

1 A. Ultimate charged Oncor in accordance with the terms in a master  
2 agreement between the parties, which was negotiated at arm's length. In  
3 their direct testimonies, Company witnesses Messrs. Austin and Smith  
4 provide further details regarding the process used by Oncor to select  
5 Ultimate and explains that this selection process followed an industry  
6 standard approach.

7 Q. WHAT SERVICES DID VERITAS PROVIDE TO ONCOR DURING THE  
8 TEST YEAR?

9 A. As discussed in the direct testimony of Company witness Ms. Malia Hodges,  
10 Veritas (also an entity in which GIC has invested) provided data storage,  
11 data back-up, disaster recovery, and related services to Oncor.

12 Q. HOW DID VERITAS CHARGE ONCOR FOR THESE SERVICES  
13 PROVIDED DURING THE TEST YEAR?

14 A. The services billed by Veritas to Oncor are based on a master license  
15 agreement and related addenda and statements of work, all of which were  
16 negotiated at arm's length. In her direct testimony, Ms. Hodges discusses  
17 the cost controls utilized by Oncor's Technology group related to costs billed  
18 to Oncor, including by Veritas, and the reasonableness of those costs.

19 Q. HAVE ONCOR'S TRANSACTIONS WITH ULTIMATE AND VERITAS  
20 BEEN CONDUCTED AT ARM'S LENGTH?

21 A. Yes. In fact, the transactions with Ultimate and Veritas were entered into  
22 before Oncor knew of the affiliate relationship with these entities (and, in the  
23 case of Veritas, transactions began before Veritas became an affiliate of  
24 Oncor). Given that Oncor was not aware of an affiliate relationship at the  
25 time it entered into such transactions, there is no risk that the transactions  
26 would have occurred on any different terms than transactions with  
27 unaffiliated third parties, as Oncor would have no incentive to provide  
28 beneficial or preferential treatment to an entity that Oncor does not know to  
29 be an affiliate. Additionally, Oncor sought and received limited waivers to

1 its Commission-approved code of conduct ("Code of Conduct") in response  
2 to the possibility that Oncor could potentially enter into transactions with  
3 unknown affiliates due to the remote, unknown investments taken on by  
4 third-party managers in connection with Oncor's minority owners. These  
5 limited Code of Conduct waivers are addressed in more detail later in my  
6 testimony, and the Commission order approving the limited waivers is  
7 provided in my direct testimony workpapers. Mr. Austin and Ms. Hodges  
8 also provide further details on operations and maintenance ("O&M") cost  
9 controls, which extended to the costs of services received from affiliates  
10 Ultimate and Veritas.

11 Q. IS ONCOR AWARE OF THE AMOUNTS AFFILIATES ULTIMATE AND  
12 VERITAS CHARGE TO THIRD PARTIES ASIDE FROM ONCOR?

13 A. No. As discussed above, Oncor has limited visibility into the investments  
14 and activities of its upstream minority owners, OMERS and GIC. As a  
15 result, Oncor has no way of knowing the services that indirect subsidiaries  
16 of OMERS or GIC (such as Ultimate or Veritas) may be providing to third  
17 parties (whether affiliated or unaffiliated) or what the charges for those  
18 services may be.

19 Q. DO THE AMOUNTS BILLED TO ONCOR FROM ULTIMATE AND  
20 VERITAS MEET THE AFFILIATE STANDARD SET OUT IN PURA  
21 § 36.058?

22 A. Yes. The services provided by Ultimate and Veritas were necessary for the  
23 ongoing operations of Oncor, and the amounts billed to Oncor by these two  
24 providers were reasonable as they were based on arm's-length negotiated  
25 contracts, thereby reflecting a market rate for these services. In addition,  
26 these arm's-length transactions were entered into without the knowledge  
27 that the companies were affiliates of Oncor, and Oncor would have had no  
28 incentive to provide beneficial or preferential treatment to an entity that  
29 Oncor did not know to be an affiliate.

1           **C. Tariffed Services Provided by Sharyland and Oncor NTU to Oncor**  
2   Q.   WHAT SERVICES DID SHARYLAND PROVIDE TO ONCOR DURING  
3       THE TEST YEAR?  
4   A.   Sharyland provided Network Transmission Service (“NTS”) to Oncor under  
5       Sharyland’s Transmission Cost of Service (“TCOS”) tariff.  
6   Q.   HOW DID SHARYLAND CHARGE ONCOR FOR THESE SERVICES  
7       PROVIDED DURING THE TEST YEAR?  
8   A.   Sharyland charged Oncor the rates stated in Sharyland’s TCOS tariff as  
9       approved by the Commission (a copy of which is provided in my direct  
10      testimony workpapers). Oncor paid the same rates that all other distribution  
11      utilities must pay for this tariffed service.  
12  Q.   WHAT SERVICES DID ONCOR NTU PROVIDE TO ONCOR DURING THE  
13      TEST YEAR?  
14  A.   Oncor NTU provided NTS and Wholesale Distribution Substation Service  
15      (“WDSS”) to Oncor under Oncor NTU’s TCOS and WDSS tariffs,  
16      respectively.  
17  Q.   HOW DID ONCOR NTU CHARGE ONCOR FOR THESE SERVICES  
18      PROVIDED DURING THE TEST YEAR?  
19  A.   As stated above for Sharyland, Oncor NTU charged Oncor the rates stated  
20      in Oncor NTU’s TCOS and WDSS tariffs as approved by the Commission  
21      (copies of which are provided in my direct testimony workpapers). Oncor  
22      paid the same rates that all other distribution utilities must pay for those  
23      tariffed services.  
24  Q.   DO THE AMOUNTS BILLED TO ONCOR BY ONCOR NTU AND  
25      SHARYLAND MEET THE AFFILIATE STANDARD SET OUT IN PURA  
26      § 36.058?  
27  A.   Yes. These services are essential, and therefore necessary, for the  
28      ongoing operations of Oncor. The amounts billed to Oncor from these two  
29      entities are based on tariffs previously approved by the Commission and

1 are thereby reasonable. As stated above, Oncor pays the same rates that  
2 all other distribution utilities must pay for those same tariffed services.

3 **D. Oncor Cares Foundation**

4 Q. ASIDE FROM THOSE DESCRIBED ABOVE, WERE THERE ANY  
5 ADDITIONAL TRANSACTIONS DURING THE TEST YEAR INVOLVING  
6 PAYMENT OR CONTRIBUTION BY ONCOR TO AN AFFILIATE?

7 A. Yes. During the Test Year, Oncor contributed \$276,540 to (a portion of  
8 which involved payment of expenses on behalf of) the Oncor Cares  
9 Foundation ("the Foundation"), a non-profit corporation formed in June 2020  
10 to make grants for charitable purposes and to direct resources in  
11 furtherance of such purposes. Each year, Oncor's Senior Leadership Team  
12 determines the level of contributions to be made to the Foundation for  
13 charitable purposes. The amounts contributed by Oncor are discretionary  
14 and, therefore, independent of any other party making contributions to the  
15 Foundation. The amount Oncor contributes to the Foundation is a  
16 component of Oncor's total contributions and is, therefore, a component of  
17 Oncor's total contributions subject to the three-tenths of 1.0% (0.3%) of the  
18 utility's gross receipts limitation for contributions as expressed in  
19 Commission Substantive Rule 25.231.

20 **E. Total Amounts Paid or Contributed to Affiliates by Oncor**

21 Q. WHAT WAS THE TOTAL AMOUNT PAID OR CONTRIBUTED BY ONCOR  
22 TO THE ABOVE-LISTED AFFILIATES DURING THE TEST YEAR ENDED  
23 DECEMBER 31, 2021?

24 A. During the Test Year, Oncor paid or contributed a total of \$114,845,687 to  
25 the affiliates discussed above. Of the total amount paid or contributed by  
26 Oncor, \$93,920,113 was charged to O&M, \$45,700 was capitalized, and  
27 \$20,879,874 was deferred. The accounting for each of these transactions  
28 is provided in Schedule V-K-1 of Oncor's RFP. Provided below is a  
29 summary of the amounts paid or contributed by Oncor to each of these

1 affiliates during the Test Year. Please note that this summary represents  
2 the total affiliate charges (*i.e.*, O&M expenses, capital, and deferred) and  
3 then itemizes known and measurable adjustments (which are discussed in  
4 more detail later in my testimony) to reflect the amount included in Oncor's  
5 requested O&M expense.

6	Sempra	\$115,750
7	Ultimate	\$2,514,049
8	Veritas	\$761,685
	Sharyland	\$14,618,395
	Oncor NTU	\$75,222,535
	Oncor Cares Foundation	\$276,540

9  
10 **V. KNOWN AND MEASURABLE CHANGES TO AFFILIATE**  
11 **EXPENSES**

12 Q. DID ONCOR MAKE KNOWN AND MEASURABLE CHANGES TO ITS  
13 TEST YEAR AFFILIATE EXPENSES TO BE INCLUDED IN ITS COST OF  
14 SERVICE?

15 A. Yes. As presented in Schedules V-K-2 and V-K-6 of Oncor's RFP, Oncor  
16 has decreased the amount of affiliate costs included in its cost of service for  
17 known and measurable adjustments by \$21,336,733. Therefore, the total  
18 amount of affiliate transactions included in Oncor's requested O&M  
19 expenses is \$93,508,954 and comprises approximately 1.61% of Oncor's  
20 total requested cost of service. Schedule V-K-2 of Oncor's RFP provides  
21 the accounting for each affiliate transaction after known and measurable  
22 adjustments made for Ultimate, Veritas, Sempra, Oncor NTU, and  
23 Sharyland. In their direct testimonies, Mr. Austin, Ms. Hodges, Ms. Clutter,  
24 and Mr. Ledbetter provide additional detail on cost-of-service adjustments

1 associated with the services provided by Ultimate, Veritas, Sempra, and  
2 Oncor NTU and Sharyland, respectively.

3 **VI. OVERVIEW OF AFFILIATE SERVICES/TRANSACTIONS**

4 **PROVIDED TO AFFILIATES BY ONCOR**

5 Q. PLEASE DESCRIBE THE SERVICES THAT ONCOR PROVIDES TO  
6 BOTH ONCOR NTU AND SHARYLAND UNDER THE TERMS OF THE  
7 DOCKET NO. 48929 SETTLEMENT AND ORDER.

8 A. In accordance with the Commission order issued in Docket No. 48929, and  
9 as described in more detail in Company witness Mr. Collin M. Martin's direct  
10 testimony, Oncor provided Operation Services, EPS Metering Services, and  
11 Wholesale Metering Services to both Oncor NTU and Sharyland during the  
12 Test Year.

13 Q. DOES ONCOR PROVIDE ANY ADDITIONAL SERVICES TO  
14 SHARYLAND?

15 A. Yes. In addition to the services I just mentioned, during the Test Year,  
16 Oncor also provided DC Tie operations services solely to Sharyland. The  
17 Commission order issued in Docket No. 48929 specifically states that the  
18 provision of these services neither requires a tariff nor requires that these  
19 services be made available to third parties.<sup>1</sup>

20 Q. DOES ONCOR PROVIDE ANY ADDITIONAL SERVICES TO ONCOR  
21 NTU?

22 A. Yes. In addition to the services discussed above that are provided to both  
23 Oncor NTU and Sharyland, during the Test Year, Oncor also provided  
24 maintenance and other services solely to Oncor NTU. As noted above for

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<sup>1</sup> Joint Report and Application of Oncor Electric Delivery Company LLC, Sharyland Distribution & Transmission Services, L.L.C., Sharyland Utilities, L.P., and Sempra Energy for Regulatory Approvals under PURA §§ 14.101, 37.154, 39.262, and 39.915, Docket No. 48929, Order at 15 (May 9, 2019).

1 Sharyland, Oncor's provision of these services neither requires a tariff nor  
2 requires that these services be made available to third parties.

3 Q. HOW DOES ONCOR DETERMINE THE AMOUNT TO INVOICE  
4 SHARYLAND AND ONCOR NTU FOR THESE SERVICES?

5 A. Following the closing of the transactions approved in Docket No. 48929,  
6 Oncor and Sharyland submitted to the Commission in Docket No. 49851 a  
7 fully detailed pricing basis for the operations services that Oncor provides  
8 to Sharyland. Oncor's and Sharyland's filing explained that because it is  
9 Oncor's practice to take a coordinated approach to the provision of affiliate  
10 services, the filing also addressed the pricing of Oncor's provision of  
11 services to Oncor NTU.<sup>2</sup> In its Recommendation on Compliance filed in  
12 Docket No. 49851, Commission Staff recommended that the affiliate cost  
13 methodology be found in compliance with the requirements in the  
14 Commission Order issued in Docket No. 48929 and stated that "[t]he pricing  
15 basis for the operations services between Oncor and Sharyland, as  
16 corrected, properly defines and quantifies all services and transactions, and  
17 would permit independent verification."<sup>3</sup> In his Order Approving Compliance  
18 Filing and Closing Docket, the administrative law judge agreed that the  
19 detailed pricing basis was "in compliance with finding of fact number 68(c)  
20 in Docket No. 48929 . . . ."<sup>4</sup> A description of these services and the amounts  
21 billed to each entity are provided in Schedule V-K-8 of the Company's RFP.

22 The charges billed by Oncor to Oncor NTU and Sharyland include  
23 certain overhead costs consisting of expenses that are attributable to the

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<sup>2</sup> *Compliance Filing of Oncor Electric Delivery Company LLC and Sharyland Utilities, L.L.C. Describing Detailed Pricing Basis for Provision of Oncor's Operations Services to Sharyland Utilities Resulting from Docket No. 48929, Docket No. 49851, Compliance Filing at 1 (Aug. 14, 2019).*

<sup>3</sup> Docket No. 49851, Commission Staff's Recommendation on Compliance (Sept. 20, 2019).

<sup>4</sup> Docket No. 49851, Order No. 5 Approving Compliance Filing and Closing Docket (Sept. 23, 2019).

1 provision of the aforementioned services, such as employee benefits, taxes,  
2 carrying costs, and cost of ownership (depreciation, property tax, insurance,  
3 etc.). Mr. Martin's direct testimony provides further discussion of Oncor's  
4 charges billed to Oncor NTU and Sharyland.

5 Q. ASIDE FROM THE SERVICES DISCUSSED ABOVE, DOES ONCOR  
6 PROVIDE ANY OTHER SERVICES TO ONCOR NTU?

7 A. Yes. Oncor also provides two additional services to Oncor NTU. First, in  
8 accordance with Finding of Fact No. 93 in Docket No. 48929, Oncor  
9 performs capital replacement construction work related to Oncor NTU  
10 assets. These services are billed from Oncor to Oncor NTU at cost and are  
11 capitalized on the books and records of Oncor NTU. The total amount  
12 Oncor billed to Oncor NTU for capitalized projects during the Test Year  
13 totaled \$646,528 and is presented, in total, on Schedule V-K-8 of the RFP.  
14 An itemized list of each of these projects by Project ID is presented in  
15 Schedule V-K-8-1 of the RFP.

16 Second, following the closing of the transactions approved in Docket  
17 No. 48929 in May 2019, Oncor NTU became an Oncor affiliate. Because  
18 Oncor NTU is a stand-alone corporate entity, a corporate capital structure  
19 approximating that of Oncor was established for Oncor NTU through the  
20 use of intercompany debt and equity. Oncor NTU pays Oncor the interest  
21 on this debt based on Oncor's weighted average cost of debt. The interest  
22 expense Oncor NTU pays Oncor and the interest income recorded by Oncor  
23 are eliminated in consolidation for financial reporting purposes; therefore,  
24 this interest income/expense has no impact on Oncor's requested cost of  
25 service. Company witness Mr. Kevin R. Fease discusses this in his direct  
26 testimony, and the amount of Interest Income – Associated Companies  
27 received by Oncor from Oncor NTU is presented on Schedule V-K-8 of the  
28 RFP. In this case, Oncor is making the consolidated rate request as  
29 contemplated by the Commission order in Docket No. 48929, in order to



1 consolidate Oncor and Oncor NTU for ratemaking purposes using Oncor's  
2 capital structure, weighted average cost of debt, and return on equity.<sup>5</sup>

3 Q. DOES ONCOR PROVIDE SERVICES TO ANY OTHER AFFILIATES  
4 ASIDE FROM ONCOR NTU and SHARYLAND?

5 A. Yes. First, Oncor provides service to affiliate Sempra Gas & Power  
6 Marketing, LLC ("SGPM") under Oncor's FERC Tariff for Transmission  
7 Service To, From and Over Certain Interconnections ("TFO tariff"). All  
8 services are charged in accordance with the TFO tariff, removing any  
9 possibility that Oncor could hypothetically provide service to this affiliate in  
10 a preferential or discriminatory manner with respect to these billings, which  
11 total \$13,297 during the Test Year. Additionally, during the Test Year,  
12 Oncor NTU billed SGPM \$2,810 for services provided under Oncor NTU's  
13 TCOS tariff. As discussed above, Oncor charges for all such services in  
14 accordance with the tariff previously approved by this Commission.

15 Second, during the Test Year, Oncor provided certain construction  
16 services totaling \$38,659 to YES! Communities LLC ("YES!"), an entity in  
17 which GIC has invested. Those services involved the conversion of  
18 overhead facilities to underground facilities and were billed to YES! in  
19 accordance with Oncor's Commission-approved Tariff for Retail Delivery  
20 Service, Section 6.1.3.2 Construction Service Charges.

21 **VII. COMPLIANCE WITH RULES GOVERNING AFFILIATE**  
22 **TRANSACTIONS**

23 Q. PLEASE DISCUSS ONCOR'S EFFORTS TO COMPLY WITH  
24 COMMISSION RULES REGARDING AFFILIATE TRANSACTIONS.

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<sup>5</sup> See *Joint Report and Application of Oncor Electric Delivery Company LLC, Sharyland Distribution & Transmission Services, L.L.C., Sharyland Utilities, L.P., and Sempra Energy for Regulatory Approvals Under PURA §§ 14.101, 37.154, 39.262, and 39.915*, Docket No. 48929, Finding of Fact No. 56 ("The consolidation of [NTU] and Oncor for ratemaking purposes in Oncor's next base-rate case is reasonable.") and Ordering Paragraph No. 16 ("Oncor must make a combined rate filing no later than October 2021 that includes a proposal to consolidate [Oncor NTU] with Oncor for ratemaking purposes, subject to Commission approval.") (May 9, 2019).

1     A.     Oncor has always strived to conduct its business with affiliates in  
2           compliance with Commission rules and with Oncor's own Code of Conduct.  
3           As mentioned above, as a result of transactions in which Sempra acquired  
4           an 80.25% indirect ownership interest in Oncor and a 50% indirect  
5           ownership interest in the restructured Sharyland (which transaction also  
6           resulted in Oncor NTU and other entities becoming Oncor affiliates),  
7           Oncor's corporate affiliations have changed since its last base-rate case.  
8           Moreover, in the course of reviewing its practices regarding the indirect  
9           owners of Oncor's minority owner, TTI, Oncor learned that individual lines  
10          of business within GIC and OMERS face certain limitations in accessing  
11          information regarding GIC's or OMERS' other lines of business and broader  
12          activities and investments. As a result of this discovery, it came to Oncor's  
13          attention that, due to the diversified, evolving, and wide-ranging global  
14          business activities of OMERS and GIC, each of which currently manage  
15          billions of dollars' worth of global investments, Oncor cannot always be  
16          certain of immediate, full compliance with the Commission's standard  
17          affiliate rules. This is because Oncor does not always know of new affiliates  
18          as they are created or acquired through transactions involving GIC and  
19          OMERS. Indeed, various investment arms within GIC and OMERS  
20          routinely take 5% or greater ownership in many entities around the globe of  
21          which Oncor will never be aware.

22                 In an effort to be transparent and to proactively address these  
23                 practical limitations in receiving immediate or even eventual notification  
24                 from upstream owners about investments that create new affiliate  
25                 relationships for Oncor, the Company applied for and obtained limited  
26                 waivers to its Code of Conduct in Docket No. 50893.<sup>6</sup> As mentioned above,  
27                 Oncor's application seeking the waivers described instances in which Oncor

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<sup>6</sup> *Application of Oncor Electric Delivery Company LLC and Oncor Electric Delivery Company NTU LLC for Limited Code of Conduct Waivers*, Docket No. 50893, Order (Nov. 5, 2020).

1 learned of its affiliation with a particular entity after having already entered  
2 into a transaction with that entity. As explained above, however, these  
3 transactions were with non-competitive affiliates and were conducted at  
4 arm's length.

5 Q. PLEASE DESCRIBE THE EXTENT TO WHICH ONCOR IS AWARE OF  
6 ANY ADDITIONAL TRANSACTIONS WITH ITS AFFILIATES THAT HAVE  
7 NOT BEEN DISCLOSED TO THE COMMISSION.

8 A. At this time, there are no known transactions with affiliates apart from what  
9 has been disclosed in my testimony and what has been identified in Oncor's  
10 annual affiliate reports.

11 Q. WHAT IS ONCOR'S CURRENT PROCESS FOR IDENTIFYING NEW  
12 AFFILIATES AND AFFILIATE TRANSACTIONS?

13 A. As detailed in Oncor's application for the limited Code of Conduct waivers,  
14 Oncor has worked with those individuals at OMERS and GIC who manage  
15 the relationship with Oncor to obtain their commitment to creating a  
16 framework for regular reviews and disclosures of entities that could be  
17 implicated by the Commission's affiliate rules and to ensure that any  
18 available knowledge of competitive affiliates will be communicated to Oncor  
19 immediately.<sup>7</sup> Additionally, Oncor has implemented a process of comparing  
20 its lists of accounts receivable and accounts payable against its list of known  
21 affiliates on a regular basis as an additional method of discovering affiliate  
22 transactions that need to be disclosed to the Commission.

23 **VIII. SUSTAINABILITY AND ENVIRONMENTAL, SOCIAL,**  
24 **AND GOVERNANCE INITIATIVES**

25 Q. PLEASE EXPLAIN THE IMPORTANCE OF "SUSTAINABILITY" AND THE  
26 DRIVING FORCE BEHIND THIS GOAL.

27 A. The concept of "sustainability" refers to the three-fold goal of operating a

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<sup>7</sup> Docket No. 50893, Application at 5 (Jun. 1, 2020).

1 business in an environmentally sustainable manner, working to support the  
2 quality of life and economic well-being of the communities that Oncor  
3 serves, and being committed to good governance in all respects. Thus, the  
4 three cornerstones of sustainability are environmental, social, and  
5 governance, or ESG, activities. Each of these goals overlaps significantly  
6 with longstanding Commission priorities: the environmental protections that  
7 are present in every certificate of convenience and necessity order; the  
8 respect for Texas communities on topics ranging from transmission-line  
9 routing to reporting on utility spend with minority- and women-owned  
10 business enterprises ("MWBE"); and the "good-governance" concerns that  
11 guide Commission decisions in everything from setting utility rates of return  
12 to considering sale-transfer-merger applications. The investment  
13 community is also a key stakeholder in Oncor's commitment to  
14 sustainability.

15 Q. PLEASE EXPLAIN THE THIRD-PARTY ESG RISK RATING THAT  
16 ONCOR RECEIVED.

17 A. As explained in the direct testimony of Mr. Fease, the share of investor  
18 dollars intended for investment in companies that meet a minimum  
19 threshold of sustainability is significant and increasing. As a result, in 2020  
20 we engaged a third-party independent provider of ESG ratings to provide  
21 Oncor's first truly informed ESG rating. In 2021, the Company was re-  
22 evaluated, and the resulting ESG Risk Rating Summary Report (a copy of  
23 which is provided in my direct testimony workpapers) gave Oncor an overall  
24 sustainability risk rating, with a risk rating score that places Oncor in the top  
25 two percent of rated electric utilities. The report further explained that while  
26 Oncor's overall risk is higher because utilities are inherently exposed to  
27 more ESG issues than many other companies, the Company's overall  
28 exposure is significantly below the average for other rated companies in the  
29 subindustry, and the Company's management of ESG topics is "strong."

1 Q. WHAT IS ONCOR'S SUSTAINABLE BOND FRAMEWORK?

2 A. As described in greater detail in Company witness Mr. Fease's direct  
3 testimony, Oncor has developed a framework under which it may  
4 periodically issue certain bonds or related debt instruments (each a  
5 "Sustainability Bond") with net proceeds that Oncor will then utilize to  
6 finance or refinance projects intended to have environmental and/or social  
7 benefits. Eligible Sustainability Bond projects may offer benefits in the way  
8 of socio-economic advancement and empowerment (for example, by  
9 supporting businesses owned by historically underrepresented groups),  
10 renewable energy, energy efficiency, clean transportation, and/or "green"  
11 workspaces.

12 Q. IN ADDITION TO ITS SUSTAINABLE BOND FRAMEWORK, IS ONCOR  
13 TAKING OTHER EFFORTS TO ACHIEVE SUSTAINABILITY?

14 A. Yes. In 2007, Oncor established its supplier diversity program and has  
15 since invested approximately \$2.9 billion in spending with minority- and  
16 women-owned businesses through 2021. Company witness Ms. Ellen E.  
17 Buck provides additional details on Oncor's Supplier Diversity program in  
18 her direct testimony. In the same vein, as discussed in Company witness  
19 Mr. Fease's direct testimony, on September 28, 2020, Oncor issued \$450  
20 million aggregate principal amount of senior secured notes with the net  
21 proceeds from the sale of those notes to be used to finance or refinance, in  
22 whole or in part, eligible projects consisting of investments in or  
23 expenditures with MWBE suppliers pursuant to the Company's sustainable  
24 bond framework. In September 2021, the Company fully allocated all net  
25 proceeds from the issuance to eligible spend with MWBE suppliers and  
26 completed its first reporting commitments with respect to such spend.

27 Additionally, consistent with its obligation to interconnect all eligible  
28 generation resources, as of December 31, 2021, Oncor has connected  
29 more than 60 renewable generators to the ERCOT grid that are capable of

1 producing more than 11,000 megawatts (“MWs”). Approximately 10,000  
2 MWs of this generation is from wind interconnections, representing more  
3 than 42% of all ERCOT wind generation. By deploying millions of advanced  
4 meters across the Company’s distribution service territory, Oncor has  
5 dramatically reduced the millions of miles previously driven by its trucks,  
6 which in turn dramatically reduces its carbon footprint. In November 2021,  
7 as discussed in Mr. Fease’s direct testimony, Oncor entered into a new \$2.0  
8 billion sustainability-linked revolving credit facility. The borrowing interest  
9 rate and lender commitment fees Oncor pays under the life of this facility  
10 may be increased or decreased based on Oncor’s performance on two  
11 sustainability-related key performance indicators (“KPIs”): one  
12 environmental-related KPI (number of partially electric-powered bucket  
13 trucks in Oncor’s fleet at the end of each year) and one safety-related KPI  
14 (a three-year rolling average of Oncor’s “days away-restricted-transferred”  
15 rate).

16 Q. IS ONCOR’S EMPHASIS ON SUSTAINABILITY UNIQUE AMONG  
17 UTILITIES?

18 A. No. On the contrary, sustainability has become a standard objective among  
19 utilities. ESG initiatives have become a vital source of customer and  
20 investor engagement with a focus on good governance, which affects how  
21 Oncor operates as a business. Our investors and other stakeholders are  
22 increasingly demanding high standards of sustainability performance from  
23 our business, and Oncor is continuing its efforts to meet this demand.

24 Q. WHY ARE ONCOR’S EFFORTS TOWARDS SUSTAINABILITY  
25 BENEFICIAL TO CUSTOMERS?

26 A. Adherence to ESG frameworks has provided Oncor with more tools to  
27 mitigate impacts to supply chain, which in turn helps insulate customers  
28 from increased costs or decreased reliability that could potentially result  
29 from supply chain interruptions. For example, as discussed in Ms. Buck’s

1 direct testimony, Oncor was able to avoid certain pandemic-related impacts  
2 by procuring a significant portion of the Company's pandemic-related  
3 supplies from our MWBE suppliers while other companies suffered a lack  
4 of inventory at that time. Additionally, customers are benefitted by Oncor's  
5 efforts towards sustainability for the reasons explained in Mr. Fease's  
6 testimony. More generally, sustainability drives a focus on protection of the  
7 environment; respect for the needs of the communities that Oncor serves;  
8 and policies and controls that drive prudent and well-reasoned decision-  
9 making.

10 Q. WHY IS IT IMPORTANT THAT ONCOR RECOVER THE AMOUNTS IT  
11 EXPENDS ON ESG-RELATED EFFORTS, INCLUDING  
12 SUSTAINABILITY?

13 A. First, it is important to note that Oncor's "sustainability" efforts are blended  
14 into activities that it has necessarily undertaken for many years: issuing  
15 debt; maintaining environmental stewardship; adopting clear policies to  
16 define ownership of and accountability for key activities; and reporting on  
17 MWBE spend are not new "sustainability" activities. And second, as  
18 Company witness Mr. Fease explains, because of increasing investor focus  
19 on ESG topics, it was necessary for Oncor to pursue certain sustainability  
20 efforts.

21 **IX. SUMMARY AND CONCLUSION**

22 Q. WHAT CONCLUSIONS HAVE YOU REACHED CONCERNING  
23 AFFILIATE CHARGES THAT ONCOR HAS REQUESTED FOR THE TEST  
24 YEAR ENDED DECEMBER 31, 2021?

25 A. After known and measurable adjustments are made, the affiliate charges  
26 billed to Oncor and requested by Oncor for the Test Year – in total and for  
27 each class of items – are reasonable and necessary; reasonably reflect the  
28 actual cost of services to Oncor; and should be included in Oncor's cost of  
29 service.

- 1 Q. WHAT CONCLUSIONS HAVE YOU REACHED REGARDING ONCOR'S  
2 SUSTAINABILITY EFFORTS?
- 3 A. As demonstrated by the ESG Risk Rating Summary Report issued for  
4 Oncor, Oncor's low risk rating is due in large part to the Company's  
5 exemplary corporate governance and its strong management of ESG  
6 issues. Oncor has prioritized and invested in this area in an effort to achieve  
7 a sustainable work environment and to meet the needs of our customers,  
8 our communities, and our investors.
- 9 Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?
- 10 A. Yes.



