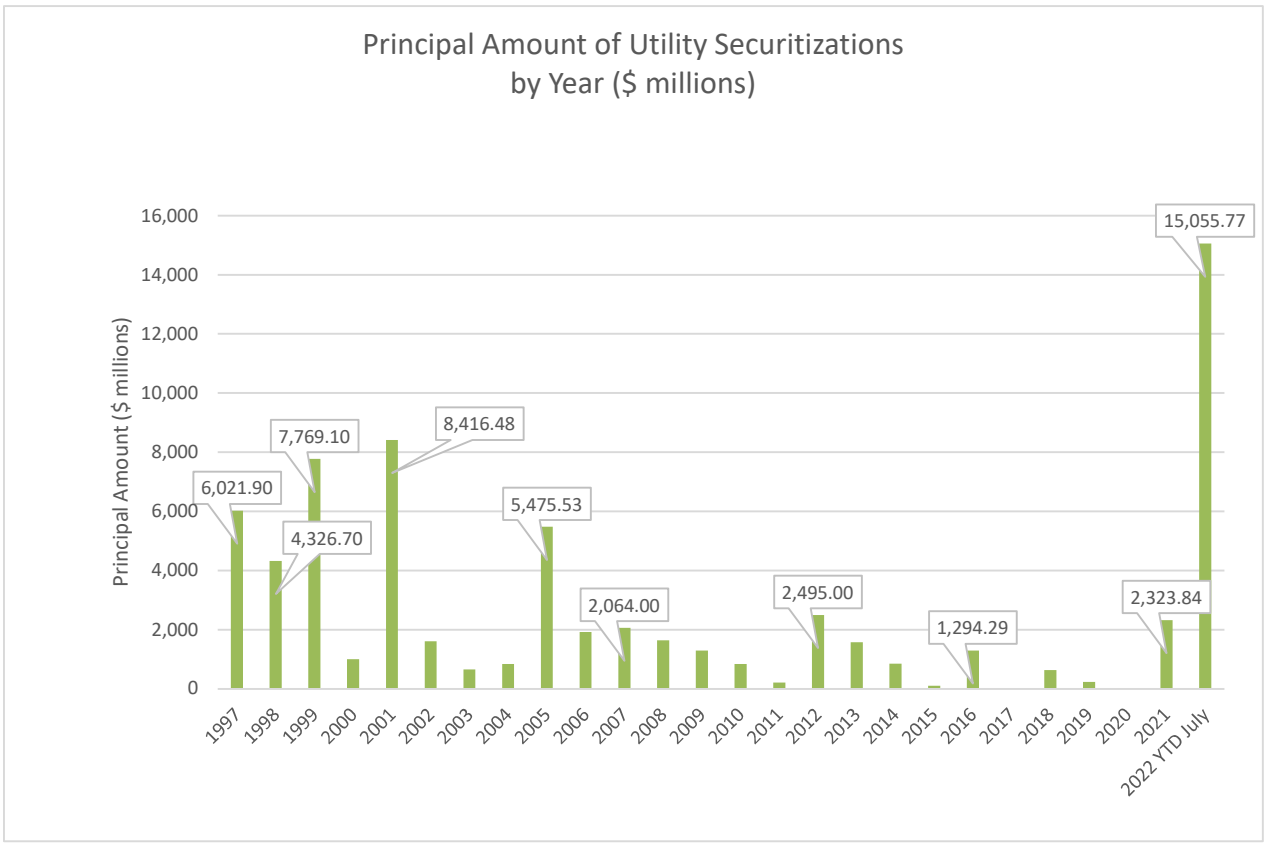
| Deal # | Deal Name and Pricing Date | Tranche or Series | Principal Amount ($) | Wtd. Avg. Life (yrs.) |
|---|---|---|---|---|
| 20 | Consumers Funding LLC | A-1 | 26,000,000 | 1.00 |
| | (10/31/2001) | A-2 | 84,000,000 | 3.00 |
| | | A-3 | 31,000,000 | 5.00 |
| | | A-4 | 95,000,000 | 7.00 |
| | | A-5 | 117,000,000 | 10.00 |
| | | A-6 | 115,592,000 | 12.80 |
| | | Total | 468,592,000 | 8.00 |
| 19 | Reliant Energy 2001-1 | A-1 | 115,000,000 | 2.71 |
| | (10/17/2001) | A-2 | 118,000,000 | 5.19 |
| | | A-3 | 130,000,000 | 7.19 |
| | | A-4 | 385,987,000 | 10.29 |
| | | Total | 748,987,000 | 7.78 |
| 18 | Western Mass Electric | A-1 | 155,000,000 | 7.00 |
| | (5/14/2001) | Total | 155,000,000 | 7.00 |
| 17 | PSNH Funding LLC | A-1 | 75,211,483 | 1.09 |
| | (4/20/2001) | A-2 | 214,649,395 | 5.04 |
| | | A-3 | 235,139,122 | 9.99 |
| | | Total | 525,000,000 | 6.69 |
| 16 | CL&P Funding LLC | A-1 | 224,858,822 | 1.18 |
| | (3/27/2001) | A-2 | 255,056,333 | 3.16 |
| | | A-3 | 292,381,624 | 5.16 |
| | | A-4 | 287,907,878 | 7.02 |
| | | A-5 | 378,195,343 | 8.89 |
| | | Total | 1,438,400,000 | 5.54 |
| 15 | Detroit Edison 2001-1 | A-1 | 124,540,305 | 1.50 |
| | (3/2/2001) | A-2 | 179,037,815 | 3.30 |
| | | A-3 | 322,791,421 | 5.80 |
| | | A-4 | 406,722,416 | 8.80 |
| | | A-5 | 326,236,780 | 11.30 |
| | | A-6 | 390,671,263 | 13.30 |
| | | Total | 1,750,000,000 | 8.64 |
| 14 | PECO 2001-A | A-1 | 805,500,000 | 9.25 |
| | (2/15/2001) | Total | 805,500,000 | 9.25 |
| 13 | PSE&G 2001-A | A-1 | 105,249,914 | 1.00 |
| | (1/25/2001) | A-2 | 368,980,380 | 2.90 |
| | | A-3 | 182,621,909 | 4.88 |
| | | A-4 | 496,606,425 | 7.02 |
| | | A-5 | 328,032,965 | 9.38 |
| | | A-6 | 453,559,632 | 11.39 |
| | | A-7 | 219,688,870 | 12.99 |
| | | A-8 | 370,259,905 | 14.27 |
| | | Total | 2,525,000,000 | 8.69 |
| 12 | PECO 2000-A | A-1 | 110,000,000 | 1.11 |
| | (4/27/2000) | A-2 | 140,000,000 | 2.08 |
| | | A-3 | 398,900,000 | 8.74 |
| | | A-4 | 351,100,000 | 9.33 |
| | | Total | 1,000,000,000 | 7.18 |

**Utility Securitization -**
**Transaction Data Base**
**(Through July 13, 2022)**

| Deal # | Deal Name and Pricing Date | Tranche or Series | Principal Amount ($) | Wtd. Avg. Life (yrs.) |
|---|---|---|---|---|
| 11 | West Penn Power | A-1 | 74,000,000 | 1.00 |
| | (11/3/1999) | A-2 | 172,000,000 | 3.00 |
| | | A-3 | 198,000,000 | 5.50 |
| | | A-4 | 156,000,000 | 7.80 |
| | | Total | 600,000,000 | 4.83 |
| 10 | Pennsylvania Power & Light | A-1 | 293,000,000 | 1.00 |
| | (7/29/1999) | A-2 | 178,000,000 | 2.00 |
| | | A-3 | 303,000,000 | 3.00 |
| | | A-4 | 201,000,000 | 4.00 |
| | | A-5 | 313,000,000 | 5.00 |
| | | A-6 | 223,000,000 | 6.00 |
| | | A-7 | 455,000,000 | 7.22 |
| | | A-8 | 454,000,000 | 8.75 |
| | | Total | 2,420,000,000 | 5.17 |
| 9 | Boston Edison | A-1 | 108,500,000 | 1.09 |
| | (7/14/1999) | A-2 | 170,600,000 | 3.13 |
| | | A-3 | 103,400,000 | 5.13 |
| | | A-4 | 170,900,000 | 7.13 |
| | | A-5 | 171,600,000 | 9.63 |
| | | Total | 725,000,000 | 5.59 |
| 8 | Sierra Pacific Power | A-1 | 24,000,000 | |
| | (4/8/1999) | Total | 24,000,000 | |
| 7 | PECO Energy | A-1 | 244,500,000 | 1.30 |
| | (3/18/1999) | A-2 | 275,400,000 | 3.27 |
| | | A-3 | 667,000,000 | 4.04 |
| | | A-4 | 458,500,000 | 5.38 |
| | | A-5 | 464,600,000 | 6.29 |
| | | A-6 | 993,400,000 | 7.28 |
| | | A-7 | 896,700,000 | 8.92 |
| | | Total | 4,000,100,000 | 6.13 |
| 6 | Montana Power | A-1 | 62,700,000 | |
| | (12/22/1998) | Total | 62,700,000 | |
| 5 | Illinois Power | A-1 | 110,000,000 | 0.79 |
| | (12/10/1998) | A-2 | 100,000,000 | 1.79 |
| | | A-3 | 80,000,000 | 2.93 |
| | | A-4 | 85,000,000 | 3.93 |
| | | A-5 | 175,000,000 | 5.17 |
| | | A-6 | 175,000,000 | 7.40 |
| | | A-7 | 139,000,000 | 9.54 |
| | | Total | 864,000,000 | 5.05 |
| 4 | Commonwealth Edison | A-1 | 426,600,000 | 0.88 |
| | (12/7/1998) | A-2 | 423,400,000 | 2.04 |
| | | A-3 | 259,300,000 | 3.04 |
| | | A-4 | 420,700,000 | 4.04 |
| | | A-5 | 598,700,000 | 5.54 |
| | | A-6 | 761,300,000 | 7.54 |
| | | A-7 | 510,000,000 | 9.41 |
| | | Total | 3,400,000,000 | 5.17 |

## Utility Securitization - Transaction Data Base (Through July 13, 2022)

| Deal # | Deal Name and Pricing Date | Tranche or Series | Principal Amount ($) | Wtd. Avg. Life (yrs.) |
|---|---|---|---|---|
| 3 | San Diego Gas & Electric | A-1 | 65,800,000 | 0.77 |
| | (12/4/1997) | A-2 | 82,600,000 | 1.78 |
| | | A-3 | 66,200,000 | 2.92 |
| | | A-4 | 65,700,000 | 3.92 |
| | | A-5 | 96,500,000 | 5.15 |
| | | A-6 | 197,600,000 | 7.29 |
| | | A-7 | 83,500,000 | 9.52 |
| | | Total | 657,900,000 | 5.14 |
| 2 | Southern California Edison | A-1 | 246,000,000 | 0.79 |
| | (12/4/1997) | A-2 | 307,000,000 | 1.79 |
| | | A-3 | 248,000,000 | 2.93 |
| | | A-4 | 246,000,000 | 3.93 |
| | | A-5 | 361,000,000 | 5.17 |
| | | A-6 | 740,000,000 | 7.40 |
| | | A-7 | 315,000,000 | 9.54 |
| | | Total | 2,463,000,000 | 5.19 |
| 1 | Pacific Gas & Electric | A-1 | 125,000,000 | 0.56 |
| | (11/25/1997) | A-2 | 265,000,000 | 1.09 |
| | | A-3 | 280,000,000 | 1.99 |
| | | A-4 | 300,000,000 | 3.01 |
| | | A-5 | 290,000,000 | 4.02 |
| | | A-6 | 375,000,000 | 5.17 |
| | | A-7 | 866,000,000 | 7.31 |
| | | A-8 | 400,000,000 | 9.48 |
| | | Total | 2,901,000,000 | 5.19 |
| | Total All Taxable Utility Securitization Deals | | 68,624,289,096 | |


Principal Amount of Utility Securitizations
by Year ($ millions)
Principal Amount ($ millions)
16,000
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10,000
8,000
6,000
4,000
2,000
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4,326.70
7,769.10
8,416.48
5,475.53
2,064.00
2,495.00
1,294.29
2,323.84
15,055.77
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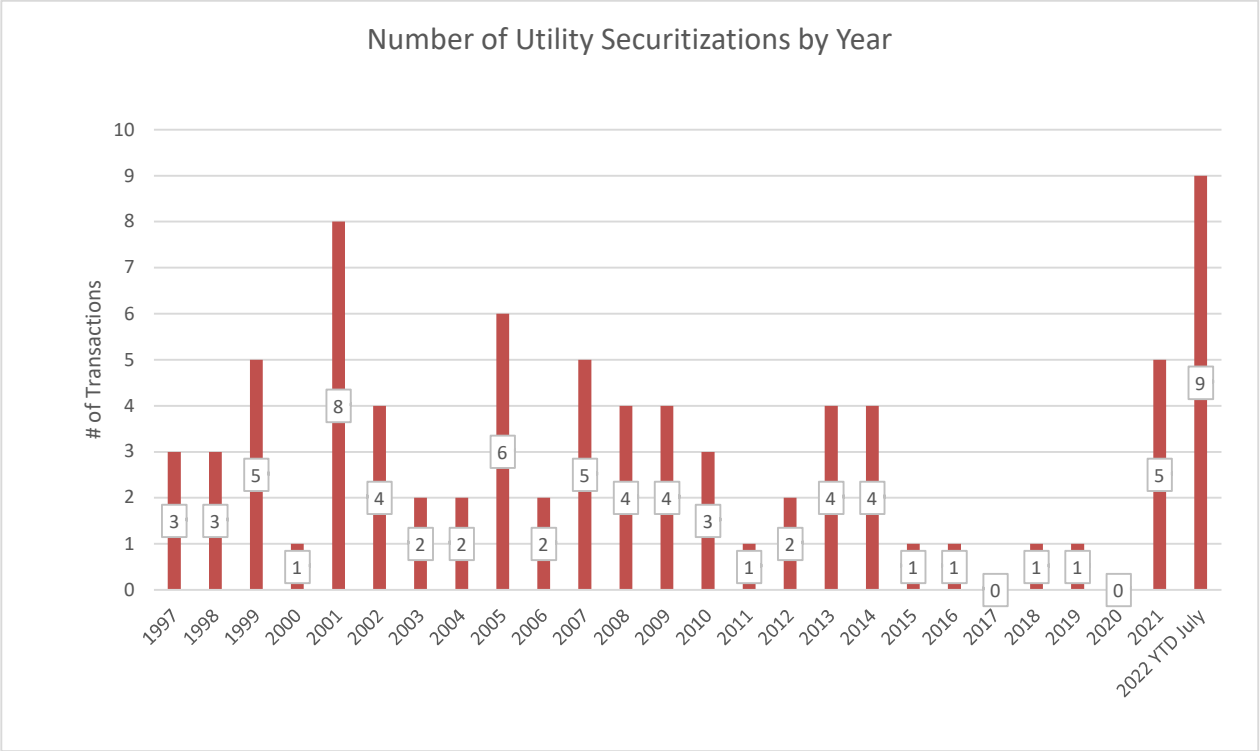
2022 YTD July


Number of Utility Securitizations by Year
# of Transactions
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2022 YTD July

IFR - International Finance Review

STRUCTURED FINANCE

# US Securitization Market Sets April 11 for Switch to US Treasuries

06 Apr 2022 by Richard Leong

Much of the US securitization market on April 11 is expected to make a complete switch to using US Treasuries from Libor swaps as the benchmark for fixed-rate deals, the Structured Finance Association said.

The SFA said it had reached a consensus with its members to use the interpolated Treasury curve or "I-curve" for primary and secondary trades as the preferred alternative to Libor swap rates which are scheduled to cease publication in June 2023.

Some borrowers in the primary market this week have already adopted the new benchmark.

"It's going to end up being a fairly easy switch," an ABS banker said.

Many market participants reckon the ease and liquidity of Treasuries offset concerns about their volatility. Investors in particular favor Treasury-based spreads because they can easily compare structured finance spreads with those on corporate bonds.

"It will take some doing to transition but then everyone will be better off by allowing more apples-to-apples comparisons of spreads between asset classes," a senior portfolio manager said.

SFA laid the groundwork for the transition at the start of the year with surveys and discussions with banks, investors, issuers and other market participants.

All new fixed-rate ABS, RMBS and CMBS issues are recommended to price off the I-curve next Monday, while all secondary trades are expected to start being quoted using new benchmark on that date, the industry trade group said.

"Let's use a consistent curve for everything," SFA President Kristi Leo said.

The transition comes at a time when fixed-rate ABS issuance remains historically high even while the Federal Reserve signaled it would embark on a series of rate increases to bring down inflation. In 2021, fixed-rate paper accounted for 96% of all new asset-backed supply, according to SFA.

## Smooth sailing so far

So far, there have been no hiccups in the transition to the I-curve. On Tuesday, General Motors priced the first fixed-rate ABS referencing Treasuries this week, a US$1.361bn prime auto loan issue GM Financial Consumer Automobile Receivables Trust 2022-2. Auto ABS deals from Santander and Toyota are also expected to price this week using the I-curve while Avis Budget has also adopted the new benchmark for its latest car rental ABS.

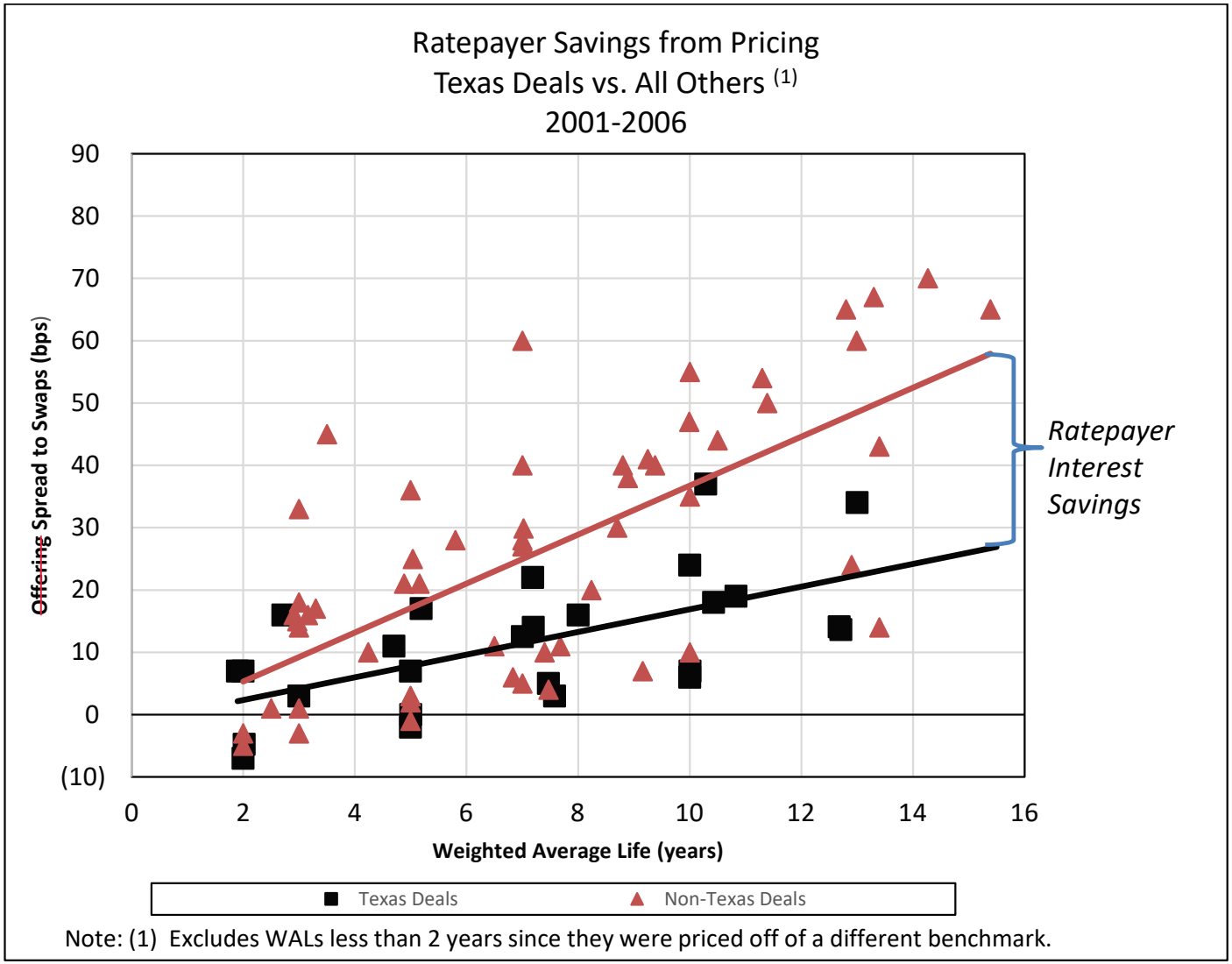
"Feedback from the market said the deals' transition to the I-curve went very smoothly with the issuers and underwriters standing ready to help with any questions," Leo said.