**AFFIDAVIT**

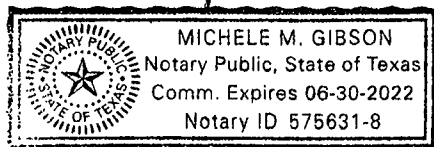
STATE OF TEXAS       §  
                                  §  
COUNTY OF DALLAS   §

**BEFORE ME**, the undersigned authority, on this day personally appeared Michael G. Grable, who, having been placed under oath by me, did depose as follows:

My name is Michael G. Grable. I am of legal age and a resident of the State of Texas. The foregoing direct testimony offered by me is true and correct, and the opinions stated therein are, to the best of my knowledge and belief, accurate, true, and correct.

  
\_\_\_\_\_  
Michael G. Grable

**SUBSCRIBED AND SWORN TO BEFORE ME** by the said Michael G. Grable this 14<sup>th</sup> day of April, 2022.



  
\_\_\_\_\_  
Notary Public, State of Texas

PUC Docket No. \_\_\_\_\_

**Grable - Direct  
Oncor Electric Delivery  
2022 Rate Case**

**2022 RATE CASE  
ONCOR ELECTRIC DELIVERY COMPANY LLC  
WORKPAPERS FOR  
THE DIRECT TESTIMONY OF  
MICHAEL G. GRABLE**

In accordance with RFP General Instruction No. 12(c), below is a list of the files that are being provided electronically:

Testimony Workpapers/Grable

Grable – WP 1.pdf  
Grable – WP 2.pdf  
Grable – WP 3.pdf  
Grable – WP 4.pdf  
Grable – WP 5.pdf  
Grable – WP 6.pdf  
Grable – WP 7.pdf  
Grable – WP 8.pdf  
Grable – WP 9.pdf  
Grable – WP 10.pdf  
WP-Grable-direct-cover.doc

## SERVICES AGREEMENT

THIS SERVICES AGREEMENT (the “Services Agreement”) is by and between Sempra Energy (“Service Provider”) and Oncor Electric Delivery Company LLC (“Customer”) (each, a “Party” and together, the “Parties”), and is made and entered into as of October 31, 2019, with an effective date of January 1, 2019 (the “Effective Date”). In consideration of Service Provider providing certain at-cost services to Customer pursuant to this Services Agreement, the reimbursements made to the Service Provider hereunder, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties hereby agree as follows:

### 1. **Scope.**

This Services Agreement establishes the standard provisions that will apply to the services, resources and deliverables to be provided by Service Provider to Customer as mutually agreed upon from time to time by Service Provider and Customer and confirmed in statements of work substantially in the form attached hereto as Exhibit A executed by each Party (each, a “Statement of Work”) (such services, resources and deliverables as are exclusively described in each Statement of Work are collectively referred to herein as the “Services”). Each Statement of Work will be numbered sequentially beginning with the number one (1) and, when executed by an authorized representative of each Party, will be deemed attached hereto and made a part hereof for all purposes. If the terms of a Statement of Work conflict with the terms of this Services Agreement and the Statement of Work does not clearly provide otherwise, the terms of this Services Agreement will govern and control for all purposes. Collectively, this Services Agreement and each Statement of Work executed in accordance with this Section 1 constitute the “Agreement.” Notwithstanding anything herein to the contrary, the Parties agree that the Services, each Statement of Work, and the Agreement shall be performed subject to and in accordance with each Party’s respective public utility commission regulations pertaining to transactions with affiliated entities, including Substantive Rules 25.84, 25.272 and 25.273 of the Public Utility Commission of Texas (“PUCT”), the PUCT order in PUCT Docket No. 47675, and Customer’s Third Amended and Restated Limited Liability Company Agreement dated March 9, 2018, as may be amended from time to time (collectively, the “Affiliate Requirements”).

### 2. **Compensation.**

a. Costs and Expenses. As compensation for Services rendered and other obligations undertaken by Service Provider under the Agreement, Customer will reimburse Service Provider for the costs and expenses that are incurred by Service Provider in connection with the provision of the Services, including documented out-of-pocket costs and expenses. The fees and rates for the Services shall not include a markup or profit nor be higher than the fees and rates charged by the Service Provider for the same item or class of items to Service Provider’s other affiliates or divisions or a nonaffiliated person within the same market area or having the same market conditions. Unless otherwise provided in a Statement of Work with respect to the amounts to be reimbursed thereunder, Service Provider will submit to Customer monthly invoices summarizing the costs and expenses owed Service Provider under the Agreement for Services rendered during the preceding month and will itemize and provide customary receipts for expenses upon request.

Unless otherwise provided in a Statement of Work with respect to the amounts to be paid thereunder, any amount due under the Agreement will be due and payable on the thirtieth (30<sup>th</sup>) day following receipt by Customer of an invoice from Service Provider therefor, unless Customer, in good faith, disputes the amount of such invoice, in which case Customer shall pay the undisputed amount within thirty (30) days of receipt and, with respect to any amount in dispute, within thirty (30) days of the resolution of any such dispute. All amounts will be payable to Service Provider in accordance with payment instructions provided by Service Provider from time to time. If Customer does not pay or dispute any amount invoiced by Service Provider pursuant to this Section 2, Service Provider may suspend the provision of the Services until the date of payment thereof by Customer, and such amounts not paid or disputed pursuant to this Section 2 will bear interest until paid at a rate of interest equal to the lesser of one percent (1%) per month or the maximum rate of interest allowed by applicable law, calculated from the date the invoiced amount was due pursuant to this Section 2 until the date of payment thereof by Customer.

b. Cost Substantiation; Audit. Service Provider will maintain accurate records of all direct and indirect costs and expenses incurred in the performance of the Services. Customer shall have the right, at Customer's expense, to engage independent auditors to perform a periodic audit of Service Provider's books and records in connection with Customer's compliance with its obligations under applicable law, including the Public Utility Regulatory Act as codified in the Texas Utilities Code and PUCT rules.

c. Taxes. Unless subject to Customer's direct payment tax exemption, there will be added to any amounts owed Service Provider under the Agreement, or separately billed, and Customer will either pay to Service Provider, or reimburse Service Provider for the payment of, amounts equal to any taxes, assessments, duties, permits, fees and other charges of any kind, however designated, assessed, charged or levied, based on, with respect to or measured by (i) the amounts owed Service Provider under the Agreement, (ii) this Services Agreement or any Statement of Work in which a Service Provider is providing Services, or (iii) the Services that a Service Provider is providing, or the receipt or use thereof or the resources used therefor. Taxes payable under this subsection include state and local sales taxes, use taxes, service taxes, property taxes, telecommunications taxes, privilege taxes and excise taxes (including federal excise taxes), and any taxes or amounts in lieu thereof paid or payable by Service Provider in respect of the foregoing; exclusive, however, of taxes based on the income of Service Provider. Notwithstanding the foregoing, Service Provider shall be solely responsible for the payment of all salary and benefits and all taxes (including income tax, social security taxes, unemployment compensation, workers' compensation tax, other employment taxes or withholdings) and premiums and remittances with respect to employees used to provide any Services hereunder.

### **3. Independent Contractor.**

a. Relationship. The Parties intend to create an independent contractor relationship, and nothing contained in the Agreement will be construed to make either Service Provider or Customer partners, joint venturers, principals or agents of the other. Except as explicitly provided in any applicable Statement of Work, neither Party has any right, power or authority, whether express or implied, to bind the other.

b. No Control. Customer will not be entitled to dictate the work hours of Service Provider or its employees or agents in Service Provider's performance of the Services. The Parties hereby acknowledge and agree that Customer will have no right to control the provision of the Services by Service Provider except as otherwise set forth in the Agreement.

c. Reliance on Instructions; Cooperation. In performing its obligations under the Agreement, Service Provider will be entitled to rely upon (without liability hereunder or to third parties) any instructions, authorizations, approvals or other information provided by Customer for the purposes of rendering Services, unless Service Provider knew of any error, illegality, incorrectness or inaccuracy in such instructions, authorizations, approvals or other information. Customer will be responsible for providing, at no cost to Service Provider and on a timely basis, such materials, data, information, supplies and facilities, as well as access to and use of Customer's personnel, software, equipment and other cooperation, as reasonably necessary for the performance of the Services, and Service Provider will be entitled to rely on the sufficiency and accuracy of such materials, data, information, supplies, facilities, access and cooperation (collectively, "Cooperation"). Service Provider will incur no liability or responsibility of any kind for any delay or deficiency in providing Services to the extent such delay or deficiency directly results from Customer's failure to provide Cooperation.

d. Employees and Subcontractors. Service Provider may employ any individuals and/or subcontractors to aid Service Provider in the performance of the Services should Service Provider deem it necessary. The Parties agree that Customer will not direct, supervise or control in any way such individuals and/or subcontractors in their performance of the Services. Service Provider will (i) cause all such subcontractors to comply with all applicable provisions of the Agreement as if it were a Service Provider, and (ii) remain responsible for the obligations performed under the Agreement by any of its subcontractors to the same extent as if such obligations were performed by Service Provider.

#### 4. **Data and Confidentiality.**

a. Customer Data. As between Service Provider and Customer, materials, data and other information that is transferred or made available to Service Provider by Customer for processing as part of the Services, and any modifications or enhancements of such materials, data and other information made under a Statement of Work ("Customer Data"), will be and remain the property of Customer. Service Provider is hereby authorized to have access to and to make use of the Customer Data in accordance with the terms of the Agreement in connection with the provision of the Services. Upon the expiration or any termination of a Statement of Work, Service Provider will promptly return to Customer all of the Customer Data used to perform the Services under that Statement of Work that is then in Service Provider's possession, in Service Provider's then existing form and format. Service Provider will not use Customer Data for any purpose other than providing the Services.

b. Safeguarding Data. When on the property of Customer or when given access to any Customer Data, Service Provider shall, (i) comply with Customer's reasonable policies and procedures concerning health, safety, security, data privacy, confidentiality and data security applicable to third party vendors, and (ii) permit its personnel to be appropriately supervised, directed and/or accompanied during such access as reasonably required by Customer for

compliance with the aforementioned policies and procedures. To the extent that Customer Data is subject to governmental regulation or may require security measures beyond those established by Service Provider, Customer will not transfer or make such Customer Data available unless Service Provider has first agreed in writing to implement additional required security measures. Unless otherwise specified in a Statement of Work with respect to the Customer Data possessed by Service Provider under that Statement of Work, Service Provider will not be responsible for maintaining or backing-up any Customer Data.

c. Confidentiality Obligations. Service Provider and Customer each agree that all non-public or confidential information (regardless of form) of a Party that is disclosed to or accessed by the other Party (the “Receiving Party”) in connection with the Agreement will be and will be deemed to have been received in confidence (“Confidential Information”). Unless a different period of time is specified in a Statement of Work with respect to Confidential Information related to such Statement of Work, each Party agrees that it will, during the term of the Agreement and for a period of two (2) years after the termination or expiration of the Agreement, (i) keep all Confidential Information provided to it confidential and protected from unauthorized use and disclosure, using at least the same degree of care as such Party employs to protect its own confidential or proprietary information against such unauthorized use or disclosure (but in no event less than reasonable care); and (ii) not disclose the other Party’s Confidential Information in any form to, or for the use or benefit of, any person or entity without the disclosing Party’s prior approval, to be given in the disclosing Party’s sole discretion. Unless otherwise specified in a Statement of Work with respect to Confidential Information related to such Statement of Work, each Party, however, will be permitted to disclose relevant aspects of the other Party’s Confidential Information to its officers, directors, employees, agents, professional advisors (including its attorneys, bankers and consultants), contractors, subcontractors, and representatives, and to the officers, directors, employees, agents professional advisors, contractors, subcontractors and representatives of its affiliates (collectively, “Permitted Parties”), in each case to the extent that such disclosure is permitted under the Affiliate Requirements and all other applicable agreements and laws, and only to the extent that such disclosure is necessary for the performance of the Receiving Party’s duties and obligations under the Agreement or the determination, preservation or exercise of its rights and remedies under the Agreement or under law; provided that any Permitted Party to which Confidential Information is provided by a Receiving Party shall be subject to confidentiality obligations with respect to such Confidential Information at least as protective as the obligations set forth herein, including any Affiliate Requirements applicable to such Permitted Party’s access to and use of Confidential Information. The Receiving Party will be liable for any act or omission by a Permitted Party to whom it has disclosed the other Party’s Confidential Information, which act or omission constitutes a breach of the obligations under this subsection. The terms of this subsection will not restrict any disclosure required by any competent governmental authority, regulatory agency, or securities exchange, as determined by the Receiving Party’s legal counsel, provided that, where lawfully permitted, the Receiving Party will notify the disclosing Party of such requirement and cooperate, upon the disclosing Party’s request, in obtaining a protective order with respect to such information.

d. Exceptions to Confidentiality Obligations. Except to the extent otherwise provided by applicable law, the term “Confidential Information” will not include information that (i) is independently developed by the Receiving Party without breach of the Agreement, as evidenced by competent proof, (ii) is or becomes generally known to the public (other than through

unauthorized disclosure by or through a Party), (iii) is generally disclosed by the owner of such information to third parties free of any obligation of confidentiality, (iv) was already demonstrably known by the Receiving Party prior to the time of disclosure and the Receiving Party has no obligation of confidentiality with respect to such Confidential Information, or (v) is rightfully received by the Receiving Party free of any obligation of confidentiality, provided that (y) the Receiving Party has no knowledge that such information is subject to a confidentiality agreement and (z) such Confidential Information is not of a type or character that a reasonable person would have regarded it as confidential.

## 5. Proprietary Rights.

a. Use of Customer Materials. Customer grants Service Provider during the term of a Statement of Work a nonexclusive, worldwide, royalty-free license to use, reproduce, display, perform, distribute and prepare derivative works of the software and other intellectual property that is provided or made available by or on behalf of Customer solely in connection with the provision or receipt of the Services under such Statement of Work ("Customer Materials"). As between Service Provider and Customer, Customer Materials will be and remain the property of Customer. Service Provider will not use Customer Materials for any purpose other than providing the Services.

b. Project Materials. Customer will own all rights, title and interest in new works of authorship that Service Provider develops exclusively for Customer under a Statement of Work, as well as any modifications, enhancements or derivative works of Customer Materials that are made under a Statement of Work ("Project Materials"). Project Materials exclude works of authorship delivered to Customer, but not created, under a Statement of Work, and any modifications, enhancements or derivative works of such works ("Existing Works"). Service Provider grants Customer a perpetual, nonexclusive, worldwide, royalty-free license to use, reproduce, display, and prepare derivatives of Existing Works that are incorporated into Project Materials; provided, however, that this license will not permit the exploitation of such Existing Works on a stand-alone basis. With respect to stand-alone Existing Works, Service Provider grants Customer during the term of a Statement of Work a nonexclusive, worldwide, royalty-free license to use, reproduce, display, perform, distribute and prepare derivative works of the stand-alone Existing Works solely in connection with the Services. During the term of a Statement of Work, solely for the purpose of providing the Services under a Statement of Work, Service Provider retains a nonexclusive, worldwide, royalty-free license to use, reproduce, display, perform, distribute and prepare derivative works of the Project Materials that are created under such Statement of Work.

c. Further Assurances; Reservation of Rights. Service Provider and Customer covenant and agree that, subsequent to the execution and delivery of this Services Agreement and, without any additional consideration, each of Service Provider and Customer will execute and deliver any further legal instruments and perform any acts that are or may become necessary to effectuate the purposes of this Section 5 or Section 4(a). All rights not expressly granted by a Party in the Agreement are reserved to such Party.



6. **No Representations or Warranties.**

**EXCEPT AS SET FORTH HEREIN, SERVICE PROVIDER HEREBY DISCLAIMS AND CUSTOMER WAIVES ANY AND ALL REPRESENTATIONS AND WARRANTIES, WHETHER EXPRESS, IMPLIED, WRITTEN, ORAL OR STATUTORY, WITH RESPECT TO ANY SERVICES PROVIDED BY SERVICE PROVIDER, INCLUDING ANY WARRANTIES (A) OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT, TITLE, SATISFACTORY QUALITY OR QUIET ENJOYMENT, (B) WITH RESPECT TO THE ACCURACY, COMPLETENESS OR RELIABILITY OF THE SERVICES OR ANY PROJECT MATERIALS OR EXISTING WORKS, OR (C) ARISING FROM ANY COURSE OF DEALING, COURSE OF PERFORMANCE OR USAGE OF TRADE.**

7. **Indemnity and Liability.**

a. Indemnification.

i. Except to the extent otherwise provided in the Agreement, each Party (each, an “Indemnifying Party”) agrees to and will indemnify, defend and hold harmless the other Party and all of its affiliates, and all officers, directors, shareholders, employees, partners and agents of such Party or any such affiliate (excluding, in each case, the Indemnifying Party and its officers, directors, shareholders (only to the extent Service Provider is the Indemnifying Party), partners, employees and agents) (collectively, the “Indemnified Parties”) from and against any and all causes of action, claims, allegations, demands, actions, lawsuits and proceedings of every character, kind and nature (“Claims”), and any and all damages, fines, penalties, deficiencies, losses, liabilities (including settlements and judgments), costs and expenses (including interest, court costs, reasonable fees and expenses of attorneys, accountants, experts and other professionals or other reasonable fees and expenses of litigation, mediation, arbitration or other actions or proceedings or of any claim, default or assessment) (“Losses”), that arises out of, results from or relates to (a) any breach by the Indemnifying Party of a representation, warranty or covenant contained herein; or (b) the gross negligence or willful misconduct of the Indemnifying Party or its affiliates, employees, agents, or contractors (including with respect to the performance or non-performance of any Service hereunder) or any allegation that any Service provided by Service Provider, or the use thereof by Customer or its affiliates, officers, directors, shareholders, employees, partners or agents, infringes or misappropriates the intellectual property rights of any third party; and further, **IT IS THE EXPRESS INTENT OF THE PARTIES THAT, FOR THE PURPOSES OF THIS CLAUSE, CLAIMS AND LOSSES, AND THE INDEMNIFYING PARTY’S OBLIGATIONS TO INDEMNIFY, DEFEND AND HOLD HARMLESS, WILL EXCLUDE CLAIMS AND LOSSES TO THE EXTENT ARISING OUT OF, RESULTING FROM OR IN ANY WAY RELATING TO ANY MEMBER OF THE INDEMNIFIED PARTIES’ CONCURRENT NEGLIGENCE, GROSS NEGLIGENCE, OR STRICT LIABILITY.**

b. Indemnification Procedures. If any Claim by a third party is made against an Indemnified Party, notice thereof will be given to the Indemnifying Party as promptly as practicable. Any delay by the Indemnified Party in providing such notice will not limit the Indemnifying Party’s obligations pursuant to subsection (a) of this Section, except to the extent

the Indemnifying Party is actually prejudiced by such delay. The Indemnifying Party may elect to assume the defense of the Claim by promptly, but in any event within ten (10) days after receipt of notice from the Indemnified Party, sending notice of the assumption of the defense. Promptly after sending its notice of the assumption, the Indemnifying Party will take control of the defense of the Claim and choose and employ independent legal counsel of reputable standing to handle and defend the same, at the Indemnifying Party's sole cost and expense. After the date the Indemnifying Party assumes the defense of a Claim pursuant to this subsection, the Indemnified Party may, at its own cost and expense, participate in the defense of the Claim, and the Indemnified Party will cooperate, at the Indemnifying Party's cost and expense, as reasonably requested by the Indemnifying Party with the Indemnifying Party and its counsel in the defense of the Claim. If the Indemnifying Party assumes the defense of a Claim pursuant to this subsection, it may not agree to any compromise or settlement of the Claim without the consent of the Indemnified Party, and the Indemnified Party has no liability for any compromise or settlement of the Claim effected without its consent. However, the Indemnifying Party may agree to a compromise or settlement of the Claim without an Indemnified Party's consent if (i) there is no finding or admission of any violation of law or any violation of the rights of any person or entity and no effect on any other Claim that may be made against the Indemnified Party, (ii) the sole relief provided is monetary damages that are paid in full by the Indemnifying Party, and (iii) the compromise or settlement includes, as an unconditional term, the claimant's or the plaintiff's release of the Indemnified Party, in form and substance satisfactory to the Indemnified Party, from all liability in respect of the Claim.

c. Limitations on Liability. **EXCEPT AS OTHERWISE EXPRESSLY PROVIDED IN THE LAST SENTENCE OF THIS SUBSECTION, IN NO EVENT WILL THE INDEMNIFYING PARTY BE LIABLE FOR (I) ANY PUNITIVE, INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES, INCLUDING LOSS OF DATA, LOST PROFITS, LOSS OF GOODWILL, SHARE PRICE DECLINE OR REDUCTION IN VALUE OF BUSINESS (EXCEPT TO THE EXTENT THAT THE INDEMNIFIED PARTY ACTUALLY PAYS SUCH AMOUNTS), IN EACH CASE ARISING OUT OF, RESULTING FROM OR IN ANY WAY RELATING TO THE INDEMNIFYING PARTY'S PERFORMANCE OR FAILURE TO PERFORM UNDER THE AGREEMENT, REGARDLESS OF THE FORM OF THE CLAIM OR THE THEORY OF RECOVERY, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, OR (II) THE FURNISHING, PERFORMANCE, OR USE OF ANY GOODS OR SERVICES SOLD OR PERFORMED PURSUANT HERETO, WHETHER BASED UPON AN ACTION OR CLAIM IN CONTRACT, TORT (INCLUDING NEGLIGENCE OR STRICT LIABILITY), BREACH OF WARRANTY, OR OTHERWISE, EXCEPT IN THE CASE OF GROSS NEGLIGENCE OR INTENTIONAL MISCONDUCT OF THE INDEMNIFYING PARTY OR ITS AFFILIATES OR REPRESENTATIVES. EXCEPT IN THE CASE OF FRAUD OR AS OTHERWISE EXPRESSLY PROVIDED IN THE LAST SENTENCE OF THIS SUBSECTION, THE TOTAL CUMULATIVE LIABILITY OF EACH PARTY TO THE OTHER PARTY FOR ALL CLAIMS ARISING OUT, RESULTING FROM OR IN ANY WAY RELATING TO A PARTY'S PERFORMANCE OR FAILURE TO PERFORM UNDER THE AGREEMENT, REGARDLESS OF THE FORM OF THE CLAIM OR THE THEORY OF RECOVERY, WILL IN NO EVENT EXCEED AN AMOUNT EQUAL TO THE TOTAL AMOUNTS PAID OR PAYABLE TO SERVICE PROVIDER IN RESPECT OF THE APPLICABLE SERVICES PROVIDED**

**UNDER THE AGREEMENT.** The provisions of this subsection do not apply to breaches of Section 4(c) with respect to Customer's Confidential Information.

**8. Term and Termination.**

a. Term of Services Agreement. The term of this Services Agreement will begin on the Effective Date and will continue until the date upon which the Agreement is terminated in whole in accordance with subsection (c) of this Section.

b. Term of Statement of Work. The term of a Statement of Work will begin on its effective date, as set forth in such Statement of Work, and continue until its expiration date, as set forth in such Statement of Work, or the date upon which such Statement of Work is terminated in accordance with subsection (c) of this Section. However, in no event will the term of any Statement of Work extend beyond the term of this Services Agreement.

c. Termination. Either Party may terminate the Agreement, in whole or in part, for convenience (*i.e.*, for any reason or no reason) effective as of any date by giving the other Party notice of the termination at least thirty (30) days prior to the termination date specified in such notice.

d. Effect of Expiration or Termination.

i. Upon the expiration or any termination of a Statement of Work, but not this Services Agreement, (A) Service Provider will cease to perform the Services covered by such Statement of Work, and (B) Customer will pay to Service Provider all amounts due to Service Provider pursuant to Section 2 for all of the Services performed under such Statement of Work through the effective date of such expiration or termination. Expiration or termination of a Statement of Work will not affect any other Statements of Work, the performance of which by either or both of the Parties remains outstanding, unless the Parties otherwise agree in writing. In addition, the transition provisions set forth in clause (iii) of this subsection will apply, to the extent indicated therein.

ii. Upon the expiration or any termination of this Services Agreement, (A) all Statements of Work then outstanding will be deemed automatically and simultaneously terminated as of the effective date of the expiration or termination of this Services Agreement, (B) Service Provider will cease to perform the Services covered by such Statements of Work, and (C) Customer will pay to Service Provider all amounts due to Service Provider pursuant to Section 2 for all of the Services performed under such Statements of Work through the effective date of the expiration or termination of this Services Agreement. In addition, the transition provisions set forth in clause (iii) of this subsection will apply, to the extent indicated therein.

iii. In connection with the expiration or any termination of this Services Agreement (and all Statements of Work then outstanding) or any Statement of Work, if requested by Customer in writing within a reasonable period of time, but in no event less than twenty (20) days, prior to the applicable expiration date or effective date of termination, Service Provider will provide, at Customer's cost and expense, a reasonable amount of transition assistance the nature and extent of which will be determined by the Parties in writing based on the circumstances surrounding the upcoming expiration or termination. If the transition assistance extends beyond

the expiration date or effective date of termination of this Services Agreement or the affected Statement(s) of Work, the provisions of this Services Agreement and such Statement(s) of Work will remain in effect for the duration of the agreed upon transition assistance period and will apply to all transition assistance Services provided by Service Provider during such period (subject to the provisions of clause (iv) of this subsection). Prior to providing any transition assistance to any third party, Customer will cause the third party to provide Service Provider with written assurances, in form and substance reasonably satisfactory to Service Provider, that the third party will (A) maintain at all times the confidentiality of any of Service Provider's Confidential Information that is disclosed or provided to, or learned by, such third party in connection therewith, and (B) use such Confidential Information exclusively for the purposes for which Customer is authorized to use such information pursuant to this Services Agreement and the applicable Statement(s) of Work. Notwithstanding anything to the contrary, Service Provider will have no obligation to provide any form of transition assistance, whether under this clause or otherwise, if Service Provider terminates any Statement of Work or this Services Agreement (and all outstanding Statements of Work) as a result of Customer's failure to pay any amounts due to Service Provider pursuant to Section 2.

iv. For so long as this Services Agreement and any Statement of Work remains in effect, Customer will continue to reimburse Service Provider for the costs and expenses incurred by Service Provider in connection with the provision of the Services (whether actually paid or accrued), under and in accordance with Section 2.

e. Survival. The terms of this subsection and Sections 2, 4(c), 4(d), 5(b), 6, 7, 8(d) and 9 will survive the expiration or any termination of this Services Agreement in accordance with its terms.

## **9. General.**

a. Assignment. Neither Party may assign the Agreement or its rights or obligations hereunder without the other Party's prior written consent, to be given in such other Party's sole discretion. The Agreement will be binding on the Parties and their respective successors and permitted assigns. Any purported assignment in contravention of this subsection is void.

b. Notices. Whenever one Party is required to give notice to the other under the Agreement (other than routine operational communications), such notice will be deemed given when delivered to the applicable address set forth in the signature block below. Either Party may change its address or contact for notification purposes by giving the other Party notice of the new address or contact and the date upon which it will become effective.

c. Governing Law and Venue. The Agreement will be governed by the laws of the State of Texas without regard to the conflicts of law provisions thereof or of any other jurisdiction. Each Party knowingly, voluntarily, unconditionally and irrevocably (i) agrees that any Claim brought by it that arises out of, results from or relates in any way to the Agreement must be brought solely and exclusively in the United States District Court for the Northern District of Texas (Fort Worth Division) or in any court of the State of Texas sitting in Tarrant County, Texas, and (ii) accepts and submits to the sole and exclusive jurisdiction of such courts *in personam* with respect to any such Claim brought by it or against it by the other Party.

d. Excused Performance. Neither Party will be deemed to be in default hereunder, or will be liable to the other, for any delay or deficiency in performing any of its non-monetary obligations for any period, if and to the extent that such delay or deficiency results from acts of god, terrorism, natural disasters, riots, war, strikes, civil disorder, court order, labor dispute or any other causes beyond that Party's reasonable control, and such delay or deficiency could not have been prevented by commercially reasonable precautions or could not have been remedied by the exercise of commercially reasonable efforts (a "Force Majeure Event"). Service Provider's obligations under the Agreement shall be postponed for such time as its performance is suspended or delayed on account of a Force Majeure Event. Service Provider will promptly notify Customer, either orally or in writing, upon learning of the occurrence of such Force Majeure Event and the Parties shall promptly confer, in good faith, on what action may be taken to minimize the impact, on both Parties, of such Force Majeure Event. The Parties will use commercially reasonable efforts to as promptly as practicable remove or mitigate the effect of such Force Majeure Event; provided that nothing in this subsection will be construed to require the settlement of any strike, walkout, lockout or any other claim or litigation on terms which, in the reasonable judgment of Service Provider, are contrary to its interest. Upon the cessation of the Force Majeure Event, provided that the applicable Service has not been terminated, Service Provider shall use commercially reasonable efforts to resume its performance as promptly as practicable.

e. Waiver of Jury Trial. EACH PARTY HEREBY IRREVOCABLY AND UNCONDITIONALLY WAIVES ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY LEGAL PROCEEDING DIRECTLY OR INDIRECTLY ARISING OUT OF OR RELATING TO THIS AGREEMENT AND ANY OF THE AGREEMENTS DELIVERED IN CONNECTION HERewith AND THE TRANSACTIONS CONTEMPLATED HEREBY. EACH PARTY CERTIFIES AND ACKNOWLEDGES THAT (A) NO REPRESENTATIVE, AGENT OR ATTORNEY OF ANY OTHER PARTY HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT SUCH OTHER PARTY WOULD NOT, IN THE EVENT OF LITIGATION, SEEK TO ENFORCE EITHER OF SUCH WAIVERS, (B) IT UNDERSTANDS AND HAS CONSIDERED THE IMPLICATIONS OF SUCH WAIVERS, (C) IT MAKES SUCH WAIVERS VOLUNTARILY, AND (D) IT HAS BEEN INDUCED TO ENTER INTO THIS AGREEMENT BY, AMONG OTHER THINGS, THE MUTUAL WAIVERS AND CERTIFICATIONS IN THIS SUBSECTION.

f. Approvals and Similar Actions. Except as otherwise expressly provided in the Agreement, where agreement, approval, acceptance, consent or similar action is required of either Party by any provision of the Agreement, such action will not be unreasonably withheld, conditioned or delayed.

g. Amendment and Waiver. No amendment, change, waiver or discharge of the Agreement will be valid unless in writing and signed by both Parties. No waiver, modification or amendment of the Agreement will be binding upon either Party unless made in writing and signed by a duly authorized representative of such Party, and no failure or delay in enforcing any right will be deemed a waiver thereof.

h. Savings Clause. In the event any of the provisions of the Agreement will be held by a court or other tribunal of competent jurisdiction to be illegal, invalid or unenforceable, such

provisions will be limited or eliminated to the minimum extent necessary so that the Agreement will otherwise remain in full force and effect.

i. Costs and Fees. The prevailing Party in any action to enforce the Agreement will be entitled to costs and fees (including attorneys' fees and expert witness fees) incurred by such Party in connection with such action.

j. Counterparts. The Agreement may be executed in any number of counterparts, each of which will be deemed an original, but all of which taken together will constitute one single agreement between the Parties. The delivery of an executed counterpart of the Agreement by e-mail transmission in portable document format (.pdf) will be valid delivery thereof.

k. Construction. The attached Exhibit is hereby incorporated into and deemed part of this Services Agreement for all purposes. All references to this Services Agreement include its attached Exhibit. Unless otherwise expressly stated, all references to Sections, subsections and clauses refer to sections, subsections and clauses of this Services Agreement. The word "or" is not exclusive and the word "include" and its derivatives will not be construed as terms of limitation. The words "will" and "shall" are expressions of command, not merely expressions of future intent or expectation. Unless otherwise expressly stated, the words "hereof," "herein" and "hereunder" and words of similar import refer to the Agreement as a whole and not to any particular provision of the Agreement. Unless otherwise expressly stated, the words "day," "month" and "year" mean, respectively, calendar day, calendar month and calendar year. References to any law will be to such law as amended, or to a newly adopted law replacing such law. Headings are included for ease of reference only and will not affect the interpretation or construction of the Agreement.

l. Entire Agreement. The Agreement constitutes the entire agreement and understanding between the Parties with respect to the subject matter hereof and supersedes all prior agreements and understandings relating to such subject matter, and there are no other representations, warranties, promises, covenants, commitments, understandings or agreements between the Parties relative to such subject matter.

m. No Third-Party Beneficiaries or Other Rights. Nothing herein shall grant to or create in any person not a party hereto, or any such person's affiliates, any right to any benefits hereunder, and no Party shall be entitled to sue the other Party with respect thereto.

n. Set-Off. Neither Party nor any affiliate thereof may deduct from, set off, hold back or otherwise reduce in any manner whatsoever any amount owed to it hereunder or pursuant to any other agreement against any amount owed hereunder or pursuant to any other agreement by such Party and/or its affiliates to any other Party or any of such other Party's affiliates.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, each of Service Provider and Customer has caused this Services Agreement to be signed and delivered by its duly authorized representative.

**SERVICE PROVIDER:**

**CUSTOMER:**

**SEMPRA ENERGY**

**ONCOR ELECTRIC DELIVERY  
COMPANY LLC**

Signature: \_\_\_\_\_

Signature: \_\_\_\_\_

By: Peter R. Wall  
(print name)

By: Matthew C. Henry

Title: Vice President - Controller & CAO

Title: Senior Vice President, General  
Counsel and Secretary

Address: 488 8th Avenue  
San Diego, California 92101

Address: 1616 Woodall Rodgers Freeway  
Dallas, Texas 75202

[SIGNATURE PAGE TO SERVICES AGREEMENT]

**Exhibit A**

**FORM OF STATEMENT OF WORK**

Oncor Electric Delivery Company LLC  
1616 Woodall Rodgers Freeway  
Dallas, TX 75202

Re: Statement of Work No. \_\_\_\_\_

Dear \_\_\_\_\_:

This letter (this "Statement of Work No. \_\_\_\_\_") confirms the mutual understanding and agreement of Sempra Energy ("Service Provider") and Oncor Electric Delivery Company LLC ("Customer") as to the terms on which Service Provider will provide to Customer the Services described in this Statement of Work No. \_\_\_\_\_, which terms are as follows:

1. This Statement of Work No. \_\_\_\_\_ is entered into by the Parties under the provisions of that certain Services Agreement, dated as of \_\_\_\_\_, 2019, between Service Provider and Customer (the "Agreement"), and, upon execution by the Parties, is incorporated by reference into the Agreement for all purposes. Capitalized terms that are used but not defined in this Statement of Work No. \_\_\_\_\_ will have the meanings given in the Agreement.
2. Subject to the last sentence of Section 8(b) to the Agreement, the term of this Statement of Work No. \_\_\_\_\_ will commence on \_\_\_\_\_, \_\_\_\_\_, and, unless earlier terminated as provided in the Agreement, will expire on \_\_\_\_\_, \_\_\_\_\_.
3. During the term of this Statement of Work No. \_\_\_\_\_, Service Provider will provide to Customer the Services described on the attached Schedule 1.
4. In consideration of the Services provided by Service Provider under this Statement of Work No. \_\_\_\_\_, Customer will reimburse Service Provider for the costs and expenses incurred by Service Provider in connection with the provision of the Services under this Statement of Work No. \_\_\_\_\_ (whether actually paid or accrued), under and in accordance with Section 2 of the Agreement.

Please indicate your agreement to the foregoing by signing both copies of this Statement of Work No. \_\_\_\_\_ and returning one fully executed copy to Customer.

Very truly yours,

**SEMPRA ENERGY**

By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

ACCEPTED AND AGREED TO:

**ONCOR ELECTRIC DELIVERY COMPANY LLC**

By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_





Oncor Electric Delivery Company LLC  
1616 Woodall Rogers Freeway  
Dallas, TX 75202  
Attention: Richard Hays

Re: Statement of Work No. 1 – Taxes – Consulting related to Uncertain Tax Positions

Dear Rick:

This letter (this “Statement of Work No. 1”) confirms the mutual understanding and agreement of Sempra Energy (“Service Provider”) and Oncor Electric Delivery Company LLC (“Customer”) as to the terms on which Service Provider will provide to Customer the Services described in this Statement of Work No. 1, which terms are as follows:

1. This Statement of Work No. 1 is entered into by the Parties under the provisions of that certain Services Agreement, dated as of October 31, 2019, between Service Provider and Customer (the “Agreement”), and, upon execution by the Parties, is incorporated by reference into the Agreement for all purposes. Capitalized terms that are used but not defined in this Statement of Work No. 1 will have the meanings given in the Agreement.
2. Subject to the last sentence of Section 8(b) to the Agreement, the term of this Statement of Work No. 1 is from January 1, 2019 through December 31, 2019, unless earlier terminated as provided in the Agreement; provided, however, that the term shall be automatically extended without any amendment for one calendar year beginning on the present expiration date and upon each anniversary of such date, unless at least thirty (30) days prior to any such expiration date either Party sends written notice to the other Party that it elects not to permit this Statement of Work No. 1 to be so extended, and the term will expire on its then current expiration date.
3. During the term of this Statement of Work No. 1, Service Provider will provide to Customer the Services described on the attached Schedule 1.
4. In consideration of the Services provided by Service Provider under this Statement of Work No. 1, Customer will reimburse Service Provider for the costs and expenses incurred by Service Provider in connection with the provision of the Services under this Statement of Work No. 1 (whether actually paid or accrued), under and in accordance with Section 2 of the Agreement.

Please indicate your agreement to the foregoing by signing both copies of this Statement of Work No. 1 and returning one fully executed copy to Service Provider.

Very truly yours,

**SEMPRA ENERGY**

By: 

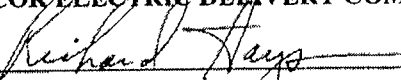
Name: Toby Jack

Title: Director & Sr. Tax Counsel, Corp. Tax

Date: January 14, 2020

ACCEPTED AND AGREED TO:

**ONCOR ELECTRIC DELIVERY COMPANY LLC**

By: 

Name: Richard Hays

Title: V.P. & Controller

Date: December 19, 2019

**Schedule 1**  
**STATEMENT OF WORK #1**  
**TAXES – Consulting related to Uncertain Tax Positions**

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This Statement of Work ("SOW") is subject to all provisions of the Services Agreement, dated October 31, 2019, (the "Agreement") between Sempra Energy ("Service Provider" or "We") and Oncor Electric Delivery Company LLC ("Customer" or "You"), the terms of which are incorporated herein.

**PURPOSE AND SCOPE**

This SOW covers tax accrual Services as described below. This SOW sets forth the objectives, deliverables, timing, staffing and fees for this project/effort.

At Customer's request, Service Provider will assist Customer with its quarterly updates on uncertain tax positions (UTP's) based on Accounting Standards Codification (ASC) 740, "Income Taxes" for calendar quarters ending each March 31, June 30, September 30 and December 31 as long as this SOW is not terminated. Service Provider's Services performed during this engagement will be based upon the principles of Accounting Standards Codification (ASC) 740, "Income Taxes" and other relevant accounting literature or regulatory guidance. Service Provider will not be rendering an opinion or providing advice with respect to specific technical accounting, disclosure or regulatory questions. All such advice or guidance will be provided by Customer in coordination with your external auditor, and therefore relied upon by Service Provider in performing this engagement. Similarly, we will not be rendering an opinion in relation to Customer's internal controls.

By acceptance of this SOW, you agree to designate a member of management who possesses the skill, knowledge, and experience necessary to oversee our Services and to understand our deliverables for the purpose of management's consideration and use of those deliverables in the company's preparation of the financial statements. As part of the commencement of this engagement, we will meet with you to discuss the company's significant accounting policies, address any issues relating to the information we will need to perform the engagement, discuss any historical information particular to Customer that will assist us with the engagement and preliminarily identify technical accounting, disclosure or regulatory matters that may require interpretation or judgment.

**I. Planning and Organizational Meeting**

Service Provider will meet with Customer personnel to discuss UTPs, related financial reporting and controls considerations, and auditor and regulatory expectations.

**II. Services with respect to Existing Uncertain Tax Positions**

Service Provider will assist with performing procedures designed to identify significant UTPs, including but not limited to attending meetings and discussions with management, review of tax returns open to taxing authority examination, review of results of prior examinations and appeals, review of ongoing taxing authority examinations and appeals, review of any amended returns pending or filed for open years, and consideration of any material nexus issues or non-filing positions. We will provide technical assistance in determining open tax years in various jurisdictions. We will also assist Customer in the development of its procedures for determining the proper "unit of account" for various positions if needed.

**Documentation**

Service Provider will assist with accumulating the identified UTPs within a UTP memo. Any UTPs identified will be categorized in a manner that enables and supports application of the principles and compilation of information required under (ASC) 740, "Income Taxes". The UTP memo will include documentation related to Customer's significant book-tax differences, a discussion of the status of years open to examination, and a brief discussion of any positions considered highly certain. Each quarter, a paragraph in the memo will discuss any updates related to tax law changes, IRS rulings, court cases, etc. that impact Customer's tax return positions.

## Schedule 1

### STATEMENT OF WORK #1

#### TAXES – Consulting related to Uncertain Tax Positions

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##### III. Services with respect to New Positions

Any services with respect to new positions identified prospectively will be considered Additional Services and billed consistent with Section 2 of the Services Agreement as modified in the section titled "COMPENSATION, INVOICES AND PAYMENT" below. We will provide an estimated range of fees for your approval at the time of identification.

##### >- Assessment and Recognition

Service Provider will attend joint meetings and discussions with Customer and technical experts, as needed, to assist in assessing the population of uncertainties for recognition. These discussions may include conducting a review of existing opinions and analyses to assess the technical merits, consultations with Service Provider tax specialists, and other analysis of the positions to assist Customer in reaching its conclusion as to whether the positions meet the more-likely-than-not ("MLTN") criteria.

##### >- Measurement of UTPs

Based upon the determinations made under the recognition criteria, Service Provider will:

- o Assist Customer in the determination of the amount of the tax benefit that is cumulatively more than 50% likely of being realized and documenting the process and basis for Customer's conclusions.
- o Assist with accumulating the measured UTPs by year to enable Customer's determination of any ancillary effects of the UTP measurement (e.g., effect on AMT, credit or loss carryforwards, state taxes, etc.).
- o Assist with compiling the results of the measurements to support Customer's required tax accounting (e.g., balance sheet reclassifications, cumulative effect amount, interest accruals, intraperiod allocation, etc.) and required disclosures.

Service Provider will meet with Customer to review and discuss the analysis of measurement of the UTPs, related interest/penalties and proposed tax accounting and disclosures.

##### >- Additional Technical Analysis

The identification of UTPs may result in a need for further technical analysis to assess the merits of the tax position. The technical analysis and documentation required to assess the merits of the position may be in the form of a tax technical memorandum. Such services, or any of this type, that Customer may request Service Provider to provide, will be considered Additional Services.

Service Provider will not provide any advice or analysis with respect to the potential impact of the economic substance doctrine included in Internal Revenue Code 7701(o) or similar state provision to any transaction. Any services requested by you, or proposed by Service Provider, concerning the potential impact of the economic substance doctrine will be provided under a separate SOW.

#### YOUR RESPONSIBILITIES

The final determination of all accounting and internal control matters associated with the application of accounting guidance on UTPs included in (ASC) 740, "Income Taxes" are the responsibility of Customer management. Customer agrees it is responsible for the tax account balances and related disclosures, including those accounts created or affected by the application of accounting guidance on UTPs included in (ASC) 740, "Income Taxes", ultimately included in its financial statements. Customer also agrees it is responsible for making management decisions and retaining the necessary documentation in support of the accounts and disclosures.

## Schedule 1

### STATEMENT OF WORK #1

#### TAXES – Consulting related to Uncertain Tax Positions

Customer acknowledges that Service Provider will not be making decisions or providing technical accounting advice with respect to specific questions or matters requiring interpretation or judgment. Service Provider will bring matters requiring such interpretation or judgment to the attention of Customer's management as they are identified, for resolution by Customer management in appropriate consultation with Customer's independent auditing firm.

#### Information Request

To facilitate Service Provider's Services, you will need to provide the following information (as applicable):

- U.S. Consolidated Form 1065 and state returns for all known open years and related workpapers.
- Amended returns filed or pending for all known open years
- Documentation of unsettled items in pending examinations and appeals
- Results of prior examinations and appeals
- Disclosure of all known tax contingencies internally documented or discussed
- Disclosure of all current and ongoing federal and state tax examinations
- Written analyses, opinions, correspondence and memoranda, both internal and from outside advisers, addressing tax positions (if applicable)

#### DELIVERABLES

Service Provider will provide a memo and supporting workpapers/template (as applicable) each quarter based on Services outlined in the section titled "PURPOSE AND SCOPE" above. Any additional deliverables will be mutually agreed upon by Customer and Service Provider.

#### CONTRACT COORDINATOR:

SERVICE PROVIDER: Name: J. Dumas Phone Number: (619) 696-4451

CUSTOMER: Name: B. Clutter Phone Number: (214) 486-6553

#### COMPENSATION, INVOICES AND PAYMENT

We will be compensated for the Services performed pursuant to this SOW in accordance with Section 2 of the Services Agreement; provided, however, that instead of monthly invoicing as described in Section 2(a) of the Agreement, Service Provider will submit to Customer quarterly invoices summarizing the costs and expenses owed Service Provider under this SOW for Services rendered during the preceding quarter and will itemize and provide customary receipts for expenses upon request.

The fees for the initial calendar year of the term of this SOW are estimated to be \$23,750 in accordance with the table below.

Year-end 20XX	9,500
Q 1, 201X	4,750
Q 2, 201X	4,750
Q 3, 201X	4,750



Oncor Electric Delivery Company LLC  
1616 Woodall Rogers Freeway  
Dallas, TX 75202  
Attention: Richard Hays

Re: Statement of Work No. 2 – Taxes – Annual Tax Return Review

Dear Rick:

This letter (this "Statement of Work No. 2") confirms the mutual understanding and agreement of Semptra Energy ("Service Provider") and Oncor Electric Delivery Company LLC ("Customer") as to the terms on which Service Provider will provide to Customer the Services described in this Statement of Work No. 2, which terms are as follows:

1. This Statement of Work No. 2 is entered into by the Parties under the provisions of that certain Services Agreement, dated as of October 31, 2019, between Service Provider and Customer (the "Agreement"), and, upon execution by the Parties, is incorporated by reference into the Agreement for all purposes. Capitalized terms that are used but not defined in this Statement of Work No. 2 will have the meanings given in the Agreement.
2. Subject to the last sentence of Section 8(b) to the Agreement, the term of this Statement of Work No. 2 is from January 1, 2019 through December 31, 2019, unless earlier terminated as provided in the Agreement; provided, however, that the term shall be automatically extended without any amendment for one calendar year beginning on the present expiration date and upon each anniversary of such date, unless at least thirty (30) days prior to any such expiration date either Party sends written notice to the other Party that it elects not to permit this Statement of Work No. 2 to be so extended, and the term will expire on its then current expiration date.
3. During the term of this Statement of Work No. 2, Service Provider will provide to Customer the Services described on the attached Schedule 1.
4. In consideration of the Services provided by Service Provider under this Statement of Work No. 2, Customer will reimburse Service Provider for the costs and expenses incurred by Service Provider in connection with the provision of the Services under this Statement of Work No. 2 (whether actually paid or accrued), under and in accordance with Section 2 of the Agreement.

Please indicate your agreement to the foregoing by signing both copies of this Statement of Work No. 2 and returning one fully executed copy to Service Provider.

Very truly yours,

**SEMPRA ENERGY**

By: 

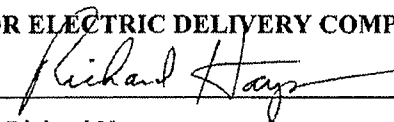
Name: Toby Jack

Title: Director & Sr. Tax Counsel, Corp. Tax

Date: January 14, 2020

ACCEPTED AND AGREED TO:

**ONCOR ELECTRIC DELIVERY COMPANY LLC**

By: 

Name: Richard Hays

Title: V.P. & Controller

Date: December 19, 2019

**Schedule 1**  
**STATEMENT OF WORK #2 TAXES**  
**– Annual Tax Return Review**

This Statement of Work ("SOW") is subject to all provisions of the Services Agreement, dated October 31, 2019, (the "Agreement") between Sempra Energy ("Service Provider" or "We") and Oncor Electric Delivery Company LLC ("Customer" or "You"), the terms of which are incorporated herein.

**PURPOSE AND SCOPE**

This SOW covers the review of the annual Federal and State Income Tax Returns of the Customer and its affiliates within the Oncor ring fence. This SOW sets forth the objectives, deliverables, timing, staffing and fees for this project/effort. Services are rendered on behalf of Oncor Electric Delivery Company LLC. Some of these Services may be performed by in-house and/or outside consultants, in which case, our role will include reviewing the work of such counsel:

- A review of Forms 1065 and 1120 and related tax return working papers supplied by Customer including a review of taxpayer elections filed with the Form 1065 or 1120 and election statements, and information filings attached to the Form 1065 and 1120, checking the return for mathematical accuracy and agreeing supporting schedules to the tax return presentation.
- A review of the book-tax adjustments (Schedule M-3 items) identified by Customer and discussions with Customer personnel to obtain an understanding of the reasons for the Schedule M-3 items and the basic calculation methodology involved in determining the amount of the Schedule M-3 items. As part of this review, we will discuss with Customer personnel the appropriate treatment of the identified Schedule M-3 items.
- A review of a comparison of the prior-year and current year Schedule M-3 items prepared by Customer to (1) gain an understanding of the reasons for significant variances between the respective amounts and (2) identify any inconsistencies in the Schedule M-3 computations and gain an understanding of the reasons for these inconsistencies.
- A review of the tax return to financial statement tax provision comparison analysis provided by Customer to identify and reconcile significant differences between the respective amounts
- A review of election statements, requests to change an accounting method or period, and Section 6662 and Section 6011 disclosure statements prepared by Customer personnel that are specifically brought to our attention for review by Customer, or that arise as a part of our review. In addition, we will review the Reportable Transactions Compliance Checklist with Customer to identify whether additional Section 6011 disclosures may be required. We will prepare election statements, requests to change accounting methods or periods, and Section 6011 disclosure statements if specifically agreed to within the scope of this SOW.
- A review of Schedule UTP prepared by Customer and discussions with Customer personnel to obtain an understanding of the reasons and methodology utilized in determining the Schedule UTP items.

**Matters Outside the Scope of this SOW**

As part of our review, we will not perform the following procedures:

- We will not specifically investigate the potential for specific unidentified tax adjustment items.
- We will not review the tax return of any other flow-through entities and will rely on any Schedule K-1 information provided to us as part of our review.
- We will not electronically file and we will not act as an electronic return originator with respect to any return covered by this SOW. Electronic filing and compliance with federal, state, and local obligations with respect to electronic filing are the sole responsibility of Customer.



**Schedule 1**  
**STATEMENT OF WORK #2 TAXES**  
**– Annual Tax Return Review**

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**Your Responsibilities**

To facilitate our work, you will need to provide documents and data as requested by Service Provider related to provisions of Services detailed in this SOW. We expect that you will provide timely, accurate and complete information and reasonable assistance, and we will perform the engagement on that basis. You will designate a competent member of your management to oversee the Services.

**DELIVERABLES**

Service Provider will review the work papers and forms related to the annual Federal and State Income Tax Returns as provided by Customer. Any additional deliverables will be mutually agreed upon by Customer and Service Provider.

**CONTRACT COORDINATOR:**

SERVICE PROVIDER: Name: Joel Dumas Phone Number: (619) 696-4451

CUSTOMER: Name: Bonnie Clutter Phone Number: (214) 486-6553

**OTHER TERMS AND CONDITIONS**

**Consents to Disclose Customer Information**

Notwithstanding anything to the contrary in the Agreement, Customer authorizes Service Provider to participate in discussions with and to disclose Customer's information, including Customer's current and/or prior years' tax return information to: (i) subcontractors within or outside the United States for the purposes described in this SOW; and (ii) Customer's agents, representatives, administrators or Service Provider advisors (including accountants, attorneys, financial and other Service Provider advisors), their respective officers, directors or employees, and other parties as Customer may direct. The foregoing consent is valid until further notice by Customer. Customer may, in an applicable Statement of Work or otherwise in writing, request a more limited disclosure than the foregoing.

**WORK SITE**

The work site will be determined by the nature of the tax consulting Services.

**COMPENSATION, INVOICES AND PAYMENT**

We will be compensated for the Services performed pursuant to this SOW in accordance with Section 2 of the Services Agreement; provided, however, that instead of monthly invoicing as described in Section 2(a) of the Agreement, Service Provider will submit to Customer quarterly invoices summarizing the costs and expenses owed Service Provider under this SOW for Services rendered during the preceding quarter and will itemize and provide customary receipts for expenses upon request.

We estimate our fees for the first calendar year of this engagement will be between \$60,000 and \$80,000. If needed, Additional Services, as mutually agreed upon by Customer and Service Provider, such as tax return workpaper preparation, tax form preparation and electronic filing assistance, will be billed in accordance with Section 2 of the Services Agreement as modified by this section.



Oncor Electric Delivery Company LLC  
1616 Woodall Rogers Freeway  
Dallas, TX 75202  
Attention: Richard Hays

Re: Statement of Work No. 3 – Taxes – Annual CorpTax Access

Dear Rick:

This letter (this "Statement of Work No. 3") confirms the mutual understanding and agreement of Semptra Energy ("Service Provider") and Oncor Electric Delivery Company LLC ("Customer") as to the terms on which Service Provider will provide to Customer the Services described in this Statement of Work No. 3, which terms are as follows:

1. This Statement of Work No. 3 is entered into by the Parties under the provisions of that certain Services Agreement, dated as of October 31, 2019, between Service Provider and Customer (the "Agreement"), and, upon execution by the Parties, is incorporated by reference into the Agreement for all purposes. Capitalized terms that are used but not defined in this Statement of Work No. 3 will have the meanings given in the Agreement.
2. Subject to the last sentence of Section 8(b) to the Agreement, the term of this Statement of Work No. 3 is from January 1, 2019 through December 31, 2019, unless earlier terminated as provided in the Agreement; provided, however, that the term shall be automatically extended without any amendment for one calendar year beginning on the present expiration date and upon each anniversary of such date, unless at least thirty (30) days prior to any such expiration date either Party sends written notice to the other Party that it elects not to permit this Statement of Work No. 3 to be so extended, and the term will expire on its then current expiration date.
3. During the term of this Statement of Work No. 3, Service Provider will provide to Customer the Services described on the attached Schedule 1.
4. In consideration of the Services provided by Service Provider under this Statement of Work No. 3, Customer will reimburse Service Provider for the costs and expenses incurred by Service Provider in connection with the provision of the Services under this Statement of Work No. 3 (whether actually paid or accrued), under and in accordance with Section 2 of the Agreement.

Please indicate your agreement to the foregoing by signing both copies of this Statement of Work No. 3 and returning one fully executed copy to Service Provider.

Very truly yours,

**SEMPRA ENERGY**

By: 

Name: Toby Jack

Title: Director & Sr. Tax Counsel, Corp. Tax

Date: January 14, 2020

ACCEPTED AND AGREED TO:

**ONCOR ELECTRIC DELIVERY COMPANY LLC**

By: 

Name: Richard Hays

Title: V.P. & Controller

Date: December 19, 2019

**Schedule 1**  
**STATEMENT OF WORK #3**  
**TAXES – Annual CorpTax Access**

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This Statement of Work ("SOW") is subject to all provisions of the Services Agreement, dated October 31, 2019, (the "Agreement") between Sempra Energy ("Service Provider" or "We") and Oncor Electric Delivery Company LLC ("Customer" or "You"), the terms of which are incorporated herein.

**PURPOSE AND SCOPE**

This SOW covers the provision of Service Provider's license and access to CorpTax software for Customer's use in preparing, printing and data storage for the annual Federal and Income Tax Returns of the Customer and its affiliates within the Oncor ring fence. This SOW sets forth the objectives, deliverables, timing, staffing and fees for this project/effort. Services are rendered on behalf of Oncor Electric Delivery Company LLC. Some of these Services may be performed by in-house and/or outside consultants, in which case, our role will include reviewing the work of such consultants:

- Provide access to CorpTax (or equivalent) online software such that Customer can timely prepare its various tax returns.
- Maintain CorpTax (or equivalent) software such that current tax law and forms are available to Customer.
- Assist Customer with instructions, training and configurations to enable Customer to use CorpTax effectively and efficiently.
- Allow Customer to contact/work with CorpTax directly to obtain software support in situations where Service Provider is unable to timely provide the level of technical support needed.
- Allow Customer to continue to use CorpTax software at Customer's cost even if Sempra Energy ceases using CorpTax.

**Matters Outside the Scope of this SOW**

As part of our review, we will not perform the following procedures:

- We will not input data or edit data related to the Oncor ring-fenced entities.
- We will not electronically file and we will not act as an electronic return originator with respect to any return prepared in CorpTax by Customer. Electronic filing and compliance with federal, state, and local obligations with respect to electronic filing are the sole responsibility of Customer.

**Your Responsibilities**

To facilitate our work, you will need to provide documents and data as requested by Service Provider related to provisions of Services detailed in this SOW. We expect that you will provide timely, accurate and complete information and reasonable assistance, and we will perform the engagement on that basis. You will designate a competent member of your management to oversee the Services.

**DELIVERABLES**

Service Provider will provide CorpTax online software access to Customer for the completion of annual Federal Income Tax Returns for Oncor ring-fenced entities. Any additional deliverables will be mutually agreed upon by Customer and Service Provider.

**CONTRACT COORDINATOR:**

SERVICE PROVIDER: Name: Joel Dumas      Phone Number: (619) 696-4451

**Schedule 1**  
**STATEMENT OF WORK #3**  
**TAXES – Annual CorpTax Access**

---

CUSTOMER:            Name: Bonnie Clutter    Phone Number: (214) 486-6553

**OTHER TERMS AND CONDITIONS**

**Consents to Disclose Customer Information**

Notwithstanding anything to the contrary in the Agreement, Service Provider agrees not to participate in discussions with or to disclose Customer's information, including Customer's current and/or prior years' tax return information, to any entity or other parties except as Customer may direct. The foregoing provision is valid until further notice by Customer. Customer may, in an applicable Statement of Work or otherwise in writing, allow limited disclosure.

**WORK SITE**

The work site will be determined by the nature of the tax consulting Services.

**COMPENSATION, INVOICES AND PAYMENT**

We will be compensated for the Services performed pursuant to this SOW in accordance with Section 2 of the Services Agreement; provided, however, that instead of monthly invoicing as described in Section 2(a) of the Agreement, Service Provider will submit to Customer quarterly invoices summarizing the costs and expenses owed Service Provider under this SOW for Services rendered during the preceding quarter and will itemize and provide customary receipts for expenses upon request.

We estimate our fees for the first calendar year of this engagement will be \$25,000. If needed, Additional Services, as mutually agreed upon by Customer and Service Provider, such as extended CorpTax assistance, will be billed in accordance with Section 2 of the Services Agreement as modified by this section.

DOCKET NO. 50893

APPLICATION OF ONCOR § PUBLIC UTILITY COMMISSION  
ELECTRIC DELIVERY COMPANY §  
LLC AND ONCOR ELECTRIC §  
DELIVERY COMPANY NTU LLC §  
FOR LIMITED CODE OF CONDUCT §  
WAIVERS §

2020 NOV -5 AM 10:05  
OF TEXAS  
PUBLIC UTILITY COMMISSION

ORDER

This Order addresses the application of Oncor Electric Delivery Company LLC (Oncor) and Oncor Electric Delivery Company NTU LLC (NTU) (collectively, the applicants) for approval of limited code of conduct waivers regarding certain portions of the Commission's affiliate reporting and affiliate transaction rules as they may apply to certain investors in Oncor through its minority owner, and confirmation that NTU is governed by Oncor's code of conduct. The Commission approves the limited code of conduct waivers and confirms that NTU is governed by Oncor's code of conduct, as specified by this Order.

**I. Findings of Fact**

The Commission makes the following findings of fact.