Still, Leo said the switch to Treasuries is an industry best practice. SFA cannot force members to adopt it.

Some deals were still priced using Libor swaps this week. Auto lender World Omni Financial on Tuesday issued a US$819.8m vehicle lease securitization World Omni Automobile Lease Securitization Trust 2022-A which referenced Libor swaps.

Mortgage finance agencies Fannie Mae and Freddie Mac meanwhile are expected to continue using SOFR swaps or the "P-curve" as their Libor alternative rather than joining the rest of the market in adopting the I-curve, market players said. SOFR swaps are seen as a more efficient hedge for the two agencies' huge mortgage books than Treasuries. Fannie and Freddie could not immediately be reached for comment.

On Wednesday, Freddie referenced the P-curve for its US$1.1 multi-family CMBS, Freddie Mac WI-K144.




Note: (1) Excludes WALs less than 2 years since they were priced off of a different benchmark.

Presentation to:

SABER PARTNERS, LLC
ADVISORS & INVESTORS

# TEXAS TRANSITION BOND ANALYSIS

September 12, 2003

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# Regression Analysis of Texas Transition Bond Spreads

**SPREAD TO SWAPS REGRESSION LINE (USED IN SAVINGS ANALYSIS): Y = 2.9021X + 5.7598**

**Reliant Energy 2001-1**

| | A-1 | A-2 | A-3 | A-4 |
|---|---|---|---|---|
| Size (in millions) | $115.0 | $118.0 | $130.0 | $385.9 |
| WAL | 2.71 | 5.29 | 7.19 | 10.29 |
| Implied Y Value | 14 | 21 | 27 | 36 |
| Actual Pricing | 16 | 17 | 22 | 37 |
| **Difference in bps** | **(2)** | **4** | **5** | **(1)** |

**Central Power and Light 2002-1**

| | A-1 | A-2 | A-3 | A-4 | A-5 |
|---|---|---|---|---|---|
| Size | $129.0 | $154.5 | $107.1 | $214.9 | $191.9 |
| WAL | 1.90 | 4.70 | 7.30 | 10.00 | 13.00 |
| Implied Y Value | 11 | 19 | 27 | 35 | 43 |
| Actual Pricing | 7 | 11 | 14 | 24 | 34 |
| **Difference in bps** | **4** | **8** | **13** | **11** | **9** |

**Oncor Electric Delivery Transition Bond 2003-1**

| | A-1 | A-2 | A-3 | A-4 |
|---|---|---|---|---|
| Size | $104.0 | $122.0 | $130.0 | $144.0 |
| WAL | 2.00 | 5.00 | 8.00 | 10.83 |
| Implied Y Value | 12 | 20 | 29 | 37 |
| Actual Pricing | 7 | 7 | 16 | 19 |
| **Difference in bps** | **5** | **13** | **13** | **18** |



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# Economic Savings Captured by Texas Transition Bonds

**Reliant Energy 2001-1**

| Tranche | Size | WAL | Coupon | Bp Difference | Implied Coupon |
|---|---|---|---|---|---|
| A-1 | 115.0 | 2.71 | 3.84% | (2) | 3.82% |
| A-2 | 118.0 | 5.29 | 4.76% | 4 | 4.80% |
| A-3 | 130.0 | 7.19 | 5.16% | 5 | 5.21% |
| A-4 | 385.9 | 10.29 | 5.63% | (1) | 5.62% |
| | $748.9 | 7.78 | | | |

- **Savings: $213,045**
- Bps: 0.37/year

**Central Power and Light 2002-1**

| Tranche | Size | WAL | Coupon | Bps Difference | Implied Coupon |
|---|---|---|---|---|---|
| A-1 | 129.0 | 1.90 | 3.54% | 4 | 3.58% |
| A-2 | 154.5 | 4.70 | 5.01% | 8 | 5.10% |
| A-3 | 107.1 | 7.30 | 5.56% | 13 | 5.69% |
| A-4 | 214.9 | 10.00 | 5.96% | 11 | 6.07% |
| A-5 | 191.9 | 13.00 | 6.25% | 9 | 6.34% |
| | $797.3 | 8.02 | | | |

- **Savings: $3,949,077**
- Bps: 6.18/year

**Oncor Electric Delivery Transition Bond 2003-1**

| Tranche | Size | WAL | Coupon | Bps Difference | Implied Coupon |
|---|---|---|---|---|---|
| A-1 | 104.0 | 2.00 | 2.26% | 5 | 2.31% |
| A-2 | 122.0 | 5.00 | 4.03% | 13 | 4.16% |
| A-3 | 130.0 | 8.00 | 4.95% | 13 | 5.08% |
| A-4 | 144.0 | 10.83 | 5.42% | 18 | 5.60% |
| | $500.0 | 6.85 | | | |

- **Savings: $3,371,354**
- Bps: 9.84/year



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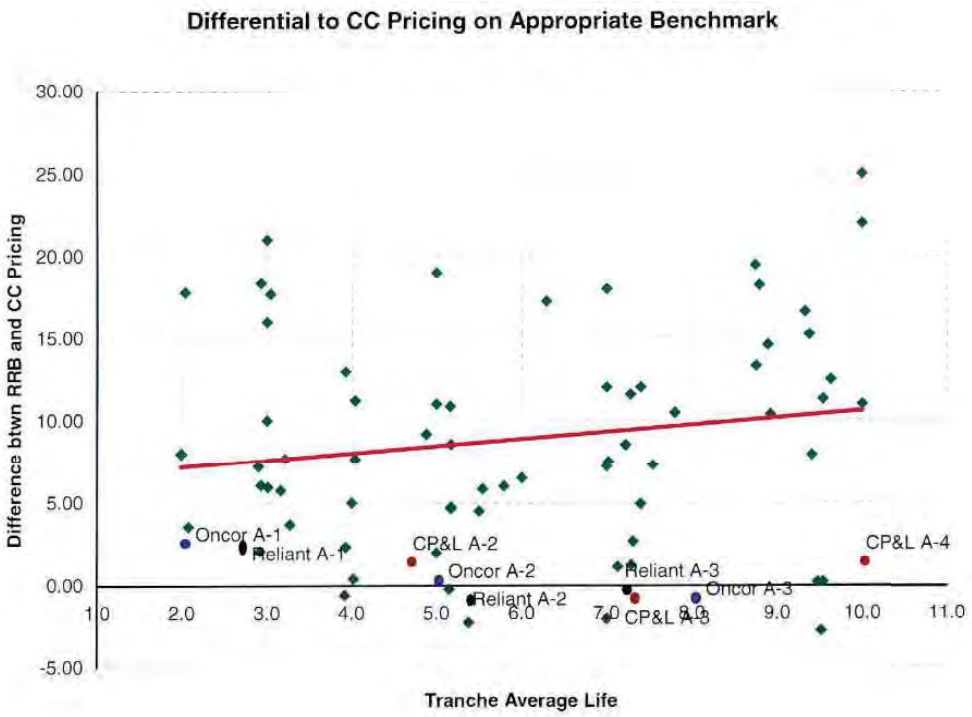
# Pricing Differential to Credit Card Spreads: Texas Advantage



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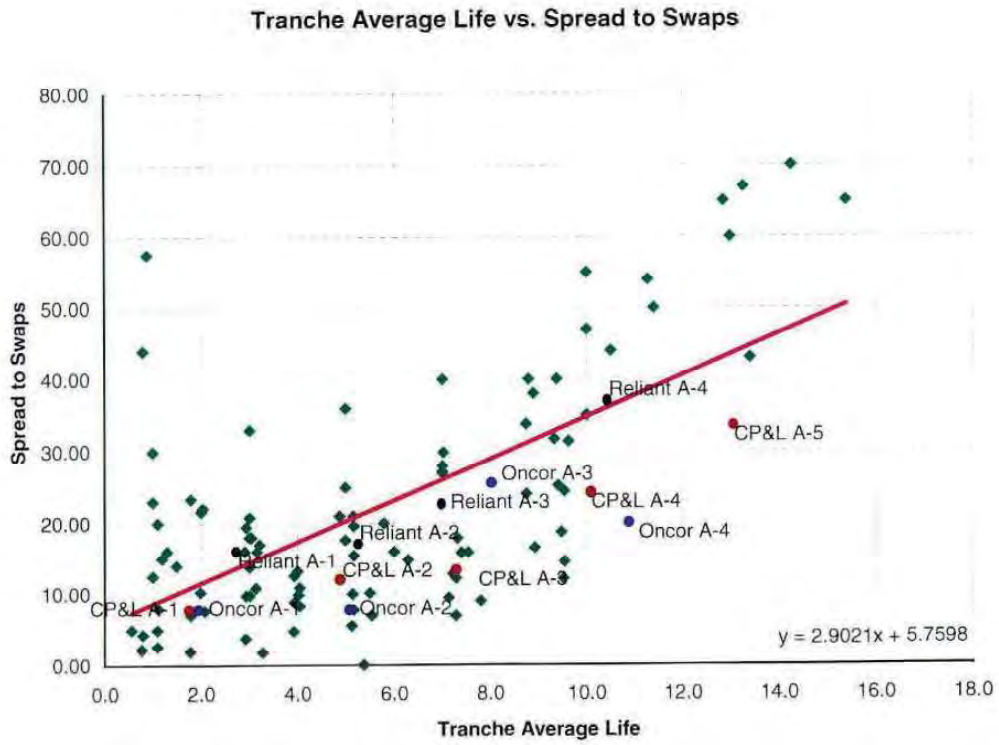
# Regression Analysis: Spread to Swaps



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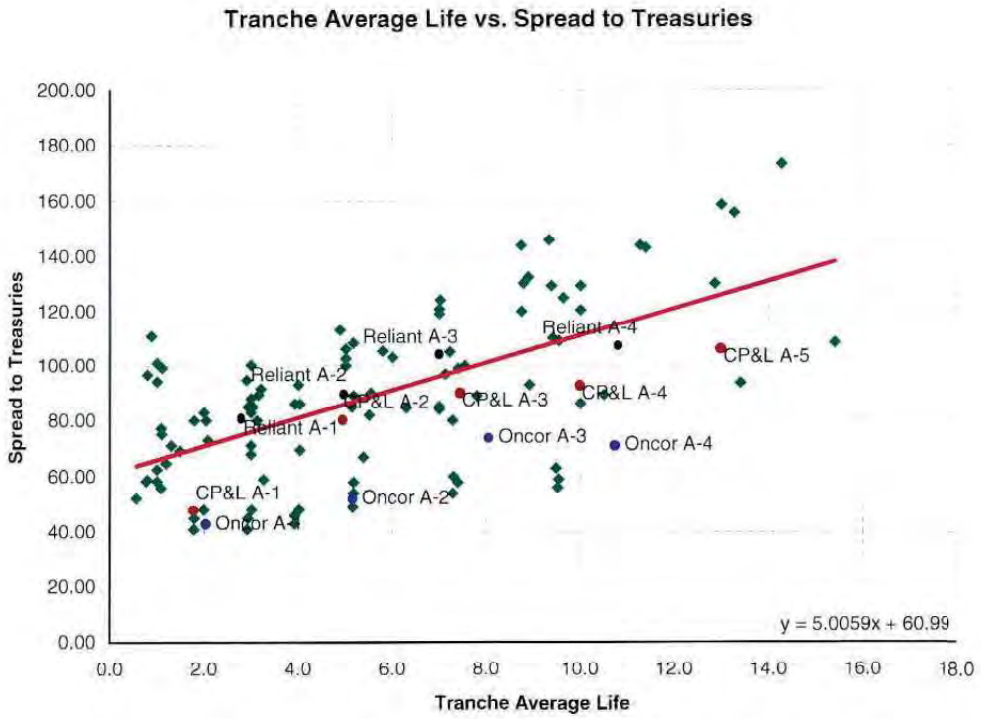
# Regression Analysis: Spread to Treasuries



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# Methodology

### SPREAD TO SWAPS (USED IN SAVINGS ANALYSIS)

- Includes stranded cost transactions completed from November 1997 to year-to-date.
- Transactions priced against Treasuries (prior to April 2000) were converted to spreads to Swaps using the following formula:

  *Spread to Swaps = Spread to Treasury + Treasury Yield - Swap Rate*

- For all transactions, except for Texas RRB transactions, swap pricing was plotted on Y-axis against average life (X-axis) by tranche.
- Regression line generated calculates a representative spread at a given average life.
- Texas transactions are specifically identified to underscore whether they fall below the regression line.

### SPREAD TO TREASURIES

- Includes stranded cost transactions completed from November 1997 to year-to-date.
- Transactions priced against Swaps (post April 2000) were converted to spreads to Treasuries using the following formula:

  *Spread to Treasury = Spread to Swaps + Swap Rate - Treasury Yield*

- For all transactions, except for Texas RRB transactions, treasury pricing was plotted on Y-axis against average life (X-axis) by tranche.
- Regression line generated calculates a representative spread at a given average life.
- Texas transactions are specifically identified to underscore whether they fall below the regression line.



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## Methodology *(Continued)*

### DIFFERENTIAL TO GENERIC CREDIT CARD SPREADS

- Includes stranded cost transactions completed from November 1997 to year-to-date. Transactions priced to Treasuries were compared to generic credit card spreads also priced to Treasuries. Transactions priced to Swaps were compared to generic credit card spreads also priced to Swaps.
- Plotted the differential between credit card spreads and stranded cost transaction spreads (other than Texas RRB transactions) on the Y-axis against the average life (X-axis) by tranche.
- Tranches with average life less than 2 years and over 10 years were not used in this analysis due to the lack of reliable credit card spreads for those tails.
- Regression line generated calculates a representative spread differential at a given average life.

### SAVINGS CALCULATIONS

- By generating spread to Swaps regressions lines, we were able to find a representative spread at a given average life.
- By using such spread, we calculated implied coupon (by tranche) for Texas transactions.
- Savings were calculated by subtracting PV of actual cash flows from PV of cash flows built based on implied coupons.

  PV actual = PV (actual weighted average yield, actual cash flows)

  PV implied = PV (actual weighted average yield, implied cash flows)
- Savings in bps per annum were calculated by dividing savings by deal size by weighted average life.



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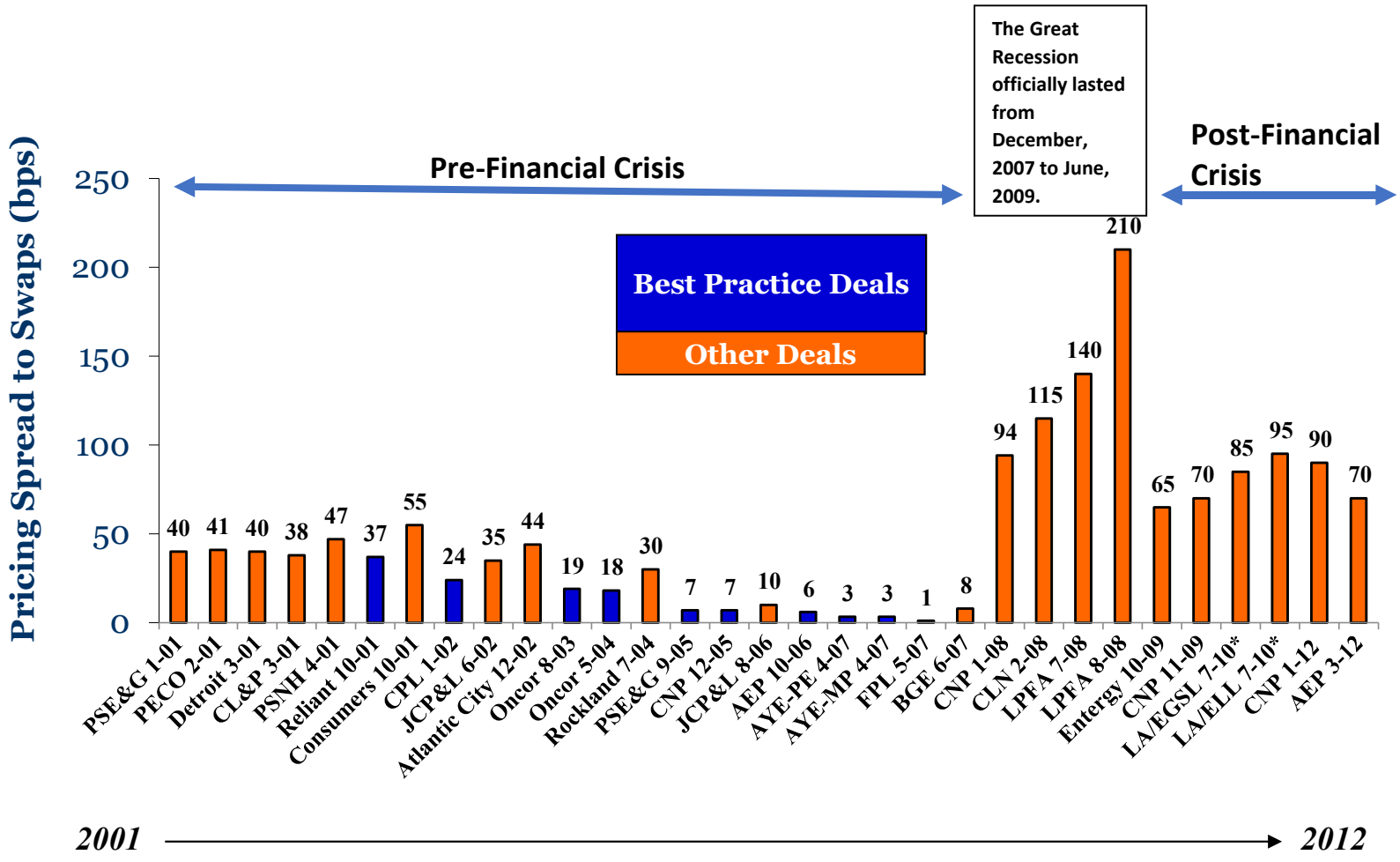
# New Issue Pricing Spreads to the Benchmark Swap Rate
## Utility AAA Securitization Deals - 2001 to 2012
## 9-10 Year Average Life




*Source: SEC Prospectus, Bloomberg*

* Taxable

# Methodologies for Relative Value Benchmarking

## Using a Variety of High-Quality Securities to Evaluate Pricing of Investor-Owned Utility Securitizations Over Time

July 8, 2022

Paul Sutherland
Saber Partners, LLC

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## Introduction

When pricing corporate debt securities, it is useful to compare indicative utility securitization or ratepayer-backed bonds[1] (RBB) pricing to recent new issues of comparable benchmark securities. This is especially important for securities that are less liquid and/or not frequently issued and/or traded on the open secondary market.

Moreover, after a pricing is complete, it is useful to perform such comparisons to evaluate the success (i.e., the quality) of the actual final pricing relative to other RBB pricings in the same period. This method helps finance managers determine the success in achieving the bond's "**relative value"** in the marketplace under market conditions at the time of pricing.[2]

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*Relative Value is the critical component when evaluating pricing efficiency and success in achieving the lowest cost of funds for ratepayers.*

*The AAA or top credit rating on a bond does not guarantee the lowest cost of funds at any time in the market. Not all AAA-rated securities price alike. There is no single AAA rate. There are wide and material differences. The market is not "efficient" on its own. Markets are efficient when all market participants act assertively in their economic interests in negotiating pricings.*

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In the past, such RBB comparable securities have included:

1) AAA-rated corporate debt issues by issuers like Johnson & Johnson (JNJ) or Microsoft;
2) U.S. agencies debt issues by the likes of Fannie Mae (FNMA), Federal Home Loan Bank (FHLB), or Tennessee Valley Authority (TVA); or
3) AAA-rated asset-backed securities (ABS) of credit card receivables known as Credit Card bonds.

Credit Card ABS comparisons have been used for maturities of up to 10 years. However, since the financial crisis, there has been a lack of longer-term issues. So, they are only really useful for 2 and 5-year maturities though securities firms and other still quote credit spreads for up to 10-year maturities.

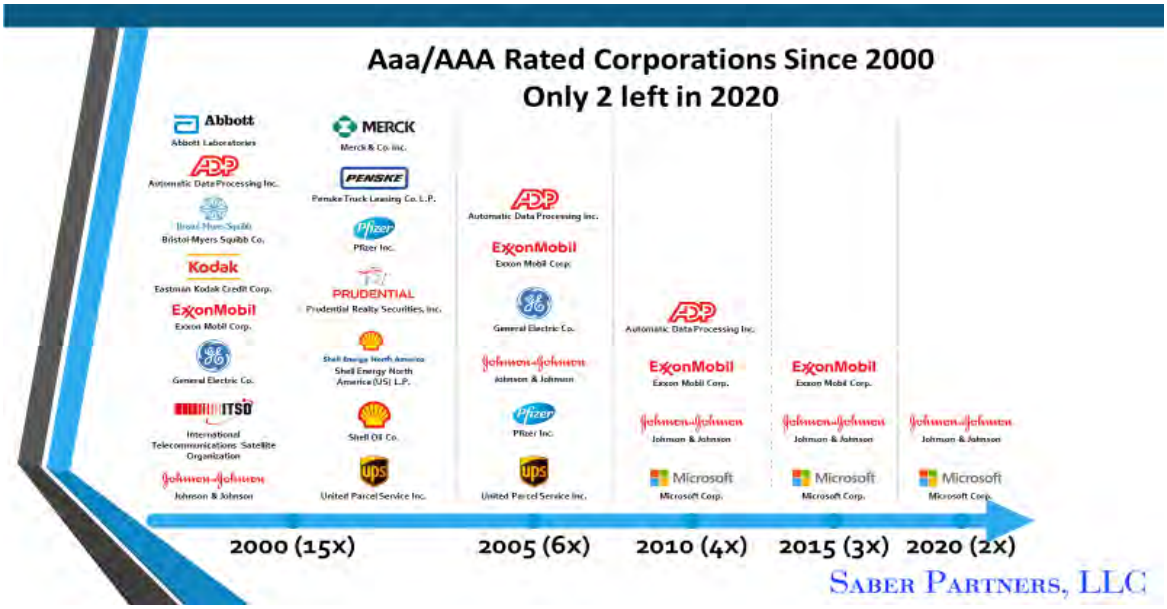
Corporate issue comparables are limited because there are only two remaining corporate issuers, JNJ and Microsoft (MSFT), rated AAA by both major rating agencies, Moody's and Standard & Poor's. Tennessee Value Authority (TVA) is another private corporation, but it has U.S. government ownership and is treated more as a quasi U.S. government agency.

While some issuers may be rated AAA by one rating agency, they are not AAA-rated by both of the two major rating agencies. There are a few more high-quality corporate issuers just one notch below AAA

[1] Also referred to as "ratepayer obligation charge," "rate reduction," or "stranded cost" bonds in general or for specific uses such as storm cost securitization or nuclear asset recovery bonds among others.
[2] See Saber Partners, LLC, "*Pricing Utility Securitizations/Ratepayer-Backed Bonds: How to Evaluate Success in the Capital Markets*" © Copyright 2018

like Apple and Amazon and now Exxon. While not pure AAA, investors treat them almost as if the top category. They are good but not perfect comparables to AAA.

**Figure 1 Corporate Bond Issuers Rated Aaa/AAA (Moody's and S&P) Since 2000**




## What is Pricing Efficiency and Why Is It Important in Pricing Securities?

The term *efficient market* is a theoretical concept that says that the price of a security incorporates all publicly available information about the security into its price. Consequently, if markets are in fact efficient, there will be only one price for a given security at a particular time. Thus, for example, a share of General Motors stock would not trade at one price on the New York Stock Exchange while another share of GM stock trades at a different price on a different exchange. The same would be true for bond prices. In like manner, if two bonds had essentially all the same relevant characteristics of term, callability, financial risk, liquidity, taxability, etc., then the bonds should be priced to have the same yield even if the issuers are different.

Unfortunately, financial markets are not 100% efficient, and the markets for some types of securities are more efficient than others. The markets for conventional corporate bonds and for U.S. government bonds tends to be more efficient because of the large amount of bonds outstanding and the high volume of trades each day the market is open. Thus, when corporate bonds are priced, they will usually be priced very close to the yields on similar bonds that are outstanding. Unfortunately, the market for RBBs is not nearly as efficient due to the lack of bonds outstanding and the much lower trading volume. Consequently, two different RBBs that are the same in every way but from two different issuers might be priced around the same time with different yields. The purpose of benchmarking, then, is to be able to see how much of the difference is due to changes in the market and how much is due to poor execution of the deal.

While efficient market theory assumes that all potential buyers have all publicly available information about a security, that might not be true if the underwriters do not do a good job of marketing the bonds.

The objective for choosing the right benchmark is to choose a security that is similar to the RBB in terms of risk, term, etc. so that its yield moves in the market as closely as possible to the RBB. By measuring the spread to the benchmark rather than the absolute yield on the RBB, we can compare different RBB pricings over time while filtering out market changes. An RBB pricing that comes the closest to the benchmark would be considered the most efficient pricing. The following discussion describes various types of benchmarks that have been used to compare RBB pricings at various points over the last 2 decades.

## All Benchmarks Are Not Alike in Quality or Purpose

Underwriters use one type of debt benchmark when they make an offer to buy a new issue of debt security from an issuer for resale to investors. Both during the bond's pre-marketing period – where only "indication of interest" can be solicited – and in the final marketing and sale when investor orders can be taken, underwriters do not offer to buy the securities at a specific bond yield.[3] Rather, they offer to buy at a specific spread (in basis points) over the yield of a specific, highly liquid and high-quality benchmark security (Pricing Benchmark).

For conventional corporate debt, that benchmark security is usually United States Treasury (UST) notes and bonds. For structured products like asset-backed securities (ABS), the benchmark historically has been the LIBOR fixed interest swap rate.

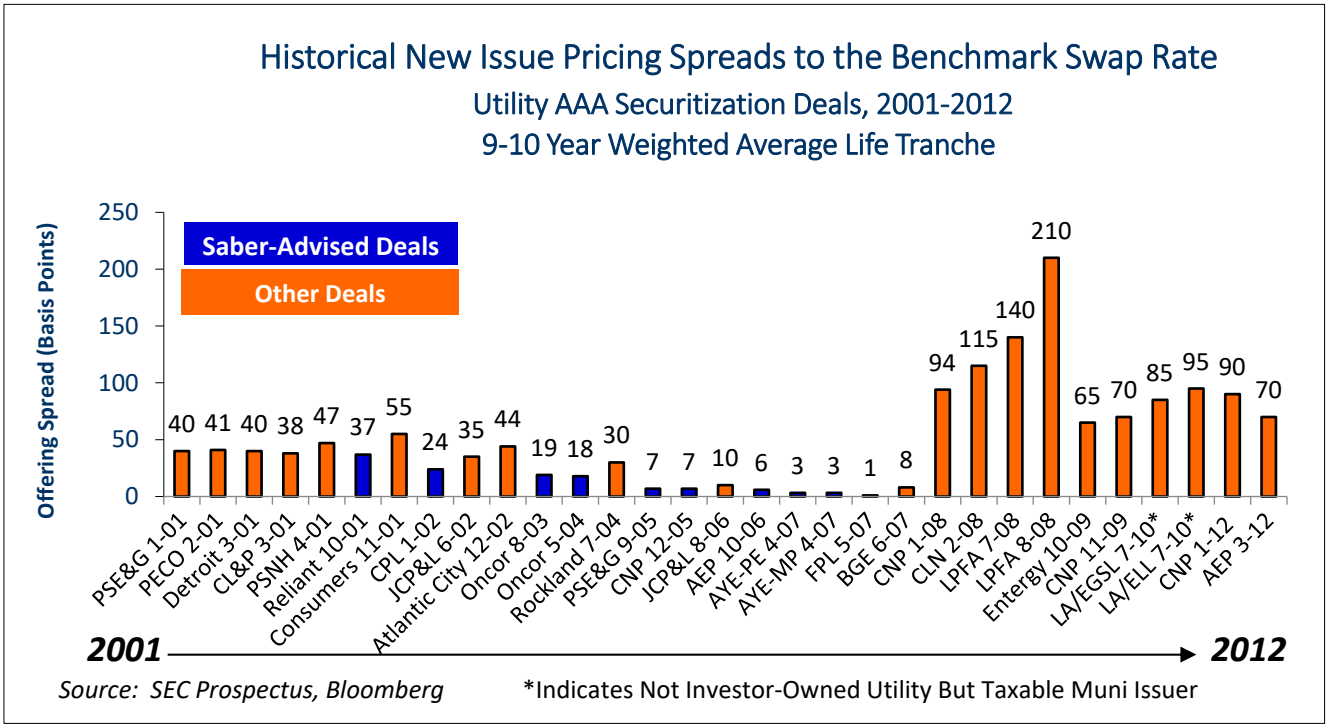
Utility securitization debt in years past has most often priced like ABS securities as a "spread to swaps." However, in recent years more RBBs have been priced off the UST curve and are structured and priced like conventional corporate debt. Examples of this includes the 2016 Duke Energy Florida Project Finance, LLC[4] transaction, as well as the PE and MP Environmental Funding bonds offered in 2007 and 2009. Saber Partners was advisor to the Florida Public Service Commission and the West Virginia Public Service Commission respectively for those transactions. In 2021, the SCE Recovery Funding Bonds, PG&E Recovery Funding Bonds and the Duke Energy Progress and Duke Energy Carolinas NC Storm Funding Bonds were all priced off of US Treasuries, as well as the SCE Green Recovery Bonds and the DTE Electric Securitization Funding Bonds in 2022.

From the issuer's perspective, it is difficult to judge relative value and the attractiveness of the underwriter's offer based solely on the spread to a Pricing Benchmark. This is, in part, because credit spreads to Pricing Benchmarks can change dramatically over time, depending on economic and other conditions that are independent of the issuers and their credit worthiness. A spread that might seem good today might be bad a year from now and vice versa.

Figure 2, below, shows how new issue pricing of RBBs to swaps was dramatically affected by the Great Recession in 2008-2009/credit crisis as investors dramatically and fundamentally reconsidered the pricing of credit and liquidity risk premium in bonds.

[3] These are the rules for publicly offered securities that are registered with the U.S. Securities and Exchange Commission (SEC).
[4] See Duke Energy Florida Project Finance, LLC SEC filings: DEF Term Sheet, Prospectus and Final Pricing Advice and Issuance Advice Letter filed with the Florida Public Service Commission

## Figure 2 Historical New Issue Pricing Spreads to Benchmark Swaps

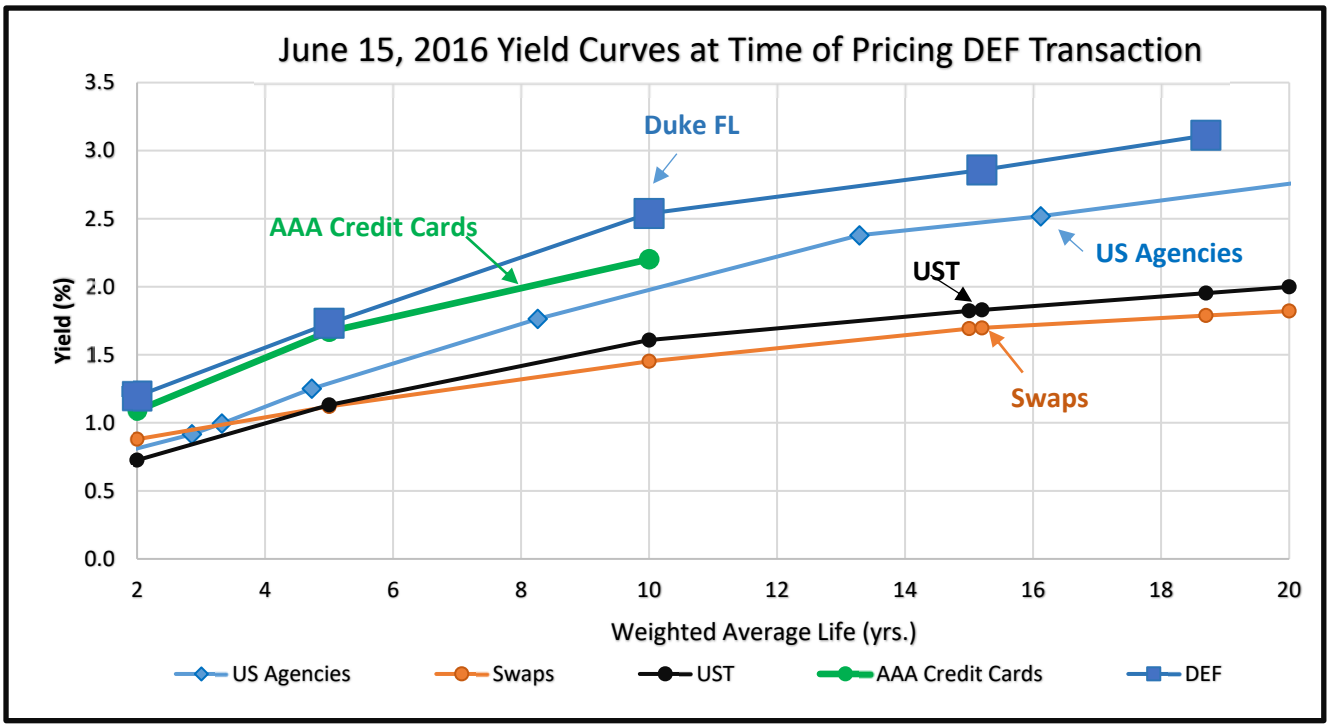



Because of this variability in investor evaluations of credit and liquidity risk, issuers need to look for alternative "relative value" benchmarks. By doing so, issuers will be better able to judge the fairness and efficiency of any new issue pricing offer from underwriters. This will also allow issuers to evaluate how well a deal was priced relative to other similar RBB issuances and different maturities (weighted average life) over time.

Ideally, such benchmark securities would be as like RBB securities as possible over a wide range of maturities or weighted average lives (WALs).

Figure 3, below, shows yield curves for 4 different possible relative value benchmarks compared to the actual pricing of 5 series of Duke Energy Florida RBBs on June 15, 2016.

### Figure 3 June 15, 2015, Yield Curves




As can be seen from Figure 3, both of the Pricing Benchmarks commonly used by underwriters (UST and Swaps) have rather wide spreads to the DEF issue, especially as WALs increase. Credit card securitizations seem to price very close to RBBs, but there are no such issues with maturities beyond 10 years and there are very few even at 10 years. U.S. Agency securities such as the FHLMC and FNMA, on the other hand, are AAA rated due to implicit government guarantees and price relatively close to the RBBs across the range of WALs up to about 16 years. Consequently, Saber used U.S. Agency securities as a relative value benchmark in the Duke Florida transaction in 2016. We did this both to evaluate underwriter pricing offers and to judge how we have done compared to other RBBs issued over time.

## Corporate Benchmarks Still Matter for Relative Value Comparisons

While U.S. Agency securities are a valuable relative value benchmark, it is also useful to examine other types of debt such as highly rated corporate debt (e.g., AAA-rated JNJ and Microsoft). We also may want to consider electric utility first mortgage bonds, even though none are rated higher than AA. Electric utility debt may be relevant due to it being in the same industry and could be used to establish an absolute upper bound on any spread being contemplated for RBBs at pricing.

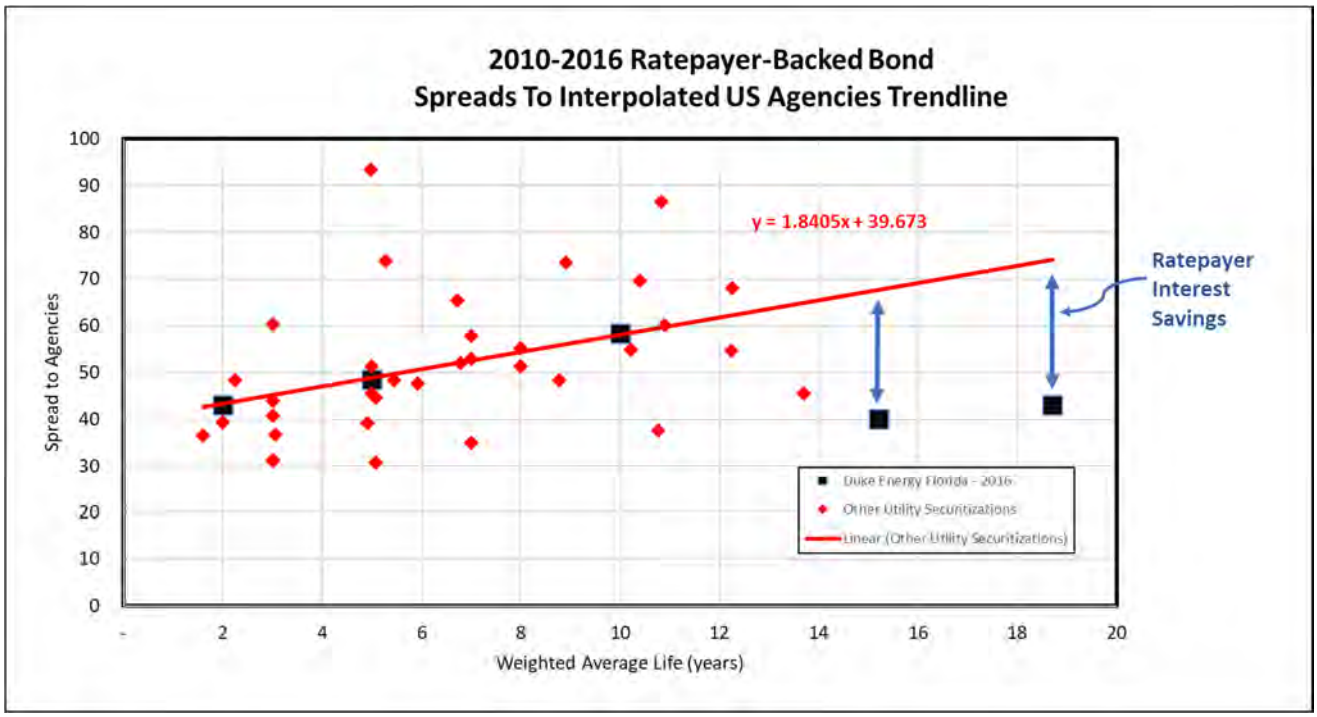
## Calculation of Credit Spreads to U.S. Agencies

Following is a description of how such benchmarking to can be done, using Saber's 2016 pricing of the Duke Energy Florida (DEF) Project Finance[5] transaction as an example. Below is a graphical

[5] See http://www.floridapsc.com/library/filings/2016/03735-2016/03735-2016.pdf

representation[6] of the result showing the DEF pricing to the Agency benchmark compared to all other (non-Saber) RBBs over the period from 2010 through 2016.

## Figure 4 - 2010-2016 Ratepayer-backed Bond Spreads to Interpolated U.S. Agencies Curve




The Duke Florida transaction was priced against *interpolated* U.S. Treasuries, i.e., known as the "Treasury G Curve" in 5 series (i.e., in 5 weighted average life maturities), as follows:[7]

## Table 1 – Duke Energy Florida Project Finance Pricing

| Tranche/Series | Principal Amount ($) | Weighted Average Life (Years) | Yield (%) | Spread to G-curve - Interpolated UST (Basis Points (bps)) | Spread to swaps (bps) |
|---|---|---|---|---|---|
| A-1/Series A 2018 | $183,000,000 | 2 | 1.20% | G + 47 | Libor+31.6 |
| A-2/Series A 2021 | 150,000,000 | 5 | 1.73% | G + 60 | Libor+61.1 |
| A-3/Series A 2026 | 436,000,000 | 10 | 2.54% | G + 93 | Libor+108.6 |
| A-4/Series A 2032 | 250,000,000 | 15.2 | 2.86% | G + 103 | Libor+116.1 |
| A-5/Series A 2035 | 275,290,000 | 18.7 | 3.11% | G + 116 | Libor+132.5 |
| Total | $1,294,290,000 | | 2.72% | | |

[6] From Saber Partners, LLC "Savings Sensitivity Analysis Model V7 – Final Pricing"; Saber Partners, LLC Webinar November 30, 2017, slide #21", and Duke Energy Florida Pricing Book, June 20, 2016
[7] For comparison purposes, the corresponding swaps or Libor spreads are also included.

As said previously, one should not just compare U.S. Treasury spreads or Swap spreads for different RBB transactions to judge which ones were the best and worst executed. Those spreads vary due to many externalities which are not necessarily a function of how well the RBB deal was executed.

The key comparison focuses on relative value to a basket of comparables.

As shown in Figure 2, during the Great Recession that began in 2008, RBB pricing spreads widened substantially. Therefore, it is necessary to find benchmarks that price much closer to RBBs to provide valid comparative results, especially in the current volatile economic environment. U.S. Agency debt instruments meet that criterion.

Another potential problem if it is decided to use U.S. Agency debt as a benchmark, is to avoid "cherry-picking" i.e., selectively choosing data by selecting only those securities that justify/support one's point while ignoring other data. This is because, unlike UST and swaps, no two Agency issues are exactly alike, even if they have the exact same WAL and same AAA bond rating.

To resolve this problem, we have used those U.S. Agency issues from the "Bloomberg I26 Agency Yield Curve"

Below is an example of an I26 U.S. Agency curve from Bloomberg.[8]

## Figure 5 – Bloomberg I26 U.S. Agency Yield Curve


[8] Bloomberg is a financial and news database subscription service widely used by capital markets participants.

To ensure the spreads to agencies is a valid comparison, it is important to determine that the U.S. Agency debt yields are reported with their actual WAL rather than just associated with the closest round number of years (e.g., 2, 5, 10) shown on the graph. Then we must interpolate to match any odd WALs of the securitization in question, such as the A-4 and A-5 series in the DEF deal (15.2 and 18.7 years, respectively).