**Applicants**

1. Oncor is a foreign limited liability company registered with the Texas secretary of state under registration number 800880712.
2. NTU is a domestic limited liability company registered with the Texas secretary of state under registration number 801204958.
3. NTU is an indirect, wholly-owned subsidiary of Oncor.
4. Oncor and NTU provide transmission and distribution service through facilities and equipment that each own and that Oncor operates in the Electric Reliability Council of Texas region under certificate of convenience and necessity numbers 30043 and 30026, respectively.
5. Oncor's minority owner, Texas Transmission Investment LLC (TTI), is indirectly owned by (a) a private investment group led by OMERS Administration Corporation (OMERS), acting through its infrastructure investment entity, OMERS Infrastructure Management

Inc. (OMERS Infra); and (b) Cheyne Walk Investment Pte. Ltd. (Cheyne Walk), which is managed and controlled by the GIC Infrastructure Group (GIC Infra) of GIC Special Investments Pte. Ltd, which is an entity wholly owned by GIC Private Limited (GIC). Through TTI, OMERS and GIC each indirectly own approximately 9.8% of Oncor.

### Application

6. On June 1, 2020, the applicants filed an application for approval of limited code of conduct waivers and for confirmation that NTU is governed by Oncor's code of conduct.
7. Oncor's code of conduct was originally approved by the Commission as part of Oncor's unbundled cost of service proceeding in Docket No. 22350.<sup>1</sup>
8. Amendments to Oncor's code of conduct were approved by the Commission following the Sempra and Sharyland acquisitions.<sup>2</sup>
9. The applicants have not previously sought waivers to Oncor's approved code of conduct.
10. The applicants seek waivers of the requirements in 16 Texas Administrative Code (TAC) §§ 25.84(d), (e), and (i), and 25.272(d)(6), (e)(2), (f), and (i)(2) for all interactions, transactions, and dealings with any "unknown affiliate," which the application defines as any affiliate for which the applicants lack actual knowledge of the affiliate relationship despite their regular, good-faith efforts to identify such affiliate relationship.
11. By granting the waivers described above, the applicants would be relieved of the affiliate reporting and transaction requirements in 16 TAC §§ 25.84(d), (e), and (i), and 25.272(d)(6), (e)(2), (f), and (i)(2) with respect to any unknown affiliate, until the unknown affiliate becomes known to the applicants.
12. Oncor's current policy and process details its regular, good-faith efforts to identify affiliates resulting from GIC or OMERS ownership, including:

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<sup>1</sup> *Application of TXU Electric Company for Approval of Unbundled Cost of Service Rate Pursuant to PURA § 39.201 and Public Utility Commission Substantive Rule § 25.344*, Docket No. 22350, Interim Order - Phase I: Code of Conduct (Jan 23, 2001)

<sup>2</sup> *Compliance Filing of Oncor Electric Delivery Company LLC and Sharyland Utilities, L L C. for Review of Amended Codes of Conduct Resulting from Docket No 48929, Docket No. 49521, Order (Sep. 27, 2019); Compliance Filing of Oncor Electric Delivery Company LLC to Amend its Code of Conduct in Accordance with Docket No. 47675, Docket No 48813, Order (May 9, 2019).*

- (a) monitoring GIC and OMERS acquisitions and investments through routine—at least weekly—reviews of their public websites, press releases if any, and other online resources;
  - (b) through its compliance department, on an at least bi-weekly basis, soliciting confirmation from GIC Infra and OMERS Infra of 5% or more ownership by GIC or OMERS, respectively, in entities identified through Oncor’s monitoring;
  - (c) timely posting conspicuous notice of an affiliate once Oncor acquires actual knowledge of the affiliate relationship; and
  - (d) filing an updated code of conduct and an updated internal compliance plan, as required under 16 TAC § 25.272(i)(2), if identification of the new affiliate requires substantive changes to those documents.
13. Oncor commits to address the extent of its good-faith efforts to identify affiliates in its triennial compliance audits under 16 TAC § 25.272(i)(3).
14. The applicants also seek waivers of the requirements in 16 TAC § 25.84(d) and (e) for certain transactions with any “non-competitive affiliate,” which the application defines as any known affiliate that does not do business in competitive energy-related markets in Texas. Specifically, the applicants request a *de minimis* threshold, such that an individual transaction of not more than \$75,000 with a non-competitive affiliate would be exempt from the requirements of 16 TAC § 25.84(d) and (e). Any transaction with a non-competitive affiliate above the \$75,000 threshold would remain subject to the requirements of 16 TAC § 25.84(d) and (e).
15. The applicants also seek waivers of the requirements in 16 TAC § 25.84(d) and (e) for any transaction with a known, non-competitive affiliate involving an employee expense reimbursement or small purchase made on a departmental purchasing credit card.



Docket No. 50893

Order

16. The applicants also seek clarification or confirmation that NTU is to be governed by and operate under Oncor's Commission-approved code of conduct as addressed in Docket No. 48929.<sup>3</sup>
17. The applicants commit to continuing to implement code of conduct safeguards, including filing Oncor's amended code of conduct and updated internal compliance plan consistent with this Order and continuing to ensure that their customers are not subsidizing the business activities of any affiliates.
18. In Order No. 2 filed on June 26, 2020, the administrative law judge (ALJ) found the application sufficient.

### Notice

19. On June 1, 2020, the applicants provided notice of the application to Commission Staff, the Office of Public Utility Counsel, and all parties of record in Docket No. 48929.
20. In Order No. 2 filed on June 26, 2020, the ALJ found the proposed method of notice sufficient.
21. On July 1, 2020, the applicants filed the affidavit of Teri Smart, director of regulatory support and compliance for Oncor, attesting that notice was provided as described above.
22. In Order No. 4 filed on September 16, 2020, the ALJ found the provision of notice sufficient.

### Testimony

23. On August 7, 2020, the applicants filed the direct testimony of Michael G. Grable.
24. Mr. Grable's direct testimony provided further details regarding the applicants' requests for waivers and included a copy of Oncor's affiliate identification and posting policy.

### Evidentiary Record

25. On September 29, 2020, the parties filed a joint motion to admit evidence.

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<sup>3</sup> *Joint Report and Application of Oncor Electric Delivery Company, LLC, Sharyland Distribution & Transmission Services, L.L.C., Sharyland Utilities, L.P. and Sempra Energy for Regulatory Approvals under PURA §§ 14 101, 37 154, 39.262, and 39 915*, Docket No. 48929. Order at 30, Ordering Paragraph No. 3 (May 9, 2019); *see also Compliance Filing of Oncor Electric Delivery Company LLC and Sharyland Utilities, L.L.C. for Review of Amended Codes Of Conduct Resulting From Docket No. 48929*, Docket No. 49521, Order (Sep. 27, 2019).

26. In Order No. 6 filed on September 29, 2020, the ALJ admitted the following evidence into the record of this proceeding: (a) the applicants' application and all attachments thereto filed on June 1, 2020; (b) the applicants' affidavit attesting to the provision of notice filed on July 1, 2020; (c) the direct testimony of Michael G. Grable filed on August 7, 2020; (d) Commission Staff's final recommendation and all attachments thereto filed on August 21, 2020; and (e) the applicants' red-lined copies of the proposed amendments to Oncor's code of conduct, included as attachments 1 and 2 to the joint motion to admit evidence and proposed order filed on September 29, 2020.

**Commission Staff's Final Recommendation**

27. On August 21, 2020, Commission Staff filed its final recommendation that the Commission grant the application with the following three modifications:
- (a) that the exemption from the requirements of 16 TAC § 25.84(d) and (c) described in finding of fact 14 will cease to apply when a series of interrelated transactions with the non-competitive affiliate exceeds \$250,000 in the aggregate over a calendar year;
  - (b) that the exemption from the requirements of 16 TAC § 25.84(d) and (c) described in finding of fact 15 will only apply to purchases made in the ordinary course of business and that were not intentionally made to subsidize affiliate activities; and
  - (c) that there will be no waivers for transactions in the chain of dealings between Oncor and NTU, meaning that traditional reporting of these transactions will continue.
28. The applicants do not oppose the modifications recommended by Commission Staff.

**Informal Disposition**

29. More than 15 days have passed since completion of the notice provided in this docket.
30. No person filed a protest or motion to intervene.
31. The applicants and Commission Staff are the only parties to this proceeding.
32. No party requested a hearing, and no hearing is necessary.
33. This decision is not adverse to any party.

## II. Conclusions of Law

The Commission makes the following conclusions of law.

1. The Commission has authority over this matter under PURA §§ 14.001, 14.002, 14.051, and 39.157.
2. Oncor and NTU are public utilities as defined in PURA § 11.004(1), and electric utilities as defined in PURA § 31.002(6).
3. Under PURA § 39.157(a), the Commission shall monitor market power associated with the generation, transmission, distribution, and sale of electricity in the state of Texas.
4. Under 16 TAC § 25.84, Oncor and NTU are subject to various reporting requirements pertaining to affiliate transactions.
5. Under 16 TAC § 25.272, Oncor and NTU are subject to various reporting and transaction requirements pertaining to electric utilities and their affiliates, including 16 TAC § 25.272(i)(1) under which Oncor and NTU must maintain a Commission-approved code of conduct governing transactions between themselves and their affiliates, and 16 TAC § 25.272(i)(3) under which Oncor and NTU must submit triennial compliance audits performed by independent auditors.
6. Under 16 TAC § 25.3(b), there is good cause for the requested limited waivers of Oncor's code of conduct, as modified by Commission Staff's final recommendations.
7. Notice of the application complies with 16 TAC §§ 22.54(a) and 22.55.
8. The Commission processed this docket in accordance with the requirements of PURA, the Administrative Procedure Act,<sup>4</sup> and Commission rules.
9. The requirements for informal disposition in 16 TAC § 22.35 have been met in this proceeding.

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<sup>4</sup> Tex. Gov't Code §§ 2001.001–.903.

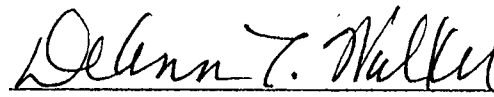
### III. Ordering Paragraphs

In accordance with these findings of fact and conclusions of law, the Commission issues the following orders:

1. The Commission grants the limited code of conduct waivers as modified by Commission Staff's final recommendation and this Order, and confirms that NTU is governed by Oncor's code of conduct.
2. Oncor must address the extent of its good-faith efforts to identify affiliates in its triennial compliance audits.
3. Within 15 days of the date of this Order, Oncor must file with the Commission a clean, non-redlined version of the updated code of conduct found at attachments 1 and 2 to the joint motion to admit evidence and proposed order filed on September 29, 2020, to be stamped *Approved* and retained by Central Records.
4. The Commission denies all other motions and any other requests for general or specific relief, if not expressly granted.

Signed at Austin, Texas the 5<sup>th</sup> day of November 2020.

#### PUBLIC UTILITY COMMISSION OF TEXAS



DEANN T. WALKER, CHAIRMAN



ARTHUR C. D'ANDREA, COMMISSIONER



SHELLY BOTKIN, COMMISSIONER

**Tariff for Transmission Service  
SHARYLAND UTILITIES, L.L.C.**

**4.0 Rate Schedules**  
**Applicable: Wholesale Transmission Service**  
**Effective Date: July 15, 2021**

**Sheet No. 1**  
**Revision: 21**  
**Page 1 of 2**

## **4.0 Rate Schedules**

### **4.1 Rate WTS – Wholesale Transmission Service**

#### **Applicability**

This Wholesale Transmission Service Rate is applicable to all eligible Transmission Service Customers, in accordance with the Transmission Rules, to use the transmission facilities of Sharyland to reliably serve load and to deliver power to another Transmission Service Customer and to any entity scheduling the export of power from the ERCOT and will not apply to entities engaging in wholesale storage as described in 16 TAC § 25.501(m).

#### **Type of Service**

Three phase, 60 hertz alternating current, delivered onto or received from Sharyland's transmission system at 60,000 volts or greater and on transmission facilities that have been prepared and made available for this service.

#### **Rates**

Charges for Wholesale Transmission Service hereunder shall be in accordance with Texas Utilities Code § 35.004(d) and the Transmission Rules and will not apply to entities engaging in wholesale storage as described in 16 TAC § 25.501(m). For Wholesale Transmission Service, a Transmission Service Customer shall incur an access charge, as set forth below:

##### **Access Charge**

Annual Rate	\$0.563436	Per kW*
Monthly Rate	\$0.046953	Per kW*

\* The kW will be adjusted annually in accordance with the Transmission Rules.

#### **Pricing for Transmission Service for Exports from ERCOT**

Charges for Wholesale Transmission Service for exports from ERCOT shall be in accordance with Texas Utilities Code § 35.004(d) and the Transmission Rules. Transmission Service Customers exporting power from ERCOT will be assessed an access charge based on the amount of power actually exported and the duration of the service requested and shall be calculated using the charges set forth below:

##### **Access Charge**

Monthly On-Peak Rate*	\$0.140859	Per kW
Monthly Off-Peak Rate	\$0.046953	Per kW
Weekly On-Peak Rate*	\$0.032328	Per kW
Weekly Off-Peak Rate	\$0.010835	Per kW
Daily On-Peak Rate*	\$0.004618	Per kW
Daily Off-Peak Rate	\$0.001544	Per kW
Hourly On-Peak Rate*	\$0.000192	Per kW
Hourly Off-Peak Rate	\$0.000064	Per kW

\*On-Peak months include June, July, August, and September.

**Tariff for Transmission Service  
SHARYLAND UTILITIES, L.L.C.**

**4.0 Rate Schedules**

**Applicable: Wholesale Transmission Service**

**Effective Date: July 15, 2021**

**Sheet No. 1**

**Revision: 21**

**Page 2 of 2**

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Charges for use of the ERCOT transmission system for export purposes on a monthly basis shall not exceed the annual transmission charge for the transaction. Wholesale exports from ERCOT are subject to the satisfaction of applicable requirements necessary to provide export service.

**Payment**

Any charges due to Sharyland under this rate schedule shall be billed in accordance with the Transmission Rules. The Transmission Service Customer shall make payment to Sharyland in a manner consistent with the procedures and deadlines set forth in the Transmission Rules. Any late payments by customers or customer defaults shall be handled in accordance with the Transmission Rules.

**TARIFF  
FOR  
WHOLESALE TRANSMISSION SERVICE**

**SHARYLAND UTILITIES, L.L.C.**



**SHARYLAND UTILITIES, L.L.C.  
1900 North Akard  
Dallas, Texas 75201**

**Tariff for Electric Service  
SHARYLAND UTILITIES, L.L.C.**

**WHOLESALE TRANSMISSION SERVICE (WTS) RATE**

**Applicability: Entire System**

**Sheet No. 1**  
**Effective Date: June 17, 2020**  
**Revision: 20**

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**Availability**

Wholesale Transmission Service is available on a non-discriminatory basis to any eligible Transmission Service Customer, as that term is defined in Public Utility Commission of Texas (PUC) Substantive Rules 25.191 – 25.203 (Transmission Rules), using any transmission facilities owned by Sharyland Utilities, L.L.C. (Sharyland) at all points where transmission facilities of adequate capacity and suitable voltage are available to provide service, in accordance with the Transmission Rules.

**Applicability**

This Wholesale Transmission Service Rate is applicable to all eligible Transmission Service Customers and to any entity scheduling the export of power from the Electric Reliability Council of Texas (ERCOT), and will not apply to entities engaging in wholesale storage as described in P.U.C. SUBST. R. 25.501(m).

**Type of Service**

Three phase, 60 hertz alternating current, delivered onto or received from Sharyland's transmission system at 60,000 volts or greater and on transmission facilities that have been prepared and made available for this service.

**Transmission Service Requirements**

As a condition to obtaining wholesale Transmission Service, the Transmission Service Customer shall comply with all requirements for initiating Transmission Service in accordance with the Transmission Rules, including the execution of an Interconnection Agreement with each Transmission Service Provider, and the Transmission Service Customer shall meet all ERCOT requirements as specified in the ERCOT Protocols and Operating Guides.

**Conditions Precedent for Receiving Service**

Subject to the terms and conditions hereof and of the Transmission Rules, Sharyland will provide Wholesale Transmission Service to any eligible Transmission Service Customer, provided that:

- (A) the eligible Transmission Service Customer has completed an Application for Wholesale Transmission Service, as provided under the Transmission Rules;
- (B) the eligible Transmission Service Customer and Sharyland, or a third party, have completed installation of all equipment specified under the Interconnection Agreement, consistent with North American Electric Reliability Corporation (NERC) and ERCOT guidelines as set forth in the Transmission Rules;
- (C) the Transmission Service Customer, if directly connected to Sharyland's transmission system, has an executed Interconnection Agreement for Wholesale Transmission Service under this tariff or, if necessary, requested in writing that Sharyland file a proposed unexecuted agreement with the PUC;



**Tariff for Electric Service  
SHARYLAND UTILITIES, L.L.C.**

**WHOLESALE TRANSMISSION SERVICE (WTS) RATE**

**Applicability: Entire System**

**Sheet No. 1**  
**Effective Date: June 17, 2020**  
**Revision: 20**

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- (D) the eligible Transmission Service Customer has arranged for Ancillary Services necessary for the transaction;
- (E) each wholesale load for which wholesale Transmission Service is requested maintains a power factor of 95% or greater at each point of interconnection;
- (F) the eligible Transmission Service Customer has constructed, maintains and operates the facilities on its side of each point of interconnection that are necessary to reliably interconnect and deliver power from a resource to Sharyland's transmission system and from Sharyland's transmission system to the Transmission Service Customer's loads;
- (G) to the extent that the Agreement for Transmission Service requires the addition of facilities or upgrades to the transmission system, such facilities have been placed in service; and
- (H) the eligible Transmission Customer has complied with all Transmission Rules.

**Application Procedures**

Sharyland and the Transmission Service Customer shall comply with the application procedures for Transmission Services set forth in the Transmission Rules, which shall govern such procedures.

**Construction of New Facilities**

Construction of transmission facilities needed to accommodate a request for Wholesale Transmission Service shall be in accordance with the procedures set forth in the Transmission Rules. Upon receipt of a request for Wholesale Transmission Service, ERCOT shall, if necessary, initiate a System Security Screening Study in accordance with the Transmission Rules. Based on the results of the System Security Screening Study, if additions or upgrades to the transmission system are needed to supply the Transmission Service Customer's forecasted transmission requirements, Sharyland will, upon the approval of the request, initiate a facilities study, in accordance with the Transmission Rules. An executed Facility Study Agreement with the Transmission Service Customer is required prior to Sharyland performing a facilities study. In the event that existing facilities are inadequate to support the requested Wholesale Transmission Service, the Transmission Service Customer may be required to provide a contribution in aid of construction, as provided in the Transmission Rules.

**Load Shedding and Curtailment**

Wholesale Transmission Service hereunder shall be subject to, and Sharyland and the Transmission Service Customer will comply with, the load shedding and curtailment procedures established under the Transmission Rules.

**Tariff for Electric Service  
SHARYLAND UTILITIES, L.L.C.**

**WHOLESALE TRANSMISSION SERVICE (WTS) RATE**

**Applicability: Entire System**

**Sheet No. 1**  
**Effective Date: June 17, 2020**  
**Revision: 20**

**Pricing for Transmission Service Within ERCOT**

Charges for Wholesale Transmission Service hereunder shall be in accordance with Texas Utilities Code § 35.004(d) and the Transmission Rules, and will not apply to entities engaging in wholesale storage as described in P.U.C. SUBST. R. 25.501(m). For Wholesale Transmission Service a Transmission Service Customer shall incur an access charge, as set forth below:

**Access Charge**

Annual Rate	\$0.532066	Per kW*
Monthly Rate	\$0.044339	Per kW*

\* The kW will be adjusted annually in accordance with the Transmission Rules.

The above rate is being implemented in accordance with the Commission's interim transmission rate update provisions of P.U.C. SUBST. R. 25.192(h).

**Pricing for Transmission Service for Exports from ERCOT**

Charges for Wholesale Transmission Service for exports from ERCOT shall be in accordance with Texas Utilities Code § 35.004(d) and the Transmission Rules. Transmission Service Customers exporting power from ERCOT will be assessed an access charge based on the amount of power actually exported and the duration of the service requested and shall be calculated using the charges set forth below:

**Access Charge**

Monthly On-Peak Rate*	\$0.133017	Per kW
Monthly Off-Peak Rate	\$0.044339	Per kW
Weekly On-Peak Rate*	\$0.030528	Per kW
Weekly Off-Peak Rate	\$0.010232	Per kW
Daily On-Peak Rate*	\$0.004361	Per kW
Daily Off-Peak Rate	\$0.001458	Per kW
Hourly On-Peak Rate*	\$0.000182	Per kW
Hourly Off-Peak Rate	\$0.000061	Per kW

\*On-Peak months include June, July, August, and September.

**Tariff for Electric Service  
SHARYLAND UTILITIES, L.L.C.**

**WHOLESALE TRANSMISSION SERVICE (WTS) RATE**

**Applicability: Entire System**

**Sheet No. 1**  
**Effective Date: June 17, 2020**  
**Revision: 20**

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Charges for use of the ERCOT transmission system for export purposes on a monthly basis shall not exceed the annual transmission charge for the transaction. Wholesale exports from ERCOT are subject to the satisfaction of applicable requirements necessary to provide export service.

The above rate is being implemented in accordance with the Commission's interim transmission rate update provisions of P.U.C. SUBST. R. 25.192(h).

**Losses**

Losses shall be calculated by the Independent System Operator (ISO) in accordance with the method set forth in the ERCOT Protocols.

**Voltage Support**

Sharyland will provide all devices necessary to maintain proper operating voltages on the transmission system in accordance with Good Utility Practice for voltage support and in accordance with the requirements of the ERCOT ISO, or its successor.

**Reliability Guidelines**

To maintain reliability of the ERCOT transmission grid, Sharyland shall operate its transmission system in accordance with ERCOT Protocols, ERCOT Operating Guides, NERC guidelines, and any other guidelines of the ISO that may apply to Sharyland's transmission system.

Sharyland reserves the right, consistent with Good Utility Practice and on a non-discriminatory basis, to interrupt Wholesale Transmission Service without liability on Sharyland's part for the purpose of making necessary adjustments to, changes in, or repairs to its lines, substations and other facilities, or where the continuance of Wholesale Transmission Service would endanger persons or property. In the event of any adverse condition or disturbance on Sharyland's system or any other system directly or indirectly interconnected with Sharyland's system, Sharyland, consistent with Good Utility Practice, also may interrupt Wholesale Transmission Service on a non-discriminatory basis in order to limit the extent or damage of the adverse condition or disturbance, to prevent damage to generating or transmission facilities, or to expedite restoration of service.

Sharyland will give the Transmission Service Customer as much advance notice as is practicable in the event of such interruption, and shall restore service with due diligence.

The Transmission Service Customer's failure to respond to established emergency load shedding and curtailment procedures to relieve emergencies on Sharyland's transmission system may result in the Transmission Service Customer being deemed by Sharyland to be in default and may result in the termination of Wholesale Transmission Service.

**Tariff for Electric Service  
SHARYLAND UTILITIES, L.L.C.**

**WHOLESALE TRANSMISSION SERVICE (WTS) RATE**

**Applicability: Entire System**

**Sheet No. 1**  
**Effective Date: June 17, 2020**  
**Revision: 20**

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**Payment**

Any charges due to Sharyland under this rate schedule shall be billed in accordance with the Transmission Rules. The Transmission Service Customer shall make payment to Sharyland in a manner consistent with the procedures and deadlines set forth in the Transmission Rules. Any late payments by customers or customer defaults shall be handled in accordance with the Transmission Rules.

**Agreement**

An agreement for Wholesale Transmission Service containing terms and provisions consistent with the Transmission Rules is required prior to commencement of such service.

**Definitions**

Capitalized terms shall have the meanings set forth in P.U.C. SUBST. R. 25.5 and the Transmission Rules.

**Amendments to Rules**

In the event the Transmission Rules are amended or if a new rule is adopted governing the subject matter of this tariff, this tariff shall, nevertheless, remain effective until the new tariff(s) filed pursuant to any such amendment(s) or such new rules are approved, unless the amendment(s) or new rules or an agreement of the parties provide otherwise.

**Notice**

This rate is subject to Sharyland's Tariff and Applicable Legal Authorities

**TARIFF FOR TRANSMISSION SERVICE  
ONCOR ELECTRIC DELIVERY COMPANY NTU LLC**

**3.0 Rate Schedules**  
**Applicable: Wholesale Transmission Service**  
**Effective Date: May 17, 2019**

**Sheet: 1**  
**Revision: Original**  
**Page 1 of 4**

### **3.0 Rate Schedules**

#### **3.1 Rate WTS - Wholesale Transmission Service**

##### **Availability**

Wholesale Transmission Service is available on a non-discriminatory basis to any eligible Transmission Service Customer, as that term is defined in Public Utility Commission of Texas (PUC) Substantive Rules 25.191 – 25.203 (Transmission Rules), using any transmission facilities owned by Oncor Electric Delivery Company NTU LLC (Company) at all points where transmission facilities of adequate capacity and suitable voltage are available to provide service, in accordance with the Transmission Rules.

##### **Applicability**

This Wholesale Transmission Service Rate is applicable to all eligible Transmission Service Customers and to any entity scheduling the export of power from the Electric Reliability Council of Texas (ERCOT), and will not apply to entities engaging in wholesale storage as described in P.U.C. SUBST. R. 25.501(m).

##### **Type of Service**

Three phase, 60 hertz alternating current, delivered onto or received from Company's transmission system at 60,000 volts or greater and on transmission facilities that have been prepared and made available for this service.

##### **Transmission Service Requirements**

As a condition to obtaining wholesale Transmission Service, the Transmission Service Customer shall comply with all requirements for initiating Transmission Service in accordance with the Transmission Rules, including the execution of an Interconnection Agreement with each Transmission Service Provider, and the Transmission Service Customer shall meet all ERCOT requirements as specified in the ERCOT Protocols and Operating Guides.

##### **Conditions Precedent for Receiving Service**

Subject to the terms and conditions hereof and of the Transmission Rules, Company will provide Wholesale Transmission Service to any eligible Transmission Service Customer, provided that:

- (A) the eligible Transmission Service Customer has completed an Application for Wholesale Transmission Service, as provided under the Transmission Rules;
- (B) the eligible Transmission Service Customer and Company, or a third party, have completed installation of all equipment specified under the Interconnection Agreement, consistent with North American Electric Reliability Corporation (NERC) and ERCOT guidelines as set forth in the Transmission Rules;
- (C) the Transmission Service Customer, if directly connected to Company's transmission system, has an executed Interconnection Agreement for Wholesale Transmission Service under this tariff or, if necessary, requested in writing that Company file a proposed unexecuted agreement with the PUC;
- (D) the eligible Transmission Service Customer has arranged for Ancillary Services necessary for the transaction;
- (E) each wholesale load for which wholesale Transmission Service is requested maintains a power factor of 95% or greater at each point of interconnection;

**TARIFF FOR TRANSMISSION SERVICE  
ONCOR ELECTRIC DELIVERY COMPANY NTU LLC**

**3.0 Rate Schedules**

**Applicable: Wholesale Transmission Service**  
**Effective Date: May 17, 2019**

**Sheet: 1**  
**Revision: Original**  
**Page 2 of 4**

- (F) the eligible Transmission Service Customer has constructed, maintains and operates the facilities on its side of each point of interconnection that are necessary to reliably interconnect and deliver power from a resource to Company's transmission system and from Company's transmission system to the Transmission Service Customer's loads;
- (G) to the extent that the Agreement for Transmission Service requires the addition of facilities or upgrades to the transmission system, such facilities have been placed in service; and
- (H) the eligible Transmission Customer has complied with all Transmission Rules.

**Application Procedures**

Company and the Transmission Service Customer shall comply with the application procedures for Transmission Services set forth in the Transmission Rules, which shall govern such procedures.

**Construction of New Facilities**

Construction of transmission facilities needed to accommodate a request for Wholesale Transmission Service shall be in accordance with the procedures set forth in the Transmission Rules. Upon receipt of a request for Wholesale Transmission Service, ERCOT shall, if necessary, initiate a System Security Screening Study in accordance with the Transmission Rules. Based on the results of the System Security Screening Study, if additions or upgrades to the transmission system are needed to supply the Transmission Service Customer's forecasted transmission requirements, Company will, upon the approval of the request, initiate a facilities study, in accordance with the Transmission Rules. An executed Facility Study Agreement with the Transmission Service Customer is required prior to Company performing a facilities study. In the event that existing facilities are inadequate to support the requested Wholesale Transmission Service, the Transmission Service Customer may be required to provide a contribution in aid of construction, as provided in the Transmission Rules.

**Load Shedding and Curtailment**

Wholesale Transmission Service hereunder shall be subject to, and Company and the Transmission Service Customer will comply with, the load shedding and curtailment procedures established under the Transmission Rules.

**Pricing for Transmission Service Within ERCOT**

Charges for Wholesale Transmission Service hereunder shall be in accordance with Texas Utilities Code § 35.004(d) and the Transmission Rules, and will not apply to entities engaging in wholesale storage as described in P.U.C. SUBST. R. 25.501(m). For Wholesale Transmission Service a Transmission Service Customer shall incur an access charge, as set forth below:

**Access Charge**

Annual Rate	\$3.226341 Per kW*
Monthly Rate	\$0.268862 Per kW*

\* The kW will be adjusted annually in accordance with the Transmission Rules.

The above rate is being implemented in accordance with the Commission's interim transmission rate update provisions of P.U.C. SUBST. R. 25.192(h).

**TARIFF FOR TRANSMISSION SERVICE  
ONCOR ELECTRIC DELIVERY COMPANY NTU LLC**

**3.0 Rate Schedules**

**Applicable: Wholesale Transmission Service**

**Effective Date: May 17, 2019**

**Sheet: 1**

**Revision: Original**

**Page 3 of 4**

**Pricing for Transmission Service for Exports from ERCOT**

Charges for Wholesale Transmission Service for exports from ERCOT shall be in accordance with Texas Utilities Code § 35.004(d) and the Transmission Rules. Transmission Service Customers exporting power from ERCOT will be assessed an access charge based on the amount of power actually exported and the duration of the service requested and shall be calculated using the charges set forth below:

**Access Charge**

Monthly On-Peak Rate*	\$0.806585 Per kW
Monthly Off-Peak Rate	\$0.268862 Per kW
Weekly On-Peak Rate*	\$0.185118 Per kW
Weekly Off-Peak Rate	\$0.062045 Per kW
Daily On-Peak Rate*	\$0.026445 Per kW
Daily Off-Peak Rate	\$0.008839 Per kW
Hourly On-Peak Rate*	\$0.001102 Per kW
Hourly Off-Peak Rate	\$0.000368 Per kW

\*On-Peak months include June, July, August, and September.