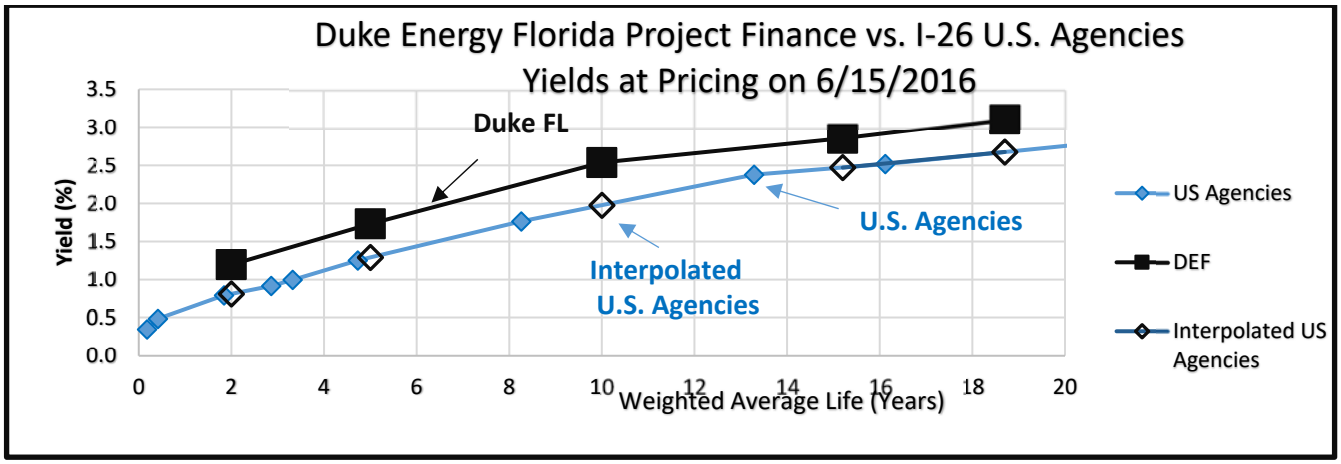
Below is a table showing the U.S. Agency debt issues and their respective values for comparison with the DEF pricing.

## Table 2 – U.S. Agency Yields

| I26 US Agencies Curve | Maturity | Weighted Average Life (years) | I26 U.S. Agencies Curve 06/15/16 Mid Price (%) | I26 U.S. Agencies Curve 06/15/16 Yield (%) |
|---|---|---|---|---|
| FNMDN 0 08/10/16 Corp | 8/10/16 | 0.20 | 0.359 | 0.345 |
| FREDN 0 11/04/16 Corp | 11/4/16 | 0.40 | 0.468 | 0.483 |
| FHLMC 0 ¾ 04/09/18 Corp | 4/9/18 | 1.80 | 100.002 | 0.749 |
| FHLMC 1 ⅛ 04/15/19 Corp | 4/15/19 | 2.90 | 100.734 | 0.862 |
| FHLMC 1 ¼ 10/02/19Corp | 10/2/19 | 3.30 | 100.997 | 0.948 |
| FNMA 1 ⅜ 02/26/21 Corp | 2/26/21 | 4.70 | 100.801 | 1.199 |
| FNMA 2 ⅝ 09/06/24 Corp | 9/6/24 | 8.30 | 106.851 | 1.727 |
| FHLMC 6 ¾ 09/15/29 Corp | 9/15/29 | 13.30 | 149.435 | 2.377 |
| FHLMC 6 ¼ 07/15/32 Corp | 7/15/32 | 16.10 | 149.456 | 2.497 |
| FHLB 5 ½ 07/15/36 Corp | 7/15/36 | 20.10 | 141.726 | 2.775 |

The Figure 6 graph below shows the yields for U.S. Agency issues from the Bloomberg I26 yield curve on the day of pricing (6/15/2016) in relation to the actual DEF yields for the five series.

## Figure 6 - Duke Energy Florida Project Finance vs. I-26 U.S. Agencies




From this information, the following table can be constructed with the spreads between each of the 5 DEF series and the interpolated U.S. Agency yield curve.

### Table 3 - DEF Spreads to Agencies

| DEF Series | WAL (Years) | DEF Yield (%) | Interpolated Agency Yields (%) | Spread to Agencies (bps) |
|---|---|---|---|---|
| A-1/Series A 2018 | 2.0 | 1.196 | 0.766 | **+43** |
| A-2/Series A 2021 | 5.0 | 1.731 | 1.245 | **+49** |
| A-3/Series A 2026 | 10.0 | 2.538 | 1.954 | **+58** |
| A-4/Series A 2032 | 15.2 | 2.858 | 2.458 | **+40** |
| A-5/Series A 2035 | 18.7 | 3.112 | 2.681 | **+43** |
| Overall | | 2.720 | | |

These are the spreads to U.S. Agency debt shown in Figure 3. In a similar way, spreads to U.S. Agency debt for prior securitization deals were calculated for all deals priced between 2010 and 2016 and shown in Figure 4.

## Calculating Customer/ Ratepayer Savings from Active Management

The graph in Figure 4 shows two linear regression lines, one generated by the five DEF pricing points and the other generated by all the pricing points from other securitizations between 2010 and 2016 (all of which were non-Saber deals).

The difference between each DEF pricing point and the non-Saber regression line at each of the five WALs can be considered a measure of Saber's "Active Management" savings, in basis points. When multiplied by the dollar principal amount of each series, a total dollar savings amount from effective and efficient pricing can be estimated.

The following table shows the savings calculation.

### Table 4 – Duke Energy Florida Project Finance Interest Savings

| Tranche/Series | Principal Amount ($) | Weighted Avg. Life (X axis) | Non-Saber Spread (Y axis) | DEF Spread (Y axis) | Basis Point Savings | Nominal Savings ($) | NPV [1} Savings at 2.72% ($) | NPV [2} Savings at 8.12% ($) |
|---|---|---|---|---|---|---|---|---|
| A-1/Series A 2018 | 183,000,000 | 2 | 43.354 | 43.044 | 0.31 | 11,343 | 10,751 | 9,704 |
| A-2/Series A 2021 | 150,000,000 | 5 | 48.876 | 48.621 | 0.254 | 19,055 | 16,663 | 12,897 |
| A-3/Series A 2026 | 436,000,000 | 10 | 58.078 | 58.364 | -0.286 | -124,710 | -95,359 | -57,127 |
| A-4/Series A 2032 | 250,000,000 | 15.2 | 67.649 | 40.039 | 27.609 | 10,491,547 | 6,977,501 | 3,202,343 |
| A-5/Series A 2035 | 275,290,000 | 18.7 | 74.09 | 43.106 | 30.985 | 15,950,586 | 9,657,134 | 3,704,535 |
| Total | $1,294,290,000 | | | | | $26,347,822 | $16,566,689 | $6,872,351 |

*(1) Discounted at the duration-weighted interest rate for the DEF bonds, which was 2.72%*

*(2) Discounted at DEF's weighted average cost of capital of 8.12%.*

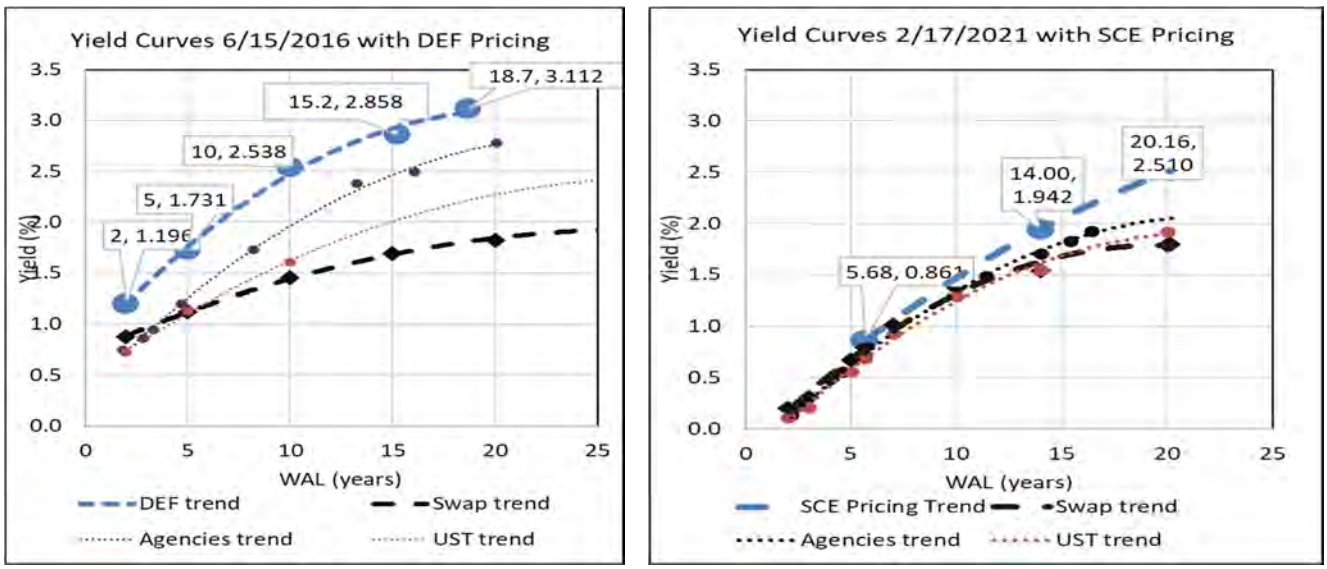
In the case of DEF, total net present value interest savings calculated using the above methodology totaled $16.6 million when discounted at the RBB rate of 2.72% and $6.9 million when discounted at DEF's weighted average cost of capital (WACC) of 8.12%. Using the same methodology but including underwriting costs for both Saber and non-Saber deals, the NPV savings increases slightly to $16.8 million discounted at the RBB or $7.1 million discounted at Duke FL weighted average cost of capital of 8.12%.[9]

## What To Do When the Market Changes: From the Credit Crisis to Covid-19

Occasionally, it may be desirable to compare a transaction done after a major market change to one completed before the market changed. For example, this might have been the case if it was desired to compare a deal done before with one don after the financial/credit crisis of 2008-2009.

More recently, there was a dramatic market change in March 2020 due to the COVID pandemic, when the Federal Reserve began buying corporate debt and helping mid-size businesses get loans for the first time ever. As a result, credit spreads tightened substantially. This could present problems, for example, in comparing the SCE Recovery Funding of 2/17/21 to the DEF Project Finance of 6/15/2016. This market shift is illustrated in Figure 7, below.

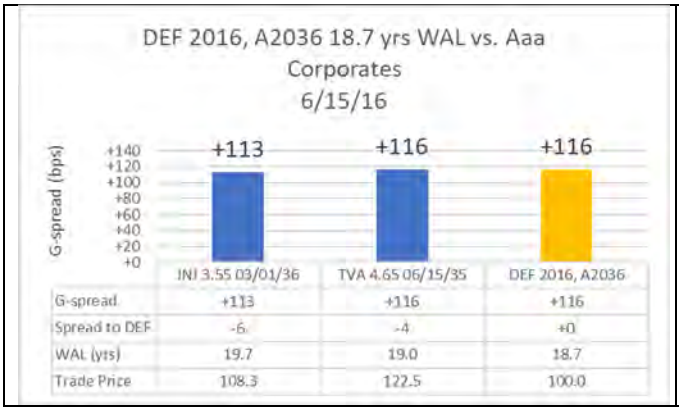
### Figure 7 Tightening of Credit Spreads U.S. Benchmark Rates, 2016 to 2021




If we cannot use spreads to swaps, agencies or U.S. Treasuries to compare pricings before and after a financial shift, there is only one solution, however imperfect. That solution is to find debt securities that trade in the secondary market with no spread, or at least very little spread, to well-priced RBBs. That is easier said than done. Figure 8, below, shows the result of such a search for the longest tranche in both the DEF and the SCE financings.

[9] If we were to look at non-Saber deals over a shorter period, for example 2013 to 2016, the savings calculated would be less but still significant at $13.2 million (including underwriting costs).

## Figure 8 – Pricing Comparisons to AAA Corporate Securities for DEF and SCE



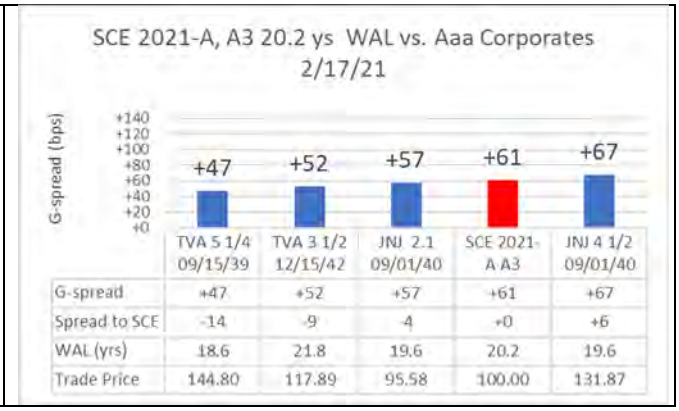




Figure 8 shows both the benefits and the downside of using individual comparable debt issues rather than an index or standardized yield curve such as UST, swaps or I-26 agencies. On the downside, there is a fair amount of variance in spreads for the same issuer with different issues depending on the coupon and price differences.

For example, with respect to the SCE comparables, J&J has two issues maturing on 9/1/2040.

- One has a coupon of 4.5% and a dollar price of 131.87.[10]
- The other has a coupon of 2.1% and a price of 95.58.

This means the investor in the former bond investors are paying a dollar price of $31.87 over the face or par amount of the bond of $100 which they will receive at maturity. This is known as a "premium bond." Investors in the latter bond is paying a discount to par of $442 for dollar price of $95.58. They will receive $100 back if held to maturity. Since the investors in the first bond receive less at maturity than what they paid, they usually want a higher yield/credit spread to compensate them for the big difference.

Consequently, the g-spread[11] on the former bond is 10 bps greater than the latter because it is a "premium bond." Thus, the spread is overstated for purposes of comparison to the SCE pricing. Likewise, the J&J and TVA issues are both high-dollar price "premium bonds," meaning their g-spreads are overstated for comparative purposes.

Here we see a 10 basis points difference attributable solely to the dollar price. There are market conventions for adjusting spreads as the price diverges from par. However, no specific rule exists and all prices are subject to negotiation. So in this case, it is 10 basis points while in other cases it could be much higher.

Similarly, the two TVA issues on the DEF chart are also premium bonds (although less than the 4.5% J&J bond) and so the spread is likely overstated for comparative purposes with DEF pricing. The other

[10] Dollar prices for all bond transactions are required to be reported to Financial Industry Regulatory Authority (FINRA) by all broker-dealers within 15 minutes of the trade for market transparency.
[11] G-spread is the yield spread in basis points over an interpolated U.S. Treasury bond. This allows for an apples-to=apples comparison such that the WAL of the RBB is equal to the WAL of the U.S. Treasury used for comparison.

downside of this approach is that comparable issues can be cherry-picked by setting cut-off trade sizes or other parameters.

On the positive side, by looking at the two charts in Figure 8, one can feel comfortable saying that the two RBBs priced about equally well for the tranche in question, which is to say, just a few basis points over both JNJ and TVA, when adjusted for price and WAL differences. Thus, it is also fair to say that both RRBs priced their longest tranche equally well, given the financial environment, even though DEF priced with a g-spread of 116 bps while SCE priced with a g-spread of just 61 bps.

## Benchmarking to a Basket of Comparable Securities

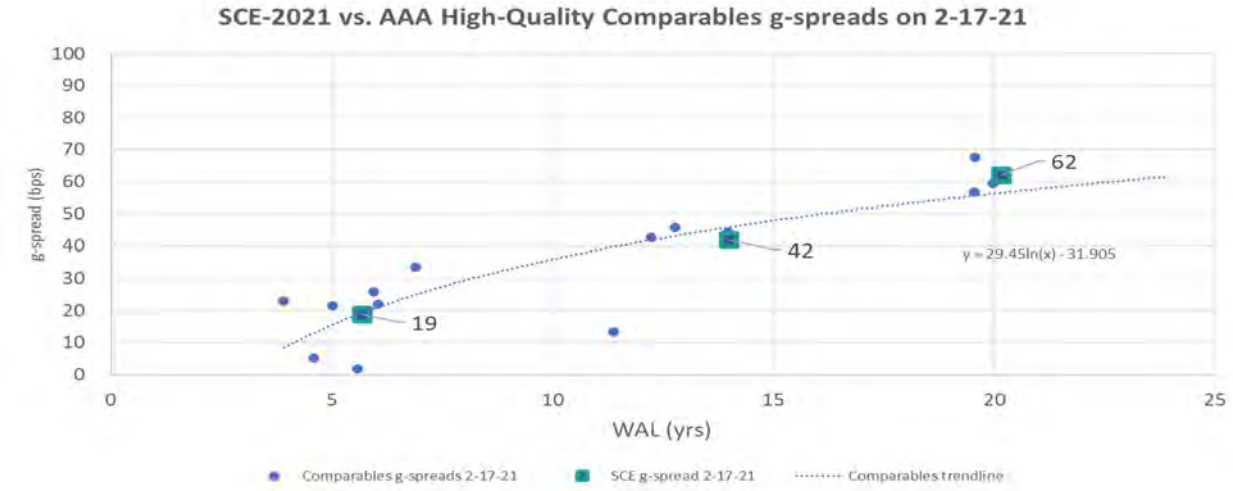
In order to avoid any accusations of "cherry picking" 2 to 4 securities in the secondary market that may have traded in small amounts or at steep discounts or premiums, another approach is to select all AAA corporates (and possibly US Agencies as well) that trade in the secondary market within a time period close to the RBB pricing date and then create a "best-fit" benchmark yield curve against which all the tranches in a particular RBB pricing can be judged. Table 5 shows a list of 14 comparable AAA corporate and U.S. Agency securities showing secondary trades within 2 weeks (and most within 2 days) of the pricing for the SCE Recovery Funding LLC securitization in February, 2021.

### Table 5 – Comparables at SCE Pricing on 2/17/2021 Using FINRA TRACE Reported Institutional Trades of $250K or More

| # | CUSIP | Security Name | Issuer Name | M / S / F Rating | Maturity (years) | Last Trade Date | Trade Price | Trade Size ($ 000s) | G-Spread (bps) | Yield (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 478160CJ1 | JNJ 2 5/8 01/15/25 | Johnson & Johnson | Aaa / AAA / WD | 3.9 | 2/12/2021 | 107.7 | $ 500 | +23 | 0.54 |
| 2 | ZO621537 | FHLMC 0 3/8 09/23/25 | Freddie Mac | Aaa / AA+ / AAA | 4.6 | 2/17/2021 | 99.3 | $ 81,260 | +5 | 0.53 |
| 3 | 478160BY9 | JNJ 2.45 03/01/26 | Johnson & Johnson | Aaa / AAA / WD | 5.0 | 2/16/2021 | 107.9 | $ 300 | +21 | 0.76 |
| 4 | QZ659415 | FNMA 1 7/8 09/24/26 | Fannie Mae | Aaa / AA+ / AAA | 5.6 | 2/17/2021 | 106.5 | $ 20,310 | +2 | 0.68 |
| 5 | 594918BY9 | MSFT 3.3 02/06/27 | Microsoft Corp | Aaa / AAA / AAAu | 6.0 | 2/17/2021 | 113.1 | $ 6,387 | +26 | 0.94 |
| 6 | 478160CE2 | JNJ 2.95 03/03/27 | Johnson & Johnson | Aaa / AAA / WD | 6.1 | 2/11/2021 | 112.0 | $ 3,810 | +22 | 0.83 |
| 7 | 478160CK8 | JNJ 2.9 01/15/28 | Johnson & Johnson | Aaa / AAA / WD | 6.9 | 2/17/2021 | 110.9 | $ 3,500 | +33 | 1.19 |
| 8 | EC523369 | FHLMC 6 1/4 07/15/32 | Freddie Mac | Aaa / AA+ / AAA | 11.4 | 2/17/2021 | 149.8 | $ 27,005 | +13 | 1.49 |
| 9 | 478160AL8 | JNJ 4.95 05/15/33 | Johnson & Johnson | Aaa / AAA / WD | 12.2 | 2/16/2021 | 133.4 | $ 467 | +42 | 1.88 |
| 10 | 478160BJ2 | JNJ 4 3/8 12/05/33 | Johnson & Johnson | Aaa / AAA / WD | 12.8 | 2/17/2021 | 127.4 | $ 13,475 | +46 | 1.87 |
| 11 | 594918BC7 | MSFT 3 1/2 02/12/35 | Microsoft Corp | Aaa / AAA / AAAu | 14.0 | 2/16/2021 | 118.0 | $ 775 | +44 | 1.97 |
| 12 | 478160CR3 | JNJ 2.1 09/01/40 | Johnson & Johnson | Aaa / AAA / NR | 19.6 | 2/12/2021 | 95.6 | $ 2,000 | +57 | 2.38 |
| 13 | 478160AV6 | JNJ 4 1/2 09/01/40 | Johnson & Johnson | Aaa / AAA / WD | 19.6 | 2/5/2021 | 131.9 | $ 400 | +67 | 2.44 |
| 14 | 594918AM6 | MSFT 5.3 02/08/41 | Microsoft Corp | Aaa / AAA / AAAu | 20.0 | 2/17/2021 | 144.2 | $ 1,106 | +59 | 2.48 |

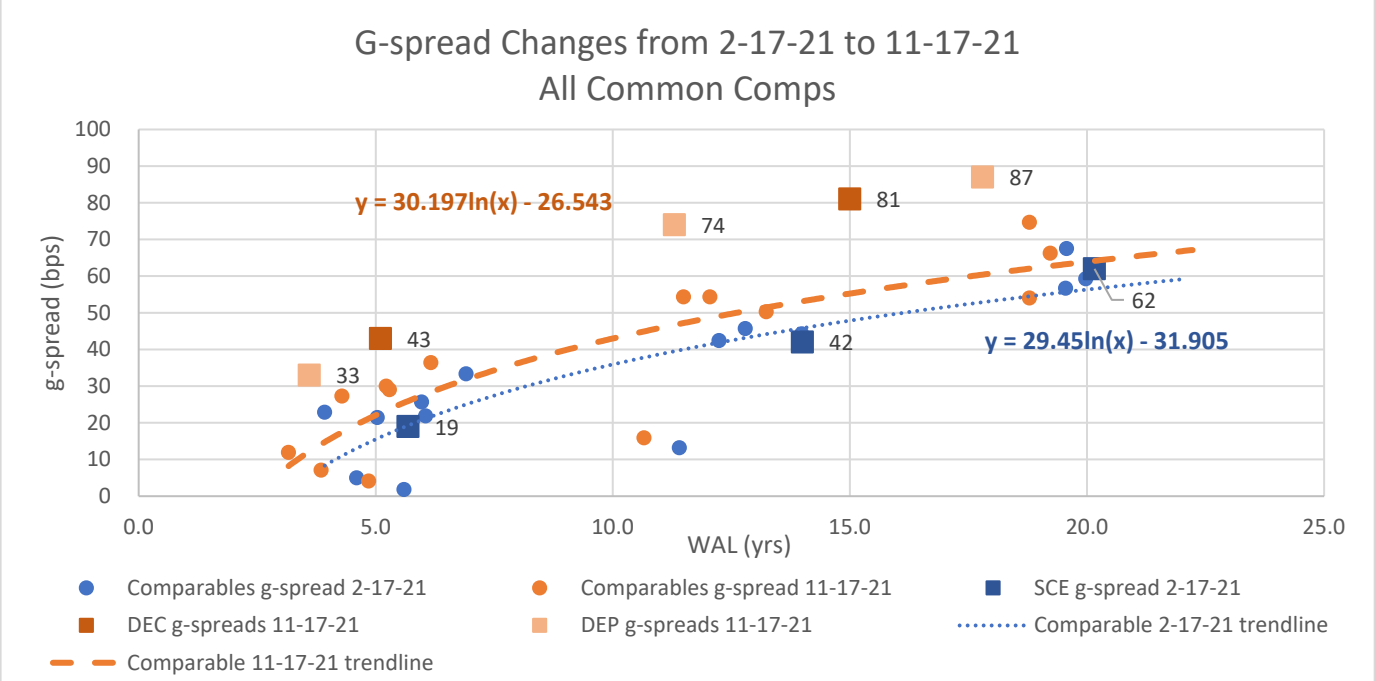
By selecting securities over a range of maturities, it is possible to construct a yield curve of comparables to span the range of all tranches of the RBB being priced. Also, by including securities that are traded at a discount as well as others traded at a premium, we can minimize the risk of distortion of the curve from what it would be if all bonds were priced at par. Figure 9 shows how the g-spreads for the 3 tranches of the SCE financing priced in relation to the g-spreads of the secondary trades of the comparable securities.

## Figure 9 – Pricing of SCE Recovery Funding LLC on 2-17-2021 vs. AAA Comparable Securities Secondary Trade G-spreads




From Figure 9 we can see that SCE priced virtually on top of the logarithmic trendline established from the set of 14 comparable securities. Other RBB pricings completed within a reasonably similar time period can be compared by using the same set of comparables but with secondary trades close to those other RBB pricings. For example, the Duke Energy Progress and Duke Energy Carolinas NC Storm Funding Bonds (DEP/DEC bonds) were priced 9 months later on 11/17/2021. However, as Figure 10 shows, while the benchmark yield curve moved up by about 7 basis points across the curve from 9 months earlier, the 5 tranches priced by Duke were 20 to 27 bps above the new comparables trendline.

## Figure 10 – Pricing of DEP/DEC Bonds on 11-17-2021 vs. AAA Comparable Securities Secondary Trade G-spreads



## Table 6 – Impact of Pricing Above the High-Quality Benchmark Trendline

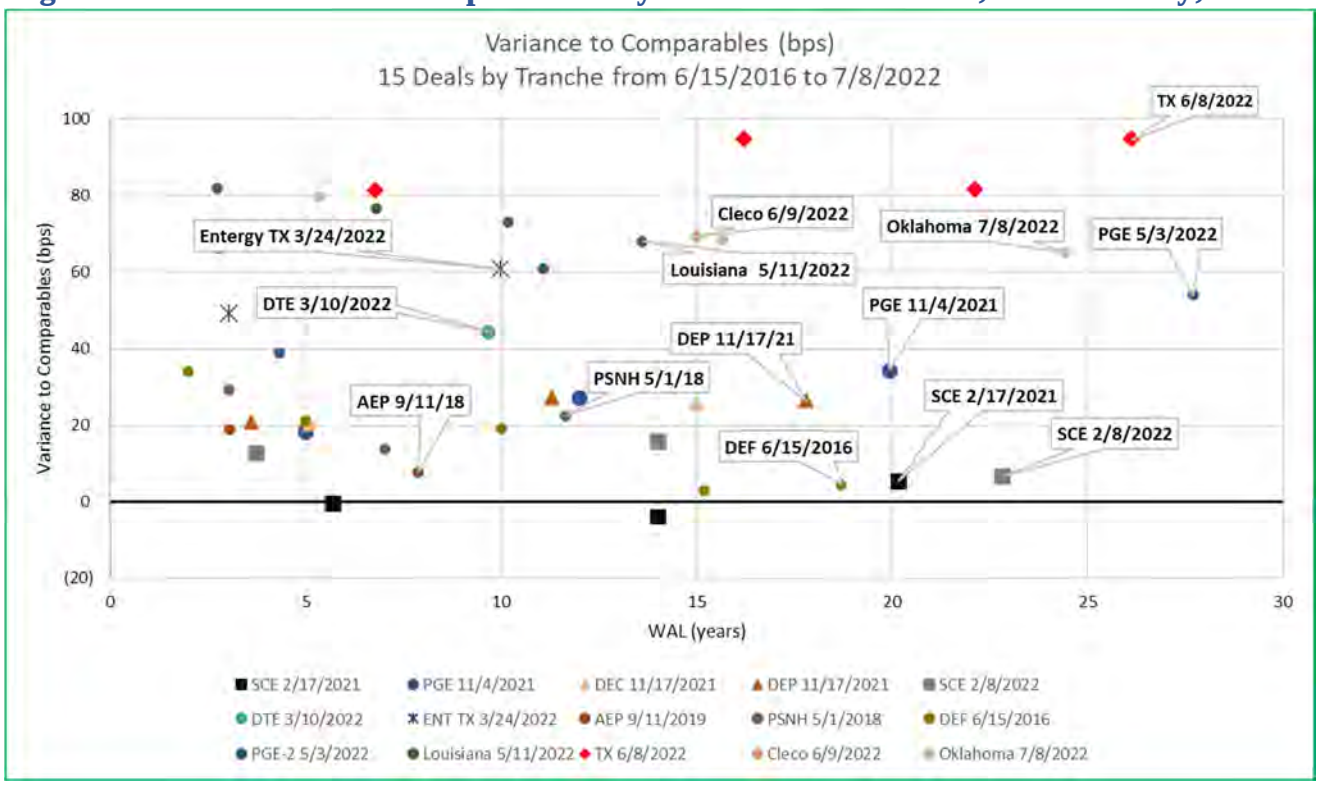
| | DEC/DEP Pricing | 11/17/2021 | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Final Sch. Yrs. O/S (yrs.) | Tranche | WAL (yrs.) | g-spread (bps) | yield (%) | Principal Amount ($millions) | Variance from Trendline (bps) | Cost vs. trendline (bps) | Approx. PVRR Cost vs. trendline ($MM) |
| | DEC A-1 | 5.1 | 43 | 1.679 | 100.000 | 20.3 | | |
| 19.6 | DEC A-2 | 15 | 81 | 2.610 | 137.210 | 25.8 | | |
| | Total/Wtd Average | 10.83 | | | 237.210 | | 24.7 | 3.6 |
| | DEP A-1 | 3.6 | 33 | 1.295 | 221.000 | 20.9 | | |
| | DEP A-2 | 11.3 | 74 | 2.387 | 352.000 | 27.3 | | |
| 19.6 | DEP A-3 | 17.8 | 87 | 2.799 | 196.627 | 26.6 | | |
| | Total/Wtd Average | 10.21 | | | 810.210 | | 26.4 | 13.8 |
| | Grand Total | | | | | | | 17.4 |

An overall variance in basis points from the trendline for each deal can be calculated as a weighted average of each tranche's variance weighted by the WAL, principal amount and tranche variance. In this case, pricing above comparables cost each utility 24 to 26 basis points, on average. When the cost in annual revenue requirements is discounted at the utility's estimated WACC, pricing above the comparables trendline cost ratepayers a total of about $17 million. Such pricing might be referred to an inefficient pricing in that it is pricing away from where the market is pricing comparable AAA securities.

The methodology described above can be used to compare a group of RBB pricings if they all occur within a reasonable time period such that the same group of comparables can be used for all the deals[12]. Figure 11 shows the variance to comparables by tranche for each of 9 RBB issuances between February, 2021 and May 2022. It is interesting to note that the SCE tranches for both the 2021 and 2022 deals are all priced closer to comparables than any tranches on any other of the 9 transactions. The chart also shows spreads to comparables for 3 deals priced from 2/15/2016 to 9/11/2019. The list of AAA comparables for these 3 deals is slightly different but with almost identical issuers. See Appendix C for the DEF 6/15/2016 list of comparables.

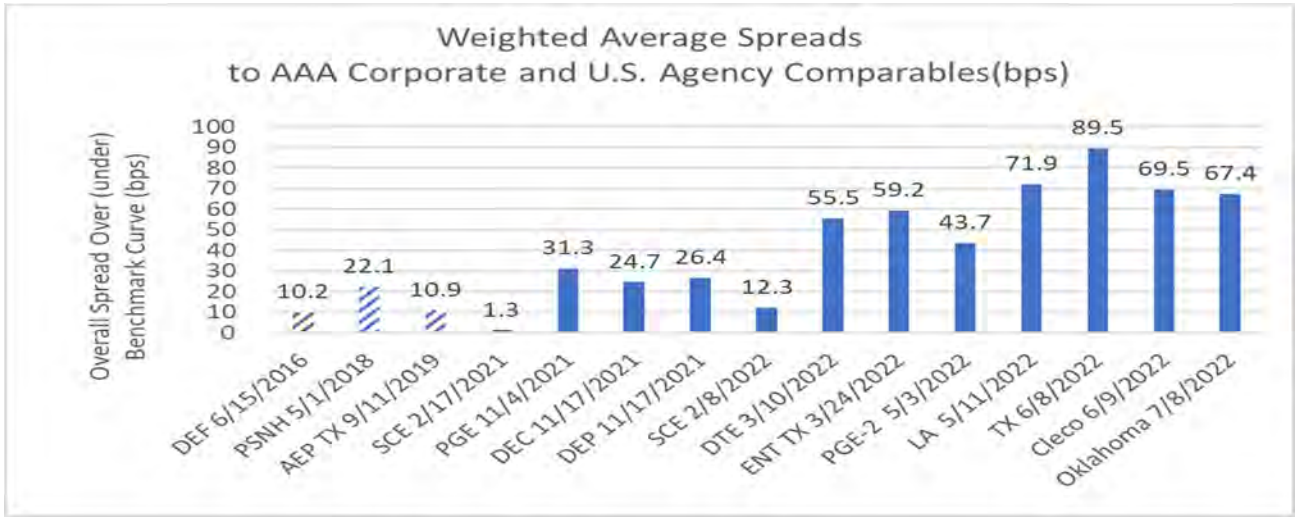
[12] This analysis used the same set of corporate and agency comparables for the deals between February, 2021 and May, 2022 with the exception that additional AAA issues with WAL greater than 19 years were added in the PGE 11/4/2021 analysis to address the extra long WAL of that transaction. See Appendix B.

## Figure 11 – Variance to Comparables by Tranche from June, 2016 to July, 2022




It is also instructive to look at the overall weighted average spread to benchmark comparables, which is shown in Figure 12. This spread can be thought of as the cost of inefficient pricing, since there appears to be no identifiable market reason why the RBBs should have priced a any spread to comparables, with the possible exception of the 1 bp spread for the first SCE deal, which may be attributable to what is known as the "new issue concession", i.e., the rate premium required to sell a new issue versus selling an existing issue in the secondary market.

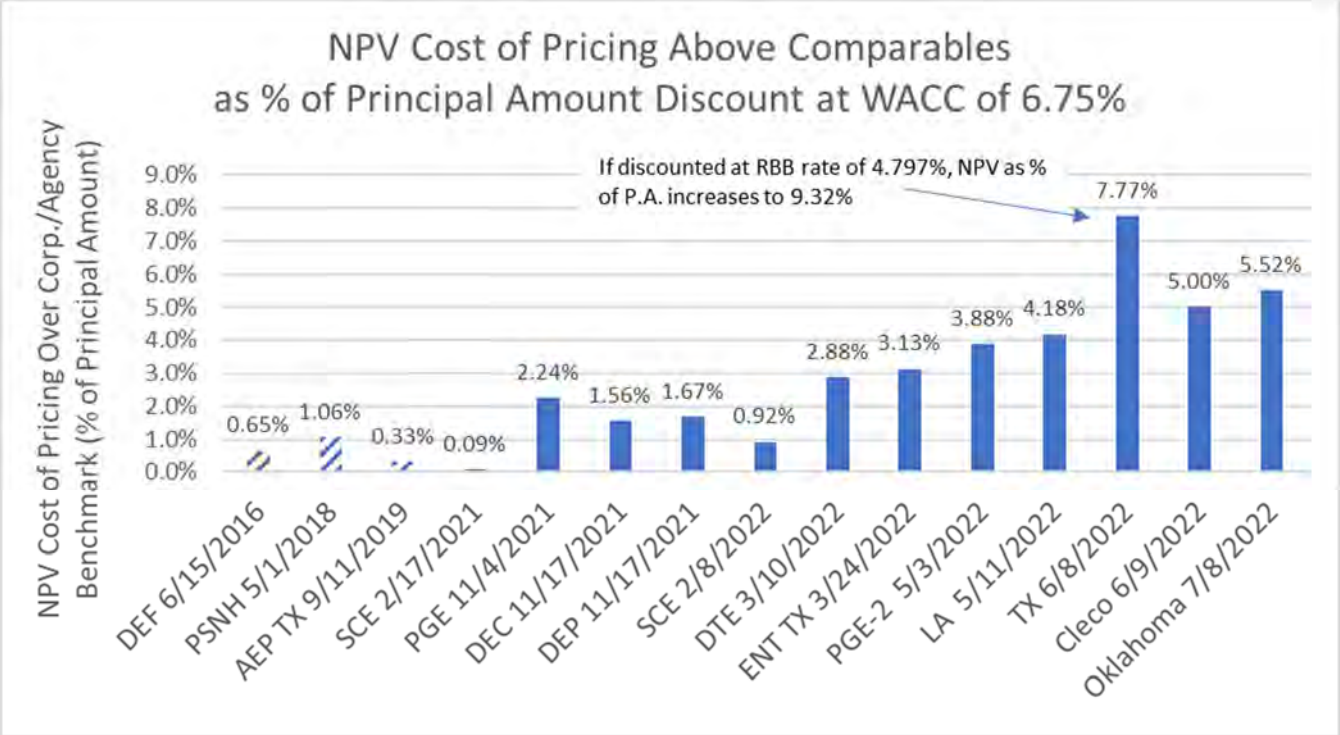
## Figure 12 – Cost of Inefficient Pricing in Basis Points for 11 Recent Transactions and 3 Earlier Transactions



In trying to justify the increase in spread from SCE in February, 2021 to Texas ERCOT bonds priced on June 8 2022, some might argue that "market conditions changed" over that period. It is true that the interest rate has risen by about 1.7% on the 10-year U.S. Treasury bond. However, the comparables trendline g-spread has increased at the 10-year WAL by just 18 bps (.18%), and there is no reason to believe that the spread between the comparables trendline and the efficient RBB pricing has increased at all. At most, you might say it increased by eleven bps, i.e., the difference between the SCE pricing in 2021 and the same company's pricing in 2022. That leaves 9 other RBB pricings that appear to not have been well executed, bearing in mind that the credit risk of an RBB is not related to the utility that sponsors the issuance but rather is primarily a function of the collective ratepayers of the utility (hence the name Ratepayer Backed Bonds).

This disparity in pricing is exactly the type of information that good benchmarking is designed to reveal. It can have very material consequences for ratepayers. Figure 13 shows the impact in terms of the net present value cost as a percentage of the principal amount of the financing.

### Figure 13 – Cost of Inefficient Pricing for 11 Recent Transactions and 3 Earlier Transactions: NPV as % of Principal

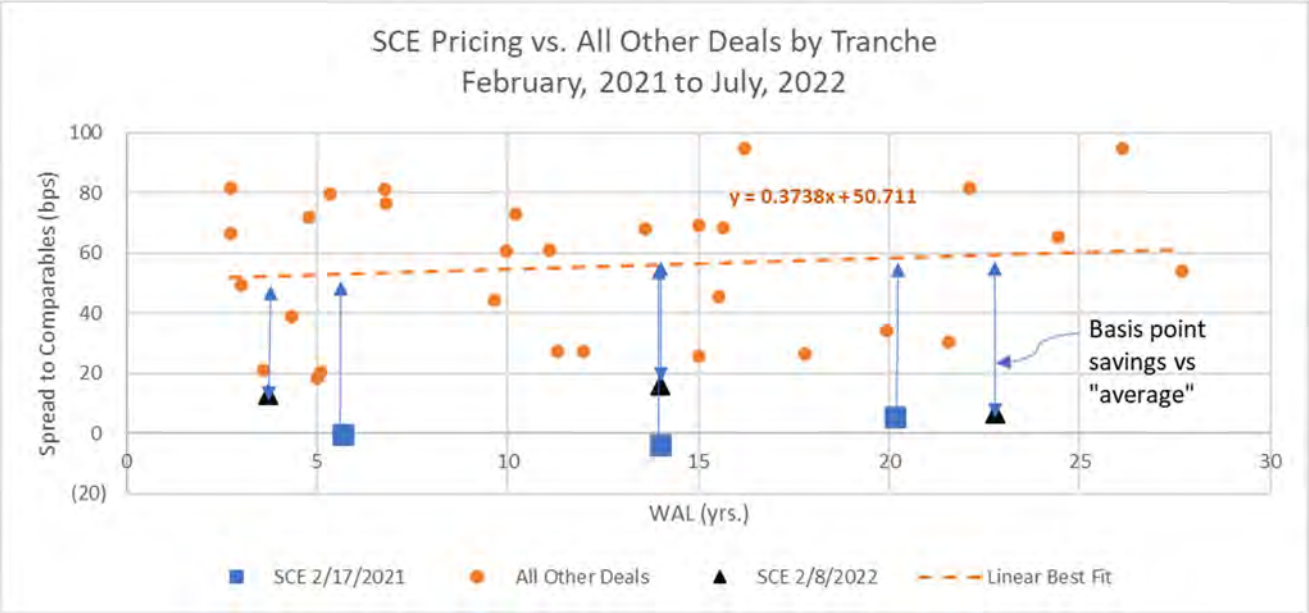



## Savings from Better-than-Average Pricing Execution

For a variety of reasons, it is not always possible to price RBB issues with perfect pricing efficiency, i.e., right on top of the AAA comparables benchmark. The best-fit comparables trendline, is just that, i.e., the AAA comparables benchmark. It is the best fit to represent pricing over an entire yield curve, but it may not represent pricing that is achievable for a particular WAL on a particular day for a particular principal amount. Consequently, it may be appropriate to judge success by how well bonds are priced relative to the average spread to comparables of all other RBBs during a particular time period, looking

at the pricing of all the tranches. Figure 14 shows how well the two SCE issues priced on 2/17/2021 and 2/8/2022, respectively, for each tranche compared to the average of all other RBB pricings from 2/17/2021 through 6/9/2022. This is similar to the approach shown in Figure 4 except that in this case the basket of comparables is priced in the secondary market much closer, if not the same as, the best RBB pricing, and therefore less subject to changes in credit spread.

### Figure 14 – Pricing Effectiveness by Tranche for SCE Pricings Relative to the Average of All Others from February, 2021 to June, 2022




The basis point savings shown in Figure 14 can be converted into NPV savings based on the principal amounts of the tranche in question and an assumed weighted average cost of capital (WACC) used as the discount rate, as shown in the following Table 7.