Charges for use of the ERCOT transmission system for export purposes on a monthly basis shall not exceed the annual transmission charge for the transaction. Wholesale exports from ERCOT are subject to the satisfaction of applicable requirements necessary to provide export service.

The above rate is being implemented in accordance with the Commission's interim transmission rate update provisions of P.U.C. SUBST. R. 25.192(h).

**Losses**

Losses shall be calculated by the Independent System Operator (ISO) in accordance with the method set forth in the ERCOT Protocols.

**Voltage Support**

Company will provide all devices necessary to maintain proper operating voltages on the transmission system in accordance with Good Utility Practice for voltage support and in accordance with the requirements of the ERCOT ISO, or its successor.

**Reliability Guidelines**

To maintain reliability of the ERCOT transmission grid, Company shall operate its transmission system in accordance with ERCOT Protocols, ERCOT Operating Guides, NERC guidelines, and any other guidelines of the ISO that may apply to Company's transmission system.

Company reserves the right, consistent with Good Utility Practice and on a non-discriminatory basis, to interrupt Wholesale Transmission Service without liability on Company's part for the purpose of making necessary adjustments to, changes in, or repairs to its lines, substations and other facilities, or where the continuance of Wholesale Transmission Service would endanger persons or property. In the event of any adverse condition or disturbance on Company's system or any other system directly or indirectly interconnected with Company's system,

**TARIFF FOR TRANSMISSION SERVICE  
ONCOR ELECTRIC DELIVERY COMPANY NTU LLC**

**3.0 Rate Schedules**

**Applicable: Wholesale Transmission Service**

**Effective Date: May 17, 2019**

**Sheet: 1**

**Revision: Original**

**Page 4 of 4**

Company, consistent with Good Utility Practice, also may interrupt Wholesale Transmission Service on a non-discriminatory basis in order to limit the extent or damage of the adverse condition or disturbance, to prevent damage to generating or transmission facilities, or to expedite restoration of service.

Company will give the Transmission Service Customer as much advance notice as is practicable in the event of such interruption, and shall restore service with due diligence.

The Transmission Service Customer's failure to respond to established emergency load shedding and curtailment procedures to relieve emergencies on Company's transmission system may result in the Transmission Service Customer being deemed by Company to be in default and may result in the termination of Wholesale Transmission Service.

**Payment**

Any charges due to Company under this rate schedule shall be billed in accordance with the Transmission Rules. The Transmission Service Customer shall make payment to Company in a manner consistent with the procedures and deadlines set forth in the Transmission Rules. Any late payments by customers or customer defaults shall be handled in accordance with the Transmission Rules.

**Agreement**

An agreement for Wholesale Transmission Service containing terms and provisions consistent with the Transmission Rules is required prior to commencement of such service.

**Definitions**

Capitalized terms shall have the meanings set forth in P.U.C. SUBST. R. 25.5 and the Transmission Rules.

**Amendments to Rules**

In the event the Transmission Rules are amended or if a new rule is adopted governing the subject matter of this tariff, this tariff shall, nevertheless, remain effective until the new tariff(s) filed pursuant to any such amendment(s) or such new rules are approved, unless the amendment(s) or new rules or an agreement of the parties provide otherwise.

**Notice**

This rate is subject to Company's Tariff and Applicable Legal Authorities.



**TARIFF FOR TRANSMISSION SERVICE  
ONCOR ELECTRIC DELIVERY COMPANY NTU LLC**

WP/Grable/Direct/9  
Page 1 of 1

**3.0 Rate Schedules**

**Applicable: Wholesale Transmission Service**

**Effective Date: May 17, 2019**

**Sheet: 2**

**Revision: Original**

**Page 1 of 1**

**3.2 Rate WDSS - Wholesale Distribution Substation Service**

**Application**

Applicable to all ERCOT wholesale electricity market participants for transformation of electric power and energy from or to one of Company's standard transmission voltages to or from one of Company's standard voltages below 60 kV, for delivery of electric power and energy from resources to loads while maintaining reliable operation of Company's delivery systems in accordance with good utility practice and Commission Substantive Rules. This rate schedule is not applicable to service offered by Company under another rate schedule.

Applicable to all transformation service supplied in connection with the delivery of electric power and energy to a Point of Interconnection, measured through one meter.

**Type of Service**

Three phase, 60 hertz, and at Company's standard voltages. Where service of the type desired by Transmission Service Customer, as that term is defined in Section 25.5 of the Commission's Substantive Rules, is not already available at the Point of Interconnection, additional charges and special contract arrangements between Company and Transmission Service Customer may be required prior to it being furnished.

**Monthly Rate**

Transmission Service Customer Charge	\$1,294.21	Per Month
Metering Charge	\$920.58	Per Month
Demand (Facilities) Charge	\$1.76	Per kW

The monthly bill for Wholesale Substation Service is the sum of the Transmission Service Customer Charge, Metering Charge, Demand (Facilities) Charge, and any applicable riders.

The billing kW to be used for determining the Demand (Facilities) Charge for a month shall be the Transmission Service Customer's highest measured 15-minute kW recorded at the Point of Interconnection in the 12-month period ended with the current month. If service is interrupted during the 12-month period at the Point of Interconnection, then the kW for the month in which the interruption occurred will be the highest kW recorded at either the primary Point of Interconnection or the backup Point of Interconnection.

**Payment**

Any charges due to Company under this rate schedule shall be billed in accordance with the Transmission Rules. The Transmission Service Customer shall make payment to Company in a manner consistent with the procedures and deadlines set forth in the Transmission Rules. Any late payments by Transmission Service Customers or Transmission Service Customer defaults shall be handled in accordance with the Transmission Rules.

**Agreement**

Transmission Service Customer shall enter into a service agreement with Company covering the specific terms and conditions of the Distribution Substation Service and an interconnection agreement with Company covering the specific terms and conditions for the point(s) of interconnection.

**Notice**

Service hereunder is subject to the orders of regulatory bodies having jurisdiction and to the provisions of Company's Tariff for Transmission Service.

# Oncor Electric Delivery Co. LLC

Electric Utilities United States

## ESG Risk Rating

# 16.5

Updated Aug 25, 2021

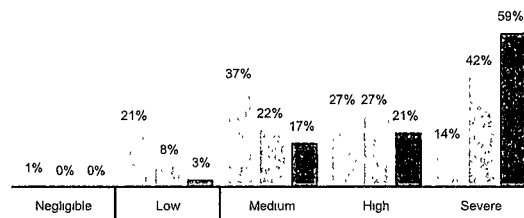
# -6.1

Momentum

# Low Risk

NEGL 0-10 **LOW** 10-20 MED 20-30 HIGH 30-40 SEVERE 40+

## ESG Risk Rating Distribution



## ESG Risk Rating Ranking

UNIVERSE	RANK (1 <sup>st</sup> = lowest risk)	PERCENTILE (1 <sup>st</sup> = lowest risk)
Global Universe	1573/13596	12th
Utilities INDUSTRY	24/604	5th
Electric Utilities SUBINDUSTRY	5/273	2nd

## Peers Table

Peers (Market cap \$0.0 - \$0.0bn)

	Exposure	Management	ESG Risk Rating
1. Oncor Electric Delivery Co. LLC	38.6 Medium	60.9 Strong	<b>16.5 Low</b>
2. TenneT Holding B.V.	45.7 Medium	64.7 Strong	<b>17.9 Low</b>
3. Eurogrid GmbH	43.1 Medium	56.6 Strong	<b>20.2 Medium</b>
4. Statnett SF	44.2 Medium	52.8 Strong	<b>22.3 Medium</b>
5. AES Argentina Generación SA	61.4 High	68.4 Strong	<b>22.3 Medium</b>

# Oncor Electric Delivery Co. LLC

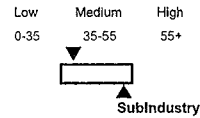
Electric Utilities United States

## ESG Risk Analysis

Exposure refers to the extent to which a company is exposed to different material ESG issues. The exposure score takes into consideration subindustry and company-specific factors such as its business model.

## ESG Risk Exposure

**38.6** **-6.3**  
**Medium** **Momentum**  
**Beta = 0.73**



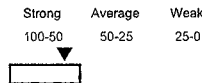
Oncor's operations involve the construction and maintenance of transmission and distribution lines and substations. Oncor's networks (139,000 miles of electric cable in FY2020) may directly and indirectly affect residential and adjacent areas, possibly generating community opposition. Mismanagement may lead to protests, project delays, fines or operational disruptions. Moreover, Oncor is exposed to health and safety incidents related to the construction, maintenance and expansion of its energy networks. Incidents have the potential to materially impact the company's operations through disruptions, delays, fines and lawsuits. In addition, as one of the biggest electricity transmission and distribution company in Texas, Oncor is exposed to issues related to service reliability. Thus, service interruptions may trigger customer complaints and lawsuits, as well as brand damages.

The company's overall exposure is medium and is significantly below subindustry average. Product Governance, Occupational Health and Safety and Community Relations are notable material ESG issues.

Management refers to how well a company is managing its relevant ESG issues. The management score assesses the robustness of a company's ESG programs, practices, and policies.

## ESG Risk Management

**60.9** **+8.0**  
**Strong** **Momentum**



Oncor's overall ESG-related disclosure in its 2020 Corporate Sustainability Overview is not in accordance with GRI reporting standards, lagging behind best practice. The company's ESG-related issues are overseen by a committee, but reporting is insufficient to assess the level of authority in this area.

The company's overall management of material ESG issues is strong.

# Oncor Electric Delivery Co. LLC

Electric Utilities United States

## Material ESG Issues

These are the Material ESG Issues driving the ESG Risk Rating.

Issue Name	ESG Risk Exposure	ESG Risk Management	ESG Risk Rating	Contribution to ESG Risk Rating
	Score   Category	Score   Category	Score   Category	
Occupational Health and Safety	5.1 Medium	53.6 Strong	2.6 Low	16.0%
Product Governance	4.2 Medium	50.4 Strong	2.3 Low	13.9%
Corporate Governance	5.0 Medium	56.0 Strong	2.2 Low	13.3%
Land Use and Biodiversity	3.4 Low	39.2 Average	2.1 Low	12.5%
Carbon -Own Operations	3.0 Low	35.4 Average	1.9 Negligible	11.8%
Emissions, Effluents and Waste	2.5 Low	48.1 Average	1.4 Negligible	8.4%
Business Ethics	5.3 Medium	77.5 Strong	1.4 Negligible	8.4%
Community Relations	6.8 Medium	89.7 Strong	1.3 Negligible	7.9%
Human Capital	3.4 Low	65.7 Strong	1.3 Negligible	7.8%
Overall	38.6 Medium	60.9 Strong	16.5 Low	100.0%

## Events Overview

Identify events that may negatively impact stakeholders, the environment, or the company's operations

### Category (Events)

⚠ Severe (0)

⚠ High (0)

⚠ Significant (0)

⚠ Moderate (0)

⚠ Low (2)

Labour Relations

Quality and Safety

# Oncor Electric Delivery Co. LLC

Electric Utilities United States

## Events Overview

Identify events that may negatively impact stakeholders, the environment, or the company's operations.

## Category (Events)

 **None (16)**

Access to Basic Services

Accounting and Taxation

Anti-Competitive Practices

Bribery and Corruption

Business Ethics

Community Relations

Data Privacy and Security

Emissions, Effluents and Waste

Energy Use and GHG Emissions

Intellectual Property

Land Use and Biodiversity

Lobbying and Public Policy

Marketing Practices

Occupational Health and Safety

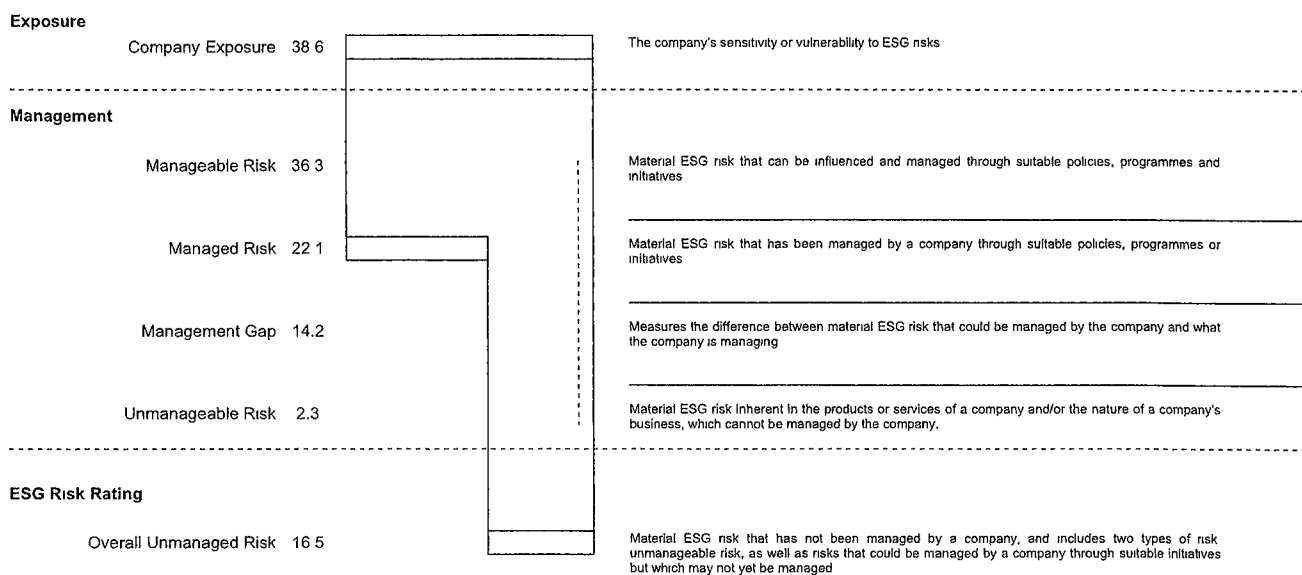
Sanctions

Society - Human Rights

# Oncor Electric Delivery Co. LLC

Electric Utilities United States

## Risk Decomposition



## Momentum Details

**Risk Rating  
Momentum**

**-6.1**

Negligible 0-10 Low 10-20 Medium 20-30 High 30-40 Severe 40+

2021 ▼ 16.5 (-6.1)  
2020 ▲ 22.6

**Exposure  
Momentum**

**-6.3**

Low 0-35 Medium 35-55 High 55+

2021 ▼ 38.6 (-6.3)  
2020 ▲ 44.9

**Management  
Momentum**

**+8.0**

Strong 100-50 Average 50-25 Weak 25-0

2021 ▼ 60.9 (+8.0)  
2020 ▲ 52.9

# Oncor Electric Delivery Co. LLC

Electric Utilities United States

## GLOSSARY OF TERMS

### Beta (Beta, $\beta$ )

A factor that assesses the degree to which a company's exposure deviates from its subindustry's exposure on a material ESG issue. It is used to derive a company-specific issue exposure score for a material ESG issue. It ranges from 0 to 10, with 0 indicating no exposure, 1 indicating the subindustry average, and 10 indicating exposure that is ten times the subindustry average.

### Corporate Governance Pillar

A pillar provides a signal about a company's management of a specific Corporate Governance issue.

### ESG Risk Category

Companies' ESG Risk Rating scores are assigned to five ESG risk categories in the ESG Risk Rating.

**Negligible risk:** enterprise value is considered to have a negligible risk of material financial impacts driven by ESG factors.

**Low risk:** enterprise value is considered to have a low risk of material financial impacts driven by ESG factors.

**Medium risk:** enterprise value is considered to have a medium risk of material financial impacts driven by ESG factors.



**High risk:** enterprise value is considered to have a high risk of material financial impacts driven by ESG factors.



**Severe risk:** enterprise value is considered to have a severe risk of material financial impacts driven by ESG factors.

Note that because ESG risks materialize at an unknown time in the future and depend on a variety of unpredictable conditions, no predictions on financial or share price impacts, or on the time horizon of such impacts, are intended or implied by these risk categories.

### ESG Risk Rating Score (Unmanaged Risk Score)

The company's final score in the ESG Risk Rating; it applies the concept of risk decomposition to derive the level of unmanaged risk for a company.

### Event Category

Sustainalytics categorizes events that have resulted in negative ESG impacts into five event categories: Category 1 (low impact), Category 2 (moderate impact), Category 3 (significant impact), Category 4 (high impact), and Category 5 (severe impact).

### Event Indicator

An indicator that provides a signal about a potential failure of management through involvement in controversies.

### Excess Exposure

The difference between the company's exposure and its subindustry exposure.

### Exposure

A company or subindustry's sensitivity or vulnerability to ESG risks.

### Idiosyncratic Issue

An issue that was not deemed material at the subindustry level during the consultation process but becomes a material ESG issue for a company based on the occurrence of a Category 4 or 5 event.

### Manageable Risk

Material ESG risk that can be influenced and managed through suitable policies, programmes and initiatives.

### Managed Risk

Material ESG Risk that has been managed by a company through suitable policies, programmes and initiatives.

### Management

A company's handling of ESG risks.

### Management Gap

Refers to the difference between what a company has managed and what a company could possibly manage. It indicates how far the company's performance is from best practice.

### Management Indicator

An indicator that provides a signal about a company's management of an ESG issue through policies, programmes or quantitative performance.

### Material ESG Issue

A core building block of the ESG Risk Rating. An ESG issue is considered to be material within the rating if it is likely to have a significant effect on the enterprise value of a typical company within a given subindustry.

### Subindustry

Subindustries are defined as part of Sustainalytics' own classification system.

### Unmanageable Risk

Material ESG Risk inherent from the intrinsic nature of the products or services of a company and/or the nature of a company's business, which cannot be managed by the company if the company continues to offer the same type of products or services and remains in the same line of business.

### Unmanaged Risk

Material ESG risk that has not been managed by a company, and includes two types of risk: unmanageable risk, as well as risks that could be managed by a company through suitable initiatives, but which may not yet be managed (management gap).

# Oncor Electric Delivery Co. LLC

Electric Utilities United States

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**INDEX TO THE DIRECT TESTIMONY  
OF GREGORY S. WILSON, WITNESS FOR  
ONCOR ELECTRIC DELIVERY COMPANY LLC**

I.	INTRODUCTION, POSITION, AND QUALIFICATIONS .....	2
II.	PURPOSE OF DIRECT TESTIMONY.....	4
III.	OVERVIEW OF ONCOR'S INSURANCE COVERAGE .....	4
IV.	SELF-INSURANCE RESERVE BACKGROUND .....	6
V.	ACCRUAL AND TARGET RESERVE RECOMMENDATIONS.....	7
VI.	COST-BENEFIT ANALYSIS .....	10
VII.	SUMMARY AND CONCLUSION .....	12
	AFFIDAVIT.....	14
	EXHIBITS.....	15

Exhibit GSW-1	Resume of Gregory S. Wilson
Exhibit GSW-2	PURA § 36.064 and 16 TAC § 25.231(b)(1)(G)
Exhibit GSW-3	Oncor's Historical and Trended Self-Insured Losses
Exhibit GSW-4	Summary of Oncor's Texas Loss Experience 1993-2021
Exhibit GSW-5	Probabilities of Expected Losses
Exhibit GSW-6	Example of Loss Trending Methodology
Exhibit GSW-7	Handy-Whitman Index: Cost Trends of Electric Utility Construction (South Central Region)

**DIRECT TESTIMONY OF GREGORY S. WILSON**

**I. INTRODUCTION, POSITION, AND QUALIFICATIONS**

Q. PLEASE STATE YOUR NAME, OCCUPATION, BUSINESS AFFILIATION, AND BUSINESS ADDRESS.

A. My name is Gregory S. Wilson. I am a consulting actuary specializing in the area of property-casualty actuarial matters. I am a Vice President and Principal at Lewis & Ellis, Inc. ("L&E"). My business address is 700 Central Expressway South, Suite 550, Allen, Texas 75013-8098.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?

A. I am testifying on behalf of Oncor Electric Delivery Company LLC ("Oncor" or the "Company").

Q. PLEASE DESCRIBE AND SUMMARIZE YOUR EDUCATIONAL AND EMPLOYMENT BACKGROUND.

A. I received a Bachelor of Science degree in Applied Mathematics from the University of Rhode Island in 1976. In 1992, after completing all of the required examinations, I became a Fellow of the Casualty Actuarial Society ("FCAS"), the highest designation a property-casualty actuary can attain. This designation is obtained through a rigorous process involving separate examinations on topics such as mathematics, probability and statistics, theory of credibility, theory of risk and insurance, economics, insurance coverages, ratemaking, loss reserving, insurance accounting and regulation, and individual risk rating. I am also a Member of the American Academy of Actuaries.

Following college, I was employed by Amica Mutual Insurance Company until 1994, at which time I was a vice president serving as chief actuary and supervising the actuarial department. In 1994, I joined PricewaterhouseCoopers, LLP where I provided actuarial consulting services to a wide variety of clients including insurance companies, state insurance regulators, self-insured entities, and non-insurance corporations. I joined L&E in 2001, where I continue to provide actuarial consulting

1 services to a wide variety of clients. My resume is attached to this testimony  
2 as Exhibit GSW-1.

3 Q. WHAT IS AN ACTUARY?

4 A. An actuary is a business professional who estimates the financial  
5 implications of future contingent events or risk, which in the context of a rate  
6 case such as this one is the risk of damage to the utility's facilities and  
7 infrastructure due to currently unknown (or contingent) future events.  
8 Actuaries use mathematics, statistics, and financial theory to help manage  
9 such risks. In this proceeding, my analysis of future financial consequences  
10 is performed in accordance with the Actuarial Standards of Practice adopted  
11 by the American Academy of Actuaries, as well as the Statement of  
12 Principles Regarding Property and Casualty Loss and Loss Adjustment  
13 Expense Reserves adopted by the Casualty Actuarial Society.

14 Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE PUBLIC UTILITY  
15 COMMISSION OF TEXAS ("COMMISSION")?

16 A. Yes. I submitted testimony addressing self-insurance reserve issues similar  
17 to those that I address in this testimony in Docket Nos. 16705, 20150,  
18 22356, 30123, 33309, 34800, 37364, 37744, 38339, 38480, 39896, 40606,  
19 41791, 43950, 44704, 44746, 46957, 48371, 48401, 49421, 49494, 51415,  
20 51583, and 51611. I have also testified on self-insurance issues in  
21 conjunction with a utility rate filing before the Missouri Public Service  
22 Commission.

23 Q. ARE YOU FAMILIAR WITH PROPERTY AND LIABILITY INSURANCE  
24 AND HOW IT MAY AFFECT ONCOR'S SELF-INSURANCE RESERVE?

25 A. Yes. I have over 45 years of actuarial experience in the property and liability  
26 insurance field. This includes 27 years consulting for companies doing  
27 business in Texas, including Southland Corp., Exxon-Mobil, Entergy, and  
28 Nabors Industries. As indicated above, I have also provided testimony on  
29 behalf of other Texas utilities in several dockets since 1996 involving self-  
30 insurance reserves. Like Oncor, many of these companies managed their  
31 exposure to loss through self-insurance where commercial insurance

PUC Docket No. \_\_\_\_\_

**Wilson – Direct  
Oncor Electric Delivery  
2022 Rate Case**

1 coverage, whether full or partial, was cost-prohibitive or simply not  
2 available.

3 **II. PURPOSE OF DIRECT TESTIMONY**

4 Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

5 A. The purpose of my direct testimony is to offer an independent opinion of the  
6 prudence and reasonableness of the approach that Oncor utilizes in  
7 connection with its self-insurance reserve plan.

8 Q. PLEASE DESCRIBE HOW YOUR DIRECT TESTIMONY IS ORGANIZED.

9 A. I first provide an overview of Oncor's overall property and liability insurance  
10 program as it pertains to the Company's assets, including its transmission  
11 and distribution ("T&D") assets. Next, I provide an explanation of how a  
12 self-insurance reserve works, and I explain my analysis and  
13 recommendation of: (1) a reasonable and necessary annual accrual in order  
14 to provide for unexpected losses that are not covered by commercial  
15 insurance and for which § 36.064 of the Public Utility Regulatory Act  
16 ("PURA") and 16 Texas Administrative Code ("TAC") § 25.231(b)(1)(G)  
17 (see Exhibit GSW-2) permit a provision to be made; and (2) a target amount  
18 to accumulate in the self-insurance reserve.

19 Finally, I explain the independent cost-benefit analysis that I  
20 performed to determine whether Oncor's self-insurance reserve plan is in  
21 the public interest as a lower-cost alternative to purchasing commercial  
22 insurance for all potential losses to Oncor's property. Based on this  
23 analysis, I conclude that Oncor's self-insurance reserve plan is prudent and  
24 reasonable and in compliance with PURA § 36.064 and 16 TAC  
25 § 25.231(b)(1)(G). For the reasons I describe below, I also recommend that  
26 the annual accrual and target reserve amounts should be set at  
27 \$189,075,000 and \$267,500,000, respectively.

28 My direct testimony, workpapers, and exhibits were prepared by me  
29 or under my direction, supervision, or control and are true and correct.

30 **III. OVERVIEW OF ONCOR'S INSURANCE COVERAGE**

31 Q. PLEASE DESCRIBE ONCOR'S INSURANCE PROGRAM.

PUC Docket No. \_\_\_\_\_

**Wilson – Direct  
Oncor Electric Delivery  
2022 Rate Case**

- 1 A. As explained in the direct testimony of Oncor witness Mr. James A. Greer,  
2 the Company's assets consist primarily of its T&D facilities throughout its  
3 multi-county service area, including thousands of miles of wires and many  
4 thousands of T&D towers and poles. As in any business, Oncor seeks to  
5 protect its assets at the lowest reasonable cost.
- 6 Q. HOW DOES THE COMPANY'S INSURANCE PROGRAM OPERATE IN  
7 CONJUNCTION WITH ITS SELF-INSURANCE RESERVE?
- 8 A. The Company achieved its objective of protecting its assets at the lowest  
9 reasonable cost during the test-year period ending December 31, 2021  
10 ("Test Year"), in the following way:
- 11 • Oncor expensed all occurrences of less than \$500,000 per occurrence  
12 as normal operating expenses (uninsured losses);
  - 13 • Oncor retained the entire risk of loss to uninsured T&D units of  
14 property, such as towers, poles, and wires, at and above \$500,000 per  
15 occurrence, funding the losses out of an internal,  
16 self-insurance reserve;
  - 17 • As part of the insurance program, Oncor utilized commercial insurance  
18 for insurable (*i.e.*, non-towers, poles, and wires) property losses over  
19 \$2,000,000 (such as damage to administrative buildings, service  
20 centers, warehouses, fleet, substations, and switching stations) for a  
21 portion of the Test Year (which was subsequently changed to losses  
22 over \$10,000,000 during the Test Year, and which has a separate  
23 deductible for office locations and service centers, as discussed in  
24 Company witness Mr. Kevin R. Fease's direct testimony). Oncor also  
25 utilized commercial insurance for liability losses exceeding  
26 \$3,000,000; and
  - 27 • Accordingly, Oncor utilized an internal, self-insurance reserve to cover  
28 insurable (*i.e.*, non-towers, poles, and wires) property loss  
29 occurrences of \$500,000 to \$2,000,000 for part of the Test Year and

1 up to \$10,000,000 for the remainder of the Test Year,<sup>1</sup> and liability loss  
2 occurrences of \$500,000 to \$3,000,000.

3 **IV. SELF-INSURANCE RESERVE BACKGROUND**

4 Q. PLEASE STATE THE PURPOSE OF A SELF-INSURANCE RESERVE  
5 AND EXPLAIN HOW IT OPERATES.

6 A. The purpose of a self-insurance reserve like Oncor's is to cover both liability  
7 losses and property losses categorized as operation and maintenance  
8 ("O&M") expenses over \$500,000 per occurrence that result from damage  
9 to the company's property and infrastructure and that are not covered by  
10 commercial insurance. This includes any loss to such property and  
11 payment of any deductibles or losses below the per-occurrence deductible  
12 amounts for the commercially-insured assets. While O&M expenses are  
13 recovered through the self-insurance reserve, capital expenses are not.  
14 Costs of all losses involving capital replacements are charged to the  
15 Company's Electric Plant in Service Account.

16 Each year, an amount of money is accrued in the self-insurance  
17 reserve to provide for the average amount of losses expected to occur in  
18 any calendar year. Additionally, an accrual should be designed to, over  
19 time, maintain the self-insurance reserve at a level that serves as a financial  
20 buffer for the company should actual losses exceed the accrued annual  
21 expected loss amount.

22 Q. WHAT HAPPENS IF THE ANNUAL AGGREGATE LOSSES EXCEED THE  
23 AMOUNT ACCRUED IN ANY GIVEN YEAR?

24 A. If the annual aggregate losses exceed the amount accrued in any given  
25 year, the remaining reserve would be drawn upon to provide the needed  
26 additional amounts. If the annual aggregate losses are less than the  
27 amount accrued for that purpose, the excess annual accrual would remain  
28 in the self-insurance reserve, serving to bring the reserve closer to its target  
29 level.

---

<sup>1</sup> The change in deductible from \$2,000,000 to \$10,000,000 during the Test Year did not impact the self-insurance reserve analysis.

1 Q. WHY IS IT NECESSARY TO BUILD THE SELF-INSURANCE RESERVE  
2 UP TO A CERTAIN TARGETED LEVEL?

3 A. Events that result in potential losses that would be charged to the self-  
4 insurance reserve are unpredictable and may be catastrophic. Thus,  
5 although the accrual builds at a steady rate, the range of property and  
6 liability losses covered by a self-insurance reserve will vary considerably  
7 from year to year. Oncor's self-insurance reserve needs to be sufficient to  
8 cover the losses for each year because any given year's actual losses may  
9 be very different from the amount provided by the annual accrual. Hence,  
10 a reserve large enough to provide for some variation in the annual  
11 aggregate amount of losses is needed.

12 Q. IS THE COMPANY'S SELF-INSURANCE PLAN A REASONABLE WAY  
13 TO PLAN FOR AND HANDLE POTENTIAL LOSSES?

14 A. Yes. The Oncor self-insurance plan is reasonable, cost-effective, and in the  
15 public interest. As I discuss further below, it provides a lower-cost  
16 alternative to purchasing insurance for all losses that could potentially occur  
17 to the Company's assets. At the same time, it provides for utility rate  
18 stability by providing for a self-insurance reserve to absorb the variation in  
19 the experienced annual losses from the amount provided by the annual  
20 accrual so that rates will not reflect dramatically different self-insurance  
21 reserve losses over time.

22 **V. ACCRUAL AND TARGET RESERVE RECOMMENDATIONS**

23 Q. WHAT HAS THE COMMISSION PREVIOUSLY ESTABLISHED FOR THE  
24 ANNUAL ACCRUALS AND TARGET RESERVE FOR ONCOR IN THE  
25 COMPANY'S PRIOR RATE CASES?

26 A. In Docket No. 35717, the Commission found that Oncor's self-insurance  
27 plan for liability and catastrophic property damage loss was in the public  
28 interest, and the Commission provided for an annual accrual of  
29 \$33,284,430.45 and a target reserve of \$66,568,860.90. In Docket No.  
30 38929, the Commission approved a settlement among the parties that  
31 provided for the annual amortization of \$31,514,420 for a period of eight

PUC Docket No. \_\_\_\_\_

**Wilson – Direct  
Oncor Electric Delivery  
2022 Rate Case**

1 years to address the deficit balance of the reserve (\$252,115,362 at that  
2 time) and an annual accrual of \$33,284,430.45 in order to provide for  
3 expected future losses. In Docket No. 46957, the Commission approved a  
4 settlement among the parties that provided for the annual amortization of  
5 \$42,642,095 for a period of 10 years to address the deficit balance of the  
6 reserve (\$426,420,946 at that time) and an annual accrual of \$75,000,000  
7 in order to provide for expected future losses. This current annual accrual  
8 of \$75,000,000 covers annual expected losses only; it does not include any  
9 incremental amount to build toward a target reserve.

10 Q. DO YOU BELIEVE THAT THE ANNUAL ACCRUAL APPROVED IN  
11 DOCKET NO. 46957 FOR ONCOR'S SELF-INSURANCE RESERVE IS  
12 ADEQUATE TO COVER ITS EXPECTED LOSSES?

13 A. No. The current accrual is significantly less than the amount required to  
14 cover Oncor's expected losses. In fact, Oncor's self-insured losses in each  
15 of the last 11 years has been greater than the current accrual as set forth in  
16 Exhibits GSW-3 and GSW-4. This has led to an increase in the amount of  
17 the deficit in the Company's self-insurance reserve. As discussed in the  
18 direct testimony of Company witness Mr. Ashley Thenmadathil, the  
19 Company's self-insurance reserve deficit balance stands at \$588,545,657  
20 as of the end of the Test Year.

21 Q. HOW MUCH MONEY SHOULD ONCOR ACCRUE ANNUALLY IN THE  
22 SELF-INSURANCE RESERVE TO COVER EXPECTED LOSSES FOR  
23 EACH YEAR AND TO REACH THE RECOMMENDED TARGET  
24 RESERVE?

25 A. I recommend that the Commission approve an annual accrual of  
26 \$189,075,000.

27 Q. WHY IS \$189,075,000 A REASONABLE REQUEST FOR ONCOR'S  
28 ANNUAL ACCRUAL?

29 A. This amount includes (i) \$122,200,000, which is the expected value of all  
30 self-insured annual property and liability losses incurred by Oncor, adjusted  
31 to reflect current conditions and current cost levels; and (ii) an additional

PUC Docket No. \_\_\_\_\_

**Wilson – Direct  
Oncor Electric Delivery  
2022 Rate Case**



1 amount of \$66,875,000 that will allow Oncor to reach my recommended  
2 target reserve (discussed in more detail below) in a four-year time span  
3 (assuming annual losses over the next four year are in line with expected  
4 values). The recommended amount of \$122,200,000 of expected annual  
5 losses is calculated by running the Company's loss history (shown on  
6 Exhibit GSW-3 and summarized by year in Exhibit GSW-4) through a Monte  
7 Carlo simulation. A Monte Carlo simulation is a statistical technique  
8 incorporating a computer program to simulate loss experience over a longer  
9 period of time than the period captured in the available loss history.

10 The program simulates individual losses on an annual basis for  
11 Oncor for 5,000 iterations of annual experience. A statistical distribution is  
12 estimated from Oncor's trended loss experience and input into the model.  
13 The model estimates 5,000 events, each time simulating a possible  
14 outcome. It is run 10 times, giving a total of 50,000 simulations. From these  
15 50,000 iterations of simulated experience, I was able to determine the  
16 probability of the loss distributions shown on Exhibit GSW-5. Most  
17 insurance loss distributions are asymmetrical (*i.e.*, do not form perfect "Bell  
18 curves") such that the expected loss for any coverage is greater than the  
19 50th percentile. This is because losses are limited on the downside to \$0,  
20 but the upside variation can be very great due to the potential for  
21 catastrophic disasters and other unlikely, but possible, contingencies. I  
22 have recommended that Oncor's annual accrual include \$122,200,000 to  
23 cover annual expected losses, which represents approximately the 60-65%  
24 percentile of Oncor's expected loss distribution based on the results of the  
25 Monte Carlo simulation, and which, when combined with the recommended  
26 annual accrual amount of \$66,875,000 to build to the target reserve, results  
27 in a total recommended annual accrual for Oncor of \$189,075,000.

28 My Exhibit GSW-6 contains an example showing how each historic  
29 loss was adjusted to reflect the current cost levels using the Handy-  
30 Whitman index of cost trends of electric utility construction for the South  
31 Central Region, which is included as Exhibit GSW-7. The Handy-Whitman

1 index data is a standard type of database used to measure cost changes  
2 for utility companies. As an example, Oncor incurred a distribution loss in  
3 2015 for \$10,745,289. The Handy-Whitman index for distribution for 2015,  
4 was 648.5; as of the end of 2021, it was 796. The change from 2015 to  
5 year-end 2021 is a 22.7% increase (796 divided by 648.5, or 1.227).  
6 Multiplying this particular loss of \$10,745,289 by 1.227 gives a cost-  
7 adjusted loss of \$13,184,470. This procedure was used for each loss, for  
8 both Transmission and Distribution, that occurred during the experience  
9 period, then combined for each event. The results are shown on Exhibits  
10 GSW-3 and summarized on Exhibit GSW-4. This approach is reasonable  
11 because it adjusts historical costs to dollar levels as of the end of the Test  
12 Year.

13 Q. WHAT IS THE AMOUNT OF MONEY NEEDED TO PROVIDE FOR AN  
14 ADEQUATE SELF-INSURANCE RESERVE?

15 A. I recommend that the total amount of the target reserve for property and  
16 liability losses be set at \$267,500,000.

17 Q. WHY IS THE TARGET RESERVE OF \$267,500,000 APPROPRIATE?

18 A. This is the amount of O&M-related costs expected to result from a once-  
19 every-25-year loss (including both property and liability losses). This  
20 reserve level is the amount that should be carried by Oncor to make an  
21 actuarially sound provision for coverage of the self-insured losses. The  
22 target reserve will be sufficient if annual losses are equal to or less than the  
23 target in a given year, provided the reserve is already in place at its target  
24 amount; but, if the actual losses exceed the amount accrued for the  
25 expected annual losses for several years in a row, the self-insurance  
26 reserve may be depleted.

27 **VI. COST-BENEFIT ANALYSIS**

28 Q. DID YOU PERFORM A COST-BENEFIT ANALYSIS TO DETERMINE  
29 WHETHER THE SELF-INSURANCE COMPONENT OF ONCOR'S  
30 OVERALL INSURANCE COVERAGE IS A LOWER-COST ALTERNATIVE  
31 TO COMMERCIAL INSURANCE?

1 A. Yes, I did.

2 Q. WHAT WAS THE RESULT OF YOUR COST-BENEFIT ANALYSIS?

3 A. My cost-benefit analysis confirms that Oncor's use of a self-insurance  
4 reserve is a lower-cost alternative to purchasing commercial insurance for  
5 all liability losses and all property losses categorized as O&M, assuming full  
6 coverage is even available on cost-effective and reasonable terms for each  
7 of the different categories of losses.

8 Q. HOW DID YOU DETERMINE THAT A COMBINATION OF SELF-  
9 INSURANCE AND COMMERCIAL INSURANCE IS A LOWER-COST  
10 ALTERNATIVE TO ALL-RISK COVERAGE?

11 A. There are at least two ways to consider the costs and benefits of self-  
12 insuring liability and catastrophic property losses. The first is by considering  
13 the manner in which insurance companies set premiums, and the second is  
14 by estimating the insurance premiums for the self-insurance coverage.  
15 Insurance companies include provisions in their premiums for all costs  
16 associated with the transfer of the insurance risk. Hence, they include  
17 provisions for losses, loss-adjustment expenses, non-loss-related  
18 expenses, premium taxes, and a profit.

19 Oncor's self-insurance reserve does not need to include many of the  
20 provisions other than those for losses and loss-related expenses. For  
21 example, the Company's self-insurance reserve does not have to pay  
22 premium taxes and other state-imposed fees. In addition, an insurance  
23 company needs to make a profit on the business it transacts. A self-  
24 insurance reserve, on the other hand, is not intended to generate a profit  
25 and, hence, such costs are not included in the annual accrual. Insurance  
26 companies also incur costs associated with the acquisition of insured risks.  
27 The largest of these expenses is the payment of commissions to insurance  
28 agents or brokers to place the business, which costs the Company's self-  
29 insurance reserve does not incur. Further, an insurance company, unlike  
30 the Company's self-insurance reserve, must expend resources to  
31 underwrite risks, market its products, and maintain overhead expenses.

1 By self-insuring for risks not covered by its commercial insurance,  
2 Oncor's self-insurance reserve saves the costs of premium taxes,  
3 commissions, profit, and many of the general expenses associated with the  
4 operation of an insurance company.

5 Additionally, the Company has asked its insurance broker about the  
6 availability of commercial insurance for these risks. The two largest  
7 domestic insurers for utility company property insurance do not sell T&D  
8 insurance for offsite exposure because they cannot get reinsurance support  
9 for it. The broker did find that a limited number of Lloyds syndicates support  
10 T&D placements, but their desire to offer such coverage is limited. They  
11 indicated that all-risk coverage for the thousands of miles of the Company's  
12 T&D towers, poles, and wires would be subject to limits up to only \$25  
13 million, prohibitively high deductibles, and prohibitively high premiums.

14 Finally, if the reserve amount becomes a credit balance, then as  
15 contemplated by PURA § 36.064, ratepayers will realize the benefit of an  
16 actual self-insurance reserve balance, because any revenues collected in  
17 excess of the amounts netted against losses in a year will "roll over" to future  
18 periods and will be applied to future losses. Consequently, Oncor's plan of  
19 using a combination of commercial insurance and self-insurance is a lower-  
20 cost alternative to the purchase of all-risk or full commercial insurance.

21 **VII. SUMMARY AND CONCLUSION**

22 Q. PLEASE SUMMARIZE YOUR CONCLUSIONS AND YOUR  
23 RECOMMENDATIONS AS REFLECTED IN THE COMPANY'S RATE  
24 FILING PACKAGE REGARDING TREATMENT OF ITS SELF-  
25 INSURANCE RESERVE.

26 A. Oncor has a prudent insurance plan that is in the public interest and should  
27 be approved by the Commission. As my cost-benefit analysis shows, the  
28 Company's plan utilizes a combination of self-insurance and commercial  
29 insurance for its assets in appropriate ways to provide cost savings for  
30 ratepayers.

1           Considering the nature of Oncor's system and its potential risks,  
2           based on my experience and in my opinion, Oncor's annual reasonable and  
3           necessary accrual amount should be set at \$189,075,000 to cover future  
4           expected losses and to establish a reasonable target reserve level. My  
5           recommendation is based on the study I described above and reflects my  
6           best judgment about an accrual amount that strikes the proper balance  
7           between the one extreme of imposing too great a burden on today's  
8           customers, and the other extreme of creating too great a debt burden for  
9           future customers. It also avoids depriving Oncor of a fair and timely  
10          recovery of the dollars it is spending on property and liability losses.  
11          Additionally, I believe the Commission should set a target reserve of  
12          \$267,500,000.

13   Q.    ARE YOUR RECOMMENDATIONS REASONABLE AND NECESSARY,  
14          SUPPORTED, AND IN ACCORDANCE WITH PURA § 36.064 AND 16  
15          TAC § 25.231(b)(1)(G)?

16   A.    Yes, they are.

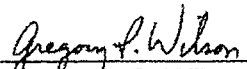
17   Q.    DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

18   A.    Yes, it does.

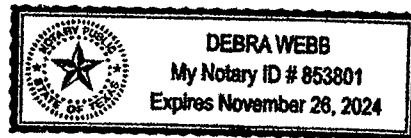
STATE OF TEXAS       §  
                                  §  
COUNTY OF COLLIN   §

**BEFORE ME**, the undersigned authority, on this day personally appeared Gregory S. Wilson, who, having been placed under oath by me, did depose as follows:

My name is Gregory S. Wilson. I am of legal age and a resident of the State of Texas. The foregoing direct testimony and the attached exhibits offered by me are true and correct, and the opinions stated therein are, to the best of my knowledge and belief, accurate, true and correct.

  
\_\_\_\_\_  
Gregory S. Wilson

**SUBSCRIBED AND SWORN TO BEFORE ME** by the said Gregory S. Wilson, this 13<sup>TH</sup> day of APRIL, 2022.



  
\_\_\_\_\_  
Notary Public, State of Texas

PUC Docket No. \_\_\_\_\_

**Wilson – Direct  
Oncor Electric Delivery  
2022 Rate Case**

GREGORY S. WILSON, FCAS, MAAA  
Vice President and Principal

CURRENT POSITION

Mr. Wilson is a Vice President and Principal with Lewis & Ellis, Inc.

EXPERIENCE:

Mr. Wilson's responsibilities include evaluating the adequacy of insurance company reserve levels in conjunction with actuarial certification for the annual statement as well as state insurance department examinations. He also evaluates the adequacy of loss reserves for several self-insured companies. In addition, he performs rate level analyses for insurance companies and helps them prepare filings for the state insurance departments, as well as self-insured analyses for electric utilities and prepares testimony for the Public Utility Commission.

Prior to joining the firm, Mr. Wilson was a Principal Consultant at PricewaterhouseCoopers LLP. His responsibilities were similar to his current responsibilities. In addition, he reviewed retrospective rating calculations for several companies involved in class action litigation in Texas. He also performed several funding analyses for governmental entities.

Prior to joining PricewaterhouseCoopers LLP, Mr. Wilson was Vice President of Amica Mutual Insurance Company in Providence, Rhode Island.

There, he supervised all aspects of ratemaking, from procedures to recommendations, helped negotiate the purchase of reinsurance, determined IBNR, developed a strategy for Massachusetts Automobile and developed other states' residual market strategies, in particular, New York and New Jersey.

#### EDUCATION

Mr. Wilson received his Bachelor's degree in Applied Mathematics from the University of Rhode Island.

#### PROFESSIONAL ACTIVITIES

Mr. Wilson is a former member of the Casualty Actuarial Society's Examination Committee, Committee on Ratemaking, and Committee on Reserving. He is also a Past President of the Southwest Actuarial Forum.



UTILITIES CODE CHAPTER 36. RATES

Sec. 36.064. SELF-INSURANCE. (a) An electric utility may self-insure all or part of the utility's potential liability or catastrophic property loss, including windstorm, fire, and explosion losses, that could not have been reasonably anticipated and included under operating and maintenance expenses.

(b) The commission shall approve a self-insurance plan under this section if the commission finds that:

- (1) the coverage is in the public interest;
- (2) the plan, considering all costs, is a lower cost alternative to purchasing commercial insurance; and
- (3) ratepayers will receive the benefits of the savings.

(c) In computing an electric utility's reasonable and necessary expenses under this subchapter, the regulatory authority, to the extent the regulatory authority finds is in the public interest, shall allow as a necessary expense the money credited to a reserve account for self-insurance. The regulatory authority shall determine reasonableness under this subsection:

- (1) from information provided at the time the self-insurance plan and reserve account are established; and
- (2) on the filing of a rate case by an electric utility that has a reserve account.

(d) After a reserve account for self-insurance is established, the regulatory authority shall:

- (1) determine whether the reserve account has a surplus or shortage under Subsection (e); and
- (2) subtract any surplus from or add any shortage to the utility's rate base.

(e) A surplus in the reserve account exists if the charges against the account are less than the money credited to the account. A shortage in the reserve account exists if the charges against the account are greater than the money credited to the account.

(f) The allowance for self-insurance under this title for ratemaking purposes is not applicable to nuclear plant investment.

(g) The commission shall adopt rules governing self-insurance under this section.

Acts 1997, 75th Leg., ch. 166, Sec. 1, eff. Sept. 1, 1997.

CHAPTER 25. SUBSTANTIVE RULES APPLICABLE TO ELECTRIC SERVICE PROVIDERS

**Subchapter J. COSTS, RATES AND TARIFFS.**

**DIVISION 1. RETAIL RATES.**

**§25.231. Cost of Service.**

\*\*\*

- (b) **Allowable expenses.** Only those expenses which are reasonable and necessary to provide service to the public shall be included in allowable expenses. In computing an electric utility's allowable expenses, only the electric utility's historical test year expenses as adjusted for known and measurable changes will be considered, except as provided for in any section of these rules dealing with fuel expenses.

- (1) **Components of allowable expenses.** Allowable expenses, to the extent they are reasonable and necessary, and subject to this section, may include, but are not limited to the following general categories:

\*\*\*

- (G) Accruals credited to reserve accounts for self-insurance under a plan requested by an electric utility and approved by the commission. The commission shall consider approval of a self insurance plan in a rate case in which expenses or rate base treatment are requested for a such a plan. For the purposes of this section, a self insurance plan is a plan providing for accruals to be credited to reserve accounts. The reserve accounts are to be charged with property and liability losses which occur, and which could not have been reasonably anticipated and included in operating and maintenance expenses, and are not paid or reimbursed by commercial insurance. The commission will approve a self insurance plan to the extent it finds it to be in the public interest. In order to establish that the plan is in the public interest, the electric utility must present a cost benefit analysis performed by a qualified independent insurance consultant who demonstrates that, with consideration of all costs, self-insurance is a lower-cost alternative than commercial insurance and the ratepayers will receive the benefits of the self insurance plan. The cost benefit analysis shall present a detailed analysis of the appropriate limits of self insurance, an analysis of the appropriate annual accruals to build a reserve account for self insurance, and the level at which further accruals should be decreased or terminated.

Oncor Electric Delivery Company  
Self-Insurance Reserve Analysis

Function	Claim Year	Claim Description	Liability	Property	Grand Total of Losses	Handy-Whitman Index	Trend Factor	Trended Loss	Natural Log
Dist	1993	1993CL01	903,662	0	903,662	279	2.853	2,578,147	14.76258
Dist	1993	1993CL02	750,000	0	750,000	279	2.853	2,139,750	14.57620
Dist	1994	DeSoto Storm Damage	0	1,849,141	1,849,141	289	2.754	5,092,533	15.44329
Dist	1995	1995CL01	1,000,000	0	1,000,000	296	2.689	2,689,000	14.80468
Dist	1995	May 1995 Storm Damages	0	5,474,190	5,474,190	296	2.689	14,720,096	16.50472
Dist	1995	1995CL02	500,000	0	500,000	296	2.689	1,344,500	14.11153
Dist	1996	1996CL01	587,500	0	587,500	298	2.673	1,570,388	14.26683
Dist	1996	June 1996 Storm	0	3,302,508	3,302,508	298	2.673	8,827,605	15.99339
Dist	1996	1996CL02	2,138,349	0	2,138,349	298	2.673	5,715,806	15.55875
Dist	1996	1996CL03	1,987,440	0	1,987,440	298	2.673	5,312,427	15.48556
Dist	1997	1997CL01	564,825	0	564,825	297	2.682	1,514,861	14.23083
Dist	1997	January 1997 Ice Storm	0	1,845,402	1,845,402	297	2.682	4,949,369	15.41477
Dist	1997	June 1997 Storm Damage	0	1,075,359	1,075,359	297	2.682	2,884,114	14.87473
Dist	1998	February 10, 1998 Storm Damage	0	2,359,263	2,359,263	303	2.627	6,197,784	15.63970
Dist	1998	1998CL01	1,680,062	0	1,680,062	303	2.627	4,413,523	15.30018
Dist	1998	1998CL02	496,792	0	496,792	303	2.627	1,305,071	14.08177
Dist	1998	June 4-5 1998 Storm Damage	0	770,639	770,639	303	2.627	2,024,470	14.52082
Dist	1998	June 9-11 1998 Storm Damage	0	590,218	590,218	303	2.627	1,550,504	14.25409
Dist	1998	May 08, 1998 Storm Damage	0	938,764	938,764	303	2.627	2,466,134	14.71816
Dist	1998	Storm Damage 10/2-3/98	0	670,925	670,925	303	2.627	1,762,519	14.38225
Dist	1998	1998CL03	552,631	0	552,631	303	2.627	1,451,760	14.18829
Dist	1999	1999CL01	738,192	0	738,192	303	2.629	1,940,705	14.47856
Dist	1999	1999CL02	1,037,051	0	1,037,051	303	2.629	2,726,407	14.81850
Dist	1999	1999CL03	1,007,256	0	1,007,256	303	2.629	2,648,076	14.78934
Dist	1999	1999CL04	513,487	0	513,487	303	2.629	1,349,958	14.11558
Dist	1999	1999CL05	262,233	0	262,233	303	2.629	689,410	13.44359
Dist	1999	1999CL06	1,690,877	0	1,690,877	303	2.629	4,445,316	15.30736
Dist	1999	Storm Damage 04/25-26/99	0	983,964	983,964	303	2.629	2,586,841	14.76595
Dist	1999	Storm Damage 05/17/99	0	819,740	819,740	303	2.629	2,155,096	14.58335
Dist	1999	Storm Damage 05/24-28/99	0	664,796	664,796	303	2.629	1,747,749	14.37384
Dist	1999	1999CL07	2,046,091	0	2,046,091	303	2.629	5,379,173	15.49805
Dist	2000	Dec 10-12 2000 Storm	0	6,664,509	6,664,509	310	2.568	17,114,460	16.65543
Dist	2000	Dec 25 2000 Storm	0	8,987,491	8,987,491	310	2.568	23,079,876	16.95447
Dist	2000	Storm Damage - 1/27/2000	0	675,380	675,380	310	2.568	1,734,377	14.36616
Dist	2000	System Storm Damage 3/28//2000	0	1,544,688	1,544,688	310	2.568	3,966,758	15.19346
Dist	2001	Jun 14 2001 Storm	0	1,816,161	1,816,161	320	2.488	4,518,609	15.32371
Dist	2001	Jun 29 Storm	0	690,358	690,358	320	2.488	1,717,611	14.35645
Dist	2001	May 18 2001 Storm	0	1,041,014	1,041,014	320	2.488	2,590,043	14.76718
Dist	2001	May 26-28 2001 Storm	0	1,643,502	1,643,502	320	2.488	4,089,032	15.22382
Dist	2001	May 5 2001 Storm	0	700,344	700,344	320	2.488	1,742,455	14.37081
Dist	2001	Storm Damage - November 2001	0	1,332,093	1,332,093	320	2.488	3,314,247	15.01374
Dist	2001	Storm Damage - October 2001	0	1,357,845	1,357,845	320	2.488	3,378,318	15.03289
Dist	2001	Storm Damage 8/15 - 8/17/2001	0	694,806	694,806	320	2.488	1,728,677	14.36287
Dist	2002	August 27, 2002 Storm Damage	0	1,335,844	1,335,844	326	2.442	3,262,132	14.99789
Dist	2002	2002CL01	1,385,920	0	1,385,920	326	2.442	3,384,417	15.03469
Dist	2002	July 11-13, 2002 Storm Damage	0	821,861	821,861	326	2.442	2,006,983	14.51214
Dist	2002	June 15-16 2002 Storm Damage	0	3,219,687	3,219,687	326	2.442	7,862,476	15.87761
Dist	2002	2002CL02	700,052	0	700,052	326	2.442	1,709,526	14.35173
Dist	2002	2002CL03	909,326	0	909,326	326	2.442	2,220,575	14.61328
Dist	2002	Storm Damage - May 26-27, 2002	0	594,860	594,860	326	2.442	1,452,649	14.18890
Dist	2002	Storm Damage - May 5, 2002	0	652,047	652,047	326	2.442	1,592,298	14.28069
Dist	2002	2002CL04	823,207	0	823,207	326	2.442	2,010,272	14.51378
Dist	2003	Storm Damage - Feb 24-26, 2003	0	980,361	980,361	331	2.405	2,357,768	14.67323
Dist	2003	Storm Damage - June 3-5, 2003	0	780,042	780,042	331	2.405	1,876,000	14.44465
Dist	2003	Storm Damage - May 1-3, 2003	0	767,356	767,356	331	2.405	1,845,491	14.42826
Dist	2003	Storm Damage - May 24-26, 2003	0	1,240,843	1,240,843	331	2.405	2,984,228	14.90885
Dist	2003	Storm Damage 8/9/03 - 8/13/03	0	1,608,747	1,608,747	331	2.405	3,869,038	15.16852
Dist	2003	Storm Damage-June 10-14, 2003	0	3,578,672	3,578,672	331	2.405	8,606,707	15.96805
Dist	2004	Storm Damage 3/4/04	0	1,353,140	1,353,140	355	2.242	3,033,740	14.92531
Dist	2004	Storm Damage 4/24/04	0	717,303	717,303	355	2.242	1,608,194	14.29062
Dist	2004	Storm Damage 4/30/04	0	960,525	960,525	355	2.242	2,153,497	14.58260
Dist	2004	Storm Damage 5/27/04	0	652,736	652,736	355	2.242	1,463,434	14.19630
Dist	2004	Storm Damage 5/30-6/06/04	0	42,921,544	42,921,544	355	2.242	96,230,102	18.38225
Dist	2004	Storm Damage 6/7/04	0	870,272	870,272	355	2.242	1,951,150	14.48939
Dist	2004	Storm Damage 6/8-6/9/04	0	1,309,569	1,309,569	355	2.242	2,936,054	14.89258
Dist	2004	Storm Damage 7/28/04	0	1,390,262	1,390,262	355	2.242	3,116,967	14.95237
Dist	2004	Storm Damage 8/19/04	0	857,208	857,208	355	2.242	1,921,860	14.46880
Dist	2004	Storm Damage 10/01/04	0	588,944	588,944	355	2.242	1,320,412	14.09345
Dist	2004	Storm Damage 10/04/04	0	506,810	506,810	355	2.242	1,136,268	13.94326
Dist	2004	Storm Damage 11/23/04	0	746,001	746,001	355	2.242	1,672,534	14.32985
Dist	2005	Storm Damage 5/7-5/8/05	0	944,578	944,578	377	2.111	1,994,004	14.50566
Dist	2005	Storm Damage 5/31/05-6/01/05	0	543,350	543,350	377	2.111	1,147,012	13.95267
Dist	2005	Storm Damage 7/07/05	0	885,303	885,303	377	2.111	1,868,875	14.44085
Dist	2005	Storm Damage 7/15/05	0	765,265	765,265	377	2.111	1,615,474	14.29514
Dist	2005	Storm Damage 8/05-8/07/05	0	869,691	869,691	377	2.111	1,835,918	14.42306
Dist	2005	Storm Damage 9/23-9/14/05 (Rita)	0	21,862,318	21,862,318	377	2.111	46,151,353	17.64744
Dist	2005	Storm Damage 9/28/05	0	1,411,158	1,411,158	377	2.111	2,978,955	14.90708
Dist	2005	Storm Damage 12/07/05	0	770,289	770,289	377	2.111	1,626,080	14.30168
Dist	2006	Storm Damage 3/18/06-3/20/06	0	648,318	648,318	422	1.886	1,222,728	14.01659
Dist	2006	Storm Damage 4/07/06-4/08/06	0	614,710	614,710	422	1.886	1,159,343	13.96336
Dist	2006	Storm Damage 4/19/06-4/20/06	0	2,518,208	2,518,208	422	1.886	4,749,340	15.37352
Dist	2006	Storm Damage 4/28/06-4/29/06	0	972,928	972,928	422	1.886	1,834,942	14.42252