### Table 7 – Savings in Basis Points and NPV from Better-than-Average Pricing vs. High-Quality Benchmark Trendline from February 2021 to July, 2022

| Tranche | WAL (yrs.) | Principal Amount ($ millions) | SCE Savings vs. All Others (bps) | Additional NPV Savings* from Better-Than Average Pricing ($ millions) |
|---|---|---|---|---|
| EIX 2021 A1 | 5.7 | 137.783 | 53.1 | |
| EIX 2021 A2 | 14.0 | 100.000 | 59.8 | |
| EIX 2021 A3 | 20.2 | 100.000 | 52.8 | |
| | | $337.783 | | $13.0 |
| EIX 2022 A1 | 3.7 | 100.000 | 39.4 | |
| EIX 2022 A2 | 14.0 | 305.000 | 40.0 | |
| EIX 2022 A3 | 22.8 | 128.265 | 52.4 | |
| | | $533.265 | | $18.3 |

* NPV Savings are calculated by discounting cash flows at an assumed WACC of 6.75%/year.

## Conclusion

Various categories of debt securities may be useful in providing comparable securities, in some sense, during the marketing and pricing of RBB securitization bonds. These include high quality corporates such as Johnson & Johnson and AAA-rated U.S. Agency debt. At the shorter end of the yield curve (2-5 years), credit card securitizations provide useful comparisons. It can also be useful to look at electric utility debt (first mortgage bonds) for limited purposes even though the highest rated of such debt is AA. While swap spreads have been used as benchmarks for RBBs in the past, they are not as useful now that the majority of RBBs are being priced off of U.S. Treasury bonds.

During periods of relative market stability, for quantifying pricing efficiency and dollar savings through effective and efficient pricing, using AAA-rated U.S. Agency debt may be the most useful and defensible approach to take with respect to RBB debt issuances up to 16 to 18 years WAL. However, during periods of major market changes and for longer-term RBBs, it may be necessary to give up the use of the I-26 U.S. Agency curve as an unbiased benchmark and instead use AAA corporate debt and U.S. Agencies, either individually or, preferably, as a basket of securities across an entire yield curve.

# Appendices

## Appendix A - AAA Corporate and Agency Comparables Used for All Deals from 2/17/2021 through 5/11/2022

| # | CUSIP | Security Name | Issuer Name | M / S / F Rating |
|---|---|---|---|---|
| 1 | 478160CJ1 | JNJ 2 5/8 01/15/25 | Johnson & Johnson | Aaa / AAA / WD |
| 2 | ZO621537 | FHLMC 0 3/8 09/23/25 | Freddie Mac | Aaa / AA+ / AAA |
| 3 | 478160BY9 | JNJ 2.45 03/01/26 | Johnson & Johnson | Aaa / AAA / WD |
| 4 | QZ659415 | FNMA 1 7/8 09/24/26 | Fannie Mae | Aaa / AA+ / AAA |
| 5 | 594918BY9 | MSFT 3.3 02/06/27 | Microsoft Corp | Aaa / AAA / AAAu |
| 6 | 478160CE2 | JNJ 2.95 03/03/27 | Johnson & Johnson | Aaa / AAA / WD |
| 7 | 478160CK8 | JNJ 2.9 01/15/28 | Johnson & Johnson | Aaa / AAA / WD |
| 8 | EC523369 | FHLMC 6 1/4 07/15/32 | Freddie Mac | Aaa / AA+ / AAA |
| 9 | 478160AL8 | JNJ 4.95 05/15/33 | Johnson & Johnson | Aaa / AAA / WD |
| 10 | 478160BJ2 | JNJ 4 3/8 12/05/33 | Johnson & Johnson | Aaa / AAA / WD |
| 11 | 594918BC7 | MSFT 3 1/2 02/12/35 | Microsoft Corp | Aaa / AAA / AAAu |
| 12 | 478160CR3 | JNJ 2.1 09/01/40 | Johnson & Johnson | Aaa / AAA / NR |
| 13 | 478160AV6 | JNJ 4 1/2 09/01/40 | Johnson & Johnson | Aaa / AAA / WD |
| 14 | 594918AM6 | MSFT 5.3 02/08/41 | Microsoft Corp | Aaa / AAA / AAAu |

## Appendix B - Additional AAA Corporate and Agency Comparables Used For PGE 5/3/2022 with WAL of 18.3 years

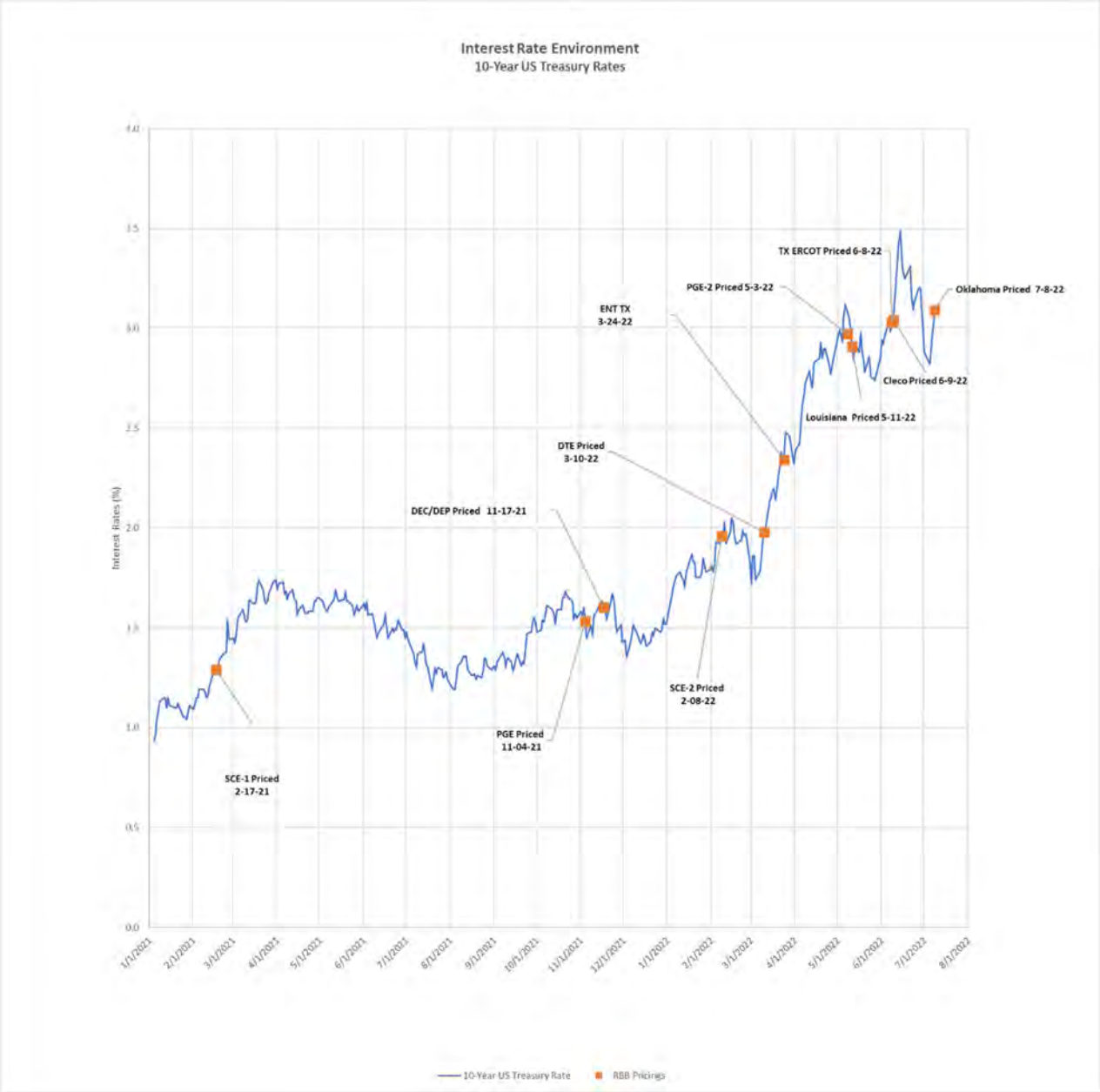
| # | CUSIP | Security Name | Issuer Name | M / S / F Rating |
|---|---|---|---|---|
| 15 | 478160BA1 | JNJ 4.85 05/15/41 | Johnson & Johnson | Aaa / AAA / WD |
| 16 | 478160BK9 | JNJ 4 1/2 12/05/43 | Johnson & Johnson | Aaa / AAA / WD |
| 17 | 594918BD5 | MSFT 3 3/4 02/12/45 | Microsoft Corp | Aaa / AAA / AAAu |
| 18 | 478160BV5 | JNJ 3.7 03/01/46 | Johnson & Johnson | Aaa / AAA / WD |
| 19 | 478160CS1 | JNJ 2 1/4 09/01/50 | Johnson & Johnson | Aaa / AAA / NR |
| 20 | 594918BE3 | MSFT 4 02/12/55 | Microsoft Corp | Aaa / AAA / AAAu |
| 21 | 880591DZ2 | TVA 5 3/8 04/01/56 | Tenn Valley Authority | Aaa / AA+ / AAA |
| 22 | 478160CT9 | JNJ 2.45 09/01/60 | Johnson & Johnson | Aaa / AAA / NR |
| 23 | 594918CF9 | MSFT 3.041 03/17/62 | Microsoft Corp | Aaa / AAA / AAAu |

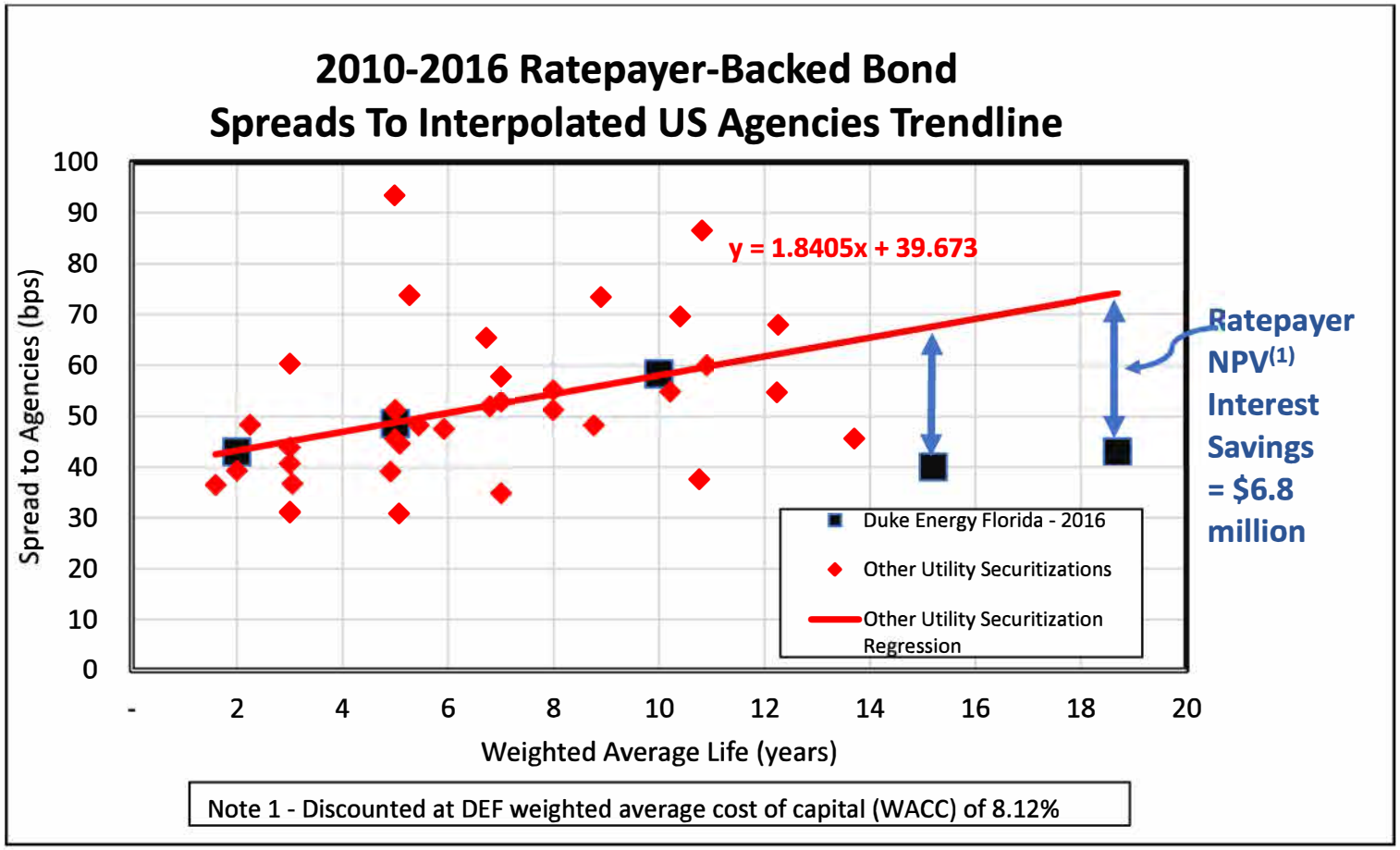
 

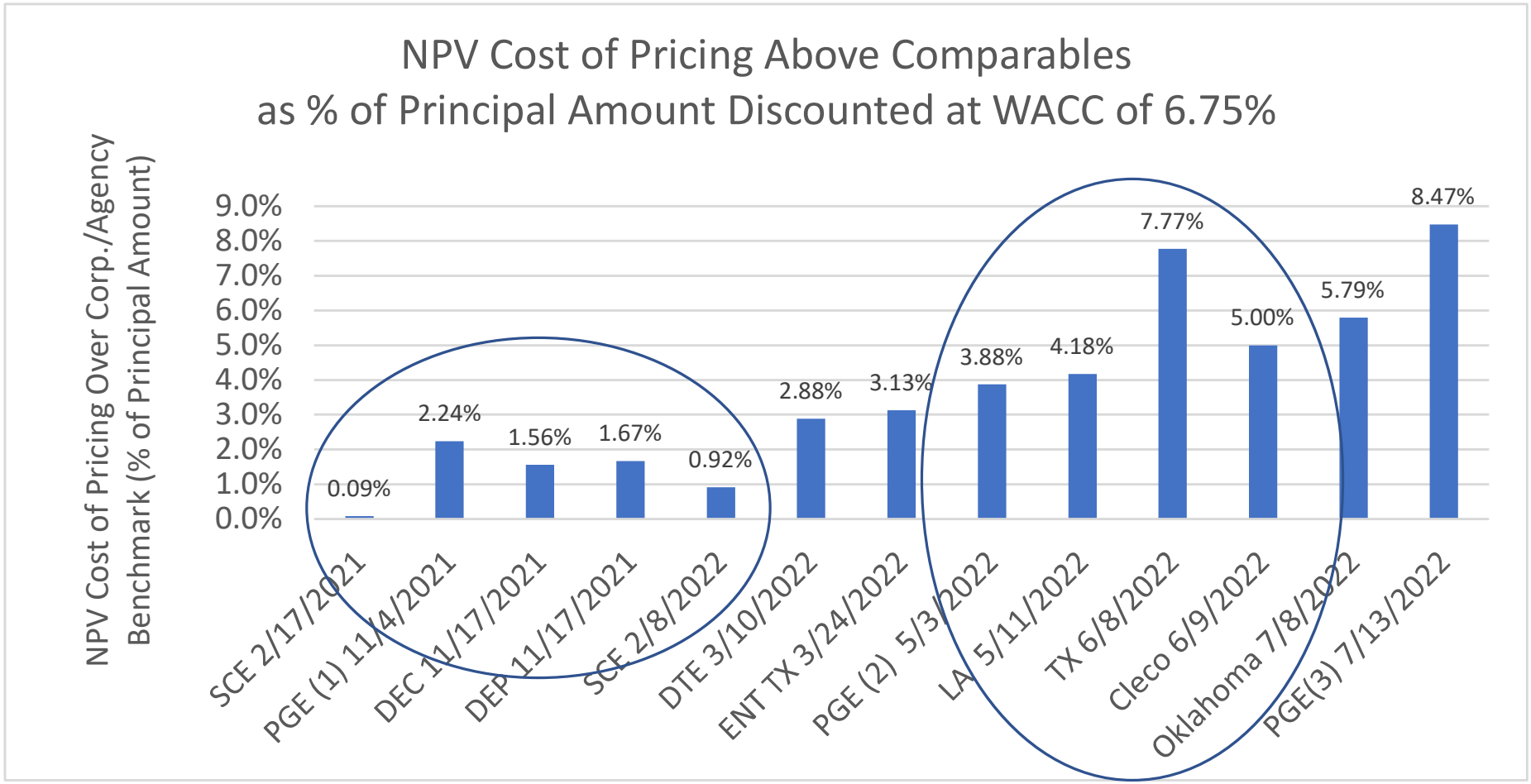
## Appendix C - AAA Corporate and Agency Comparables Used For DEF 6/15/2016

| # | CUSIP | Security Name | Issuer Name | M / S / F Rating |
|---|---|---|---|---|
| 1 | 478160BR4 | JNJ 1 1/8 03/01/19 | Johnson & Johnson | Aaa / AAA / WD |
| 2 | 594918BG8 | MSFT 2 11/03/20 | Microsoft Corp | Aaa / AAA / AAAu |
| 3 | 478160BS2 | JNJ 1.65 03/01/21 | Johnson & Johnson | Aaa / AAA / WD |
| 4 | 478160BTO | JNJ 2.05 03/01/23 | Johnson & Johnson | Aaa / AAA / WD |
| 5 | 594918BJ2 | MSFT 3 1/8 11/03/25 | Microsoft Corp | Aaa / AAA / AAAu |
| 6 | 478160BY9 | JNJ 2.45 03/01/26 | Johnson & Johnson | Aaa / AAA / WD |
| 7 | 478160BY9 | JNJ 2.45 03/01/26 | Johnson & Johnson | Aaa / AAA / WD |
| 8 | EC523369 | FHLMC 6 1/4 07/15/32 | Freddie Mac | Aaa / AA+ / AAA |
| 9 | 478160BJ2 | JNJ 4 3/8 12/05/33 | Johnson & Johnson | Aaa / AAA / WD |
| 10 | 594918BC7 | MSFT 3 1/2 02/12/35 | Microsoft Corp | Aaa / AAA / AAAu |
| 11 | 594918BK9 | MSFT 4.2 11/03/35 | Microsoft Corp | Aaa / AAA / AAAu |
| 12 | 478160BU7 | JNJ 3.55 03/01/36 | Johnson & Johnson | Aaa / AAA / WD |
| 13 | 478160AV6 | JNJ 4 1/2 09/01/40 | Johnson & Johnson | Aaa / AAA / WD |
| 14 | 594918AM6 | MSFT 5.3 02/08/41 | Microsoft Corp | Aaa / AAA / AAAu |
| 15 | 594918BL7 | MSFT 4.45 11/03/45 | Microsoft Corp | Aaa / AAA / AAAu |
| 16 | 478160BV5 | JNJ 3.7 03/01/46 | Johnson & Johnson | Aaa / AAA / WD |