Oncor Electric Delivery Company  
Self-Insurance Reserve Analysis

Function	Claim Year	Claim Description	Liability	Property	Grand Total of Losses	Handy-Whitman Index	Trend Factor	Trended Loss	Natural Log
Dist	2006	Storm Damage 5/01/06-5/02/06	0	3,612,701	3,612,701	422	1.886	6,813,554	15.73442
Dist	2006	Storm Damage 5/04/06-5/05/06	0	2,182,689	2,182,689	422	1.886	4,116,551	15.23053
Dist	2006	Storm Damage 5/06/06	0	10,269,506	10,269,506	422	1.886	19,368,288	16.77915
Dist	2006	2006CL01	1,340,393	0	1,340,393	422	1.886	2,527,981	14.74293
Dist	2006	2006CL02	562,317	0	562,317	422	1.886	1,060,530	13.87428
Dist	2006	Storm Damage 6/17/06-6/18/06	0	687,861	687,861	422	1.886	1,297,306	14.07580
Dist	2006	Storm Damage 8/27/06	0	566,677	566,677	422	1.886	1,068,753	13.88200
Dist	2006	Storm Damage 11/15/06*****	0	1,750,212	1,750,212	422	1.886	3,300,900	15.00971
Dist	2006	Storm Damage 12/29/06*****	0	499,930	499,930	422	1.886	942,868	13.75668
Dist	2007	Freeze Damages 1/12-17/2007	0	3,475,940	3,475,940	459	1.734	6,027,280	15.61181
Dist	2007	Storm Damage 2/24/07	0	1,593,636	1,593,636	459	1.734	2,763,365	14.83196
Dist	2007	Storm Damage 3/29-30/07	0	1,091,890	1,091,890	459	1.734	1,893,337	14.45385
Dist	2007	Storm Damage 4/7-9/07	0	4,124,237	4,124,237	459	1.734	7,151,427	15.78282
Dist	2007	Storm Damage 4/13/07	0	1,620,774	1,620,774	459	1.734	2,810,422	14.84885
Dist	2007	Storm Damage 4/24-25/07	0	882,604	882,604	459	1.734	1,530,435	14.24106
Dist	2007	Storm Damage 5/7-9/07	0	795,305	795,305	459	1.734	1,378,059	14.13691
Dist	2007	Storm Damage 5/24-27/07	0	1,273,007	1,273,007	459	1.734	2,207,394	14.60732
Dist	2007	Storm Damage 5/30/07	0	1,091,001	1,091,001	459	1.734	1,891,796	14.45304
Dist	2007	Storm Damage 6/3/07	0	1,341,176	1,341,176	459	1.734	2,325,599	14.65949
Dist	2007	Storm Damage 6/20/07	0	1,002,338	1,002,338	459	1.734	1,738,054	14.36828
Dist	2007	Storm Damage 6/26-27/07	0	1,490,345	1,490,345	459	1.734	2,584,258	14.76495
Dist	2007	2007CL01	2,000,000	0	2,000,000	459	1.734	3,468,000	15.05909
Dist	2007	2007CL02	800,022	0	800,022	459	1.734	1,387,238	14.14283
Dist	2007	Storm Damage 5/2/07	0	24,144,679	24,144,679	459	1.734	41,866,873	17.55001
Dist	2007	Storm Damage 8/1/07	0	611,165	611,165	459	1.734	1,059,760	13.87355
Dist	2007	Storm Damage 9/4-5/07	0	540,190	540,190	459	1.734	936,689	13.75011
Dist	2007	Storm Damage 10/14-15/07	0	777,003	777,003	459	1.734	1,347,323	14.11363
Dist	2008	2008CL01	1,648,419	0	1,648,419	514	1.549	2,553,401	14.75294
Dist	2008	2008CL02	1,771,141	0	1,771,141	514	1.549	2,743,497	14.82474
Dist	2008	2008CL03	1,091,015	0	1,091,015	514	1.549	1,689,982	14.34023
Dist	2008	Storm for 1/29/08	0	795,062	795,062	514	1.549	1,231,551	14.02378
Dist	2008	Storm Damage April 9-10 2008	0	15,427,943	15,427,943	514	1.549	23,897,884	16.98930
Dist	2008	Storm for 4/17-18/2008	0	1,319,119	1,319,119	514	1.549	2,043,315	14.53008
Dist	2008	Storm Damage on April 23-24	0	3,096,148	3,096,148	514	1.549	4,795,933	15.38328
Dist	2008	Storm Damage on May 13-15	0	4,358,842	4,358,842	514	1.549	6,751,846	15.72533
Dist	2008	Storm Damage on May 27, 2008	0	1,668,048	1,668,048	514	1.549	2,583,806	14.76477
Dist	2008	Wind Damage on June 3-6	0	6,199,831	6,199,831	514	1.549	9,603,538	16.07764
Dist	2008	Storm Project June 17-18	0	8,584,983	8,584,983	514	1.549	13,298,139	16.40313
Dist	2008	Storm Project June 19, 2008	0	1,579,981	1,579,981	514	1.549	2,447,391	14.71053
Dist	2008	Hurricane Ike - September 12, 2008	0	25,459,776	25,459,776	514	1.549	39,437,193	17.49022
Dist	2009	Freezing Rain Damage 1/5/09	0	1,474,196	1,474,196	522	1.525	2,248,149	14.62562
Dist	2009	Storm Damage 1/27/2009	0	3,209,637	3,209,637	522	1.525	4,894,696	15.40366
Dist	2009	Feb 10 Storm Damage	0	993,337	993,337	522	1.525	1,514,839	14.23082
Dist	2009	Storm Damage April 1-2, 2009	0	858,058	858,058	522	1.525	1,308,538	14.08442
Dist	2009	Storm Damage April 16-18, 2009	0	762,659	762,659	522	1.525	1,163,055	13.96656
Dist	2009	Storm Damage April 26-28, 2009	0	891,922	891,922	522	1.525	1,360,181	14.12313
Dist	2009	Storm Project May 2-3, 2009	0	2,903,557	2,903,557	522	1.525	4,427,924	15.30344
Dist	2009	Storm Project June 10-13, 2009	0	35,850,961	35,850,961	522	1.525	54,672,716	17.81688
Dist	2009	Storm Project July 29- August 1	0	2,601,799	2,601,799	522	1.525	3,967,743	15.19371
Dist	2009	Storm September 11-14	0	608,462	608,462	522	1.525	927,905	13.74068
Dist	2009	Storm Project Dec 23- Dec 25	0	2,157,284	2,157,284	522	1.525	3,289,858	15.00635
Dist	2009	2009CL01	1,026,724	0	1,026,724	522	1.525	1,665,754	14.26388
Dist	2010	2010CL01	927,129	0	927,129	553	1.439	1,334,139	14.10380
Dist	2010	2010CL02	904,467	0	904,467	553	1.439	1,301,528	14.07905
Dist	2010	Storm Damage 2/11-14, 2010	0	31,863,746	31,863,746	553	1.439	45,851,930	17.64093
Trans	1996	1996CL04	840,335	0	840,335	335	2.070	1,739,493	14.36910
Trans	1999	1999CL08	1,999,435	0	1,999,435	341	2.029	4,056,854	15.21592
Trans	2003	2003CL01	1,326,347	0	1,326,347	375	1.847	2,449,763	14.71150
Trans	2004	Storm Damage 3/4/04	0	82,113	82,113	410	1.689	138,689	11.83999
Trans	2004	Storm Damage 5/30-6/06/04	0	407,896	407,896	410	1.689	688,936	13.44290
Trans	2005	Storm Damage Rita	0	285,504	285,504	438	1.581	451,382	13.02007
Trans	2006	Temple SW to Sandow	0	28,990	28,990	475	1.458	42,267	10.65177
Trans	2006	Storm Damage 11/15/06*****	0	15,379	15,379	475	1.458	22,423	10.01782
Trans	2006	Storm Damage 12/26/06	0	8,581	8,581	475	1.458	12,511	9.43437
Trans	2007	Storm Damage 1/13/07	0	9,616	9,616	514	1.348	12,962	9.46981
Trans	2007	Storm Damage 5/2/07	0	72,564	72,564	514	1.348	97,816	11.49085
Trans	2007	Storm Damage 4/6/07	0	1,491	1,491	514	1.348	2,010	7.60582
Trans	2007	Storm Damage 6/26/07	0	8,787	8,787	514	1.348	11,845	9.37965
Trans	2007	2007CL03	533,261	0	533,261	514	1.348	718,836	13.48539
Trans	2008	Storm Damage April 9-10, 2008	0	70,635	70,635	565	1.226	86,599	11.36904
Trans	2008	Hurricane Ike - September 12, 2008	0	230,828	230,828	565	1.226	282,995	12.55318
Trans	2009	Storm Damage 1/27/2009	0	3,675	3,675	527	1.314	4,829	8.48238
Trans	2009	Feb 10 Storm Damage	0	5,044	5,044	527	1.314	6,628	8.79903
Trans	2009	Storm Damage April 1-2	0	1,987	1,987	527	1.314	2,611	7.86746
Trans	2009	Storm Damage April 16-18	0	17,721	17,721	527	1.314	23,285	10.05558
Trans	2009	Storm Project May 2-3	0	25,553	25,553	527	1.314	33,577	10.42159
Trans	2009	Storm Project June 10-13	0	168,932	168,932	527	1.314	221,977	12.31033
Trans	2009	Storm Project Dec 23- Dec 25	0	23,502	23,502	527	1.314	30,882	10.33792
Dist	2011	2011CL01	1,539,941	0	1,539,941	578	1.377	2,120,499	14.56716
Dist	2011	2011CL02	3,000,000	0	3,000,000	578	1.377	4,131,000	15.23403
Dist	2012	2012CL01	2,348,018	0	2,348,018	592	1.345	3,158,084	14.96548
Dist	2012	2012CL02	513,100	0	513,100	592	1.345	690,120	13.44462

Oncor Electric Delivery Company  
Self-Insurance Reserve Analysis

Function	Claim Year	Claim Description	Liability	Property	Grand Total of Losses	Handy-Whitman Index	Trend Factor	Trended Loss	Natural Log
Dist	2012	2012CL03	955,505		955,505	592	1.345	1,285,154	14.06639
Dist	2013	2013CL01	657,059		657,059	616	1.292	848,920	13.65172
Dist	2013	2013CL02	3,000,000		3,000,000	616	1.292	3,876,000	15.17031
Dist	2013	2013CL03	686,532		686,532	616	1.292	886,999	13.69560
Dist	2013	2013CL04	1,159,206		1,159,206	616	1.292	1,497,694	14.21944
Dist	2013	2013CL05	592,740		592,740	616	1.292	765,820	13.54870
Dist	2014	2014CL01	698,683		698,683	634	1.256	877,546	13.68489
Dist	2014	2014CL02	3,000,000		3,000,000	634	1.256	3,768,000	15.14205
Dist	2014	2014CL03	3,000,000		3,000,000	634	1.256	3,768,000	15.14205
Dist	2014	2014CL04	521,325		521,325	634	1.256	654,784	13.39206
Dist	2015	2015CL01	706,574		706,574	649	1.227	866,966	13.67275
Dist	2015	2015CL02	1,125,867		1,125,867	649	1.227	1,381,439	14.13864
Dist	2016	2016CL01	1,042,085		1,042,085	658	1.210	1,260,922	14.04735
Dist	2010	STORM DAMAGE 04/23		5,632,745	5,632,745	553	1.439	8,105,520	15.90806
Dist	2010	STORM DAMAGE 5/12-5/16		6,095,790	6,095,790	553	1.439	8,771,842	15.98706
Dist	2010	STORM DAMAGE 9/1 - 9/3/2010		2,179,046	2,179,046	553	1.439	3,135,648	14.95835
Dist	2010	STORM DAMAGE 9/6 - 9/8/2010		7,251,628	7,251,628	553	1.439	10,435,093	16.16069
Dist	2010	Storm Damage Oct 23 - 26		531,536	531,536	553	1.439	764,880	13.54747
Dist	2011	WINTER STORM 1/31 - 2/1/2011		9,605,872	9,605,872	578	1.377	13,227,286	16.39779
Dist	2011	WINTER WEATHER 2/8 - 2/9/2011		2,549,333	2,549,333	578	1.377	3,510,431	15.07125
Dist	2011	STORM DAMAGE 4/4/2011		5,224,679	5,224,679	578	1.377	7,194,383	15.78881
Dist	2011	STORM DAMAGE 4/10/11 - 4/11/11		12,679,663	12,679,663	578	1.377	17,459,895	16.67542
Dist	2011	STORM DAMAGE 4/14 - 4/15/2011		6,355,245	6,355,245	578	1.377	8,751,172	15.98470
Dist	2011	STORM DAMAGE 4/22 - 4/26/2011		8,236,766	8,236,766	578	1.377	11,342,026	16.24403
Dist	2011	Storm Damage 5/1-5/2/2011		2,936,562	2,936,562	578	1.377	4,043,646	15.21266
Dist	2011	Storm Damage 5/11-5/12/2011		2,650,032	2,650,032	578	1.377	3,649,094	15.10999
Dist	2011	Storm Damage 5/24/2011		5,955,002	5,955,002	578	1.377	8,200,038	15.91965
Dist	2011	STORM DAMAGE 6/18 - 6/21		8,833,296	8,833,296	578	1.377	12,163,448	16.31395
Dist	2011	STORM DAMAGE JUNE 21-22		3,970,668	3,970,668	578	1.377	5,467,610	15.51435
Dist	2011	STORM DAMAGE - AUGUST 24 - 25		2,693,641	2,693,641	578	1.377	3,709,144	15.12631
Dist	2011	WIND DAMAGE - SEPT 4 - 5		3,809,681	3,809,681	578	1.377	5,245,930	15.47296
Dist	2011	STORM DAMAGE- 9/16 - 9/19		3,091,963	3,091,963	578	1.377	4,257,633	15.26422
Dist	2011	STORM DAMAGE 10/23/2011		1,522,724	1,522,724	578	1.377	2,096,791	14.55592
Dist	2012	STORM DAMAGE 1/24/12 - 1/25/12		1,400,217	1,400,217	592	1.345	1,883,293	14.44853
Dist	2012	STORM DAMAGE 3/19/12-3/20/12		3,972,028	3,972,028	592	1.345	5,342,377	15.49118
Dist	2012	STORM DAMAGE - 4/3/2012		5,364,605	5,364,605	592	1.345	7,215,394	15.79173
Dist	2012	STORM DAMAGE 5/7/12-5/8/12		10,783,380	10,783,380	592	1.345	14,503,646	16.48991
Dist	2012	STORM PROJECT 5/4/12-5/6/12		1,422,634	1,422,634	592	1.345	1,913,443	14.46441
Dist	2012	STORM PROJECT 5/28/12-5/30/12		12,501,532	12,501,532	592	1.345	16,814,561	16.63776
Dist	2012	STORM PROJECT 6/06/12- 6/07/12		8,863,384	8,863,384	592	1.345	11,921,252	16.29383
Dist	2012	STORM PROJECT 6/11/12-6/13/12		5,815,831	5,815,831	592	1.345	7,822,293	15.87249
Dist	2012	STORM PROJECT 7/7/12 - 7/8/12		2,812,443	2,812,443	592	1.345	3,782,735	15.14596
Dist	2012	STORM PROJECT - 7/20 - 7/21/12		5,009,474	5,009,474	592	1.345	6,737,743	15.72324
Dist	2012	STORM PROJECT 8/12/2012		4,948,310	4,948,310	592	1.345	6,655,477	15.71095
Dist	2012	STORM PROJECT 8/14/2012		2,524,179	2,524,179	592	1.345	3,395,020	15.03782
Dist	2012	STORM PROJECT - 8/17 - 8/19/12		6,100,985	6,100,985	592	1.345	8,205,825	15.92035
Dist	2012	STORM PROJECT - 9/27 - 9/30/12		6,336,779	6,336,779	592	1.345	8,522,968	15.95828
Dist	2012	STORM PROJECT 12/19/2012		6,804,527	6,804,527	592	1.345	9,152,089	16.02949
Dist	2012	STORM PROJECT 12/25/2012		3,842,899	3,842,899	592	1.345	5,168,699	15.45813
Dist	2013	STORM PROJECT 04/18/2013		2,227,989	2,227,989	616	1.292	2,878,562	14.87280
Dist	2013	STORM DAMAGE 5/9/2013		2,393,211	2,393,211	616	1.292	3,092,028	14.94434
Dist	2013	STORM DAMAGE 5/15 - 5/18/2013		5,711,929	5,711,929	616	1.292	7,379,812	15.81426
Dist	2013	STORM PROJECT 5/20 - 5/21/2013		7,528,670	7,528,670	616	1.292	9,727,042	16.09042
Dist	2013	STORM PROJECT 06/06/2013		3,598,847	3,598,847	616	1.292	4,649,711	15.35232
Dist	2013	STORM PROJECT 6/17 - 6/19/2013		3,362,422	3,362,422	616	1.292	4,344,250	15.28436
Dist	2013	STORM PROJECT 8/13 - 8/16/2013		3,866,441	3,866,441	616	1.292	4,985,441	15.42404
Dist	2013	STORM PROJECT 9/19 - 9/20/13		2,488,633	2,488,633	616	1.292	3,215,314	14.98344
Dist	2013	STORM PROJECT 11/21 - 11/25/13		14,393,900	14,393,900	616	1.292	18,596,918	16.73851
Dist	2013	STORM PROJECT 12/5 - 12/11/13		46,600,547	46,600,547	616	1.292	60,207,907	17.91331
Dist	2014	STORM PROJECT 3/2/2014		3,074,504	3,074,504	634	1.256	3,861,578	15.16659
Dist	2014	STORM PROJECT 3/28/2014		2,242,868	2,242,868	634	1.256	2,817,042	14.85120
Dist	2014	STORM PROJECT 5/8/2014		4,453,636	4,453,636	634	1.256	5,593,767	15.53716
Dist	2014	STORM PROJECT 5/12/2014		3,886,890	3,886,890	634	1.256	4,881,933	15.40105
Dist	2014	STORM PROJECT 6/22/2014-6/25/14		5,280,479	5,280,479	634	1.256	6,632,281	15.70746
Dist	2014	STORM PROJECT 7/14/14-7/17/14		3,202,337	3,202,337	634	1.256	4,022,136	15.20732
Dist	2014	STORM PROJECT 7/23/14		2,054,897	2,054,897	634	1.256	2,580,951	14.76367
Dist	2014	STORM PROJECT 6/8/14-6/9/14		604,060	604,060	634	1.256	758,700	13.53936
Dist	2014	STORM PROJECT 8/16/14-8/17/14		2,491,542	2,491,542	634	1.256	3,129,377	14.95634
Dist	2014	STORM PROJECT 9/6/14-9/8/14		1,201,203	1,201,203	634	1.256	1,508,711	14.22677
Dist	2014	STORM PROJECT 10/02-10/06/14		40,248,108	40,248,108	634	1.256	50,551,623	17.73851
Dist	2014	STORM PROJECT 10/10/14-10/13/14		5,194,721	5,194,721	634	1.256	6,524,569	15.69109
Dist	2015	STORM PROJECT 12/30/14-01/02/15		24,738,507	24,738,507	649	1.227	30,354,148	17.22844
Dist	2015	STORM PROJECT 2/22/15-2/23/15		3,763,051	3,763,051	649	1.227	4,617,263	15.34531
Dist	2015	STORM PROJECT 3/4/15		2,570,450	2,570,450	649	1.227	3,153,942	14.96416
Dist	2015	STORM PROJECT 4/16/15-4/18/15		10,745,289	10,745,289	649	1.227	13,184,470	16.39455
Dist	2015	STORM PROJECT 4/24/15		8,535,720	8,535,720	649	1.227	10,473,328	16.16434
Dist	2015	STORM PROJECT 4/26/15		5,469,552	5,469,552	649	1.227	6,711,141	15.71928
Dist	2015	STORM PROJECT 5/4, 5/6-10/15		7,118,256	7,118,256	649	1.227	8,734,100	15.98275
Dist	2015	STORM PROJECT 5/16/15-5/17/15		1,098,318	1,098,318	649	1.227	1,347,636	14.11386
Dist	2015	STORM PROJECT 5/18/15-5/27/15		18,309,771	18,309,771	649	1.227	22,466,089	16.92752
Dist	2015	STORM PROJECT 5/28/15-5/29/15		5,795,910	5,795,910	649	1.227	7,111,582	15.77724
Dist	2015	STORM PROJECT 5/30/15		5,920,814	5,920,814	649	1.227	7,264,839	15.79856

Oncor Electric Delivery Company  
Self-Insurance Reserve Analysis

Function	Claim Year	Claim Description	Liability	Property	Grand Total of Losses	Handy-Whitman Index	Trend Factor	Trended Loss	Natural Log
Dist	2015	STORM PROJECT 6/9/15-6/12/15		1,701,846	1,701,846	649	1.227	2,088,165	14,55180
Dist	2015	STORM PROJECT 6/16/15		6,947,195	6,947,195	649	1.227	8,524,208	15,95842
Dist	2015	STORM PROJECT 6/26-6/27/15		780,066	780,066	649	1.227	957,140	13,77171
Dist	2015	STORM PROJECT 6/30/15		801,276	801,276	649	1.227	983,166	13,79853
Dist	2015	STORM PROJECT 10/22 - 10/25/15		4,204,639	4,204,639	649	1.227	5,159,092	15,45627
Dist	2015	STORM PROJECT 10/30 - 10/31/15		840,227	840,227	649	1.227	1,030,958	13,84600
Dist	2015	STORM PROJECT 11/15/15		2,694,670	2,694,670	649	1.227	3,306,360	15,01136
Dist	2015	STORM PROJECT 11/26 - 11/29/15		1,285,096	1,285,096	649	1.227	1,576,812	14,27092
Dist	2015	STORM PROJECT 12/12 - 12/13/15		1,200,549	1,200,549	649	1.227	1,473,074	14,20286
Dist	2015	STORM PROJECT 12/26 - 12/28/15		6,481,181	6,481,181	649	1.227	7,952,409	15,88899
Dist	2016	STORM PROJECT 3/7-3/9/16		4,629,581	4,629,581	658	1.210	5,601,793	15,53860
Dist	2016	STORM PROJECT 3/17-3/18/16		1,120,179	1,120,179	658	1.210	1,355,417	14,11962
Dist	2016	STORM PROJECT 4/16 - 18/2016		2,898,264	2,898,264	658	1.210	3,506,899	15,07024
Dist	2016	STORM PROJECT 4/19-21/2016		1,693,035	1,693,035	658	1.210	2,048,573	14,53265
Dist	2016	STORM PROJECT 4/26/2016		6,519,796	6,519,796	658	1.210	7,888,953	15,88097
Dist	2016	STORM PROJECT 4/28-29/2016		6,099,300	6,099,300	658	1.210	7,380,152	15,81430
Dist	2016	STORM PROJECT 5/10 - 12/2016		12,707,600	12,707,600	658	1.210	15,376,196	16,54833
Dist	2016	STORM PROJECT 5/26 - 5/31/16		4,699,714	4,699,714	658	1.210	5,686,654	15,55363
Dist	2016	STORM PROJECT 5/31 - 6/4/2016		2,104,515	2,104,515	658	1.210	2,546,463	14,75022
Dist	2016	STORM PROJECT - 6/12 - 6/13/16		4,006,664	4,006,664	658	1.210	4,848,063	15,39409
Dist	2016	STORM PROJECT 6/27 - 6/28/2016		1,371,909	1,371,909	658	1.210	1,660,009	14,32233
Dist	2016	Storm Project 7/3 - 7/9/2016		6,385,335	6,385,335	658	1.210	7,726,255	15,86013
Dist	2016	STORM PROJECT 7/9/2016		5,175,174	5,175,174	658	1.210	6,261,961	15,65000
Dist	2016	STORM PROJECT 8/12-8/15/16		2,347,150	2,347,150	658	1.210	2,840,052	14,85933
Dist	2016	STORM PROJECT 8/19-8/22/16		923,995	923,995	658	1.210	1,118,033	13,92708
Dist	2016	STORM PROJECT 9/16 - 9/18/16		758,264	758,264	658	1.210	917,499	13,72941
Dist	2016	STORM PROJECT 11/5/16-11/8/16		644,294	644,294	658	1.210	779,596	13,56653
Dist	2016	STORM PROJECT 12/17 - 12/19/16		1,204,082	1,204,082	658	1.210	1,456,940	14,19185
Dist	2011	2011CL03	3,831,413		3,831,413	578	1.377	5,275,856	15,47865
Dist	2013	2013CL06	1,632,254		1,632,254	616	1.292	2,108,872	14,56166
Trans	2010	STORM DAMAGE 04/23		22,692	22,692	559	1.239	28,116	10,24409
Trans	2010	STORM DAMAGE 5/12-5/16		3,393	3,393	559	1.239	4,204	8,34371
Trans	2010	STORM DAMAGE 9/7 - 9/8/2010		41,565	41,565	559	1.239	51,498	10,84931
Trans	2011	WINTER STORM 1/31 - 2/1/2011		268,216	268,216	581	1.192	319,713	12,67518
Trans	2011	STORM DAMAGE 4/10/11 - 4/11/11		43,866	43,866	581	1.192	52,288	10,86452
Trans	2011	WIND DAMAGE - SEPT 4 -5		8,768	8,768	581	1.192	10,452	9,25453
Trans	2011	STORM DAMAGE - 9/16 - 9/19		18,810	18,810	581	1.192	22,422	10,01778
Trans	2011	STORM PROJECT 10/23/2011		433	433	581	1.192	516	6,24674
Trans	2012	2012CL04	-4,542,459		-4,542,459	579	1.196	0	
Trans	2012	STORM DAMAGE - 4/3/2012		7,317	7,317	579	1.196	8,752	9,07699
Trans	2012	STORM PROJECT 7/7 - 7/9 2012		112,333	112,333	579	1.196	134,351	11,80821
Trans	2012	Storm Project - 8/17/2012		5,892	5,892	579	1.196	7,047	8,86029
Trans	2013	STORM DAMAGE 5/15 - 5/18/13		58,692	58,692	590	1.174	68,905	11,14048
Trans	2013	STORM PROJECT 11/21 -11/25/13		184,819	184,819	590	1.174	216,978	12,28755
Trans	2013	STORM PROJECT 12/5 - 12/11/13		326,379	326,379	590	1.174	383,169	12,85623
Trans	2014	STORM PROJECT 3/2/14		61,941	61,941	599	1.156	71,603	11,17890
Trans	2014	STORM PROJECT 3/28/2014		20,490	20,490	599	1.156	23,686	10,07264
Trans	2014	STORM PROJECT - 5/8/14		2,120	2,120	599	1.156	2,451	7,80432
Trans	2014	STORM PROJECT 6/22-6/25/2014		9,318	9,318	599	1.156	10,772	9,28467
Trans	2014	STORM PROJECT 7/23/2014		21,836	21,836	599	1.156	25,243	10,13629
Trans	2014	STORM PROJECT - 9/6/2014		15,534	15,534	599	1.156	17,957	9,79573
Trans	2014	STORM PROJECT 10/02/14		678,434	678,434	599	1.156	784,270	13,57251
Trans	2014	STORM PROJECT 10/10 -10/13/14		20,451	20,451	599	1.156	23,642	10,07076
Trans	2015	Storm Project 12/30/14-01/02/15		134,625	134,625	609	1.137	153,068	11,93864
Trans	2015	Storm Project 2/22/15-2/24/15		22,518	22,518	609	1.137	25,602	10,15044
Trans	2015	Storm Project 4/16/15-4/18/15		21,998	21,998	609	1.137	25,011	10,12709
Trans	2015	Storm Project 4/26 - 4/27/15		20,150	20,150	609	1.137	22,911	10,03936
Trans	2015	Storm Project 5/6 - 5/8/15		3,337,391	3,337,391	609	1.137	3,794,613	15,14909
Trans	2015	Storm Project 5/16 - 5/17/15		220	220	609	1.137	250	5,52016
Trans	2015	Storm Project 5/18 - 5/27/15		186,641	186,641	609	1.137	212,211	12,26534
Trans	2015	Storm Project 5/28 - 5/29/15		24,474	24,474	609	1.137	27,827	10,23375
Trans	2015	Storm Project 5/30/15		8,405	8,405	609	1.137	9,557	9,16499
Trans	2015	Storm Project 6/16/15		31,527	31,527	609	1.137	35,846	10,48700
Trans	2015	Storm Project 6/26 - 6/27/15		3,276	3,276	609	1.137	3,725	8,22286
Trans	2015	Storm Project 10/22 - 10/25/15		86,483	86,483	609	1.137	98,331	11,49609
Trans	2015	Storm Project 10/30 - 10/31/15		2,874	2,874	609	1.137	3,267	8,09170
Trans	2015	Storm Project 11/15 - 11/16/15		23,563	23,563	609	1.137	26,791	10,19582
Trans	2015	Storm Project 11/26 - 11/28/15		49,926	49,926	609	1.137	56,766	10,94669
Trans	2015	STORM PROJECT 12/12 - 12/13/15		19,227	19,227	609	1.137	21,861	9,99246
Trans	2015	STORM PROJECT 12/26 - 12/28/15		316,016	316,016	609	1.137	359,311	12,79194
Trans	2016	STORM PROJECT 3/7-3/9/16		81,976	81,976	620	1.117	91,567	11,42483
Trans	2016	STORM PROJECT 3/17-3/18/16		15,552	15,552	620	1.117	17,372	9,76260
Trans	2016	STORM PROJECT 4/16 - 18/2016		14,877	14,877	620	1.117	16,617	9,71820
Trans	2016	STORM PROJECT 4/19-21/2016		15,219	15,219	620	1.117	17,000	9,74094
Trans	2016	STORM PROJECT 4/26/2016		54,540	54,540	620	1.117	60,921	11,01734
Trans	2016	STORM PROJECT 4/28-29/2016		42,558	42,558	620	1.117	47,537	10,76927
Trans	2016	STORM PROJECT 5/10 - 12/2016		46,314	46,314	620	1.117	51,732	10,85384
Trans	2016	STORM PROJECT 5/26 - 5/31/16		292,681	292,681	620	1.117	326,925	12,69749
Trans	2016	STORM PROJECT 5/31 - 6/4/2016		61,551	61,551	620	1.117	68,753	11,13828
Trans	2016	STORM PROJECT - 6/12 - 6/13/16		26,651	26,651	620	1.117	29,769	10,30124
Trans	2016	Storm Project 7/3 - 7/5/2016		33,447	33,447	620	1.117	37,361	10,52837
Trans	2016	STORM PROJECT 7/9/2016		23,494	23,494	620	1.117	26,242	10,17513