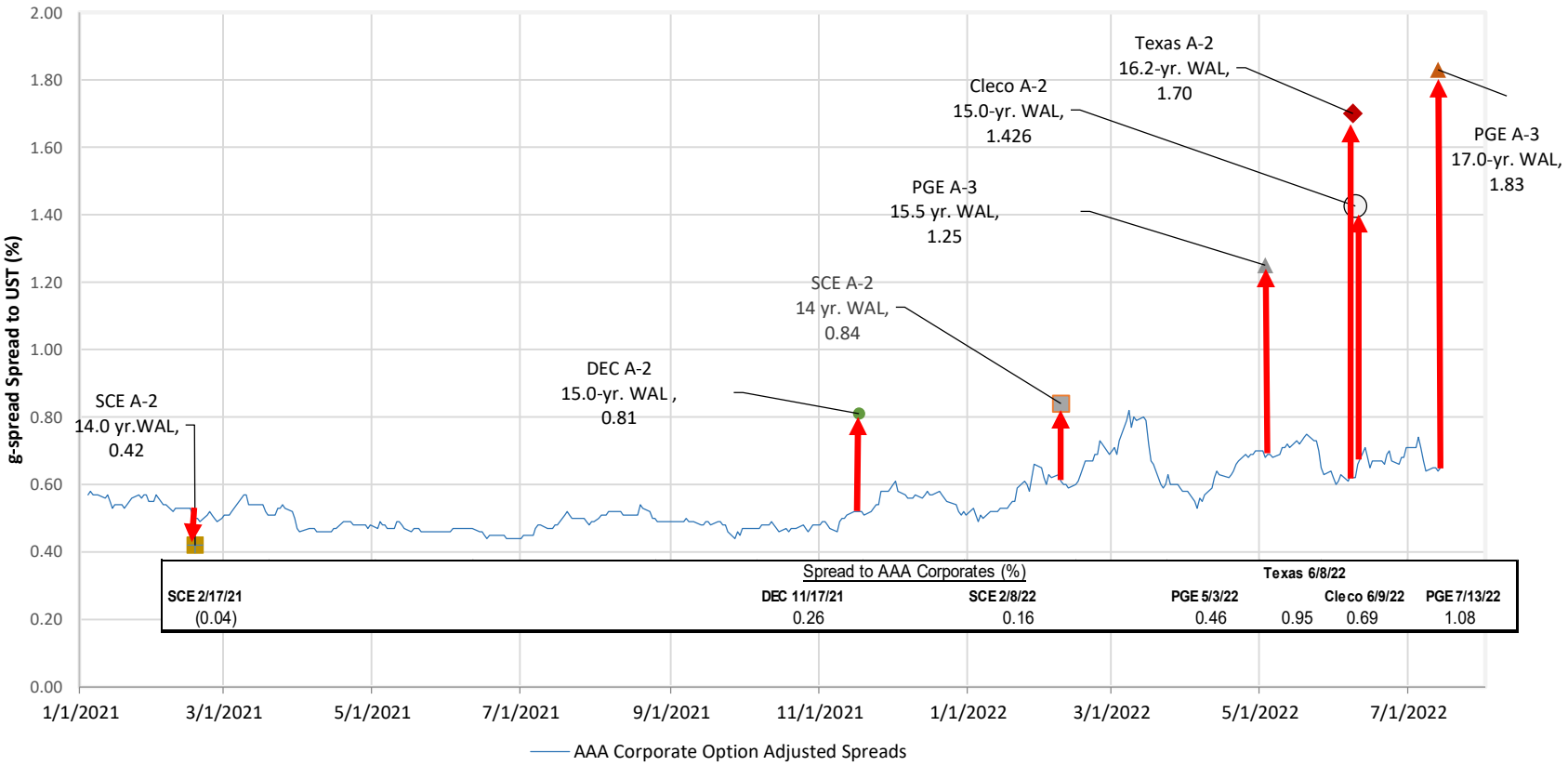
## Appendix D - Interest Rate Environment in 2021 and 2022 Year to Date




2010-2016 Ratepayer-Backed Bond
Spreads To Interpolated US Agencies Trendline
y = 1.8405x + 39.673
Spread to Agencies (bps)
100
90
80
70
60
50
40
30
20
10
0
-
2
4
6
8
10
12
14
16
18
20
Weighted Average Life (years)
Duke Energy Florida - 2016
Other Utility Securitizations
Other Utility Securitization Regression
Ratepayer NPV(1) Interest Savings = $6.8 million
Note 1 - Discounted at DEF weighted average cost of capital (WACC) of 8.12%


NPV Cost of Pricing Above Comparables
as % of Principal Amount Discounted at WACC of 6.75%
NPV Cost of Pricing Over Corp./Agency Benchmark (% of Principal Amount)
9.0%
8.0%
7.0%
6.0%
5.0%
4.0%
3.0%
2.0%
1.0%
0.0%
0.09%
2.24%
1.56%
1.67%
0.92%
2.88%
3.13%
3.88%
4.18%
7.77%
5.00%
5.79%
8.47%
SCE 2/17/2021
PGE (1) 11/4/2021
DEC 11/17/2021
DEP 11/17/2021
SCE 2/8/2022
DTE 3/10/2022
ENT TX 3/24/2022
PGE (2) 5/3/2022
LA 5/11/2022
TX 6/8/2022
Cleco 6/9/2022
Oklahoma 7/8/2022
PGE(3) 7/13/2022

AAA Corporate Option Adjusted Spreads
vs. 14-17 year Securitization Tranches




Sourece: BofA AAA Corp. Spreads, retrieved from Federal Reserve Bank of St. Louis

# Net Present Value Revenue Requirements (NPVRR)
# Savings with Jerasa Discounting
## ($ Millions)

| | CEI "15 Year" Structure | | | CEI "18 Year" Structure | | |
|---|---|---|---|---|---|---|
| | Annual discounting for 16 periods | | | Annual discounting for 19 periods | | |
| Annual Discount Rate: | 9.2899% | | | 9.2899% | | |
| Year | Securitization Rev. Req. Nominal | ADIT (Benefit) Nominal | Total | Securitization Rev. Req. Nominal | ADIT (Benefit) Nominal | Total |
| 1 | 16.43 | (2.09) | | 14.68 | (2.10) | |
| 2 | 32.86 | (4.02) | | 29.35 | (4.08) | |
| 3 | 32.86 | (3.80) | | 29.35 | (3.91) | |
| 4 | 32.86 | (3.57) | | 29.35 | (3.74) | |
| 5 | 32.86 | (3.33) | | 29.35 | (3.55) | |
| 6 | 32.86 | (3.09) | | 29.35 | (3.36) | |
| 7 | 32.86 | (2.82) | | 29.35 | (3.16) | |
| 8 | 32.86 | (2.55) | | 29.35 | (2.95) | |
| 9 | 32.86 | (2.27) | | 29.35 | (2.73) | |
| 10 | 32.86 | (1.98) | | 29.35 | (2.50) | |
| 11 | 32.86 | (1.67) | | 29.35 | (2.26) | |
| 12 | 32.86 | (1.35) | | 29.35 | (2.01) | |
| 13 | 32.86 | (1.01) | | 29.35 | (1.75) | |
| 14 | 32.86 | (0.66) | | 29.35 | (1.48) | |
| 15 | 32.86 | (0.29) | | 29.35 | (1.20) | |
| 16 | 16.43 | 0.00 | | 29.35 | (0.90) | |
| 17 | | | | 29.35 | (0.58) | |
| 18 | | | | 29.35 | (0.26) | |
| 19 | | | | 14.68 | (0.00) | |
| Total Nominal: | 492.90 | ($34.51) | | $528.34 | (42.52) | |
| Total NPV: | $249.33 | ($20.93) | $228.40 | $241.39 | ($23.85) | $217.54 |
| Traditional NPVRR: | | | 285.95 | | | 285.95 |
| NPVRR Savings from Securitization + ADIT | | | ($57.55) | | | ($68.41) |
| NPVRR Benefit from 3-year Extension | | | | | | **($10.86)** |

## Net Present Value Revenue Requirements (NPVRR)
## Savings with Corrected Discounting and 1-Year Extension
### ($ Millions)

| | 15 Year Structure | | | 18 Year Structure | | | 19 Year Structure | | |
|---|---|---|---|---|---|---|---|---|---|
| | Semi-Annual discounting for 30 periods | | | Semi-Annual discounting for 36 periods | | | Semi-Annual discounting for 38 periods | | |
| Semi-Annual Discount Rate: | 4.6450% | | | 4.6450% | | | 4.6450% | | |
| | Securitization Rev. Req. | ADIT (Benefit) | Total | Securitization Rev. Req. | ADIT (Benefit) | Total | Securitization Rev. Req. | ADIT (Benefit) | Total |
| Semi-annual Period | Nominal | Nominal | | Nominal | Nominal | | Nominal | Nominal | |
| 1 | 16.43 | (2.09) | | 14.68 | (2.10) | | 14.21 | (2.11) | |
| 2 | 16.43 | (2.04) | | 14.68 | (2.06) | | 14.21 | (2.07) | |
| 3 | 16.43 | (1.99) | | 14.68 | (2.02) | | 14.21 | (2.03) | |
| 4 | 16.43 | (1.93) | | 14.68 | (1.98) | | 14.21 | (1.99) | |
| 5 | 16.43 | (1.87) | | 14.68 | (1.94) | | 14.21 | (1.95) | |
| 6 | 16.43 | (1.82) | | 14.68 | (1.89) | | 14.21 | (1.91) | |
| 7 | 16.43 | (1.76) | | 14.68 | (1.85) | | 14.21 | (1.87) | |
| 8 | 16.43 | (1.70) | | 14.68 | (1.80) | | 14.21 | (1.83) | |
| 9 | 16.43 | (1.64) | | 14.68 | (1.75) | | 14.21 | (1.78) | |
| 10 | 16.43 | (1.57) | | 14.68 | (1.70) | | 14.21 | (1.74) | |
| 11 | 16.43 | (1.51) | | 14.68 | (1.65) | | 14.21 | (1.69) | |
| 12 | 16.43 | (1.45) | | 14.68 | (1.60) | | 14.21 | (1.65) | |
| 13 | 16.43 | (1.38) | | 14.68 | (1.55) | | 14.21 | (1.60) | |
| 14 | 16.43 | (1.31) | | 14.68 | (1.50) | | 14.21 | (1.55) | |
| 15 | 16.43 | (1.24) | | 14.68 | (1.45) | | 14.21 | (1.50) | |
| 16 | 16.43 | (1.17) | | 14.68 | (1.39) | | 14.21 | (1.45) | |
| 17 | 16.43 | (1.10) | | 14.68 | (1.34) | | 14.21 | (1.40) | |
| 18 | 16.43 | (1.03) | | 14.68 | (1.28) | | 14.21 | (1.35) | |
| 19 | 16.43 | (0.95) | | 14.68 | (1.22) | | 14.21 | (1.29) | |
| 20 | 16.43 | (0.87) | | 14.68 | (1.16) | | 14.21 | (1.24) | |
| 21 | 16.43 | (0.79) | | 14.68 | (1.10) | | 14.21 | (1.18) | |
| 22 | 16.43 | (0.71) | | 14.68 | (1.04) | | 14.21 | (1.12) | |
| 23 | 16.43 | (0.63) | | 14.68 | (0.97) | | 14.21 | (1.06) | |
| 24 | 16.43 | (0.55) | | 14.68 | (0.91) | | 14.21 | (1.00) | |
| 25 | 16.43 | (0.46) | | 14.68 | (0.84) | | 14.21 | (0.94) | |
| 26 | 16.43 | (0.37) | | 14.68 | (0.78) | | 14.21 | (0.88) | |
| 27 | 16.43 | (0.28) | | 14.68 | (0.71) | | 14.21 | (0.82) | |
| 28 | 16.43 | (0.19) | | 14.68 | (0.63) | | 14.21 | (0.75) | |
| 29 | 16.43 | (0.10) | | 14.68 | (0.56) | | 14.21 | (0.68) | |
| 30 | 16.43 | (0.00) | | 14.68 | (0.49) | | 14.21 | (0.61) | |
| 31 | | | | 14.68 | (0.41) | | 14.21 | (0.54) | |
| 32 | | | | 14.68 | (0.33) | | 14.21 | (0.47) | |
| 33 | | | | 14.68 | (0.25) | | 14.21 | (0.40) | |
| 34 | | | | 14.68 | (0.17) | | 14.21 | (0.32) | |
| 35 | | | | 14.68 | (0.09) | | 14.21 | (0.24) | |
| 36 | | | | 14.68 | (0.00) | | 14.21 | (0.16) | |
| 37 | | | | | | | 14.21 | (0.08) | |
| 38 | | | | | | | 14.21 | 0.00 | |
| Total Nominal: | 492.90 | (34.51) | | 528.34 | (42.52) | | 540.13 | (45.27) | |
| Total NPV: | $263.12 | ($22.15) | $240.97 | $254.33 | ($25.21) | $229.12 | $251.50 | ($26.14) | $225.36 |
| Traditional NPVRR: | | | 285.95 | | | 285.95 | | | 285.95 |
| NPVRR Savings from Securitization + ADIT: | | | ($44.98) | | | ($56.83) | | | ($60.59) |
| NPVRR Benefit from 3-year Extension: | | | | | | **($11.84)** | | | |
| NPVRR Benefit from additional 1-year Extension: | | | | | | | | | **($3.76)** |

Transactions From 4/27/2000 to 3/24/2022 with

Final Legal Maturity of Longest Tranche One year Beyond Final Scheduled Maturity

| | | | Longest Tranche | | | | | |
|---|---|---|---|---|---|---|---|---|
| # | Utility Deal Name | Initial Pricing Date | Name | CUSIP | WAL (yrs) | Principal Amount ($millions) | Scheduled Final Maturity | Final Legal Maturity |
| 1 | PECO 2000-A | 4/27/2000 | A-4 | 705220AL5 | 9.3 | 351.16 | 9/1/2009 | 9/1/2010 |
| 2 | Detroit Edison 2001 | 3/2/2001 | A-6 | 250854AF3 | 13.3 | 390.67 | 3/1/2015 | 3/1/2016 |
| 3 | CL&P Funding LLC | 3/27/2001 | A-5 | 207678AE3 | 8.9 | 378.2 | 12/30/2010 | 12/30/2011 |
| 4 | Consumers Funding LLC | 10/31/2001 | A-6 | 210523AF3 | 12.8 | 115.59 | 10/20/2015 | 10/20/2016 |
| 5 | CPL Transition Funding LLC | 1/31/2002 | A-5 | 12617AAE7 | 13 | 191.86 | 1/15/2016 | 1/15/2017 |
| 6 | CenterPoint Energy Series A | 12/9/2005 | A-5 | 15200DAE7 | 12.7 | 462 | 8/1/2019 | 8/1/2020 |
| 7 | AEP Texas Central Transition Funding | 10/4/2006 | A-5 | 00110AAE4 | 12.7 | 494.7 | 7/1/2020 | 7/1/2021 |
| 8 | PE Environmental Funding LLC | 4/3/2007 | A-4 | 69336NAD1 | 19.9 | 9.98 | 7/15/2027 | 7/15/2028 |
| 9 | MP Environmental Funding LLC | 4/3/2007 | A-4 | 553214AD9 | 20 | 29.03 | 7/15/2027 | 7/15/2028 |
| 10 | CenterPoint Energy Restoration Bond | 11/18/2009 | A-3 | 15200NAC9 | 10.8 | 279.92 | 8/15/2022 | 8/15/2023 |
| 11 | PE Environmental Funding LLC | 12/16/2009 | A-1 | 69336NAE9 | 19 | 21.51 | 1/15/2030 | 1/15/2031 |
| 12 | MP Environmental Funding LLC | 12/16/2009 | A-1 | 553214AE7 | 19 | 64.38 | 1/15/2030 | 1/15/2031 |
| 13 | CenterPoint Energy Transmission Bond Co. IV | 1/11/2012 | A-3 | 15200WAC9 | 10.8 | 681.26 | 10/15/2024 | 10/15/2025 |
| 14 | Ohio Phase-In-Recovery Funding LLC | 7/23/2013 | A-2 | 67741YAB4 | 5.1 | 102.51 | 7/1/2019 | 7/1/2020 |
| 15 | Consumers 2014 Securitization Funding LLC | 7/14/2014 | A-3 | 210717AC8 | 12.3 | 114.5 | 5/1/2028 | 5/1/2029 |
| 16 | DTE Electric | 3/10/2022 | A-2 | 23345GAB6 | 9.66 | 52.21 | 12/1/2035 | 12/1/2036 |
| 17 | Entergy Texas Restoration 2022-A | 3/24/2022 | A-2 | 29366NAB2 | 9.97 | 190.52 | 12/15/2035 | 12/15/2036 |

# Examples of Improved Financing Order Provisions

1. **Re: Return on Invested Capital**
   a. **From Entergy Texas Financing Order filed 1/14/2022, page 44, Findings of Fact ("FOF") 72:**

"The funds in this subaccount will be invested by the indenture trustee in short-term high-quality investments, and such funds (including investment earnings) will be used by the indenture trustee to pay principal and interest on the system restoration bonds and all other components of the PPR. If Entergy Texas is required to make a capital contribution in excess of 0.5% of the original principal amount of any series of bonds, **Entergy Texas will be authorized to receive an aggregate amount equal to the sum of the (i) actual amounts earned by the trustee from investment of the capital contribution (up to 0.5% of the original principal amount of such series)** and (ii) an annual return at the authorized pre-tax return on equity established in Entergy Texas's most recent base-rate case on the remainder of the capital contribution for such series."

   b. **From AEP Texas Financing Order filed 6/17/2019, page 45, FOF 63:**

"The capital contribution to BondCo will be funded by AEP Texas. To ensure that ratepayers receive the appropriate benefit from the securitization approved in this Financing Order, the proceeds from the sale of the system restoration bonds will not be applied towards this capital contribution. Because AEP Texas funds the capital subaccount, **AEP Texas will receive the investment earnings that are earned through the indenture trustee's investment of that capital from time to time**, and if AEP Texas is required to make a capital contribution in excess of 0.5% of the original principal amount of any series of system restoration bonds, AEP Texas is authorized to receive an aggregate amount equal to the sum of (i) the actual amounts earned by the trustee from investment of the capital contribution (up to 0.5% of the original principal amount of such series) and (ii) an annual return on the remainder of the capital contribution for such series at AEP Texas's then-authorized rate of return on equity."

**2. Re: Servicing and administration costs**

**a. From Duke Energy FL Financing Order Filed 11/19/2015, page 35, FOF 81:**

"DEF will credit back to customers through the Capacity Cost Recovery Clause all periodic servicing fees in excess of DEF's or an affiliate of DEF's incremental cost of performing the servicer function until the next rate case when costs and revenues associated with the servicing fees will be included in the cost of service. DEF will credit back to customers through the Capacity Cost Recovery Clause all periodic administration fees in excess of DEF's or an affiliate of DEF's incremental cost of performing the administration function until the next rate case when costs and revenues associated with the administration fees will be included in the cost of service. We find this to be reasonable."

**b. From Duke Energy Carolinas and Duke Energy Progress Financing Order issued 5/10/2021, page 72, Ordering Paragraph 12:**

"Servicing and Administration Fees: That DEC will establish a regulatory asset or regulatory liability account separate and apart from the regulatory assets and liabilities of other types of securitization-related costs and benefits, for the purpose of tracking (as received and incurred) servicing and administration fees received by DEC from the DEC SPE and the incremental costs incurred by the Company in fulfilling the required functions under the servicing and administrative agreements. Any regulatory asset or liability account established pursuant to this paragraph shall accrue carrying costs at DEC's net-of-tax WACC, and be considered for recovery from or returned to customers in DEC's next general rate case."

**c. From AEP Texas Financing Order filed 6/17/2019, page 24, FOF 23:**

"The servicing and administrative fees collected by AEP Texas, or any affiliate of AEP Texas, acting as servicer or administrator under the servicing agreement or administration agreement must be included as a revenue credit and reduce revenue requirements in each subsequent rate case. The expenses incurred by AEP Texas or such affiliate to perform obligations under the servicing agreement should be included in each AEP Texas base-rate case."

**3. Re: Tail-end collections**

**a. From Duke Energy Florida Financing Order filed 11/19/2015, page 33, FOF 77:**

"Upon the maturity of the series of nuclear asset recovery bonds and upon discharge of all obligations in respect thereof, amounts remaining in the Collection Account will be released to the SPE and will be available for distribution by the SPE to DEF. Equivalent amounts, less the amount of the Capital Subaccount, will be credited by DEF to current customers' bills in the same manner that the charges were collected, or through a credit to the capacity cost recovery clause if this Commission determines at the time of retirement that a direct credit to customers' bills is not cost-effective. DEF shall similarly credit customers an aggregate amount equal to any nuclear asset-recovery charges subsequently received by the SPE or its successor in interest to the nuclear asset-recovery property."

# Ratepayer-Backed Bonds:

## *Glossary of Terms and Jargon*

Joseph S. Fichera
Saber Partners, LLC

## Glossary (Listed Alphabetically)

**Amortization.** The repayment of principal of a bond on a regular schedule to the investor. This schedule is usually on a semi-annual basis.

**Auction** – A process established with a set of rules to sell a security by accepting the best offer from entities qualified to make offers that conform to the rules of the auction. U.S. treasury securities are sold by auctions. The rule is all bidders gets the lowest rate that clears

**Asset-Backed Security (ABS) -** A debt security issued by a special purpose entity (SPE), the payment of principal and interest is backed by a fixed pool of physical assets (e.g., rail cars or airplanes) or a financial asset (e.g., a mortgage or the value of a portfolio of credit card receivables). The credit associated of the asset-backed security is created by establishing two levels of risk such as an A piece and a B piece. The cashflow from the fixed pool of assets pays the A piece prior to paying the B piece. The timing and amount of those cashflows determine the amount of risk of each piece as evaluated by independent nationally recognized statistical rating organization (NRSRO), credit rating agencies such as Moody's or Standard and Poors.

**Bankruptcy Remote or Ring Fenced -** An entity designed in such a way that (i) the likelihood of it going into bankruptcy is extremely small, and (ii) it would experience as little economic impact as possible in the event of a bankruptcy of other related legal entities.

**Basis point.** One one hundredth of a percentage point (.001%) Often referred to in writing as "bp" (or "bps" in the plural).

**Benchmark –** When pricing a bond, the Benchmark is a security with a great deal of price transparency that is agreed upon by all parties so that the Yield on the new issue can be set relative to the Yield on the Benchmark. In that way, if Yields in the market move after agreeing on the spread to Benchmark but before final pricing, the parties do not have to renegotiate the final price/Yield. A Benchmark can also be a similar security used to determine Relative Value when talking to investors.

**Bookrunner –** A Broker-Dealer that serves as the primary or lead Underwriter in a Negotiated Bond Offering. The Bookrunner is the point person for negotiations with Issuers and coordinates other broker-dealers in discussions with Investors. The Bookrunner maintains the records of offers to buy from investors and makes decisions as to which orders to fulfill.

**Broker-Dealer –** Private firm registered with the Securities & Exchange Commission (SEC) in accordance with the Securities Exchange Act of 1934. These firms are regulated by the SEC and the Financial Industry Regulatory Authority (FINRA) and authorized to sell securities to the public.

**Bullet Maturity.** A single date in the future that all principal will be repaid to the investor on the bond. There are no previous principal payments until this date. All previous payments were only interest payments. A "Bullet Maturity" has no 'sinking fund" or amortization schedule."

**Buy and Hold Investor/Account –** An investor who primarily seeks safety of its investment over time and a return but is not actively buying and selling securities on a continual basis. This means they are not actively "trading" to increase profits and therefore liquidity – the ability to sell bonds quickly – is not as important as other investors. See **"Total Return Investor/Account"**

**Callable/Non-Callable Bonds/Pre-Payment Risk -** In many cases bonds are offered for sale with a "call provision" which means that the investors can be repaid before the bonds maturity date in

other words called back from the Investor. For example, a company may want the right to retire a given bond in five years even though it carries a 25-year Maturity date. That bond would be said to carry a five-year call option. Investors who worry their bonds might be called away from them in a relatively short period of time will not pay a high price (accept a lower interest rate) for those bonds because they cannot rely on receiving the bonds' stated interest rate through the Maturity date. This is also known as Pre-Payment Risk. Non-callable bonds cannot be called away from the investor before the final Maturity date. Ratepayer-Backed Bonds typically are non-callable and have no Pre-Payment Risk.

**Exchange –** an organization that lists equity securities (stocks) of corporations for sale to the public following certain rules and allows the purchase and sale of those securities by members of its organization. This is the way stocks are sold and traded but not bonds. See Over the Counter for bonds.

**Extension Risk.** See "**Maturity"** first. The investor is at risk between the time of the "Scheduled Maturity" and the "Legal Maturity." This is known as "Extension Risk." That means if the investor receives the principal after the Scheduled Maturity" but before and event of default (Legal Maturity), the original calculations on the "Weighted Average Life" will be different…the weighted average life will be extended.

In Ratepayer-Backed Bonds, because of the robust True-Up Mechanism it is virtually impossible for the bonds to ever extend past their Scheduled Maturity and even more remote to default past their Legal Maturity.

**Financing Order -** An order issued by state regulators authorizing the issuance of Ratepayer-Backed Bonds, which order cannot be changed or revoked at a later date as long as the Ratepayer-Backed Bonds are outstanding, and which (i) segregates a specific component of the retail rate charge throughout the service territory, (ii) causes the right to receive this component to be treated as a present interest in property that can be bought, sold or pledged, (iii) authorizes the utility to sell such property to an SPE, (iv) authorizes the SPE to issue Ratepayer-Backed Bonds secured by such property, and (v) requires the utility which sold the property to use the proceeds of the sale for one or more specific purposes.

**G-spread.** See "**Spread**" first. The difference between the yield on Treasury Bonds and the yield on corporate bonds of the same maturity. Since US Treasuries are issued with maturities of 3, 5, 7, 10, 20 and 30 years, when the maturity if the corporate bonds does not match this exactly, the corresponding US Treasury is calculated by "interpolating" between two US Treasuries.[1]

**Interpolation –** The process by which an unknown value is determined based upon knowing a value above and a value below the point in question. For example, if the yield is known for a 10-year U.S.Treasury bond and a 20-year U.S.Treasury bond, one can infer by interpolation that the yield on a 15-year Treasury bond would be halfway in between even if such a bond does not currently exist.

**Legal Maturity Date –** The date by which, if the principal is not fully paid, the bonds will be considered to be in default and the bondholder receives the rights as creditors to sue for compliance through the courts. Usually, the Final Legal Maturity Date is one to two years after the Final Scheduled Maturity Date. See also Maturity.

[1] See https://www.investopedia.com/terms/i/interpolated_yield_curve.asp "To determine the value of a missing yield or interest rate to derive a yield curve, the missing information can be interpolated using various methods including bootstrapping or regression analysis. Once the interpolated yield curve has been derived, yield spreads can be calculated from it as few of the bonds have maturities comparable to those of the on-the-run Treasuries."

**Maturity.** The length of time until the issuer of a bond has to repay specified amounts to the lender. In Ratepayer-Backed Bonds, having the money to pay principal and interest is dependent upon collections based on electricity sales and the True-Up Adjustment Mechanism. For rating agency purposes – who rate the probability that the bond will "default,", there is an expected or "Scheduled Maturity" and a "Legal Maturity." The difference between the two is when the investor is given creditor rights under the bond indenture to use the courts to demand payment of the principal if it is not received i.e., it's an "event of default." That occurs on the date known as the "Legal Maturity." Having a difference between the Scheduled Maturity for investors and the Legal Maturity for the rating agencies, provides a cushion for the rating agencies to provide a higher rating on the bonds because their rating goes to "probability of default" (Legal Maturity) and not to the expected or "Scheduled Maturity" .

See also **"Bullet Maturity**," **"Weighted Average Life,**" **"Amortization."** and **"Sinking Fund."**

**Market Conditions** – At any given time the supply of securities being offered for sale, the amount of offers to buy, the level of interest rates, status of the economy, news affecting investor and issuer preferences.

**Market Clearing Rate –** The interest rate at which there are offers from investors that match the amount of bonds that offered for sale without using any of the underwriter's capital to facilitate transaction.

**Maturity or Maturity Date -** The length of time until the issuer of a bond has to repay specified amounts to the lender / investor. See also Legal Maturity Date and Scheduled Maturity Date.

**Net Present Value** (**NPV**) **-** The amount of cash today that is equivalent in value to a payment, or to a stream of payments, to be received in the future. To determine the Net Present Value, each future cash flow is multiplied by a present value factor. For example, if the opportunity cost of funds is 10%, the Net Present Value of $100 to be received in one year is $100 x [1/(1 + 0.10)] = $91. Opportunity cost means what a dollar today could earn over a specific period of time. This concept is sometimes referred to as the time value of money since a dollar today is worth more than a dollar in the future as long as the opportunity cost (or discount rate) is greater than zero.

**Nominal Dollars** or **Nominal Savings -** This type of measure reflects the current situation, not adjusted for the opportunity cost of funds over time. Nominal dollars treat all dollars the same whether received today or 10 years from today. See "Net Present Value" for the way to look at dollars over time.

**Negotiated Transaction –** The process of selling securities by selecting a group of Underwriters/Broker-Dealer to discuss and negotiate terms of the bonds such as interest rate and maturity.

**Over the Counter Market –** An over-the-counter (OTC) market is a decentralized market in which market participants trade stocks, commodities, currencies, or other instruments directly between two parties and without a central exchange or broker. Over-the-counter markets do not have physical locations; instead, trading is conducted electronically

**Oversubscribed/Undersubscribed –** The amount of orders for bonds in relation to the amount of bonds offered for sale. Subscription is a term used by an underwriter to describe the amount of orders it has recorded in its book of order tracking the transaction. See also Bookrunner and Book Building Process.

**Primary Market –** The time of the initial sale of a security from an issuer to underwriters and investors. The sale between and among investors and broker-dealers occurs after the Primary Market sale. See **Secondary Market.**

**Ratepayer-Backed Bond** – Bonds issued by an SPE for the benefit of one or more sponsoring utilities in a Securitization transaction usually authorized by special state legislation and conforming to certain Internal Revenue Service rules. The bonds are usually repaid from a nonbypassable charge imposed on generally all retail consumers of electricity within a utility's service territory. The payment of principal and interest of the bond on time are supported by the True-up Mechanism. This requires regulators to adjust the charge to whatever level is necessary to repay the bonds based on the utility forecast of collections.

**Relative Value -** The relationship between two securities as expressed by their yield . In pricing a new Ratepayer-Backed Bond issue, for example, it is useful to compare the Spread over Swaps of the proposed bond Yield to the Spread over Swaps or over a AAA-rated U.S. agency bond. If the two securities were judged equal in risk with identical terms (not callable, same WAL etc.) but one had a higher Spread, it would be said to have greater Relative Value.

**Regression Line – A** regression takes a group of data points and finds a mathematical relationship between them. This relationship is typically in the form of a straight line (linear regression) that best approximates all the individual data points. It is the most common type of "trendline" used in Excel.

**Road Show -** A formal presentation to potential purchasers of a security, typically organized by Underwriters with the involvement of the issuer and the financial advisor. A team sometimes travels around the U.S. to discuss the features of the security, resulting in the term "Road Show." Sometimes the team travels to foreign financial centers to make these presentations. In recent years, most Road Shows have been conducted using electronic media over the Internet, reducing or eliminating the need for travel.

**Secondary Market –** The market in which stocks or bonds are traded after their initial issuance. When a publicly offered bond trades at a substantially higher price (lower Yield) in the Secondary Market immediately following its issuance, this is an indication that the bond was mispriced (priced too low) by the Underwriters in the original public offering.

**Securitization -** The process by which a pool of assets, such as loan receivables, is used as a basis for issuing highly rated (often AAA) bonds. The pool of assets is created and transferred to a trust or, in a utility Securitization, to a Bankruptcy Remote or Ring Fenced SPE. The entire right, title and interest in the assets are transferred at fair market value to the SPE. The SPE pledges the assets to secure the bonds and the cash flows from those assets are used to pay principal and interest on the bonds. Thus, the risk to the bondholder is just the risk associated with the cash flows from the assets in the SPE. The assets can be physical (such as plant and equipment) or intangible (such as a loan receivable or the right to some other revenue stream).

**Scheduled Maturity Date–** The date by which it is expected that a principal payment on a bond or on a group of substantially identical bonds will be made. If the bonds are not paid by the Scheduled Maturity Date the bondholder do not have the right as creditors to sue in the courts for compliance. See also Maturity and Legal Maturity.

**Special Purpose Entity (SPE) –** A Bankruptcy Remote or Ring-Fenced legal entity. The entity is usually a subsidiary of a larger company. It is set up for the express purpose of owning the right, title and interest in certain assets that will be separate and apart from the assets of the company that owns the newly established entity i.e., the parent company. The SPE can use these assets as collateral to secure bonds it may issue and provide the cash flows to pay interest and principal on the bonds.

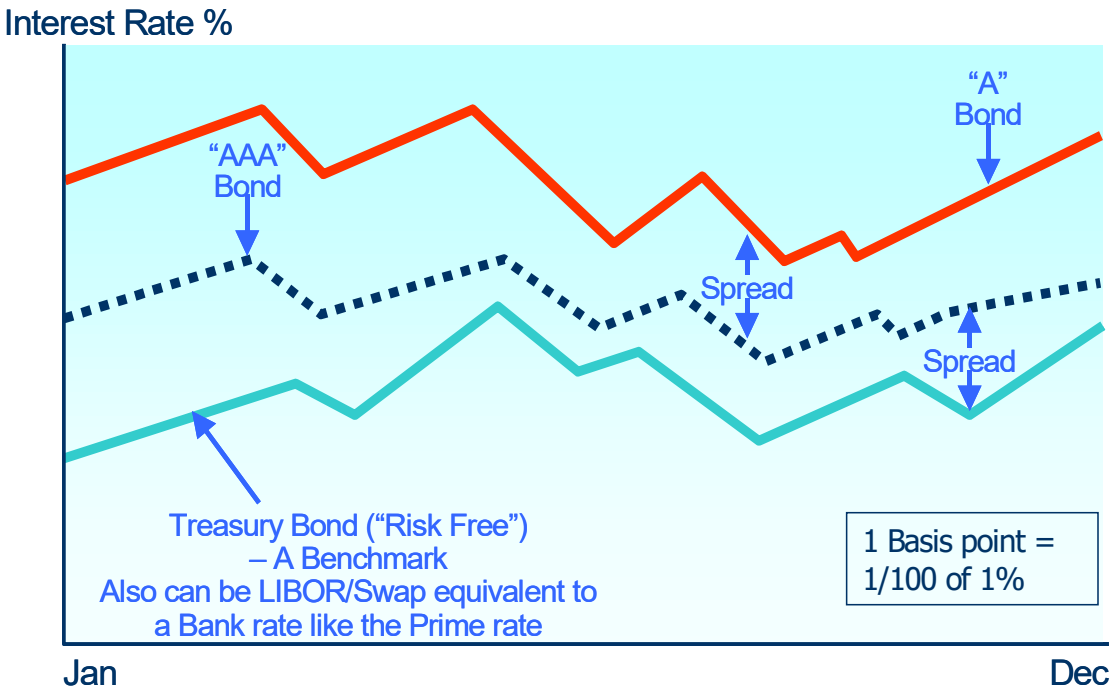
**Spread.** Difference between the market yields of different fixed income securities of similar maturities, expressed in basis points. If a Treasury bond maturing in seven years is trading to yield 3.87% and a AAA rated corporate bond is trading to yield 4.25%, the corporate bond is said to trade at

a 38 basis point spread to the Treasury bond (4.25% – 3.87% = 0.38%). Since a basis point is one one hundred of a percent, 0.38% is called "38 basis points."

It's important to note that the maturity of the corporate bond and the corresponding US Treasury be identical for correct comparisons to other securities. US Treasuries are issued with maturities of 3, 5, 7, 10, 20 and 30 years. These are known to be "on the run" This phrase means that these US Treasuries indicating that they are highly liquid, lots of buyers and sellers and therefore the yields of those securities in the secondary market are accurate and can be used as "benchmarks."

If the maturity of the corporate bond does not precisely match the corresponding US Treasury one hss to "interpolate" the US Treasury yield between 2 "on the run" US Treasury Maturities.

Spread is the easiest way to compare the cost of funds represented by different debt securities. Participants will refer to the spread "relative to Treasuries" or "relative to swaps," as the most meaningful measure used to compare a given debt security to the most liquid, most secure, and most easily available benchmark for a given maturity. Spreads are often referred to as either "tight" or "wide" to the benchmark. (See "**Tight Spread/Wide Spread**" definition below.)




**Sinking Fund.** The payment of principal on a bond at regular intervals over time. See "**Amortization**" and **"Maturity."**

**Swaps, or Interest Rate Swap Agreements -** An interest rate Swap exchanges a floating rate for a fixed rate on bonds. Under certain market conditions, a combination of floating rate bonds and fixed rate Swaps could produce a lower overall "synthetic" fixed interest rate for ratepayers. Certain investors prefer a floating rate, while other investors prefer a fixed rate. For example, many European investors prefer a floating rate. There may be an opportunity to lower overall ratepayer costs and achieve the "lowest storm recovery charges" by issuing floating rate Ratepayer-Backed Bonds and swapping them to a synthetic fixed interest rate.

**Tight Spread/Wide Spread -** If a Spread is considered "Tight," it is low and closer to the Benchmark rate. If it is "Wide," it is much higher than the Benchmark rate. Interest rates are composed of the Benchmark plus the Spread. Thus, a Tight Spread means a lower interest rate.

**Total Return Investor/Account –** An investor whose priority is to seek income and principal appreciation from an investment over time by actively managing a portfolio of investments. This means to be buying and selling securities in the primary and secondary market on a continual basis so as to affect the "total return" of the portfolio with both interest income and capital gains.

**Tranche –** A Tranche is a piece of a larger bond offering with its own cash flows, i.e., principal amount, Maturity and interest rate, but governed by the same offering documents as the larger bond offering, e.g., the Ratepayer-Backed Bond prospectus, trust agreement, indenture, servicing agreement, etc. While Tranche is common nomenclature for ABS type debt, corporate debt usually uses the term "series" for the same purpose.

**True-up Mechanism** - **PSC-Guaranteed True-up Mechanism**" or "**True-up Mechanism**" means the mechanism irrevocably mandated by state law and the Financing Order whereby ratepayer charges to pay debt service and ongoing expenses on Ratepayer-Backed Bonds are reviewed and adjusted at least annually or semi-annually (true-up period), depending on the jurisdiction. The rates at which the charges are imposed on ratepayers, to be paid on a joint and several basis, will be adjusted to correct any over collections or under collections from prior periods and to guarantee payment of all principal and interest on a timely basis.

**Underwrite –** This refers to the actions of an investment bank/broker-dealer when it initially purchases newly issued bonds with the intention of re-offering or re-selling them to the ultimate investors, thus assuming the market risk for a short period of time.

**Underwriting Fee** – See "Underwriters' Discount."

**Underwriter -** An investment bank who is a registered broker-dealer that initially purchase bonds and re-offer the bonds to investors. The term "underwriter" comes from the historic practice of the investment bank purchasing the security from the issuer, taking ownership, and then reselling the security, thus assuming market risk for some period. A lead Underwriter (sometimes called the "bookrunning" manager and most often called a lead manager) is responsible for assembling and leading a syndicate which generally includes additional investment banks in an effort to reach the widest audience of buyers. A co-lead Underwriter (or "co-manager") is another firm which also assumes responsibility to purchase bonds from the issuer. Nowadays, in practice, the Underwriters of a bond issue often have orders for 100% of a new issue before it is formally re-sold to anyone, and consequently the Underwriters do not hold the bonds or take any appreciable market risk.

**Underwriter's Discount** – The dollar price, below the stated value of the bond ,that the underwriter buys the bond from the issuer in the Primary Market and then reoffers the bond at the full stated value of the bond to investors. The difference is kept by the underwriters as their compensation in the offering.

Underwriters explicitly have no fiduciary duty to the issuer or to ratepayers. They engage in an arms-length commercial transaction with the issuer. This means they explicitly do not need to act in the best interests of the issuer versus their own financial interests. This is explicitly said in an "underwriting agreement" signed on the date of pricing.

**Weighted Average Life (WAL).** The average length of time that each dollar of unpaid principal on a Ratepayer-Backed Bond, or an amortizing bond remains outstanding. Calculating WAL shows investors how many years it will take to receive roughly half (i.e., the average) of the amount of the outstanding principal. The formula shows the baseline "maturity" of the Ratepayer-Backed Bond compared to US. Treasures and other corporate bonds for accurate "Relative Value" comparisons. See "Bullet Maturity."

The amount of time (in years), on average, that the principal amount will remain outstanding. It is calculated by weighting the time each component of the principal is outstanding by the principal amount. Thus, for a bond that pays back all its principal at final Maturity, the WAL is the same as the final Maturity. However, Ratepayer-Backed Bonds amortize principal over a number of years, so the WAL is always less than the Final Scheduled Maturity of each Ratepayer-Backed Bond.

**Yield.** The annual coupon amount of interest on a bond, divided by the selling price (expressed as a percentage). A $1,000 principal amount bond that sells for $1,000 with a $50 annual interest coupon has a 5% yield. The lower the price, the higher the yield; the higher the price, the lower the yield; for example, if the same 5% coupon bond sold at a price of 80% of its face value, its yield would be 5% divided by 0.8, or 6.25%. (This yield is also called the current yield. Other calculations of yield such as the yield-to-maturity or "all-in" yield also consider the transaction costs and compounding. These yield calculations will be higher effective rates than the coupon rate.)

**Yield to Maturity -** Yield to Maturity is the discount rate at which the sum of all future cash flows from the bond (interest and principal) is equal to the price of the bond. This measure of Yield takes into account the difference between the current price and the principal value at redemption. This is the Yield referred to when pricing a bond and comparing to the Yield on benchmark securities. It is more reflective of true value because it accounts for the time value of money.

**Yield, Current -** The annual coupon amount of interest on a bond, divided by the selling price (expressed as a percentage). A $1,000 principal amount bond that sells for $1,000 with a $50 annual interest coupon has a 5% Yield. The lower the price, the higher the Yield; the higher the price, the lower the Yield.

4-5. Please refer to p. 26, lines 16-18 of Mr. Jerasa's direct testimony. Provide any analysis that Mr. Jerasa is aware of that attempts to quantify intergenerational inequity and to assign it to any particular years under consideration with regard to this filing.

**Response:**

Intergeneration equity refers to if the tenor of the securitization bonds is longer than the remaining life of the retired asset, it may result in some customers paying the costs of the asset from which they never would have received service. This term is subjective, and is a qualitative consideration when deciding the structure of the bonds. CEI South is not aware of any analysis that quantifies intergenerational inequity.

**AFFIRMATION**

I affirm, under the penalties for perjury, that the foregoing representations are true.

Paul R. Sutherland

Paul R. Sutherland
Saber Partners, Consultants
Indiana Office of Utility Consumer Counselor

Cause No. 45722
CenterPoint Energy Indiana

8/3/2022

Date

## CERTIFICATE OF SERVICE

This is to certify that a copy of the ***OUCC's Testimony*** has been served upon the following parties of record in the captioned proceeding by electronic service on August 3, 2022.

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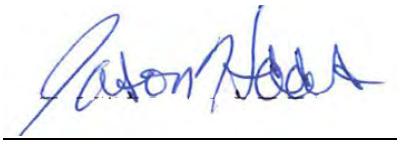

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