Oncor Electric Delivery Company  
Self-Insurance Reserve Analysis

Function	Claim Year	Claim Description	Liability	Property	Grand Total of Losses	Handy-Whitman Index	Trend Factor	Trended Loss	Natural Log
Trans	2016	STORM PROJECT 9/16 - 9/18/16		5,697	5,697	620	1.117	6,364	8.75840
Trans	2016	STORM PROJECT 11/5/16-11/8/16		10,721	10,721	620	1.117	11,976	9.39064
Dist	2016	2016CL02	3,000,000		3,000,000	658	1.210	3,630,000	15.10474
Dist	2017	2017CL01	3,000,000		3,000,000	684	1.164	3,492,000	15.06599
Dist	2019	2019CL01	824,394		824,394	732	1.087	896,116	13.70582
Dist	2019	2019CL02	3,000,000		3,000,000	732	1.087	3,261,000	14.99754
Dist	2020	2020CL01	868,000		868,000	777	1.025	889,700	13.69864
Dist	2020	2020CL02	740,000		740,000	777	1.025	758,500	13.53910
Dist	2020	2020CL03	900,000		900,000	777	1.025	922,500	13.73484
Dist	2017	STORM PROJECT 1/1-1/2/17		1,765,132	1,765,132	684	1.164	2,054,614	14.53560
Dist	2017	STORM PROJECT 1/15-1/18/17		1,943,225	1,943,225	684	1.164	2,261,914	14.63172
Dist	2017	STORM PROJECT 2/19-2/20/17		3,832,061	3,832,061	684	1.164	4,460,519	15.31078
Dist	2017	STORM PROJECT 3/23-3/24/17		1,799,547	1,799,547	684	1.164	2,094,672	14.55491
Dist	2017	STORM PROJECT 3/28-3/29/17		16,876,602	16,876,602	684	1.164	19,644,365	16.79330
Dist	2017	STORM PROJECT 4/1-4/2/17		2,676,762	2,676,762	684	1.164	3,115,751	14.95198
Dist	2017	STORM PROJECT 4/10-4/11/17		3,383,024	3,383,024	684	1.164	3,937,840	15.18614
Dist	2017	STORM PROJECT 4/16-4/17/17		651,548	651,548	684	1.164	758,402	13.53897
Dist	2017	STORM PROJECT 4/29-4/30/17		8,689,886	8,689,886	684	1.164	10,115,027	16.12953
Dist	2017	STORM PROJECT 5/3/17		1,083,581	1,083,581	684	1.164	1,261,289	14.04764
Dist	2017	STORM PROJECT 5/17-5/21/17		4,819,223	4,819,223	684	1.164	5,609,575	15.53999
Dist	2017	STORM PROJECT 5/28-5/29/17		1,339,250	1,339,250	684	1.164	1,558,887	14.25948
Dist	2017	STORM PROJECT 5/31-6/4/17		2,966,984	2,966,984	684	1.164	3,453,569	15.05492
Dist	2017	STORM PROJECT 6/12-6/15/17		1,939,740	1,939,740	684	1.164	2,257,857	14.62993
Dist	2017	STORM PROJECT 6/23-6/24/17		4,645,385	4,645,385	684	1.164	5,407,228	15.50325
Dist	2017	STORM PROJECT 6/30-7/6/17		5,487,008	5,487,008	684	1.164	6,386,877	15.66976
Dist	2017	STORM PROJECT 7/8-7/9/17		1,393,029	1,393,029	684	1.164	1,621,485	14.29885
Dist	2017	STORM PROJECT 7/22-7/24/17		1,974,734	1,974,734	684	1.164	2,298,591	14.64781
Dist	2017	STORM PROJECT 8/6/17		1,351,932	1,351,932	684	1.164	1,573,649	14.26891
Dist	2017	STORM PROJECT 8/11-8/14/17		1,867,690	1,867,690	684	1.164	2,173,991	14.59208
Dist	2017	STORM PROJECT 8/25-8/30/17		2,042,670	2,042,670	684	1.164	2,377,667	14.68163
Dist	2018	STORM PROJECT 1/10-1/11/18		765,228	765,228	710	1.121	857,820	13.66215
Dist	2018	STORM PROJECT 2/20-2/24/18		15,682,852	15,682,852	710	1.121	17,580,477	16.68230
Dist	2018	STORM PROJECT 4/12-4/14/18		8,903,502	8,903,502	710	1.121	9,980,826	16.11618
Dist	2018	STORM PROJECT 5/2-5/4/18		6,283,187	6,283,187	710	1.121	7,043,452	15.76761
Dist	2018	STORM PROJECT 5/25/18		1,091,984	1,091,984	710	1.121	1,224,114	14.01773
Dist	2018	STORM PROJECT 6/3-6/6/18		4,446,300	4,446,300	710	1.121	4,984,303	15.42180
Dist	2018	STORM PROJECT 6/7/18		4,603,523	4,603,523	710	1.121	5,160,549	15.45655
Dist	2018	STORM PROJECT 6/23-6/25/18		1,674,289	1,674,289	710	1.121	1,876,878	14.44512
Dist	2018	STORM PROJECT 6/29-7/2/18		782,325	782,325	710	1.121	876,986	13.68425
Dist	2018	STORM PROJECT 7/3-7/4/18		1,013,598	1,013,598	710	1.121	1,136,243	13.94324
Dist	2018	STORM PROJECT 7/6-7 & 7/10/18		1,681,144	1,681,144	710	1.121	1,884,562	14.44921
Dist	2018	STORM PROJECT 7/12/18		1,403,779	1,403,779	710	1.121	1,573,636	14.26890
Dist	2018	STORM PROJECT 7/18-7/23/18		3,280,402	3,280,402	710	1.121	3,677,331	15.11770
Dist	2018	STORM PROJECT 7/30-7/31/18		1,080,749	1,080,749	710	1.121	1,211,520	14.00739
Dist	2018	STORM PROJECT 8/8-8/13/18		3,093,039	3,093,039	710	1.121	3,467,297	15.05889
Dist	2018	STORM PROJECT 8/18-8/20/18		1,221,265	1,221,265	710	1.121	1,369,038	14.12962
Dist	2018	STORM PROJECT 9/6-9/8/18		1,399,660	1,399,660	710	1.121	1,569,019	14.26596
Dist	2018	STORM PROJECT 9/20-9/23/18		2,242,696	2,242,696	710	1.121	2,514,062	14.73741
Dist	2018	STORM PROJECT 10/5-10/9/18		2,705,787	2,705,787	710	1.121	3,033,187	14.92512
Dist	2018	STORM PROJECT 10/13-10/17/18		3,139,159	3,139,159	710	1.121	3,518,997	15.07369
Dist	2018	STORM PROJECT 12/26/18		3,476,521	3,476,521	710	1.121	3,897,180	15.17576
Dist	2019	STORM PROJECT 1/2/19		1,019,876	1,019,876	732	1.087	1,108,605	13.91861
Dist	2019	STORM PROJECT 1/18-1/19/19		1,441,586	1,441,586	732	1.087	1,567,004	14.26468
Dist	2019	STORM PROJECT 3/12-3/14/19		9,374,308	9,374,308	732	1.087	10,189,873	16.13690
Dist	2019	STORM PROJECT 4/6-4/8/19		4,842,248	4,842,248	732	1.087	5,263,524	15.47631
Dist	2019	STORM PROJECT 4/13-4/14/19		12,923,953	12,923,953	732	1.087	14,048,337	16.45801
Dist	2019	STORM PROJECT 4/17-4/19/19		12,001,889	12,001,889	732	1.087	13,046,053	16.38400
Dist	2019	STORM PROJECT 4/23-4/24/19		6,262,763	6,262,763	732	1.087	6,807,624	15.73355
Dist	2019	STORM PROJECT 4/30-5/3/19		7,400,442	7,400,442	732	1.087	8,044,281	15.90047
Dist	2019	STORM PROJECT 5/8/19		4,062,664	4,062,664	732	1.087	4,416,115	15.30077
Dist	2019	STORM PROJECT 5/18-5/19/19		6,607,446	6,607,446	732	1.087	7,182,294	15.78713
Dist	2019	STORM PROJECT 5/20-5/21/19		3,686,547	3,686,547	732	1.087	4,007,277	15.20362
Dist	2019	STORM PROJECT 5/29/19		1,472,374	1,472,374	732	1.087	1,600,470	14.28581
Dist	2019	STORM PROJECT 6/1-6/2/19		2,440,553	2,440,553	732	1.087	2,652,881	14.79116
Dist	2019	STORM PROJECT 6/9/19		57,617,073	57,617,073	732	1.087	62,629,758	17.95275
Dist	2019	STORM PROJECT 6/16/19		9,782,834	9,782,834	732	1.087	10,633,941	16.17956
Dist	2019	STORM PROJECT 6/18-6/19/19		10,578,190	10,578,190	732	1.087	11,498,493	16.25773
Dist	2019	STORM PROJECT 6/23/19		9,020,673	9,020,673	732	1.087	9,805,472	16.09845
Dist	2019	STORM PROJECT 6/29/19		3,374,061	3,374,061	732	1.087	3,667,605	15.11505
Dist	2019	STORM PROJECT 7/5-7/6/19		1,866,067	1,866,067	732	1.087	2,028,415	14.52277
Dist	2019	STORM PROJECT 7/8/19		880,594	880,594	732	1.087	957,206	13.77177
Dist	2019	STORM PROJECT 7/10/19		6,507,716	6,507,716	732	1.087	7,073,888	15.77192
Dist	2019	STORM PROJECT 8/27-8/28/19		1,341,894	1,341,894	732	1.087	1,458,639	14.19301
Dist	2019	STORM PROJECT 8/30/19		1,816,120	1,816,120	732	1.087	1,974,123	14.49563
Dist	2019	STORM PROJECT 10/10-10/11/19		3,896,813	3,896,813	732	1.087	4,235,836	15.25909
Dist	2019	STORM PROJECT 10/20-10/21/19		50,852,587	50,852,587	732	1.087	55,276,762	17.82786
Dist	2019	STORM PROJECT 11/11-11/12/19		1,220,911	1,220,911	732	1.087	1,327,131	14.09853
Dist	2020	STORM PROJECT 1/10/20		1,836,748	1,836,748	777	1.025	1,882,666	14.44820
Dist	2020	STORM PROJECT 2/4/20		832,451	832,451	777	1.025	853,263	13.65682
Dist	2020	STORM PROJECT 3/4/20		2,317,047	2,317,047	777	1.025	2,374,973	14.68050
Dist	2020	STORM PROJECT 3/17-3/21/20		4,464,908	4,464,908	777	1.025	4,576,531	15.33645
Dist	2020	STORM PROJECT 4/9/20		2,391,986	2,391,986	777	1.025	2,451,785	14.71233

Oncor Electric Delivery Company  
Self-Insurance Reserve Analysis

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Dist	2020	STORM PROJECT 4/11-4/12/20		6,513,898	6,513,898	777	1.025	6,676,745	15.71414
Dist	2020	STORM PROJECT 4/28/20		9,345,754	9,345,754	777	1.025	9,579,398	16.07513
Dist	2020	STORM PROJECT 5/7-5/8/20		5,452,564	5,452,564	777	1.025	5,588,878	15.53629
Dist	2020	STORM PROJECT 5/15/20		6,288,165	6,288,165	777	1.025	6,445,369	15.67887
Dist	2020	STORM PROJECT 5/22-25 & 5/27/20		6,671,606	6,671,606	777	1.025	6,838,396	15.73806
Dist	2020	STORM PROJECT 6/19-6/20/20		6,274,409	6,274,409	777	1.025	6,431,270	15.67668
Dist	2020	STORM PROJECT 6/22-6/23/20		2,051,768	2,051,768	777	1.025	2,103,062	14.55890
Dist	2020	STORM PROJECT 7/2/20		1,113,014	1,113,014	777	1.025	1,140,839	13.94727
Dist	2020	STORM PROJECT 7/5-7/7/20		1,765,394	1,765,394	777	1.025	1,809,529	14.40858
Dist	2020	STORM PROJECT 7/12/20		4,030,441	4,030,441	777	1.025	4,131,202	15.23408
Dist	2020	STORM PROJECT 7/30-7/31/20		980,786	980,786	777	1.025	1,005,306	13.82080
Dist	2020	STORM PROJECT 8/16/20		11,216,743	11,216,743	777	1.025	11,497,161	16.25761
Dist	2020	STORM PROJECT 8/22/20		10,298,615	10,298,615	777	1.025	10,556,080	16.17221
Dist	2020	STORM PROJECT 8/29-8/30/20		1,363,805	1,363,805	777	1.025	1,397,900	14.15048
Dist	2020	STORM PROJECT 8/31-9/4/20		3,666,396	3,666,396	777	1.025	3,758,056	15.13941
Dist	2020	STORM PROJECT 10/23/20		636,407	636,407	777	1.025	652,318	13.38829
Dist	2020	STORM PROJECT 10/26-10/28/20		2,859,383	2,859,383	777	1.025	2,930,868	14.89081
Dist	2020	STORM PROJECT 11/24-11/25/20		1,264,318	1,264,318	777	1.025	1,295,926	14.07474
Dist	2020	STORM PROJECT 12/30/20-1/1/21		1,898,872	1,898,872	777	1.025	1,946,344	14.48146
Dist	2021	STORM PROJECT 1/9-1/10/21		16,851,943	16,851,943	796	1.000	16,851,943	16.63998
Dist	2021	STORM PROJECT 2/10-2/18/21		99,518,361	99,518,361	796	1.000	99,518,361	18.41585
Dist	2021	STORM PROJECT 3/17/21		3,120,994	3,120,994	796	1.000	3,120,994	14.95366
Dist	2021	STORM PROJECT 4/27-5/2/21		3,277,753	3,277,753	796	1.000	3,277,753	15.00267
Dist	2021	STORM PROJECT 5/3-5/4/21		5,475,734	5,475,734	796	1.000	5,475,734	15.51584
Dist	2021	STORM PROJECT 5/8-5/12/21		5,418,216	5,418,216	796	1.000	5,418,216	15.50528
Dist	2021	STORM PROJECT 5/16-5/19/21		3,346,746	3,346,746	796	1.000	3,346,746	15.02350
Dist	2021	STORM PROJECT 5/27-5/31/21		5,397,623	5,397,623	796	1.000	5,397,623	15.50147
Dist	2021	STORM PROJECT 6/7-6/8/21		3,081,168	3,081,168	796	1.000	3,081,168	14.94082
Dist	2021	STORM PROJECT 6/25-6/28/21		2,873,492	2,873,492	796	1.000	2,873,492	14.87104
Dist	2021	STORM PROJECT 7/1-7/3/21		1,433,156	1,433,156	796	1.000	1,433,156	14.17539
Dist	2021	STORM PROJECT 7/11-7/12/21		2,169,406	2,169,406	796	1.000	2,169,406	14.58996
Dist	2021	STORM PROJECT 8/1/21		3,320,401	3,320,401	796	1.000	3,320,401	15.01560
Dist	2021	STORM PROJECT 8/14-8/15/21		1,916,831	1,916,831	796	1.000	1,916,831	14.46618
Dist	2021	STORM PROJECT 9/28-10/1/21		2,427,460	2,427,460	796	1.000	2,427,460	14.70236
Dist	2021	STORM PROJECT 10/10/21		7,129,863	7,129,863	796	1.000	7,129,863	15.77980
Dist	2021	STORM PROJECT 10/26-10/29/21		13,684,904	13,684,904	796	1.000	13,684,904	16.43180
Dist	2019	2019CL03	796,202		796,202	732	1.087	865,472	13.67103
Dist	2019	2019CL04	2,962,232		2,962,232	732	1.087	3,219,947	14.98488
Dist	2020	2020CL04	648,146		648,146	777	1.025	664,349	13.40656
Dist	2021	2021CL01	3,000,000		3,000,000	796	1.000	3,000,000	14.91412
Dist	2021	2021CL02	518,603		518,603	796	1.000	518,603	13.15889
Trans	2020	2020CL05	521,915		521,915	694	0.998	520,871	13.16326
Trans	2017	STORM PROJECT 1/1-1/2/17		35,896	35,896	628	1.103	39,593	10.58641
Trans	2017	STORM PROJECT 1/15-1/18/17		8,485	8,485	628	1.103	9,359	9.14408
Trans	2017	STORM PROJECT 2/19-2/20/17		2,900,396	2,900,396	628	1.103	3,199,136	14.97839
Trans	2017	STORM PROJECT 3/23-3/24/17		4,729	4,729	628	1.103	5,216	8.55943
Trans	2017	STORM PROJECT 3/28-3/29/17		29,511	29,511	628	1.103	32,550	10.39055
Trans	2017	STORM PROJECT 4/1-4/2/17		82,602	82,602	628	1.103	91,110	11.41982
Trans	2017	STORM PROJECT 4/10-4/11/17		20,423	20,423	628	1.103	22,526	10.02244
Trans	2017	STORM PROJECT 4/16-4/17/17		2,209	2,209	628	1.103	2,436	7.79829
Trans	2017	STORM PROJECT 4/29-4/30/17		3,132,008	3,132,008	628	1.103	3,454,605	15.05522
Trans	2017	STORM PROJECT 5/3/17		3,600	3,600	628	1.103	3,970	8.28661
Trans	2017	STORM PROJECT 5/18-5/19/17		52,955	52,955	628	1.103	58,409	10.97523
Trans	2017	STORM PROJECT 5/28-5/29/17		29,515	29,515	628	1.103	32,555	10.39069
Trans	2017	STORM PROJECT 5/31-6/4/17		44,887	44,887	628	1.103	49,511	10.80994
Trans	2017	STORM PROJECT 6/12-6/15/17		63,416	63,416	628	1.103	69,948	11.15551
Trans	2017	STORM PROJECT 6/23-6/24/17		22,066	22,066	628	1.103	24,339	10.09985
Trans	2017	STORM PROJECT 6/30-7/5/17		44,159	44,159	628	1.103	48,707	10.79358
Trans	2017	STORM PROJECT 7/8/17		4,660	4,660	628	1.103	5,140	8.54483
Trans	2017	STORM PROJECT 7/22-7/24/17		6,305	6,305	628	1.103	6,954	8.84707
Trans	2017	STORM PROJECT 8/6/17		11,660	11,660	628	1.103	12,861	9.46195
Trans	2017	STORM PROJECT 8/11-8/14/17		23,299	23,299	628	1.103	25,699	10.15421
Trans	2018	STORM PROJECT 2/20-2/24/18		391,395	391,395	658	1.052	411,748	12.92817
Trans	2018	STORM PROJECT 4/12-4/14/18		4,205	4,205	658	1.052	4,424	8.39475
Trans	2018	STORM PROJECT 5/2-5/4/18		11,144	11,144	658	1.052	11,724	9.36937
Trans	2018	STORM PROJECT 6/3-6/6/18		12,937	12,937	658	1.052	13,610	9.51855
Trans	2018	STORM PROJECT 6/7/18		16,399,878	16,399,878	658	1.052	17,252,671	16.66348
Trans	2018	STORM PROJECT 6/29-7/2/18		980	980	658	1.052	1,031	6.93791
Trans	2018	STORM PROJECT 7/3-7/4/18		1,117	1,117	658	1.052	1,175	7.06885
Trans	2018	STORM PROJECT 7/6-7 & 7/10/18		3,219	3,219	658	1.052	3,387	8.12762
Trans	2018	STORM PROJECT 7/12/18		34,656	34,656	658	1.052	36,458	10.50391
Trans	2018	STORM PROJECT 7/18-7/23/18		52,178	52,178	658	1.052	54,892	10.91311
Trans	2018	STORM PROJECT 7/30-7/31/18		515	515	658	1.052	542	6.29575
Trans	2018	STORM PROJECT 8/8-8/13/18		78,320	78,320	658	1.052	82,392	11.31925
Trans	2018	STORM PROJECT 8/18-8/20/18		106,342	106,342	658	1.052	111,872	11.62511
Trans	2018	STORM PROJECT 9/6-9/8/18		28,944	28,944	658	1.052	30,449	10.32381
Trans	2018	STORM PROJECT 9/20-9/23/18		43,330	43,330	658	1.052	45,584	10.72730
Trans	2018	STORM PROJECT 10/5-10/9/18		15,839	15,839	658	1.052	16,662	9.72089
Trans	2018	STORM PROJECT 10/13-10/17/18		593,766	593,766	658	1.052	624,642	13.34493
Trans	2018	STORM PROJECT 12/26/18		456,002	456,002	658	1.052	479,714	13.08095
Trans	2019	STORM PROJECT 1/2/19		7,927	7,927	677	1.023	8,109	9.00071
Trans	2019	STORM PROJECT 1/18-1/19/19		8,858	8,858	677	1.023	9,061	9.11176



Oncor Electric Delivery Company  
Self-Insurance Reserve Analysis

Function	Claim Year	Claim Description	Liability	Property	Grand Total of Losses	Handy-Whitman Index	Trend Factor	Trended Loss	Natural Log
Trans	2019	STORM PROJECT 3/12-3/14/19		992,593	992,593	677	1.023	1,015,423	13.83082
Trans	2019	STORM PROJECT 4/6-4/8/19		19,035	19,035	677	1.023	19,473	9.87676
Trans	2019	STORM PROJECT 4/13-4/14/19		96,226	96,226	677	1.023	98,439	11.49719
Trans	2019	STORM PROJECT 4/17-4/19/19		118,540	118,540	677	1.023	121,266	11.70574
Trans	2019	STORM PROJECT 4/23-4/24/19		7,224	7,224	677	1.023	7,390	8.90793
Trans	2019	STORM PROJECT 4/30-5/3/19		52,329	52,329	677	1.023	53,533	10.88805
Trans	2019	STORM PROJECT 5/8/19		29,726	29,726	677	1.023	30,410	10.32253
Trans	2019	STORM PROJECT 5/18-5/19/19		725,771	725,771	677	1.023	742,463	13.51773
Trans	2019	STORM PROJECT 5/20-5/21/19		9,655	9,655	677	1.023	9,877	9.19798
Trans	2019	STORM PROJECT 5/29/19		8,830	8,830	677	1.023	9,033	9.10862
Trans	2019	STORM PROJECT 6/1-6/2/19		170,210	170,210	677	1.023	174,125	12.06753
Trans	2019	STORM PROJECT 6/9/19		317,245	317,245	677	1.023	324,542	12.69017
Trans	2019	STORM PROJECT 6/16/19		63,199	63,199	677	1.023	64,652	11.07678
Trans	2019	STORM PROJECT 6/18-6/19/19		8,268	8,268	677	1.023	8,458	9.04284
Trans	2019	STORM PROJECT 6/23/19		67,441	67,441	677	1.023	68,992	11.14174
Trans	2019	STORM PROJECT 6/29/19		14,256	14,256	677	1.023	14,584	9.58770
Trans	2019	STORM PROJECT 7/5-7/6/19		1,946	1,946	677	1.023	1,991	7.59631
Trans	2019	STORM PROJECT 7/8/19		14,448	14,448	677	1.023	14,780	9.60104
Trans	2019	STORM PROJECT 7/10/19		17,676	17,676	677	1.023	18,083	9.80270
Trans	2019	STORM PROJECT 8/27-8/28/19		36,027	36,027	677	1.023	36,856	10.51478
Trans	2019	STORM PROJECT 8/30/19		6,271	6,271	677	1.023	6,416	8.76650
Trans	2019	STORM PROJECT 10/10-10/11/19		32,277	32,277	677	1.023	33,020	10.40486
Trans	2019	STORM PROJECT 10/20-10/21/19		365,239	365,239	677	1.023	373,640	12.83105
Trans	2019	STORM PROJECT 11/11-11/12/19		11698.95	11,699	677	1.023	11,968	9.38999
Trans	2020	STORM PROJECT 1/10/20		6,717	6,717	694	0.998	6,703	8.81037
Trans	2020	STORM PROJECT 2/4/20		12,511	12,511	694	0.998	12,485	9.43232
Trans	2020	STORM PROJECT 3/4/20		5,273	5,273	694	0.998	5,262	8.56832
Trans	2020	STORM PROJECT 3/17-3/21/20		45,902	45,902	694	0.998	45,810	10.73226
Trans	2020	STORM PROJECT 4/9/20		10/13/01	652	694	0.998	651	6.47833
Trans	2020	STORM PROJECT 4/28/20		35209.12	35,209	694	0.998	35,139	10.46706
Trans	2020	STORM PROJECT 5/7-5/8/20		931.94	932	694	0.998	930	6.83527
Trans	2020	STORM PROJECT 5/15/20		42733.1	42,733	694	0.998	42,648	10.66073
Trans	2020	STORM PROJECT 5/22-25 & 5/27/20		70786.45	70,786	694	0.998	70,645	11.16542
Trans	2020	STORM PROJECT 6/19-6/20/20		11475.3	11,475	694	0.998	11,452	9.34595
Trans	2020	STORM PROJECT 6/22-6/23/20		18338.55	18,339	694	0.998	18,302	9.81476
Trans	2020	STORM PROJECT 7/2/20		17993.98	17,994	694	0.998	17,958	9.79579
Trans	2020	STORM PROJECT 7/5-7/7/20		1119.98	1,120	694	0.998	1,118	7.01906
Trans	2020	STORM PROJECT 7/30-7/31/20		7751.06	7,751	694	0.998	7,736	8.95358
Trans	2020	STORM PROJECT 8/16/20		38739.86	38,740	694	0.998	38,662	10.56262
Trans	2020	STORM PROJECT 8/22/20		13167.78	13,168	694	0.998	13,141	9.48353
Trans	2020	STORM PROJECT 8/29-8/30/20		20413.96	20,414	694	0.998	20,373	9.92197
Trans	2020	STORM PROJECT 8/31-9/4/20		17533.52	17,534	694	0.998	17,498	9.76987
Trans	2020	STORM PROJECT 10/26-10/28/20		35695.23	35,695	694	0.998	35,624	10.48077
Trans	2020	STORM PROJECT 12/30/20-1/1/21		9196.36	9,196	694	0.998	9,178	9.12456
Trans	2021	STORM PROJECT 1/9-1/10/21		11711.63	11,712	693	1.000	11,712	9.36834
Trans	2021	STORM PROJECT 2/10-2/18/21		3526936.61	3,526,937	693	1.000	3,526,937	15.07594
Trans	2021	STORM PROJECT 3/17/21		6748.03	6,748	693	1.000	6,748	8.81701
Trans	2021	STORM PROJECT 4/27-5/2/21		58779.58	58,780	693	1.000	58,780	10.98155
Trans	2021	STORM PROJECT 5/3-5/4/21		249642.24	249,642	693	1.000	249,642	12.42778
Trans	2021	STORM PROJECT 5/8-5/12/21		32770.36	32,770	693	1.000	32,770	10.39728
Trans	2021	STORM PROJECT 5/16-5/19/21		21144.95	21,145	693	1.000	21,145	9.95916
Trans	2021	STORM PROJECT 5/27-5/31/21		32230.78	32,231	693	1.000	32,231	10.38068
Trans	2021	STORM PROJECT 6/7-6/8/21		23826.47	23,826	693	1.000	23,826	10.07855
Trans	2021	STORM PROJECT 6/25-6/28/21		23560.88	23,561	693	1.000	23,561	10.06734
Trans	2021	STORM PROJECT 7/1-7/3/21		3164.34	3,164	693	1.000	3,164	8.05970
Trans	2021	STORM PROJECT 7/11-7/12/21		9903.1	9,903	693	1.000	9,903	9.20060
Trans	2021	STORM PROJECT 8/1/21		383.34	383	693	1.000	383	5.94892
Trans	2021	STORM PROJECT 8/14-8/15/21		9812.84	9,813	693	1.000	9,813	9.19145
Trans	2021	STORM PROJECT 9/28-10/1/21		6015.29	6,015	693	1.000	6,015	8.70206
Trans	2021	STORM PROJECT 10/10/21		7202.95	7,203	693	1.000	7,203	8.88225
Trans	2021	STORM PROJECT 10/26-10/29/21		77294.1	77,294	693	1.000	77,294	11.25537
NTU Trans	2019	STORM PROJECT 5/18-5/19/19		1561847.87	1,561,848	677	1.023	1,597,770	14.28412
NTU Trans	2020	STORM PROJECT 8/29-8/30/20		1844.15	1,844	694	0.998	1,840	7.51777
NTU Trans	2020	STORM PROJECT 10/26-10/28/20		2034669.51	2,034,670	694	0.998	2,030,600	14.52384
NTU Trans	2021	STORM PROJECT 2/10-2/18/21		26764.3	26,764	693	1.000	26,764	10.19482
NTU Trans	2021	STORM PROJECT 3/17/21		14879.39	14,879	693	1.000	14,879	9.60773
NTU Trans	2021	STORM PROJECT 5/16-5/19/21		8805.06	8,805	693	1.000	8,805	9.08308
NTU Trans	2021	STORM PROJECT 6/7-6/8/21		4704.21	4,704	693	1.000	4,704	8.45621

Oncor Electric Delivery Company LLC  
Summary of Texas Loss Experience  
Adjusted to Current Cost Level  
1993-2021

<u>Year</u>	<u>Actual Loss</u>	<u>Trended Loss</u>
1993	1,653,662	4,717,897
1994	1,849,141	5,092,533
1995	6,974,190	18,753,596
1996	8,856,132	23,165,719
1997	3,485,587	9,348,344
1998	8,059,294	21,171,766
1999	11,763,122	29,725,586
2000	17,872,068	45,895,471
2001	9,276,122	23,078,992
2002	10,442,804	25,501,328
2003	10,282,369	23,988,995
2004	53,364,323	119,371,838
2005	28,337,456	59,669,053
2006	26,279,400	49,540,286
2007	49,281,031	85,211,781
2008	73,301,771	113,447,071
2009	53,585,010	81,665,147
2010	55,453,737	79,784,398
2011	88,826,574	122,251,275
2012	92,445,372	124,320,320
2013	100,470,270	129,740,341
2014	81,985,377	102,890,621
2015	127,124,135	155,595,276
2016	70,056,213	84,700,567
2017	82,051,793	95,110,397
2018	88,205,756	97,620,453
2019	244,639,776	265,618,491
2020	101,662,194	104,123,544
2021	188,118,934	188,118,934
	1,695,703,613	2,289,220,019

Oncor Electric Delivery Company LLC  
Confidence Level of Expected Losses

Percentile	Expected Loss
10%	57,289,180
20%	70,951,685
25%	76,505,132
30%	82,908,787
35%	88,672,497
40%	94,821,257
45%	100,462,229
50%	106,922,415
55%	113,298,330
60%	120,247,403
65%	127,434,056
70%	135,808,098
75%	146,780,500
80%	158,807,762
90%	201,895,141
96%	276,910,665

Oncor Electric Delivery Company LLC  
Example of Loss Trending Methodology

1)	Date of Loss	2015
2)	Amount of Distribution Loss	\$10,745,289
3)	Handy-Whitman Index - Electric Utility Construction South Central Region - Distribution Plant	
a)	2015	649
b)	2021	796
4)	Distribution Trend Factor (3b) / (3a)	1.227
5)	Cost-Adjusted Distribution Losses (2) x (4)	\$13,184,470