

August 19, 2022

**VIA ELECTRONIC DELIVERY**

Ms. Lora W. Johnson, CMC, LMMC  
Clerk of Council  
City Hall, Room 1E09  
1300 Perdido Street  
New Orleans, Louisiana 70112

Re: Rulemaking Proceeding to Establish Renewable Portfolio Standards  
Council Docket No. UD-19-01

Dear Ms. Johnson:

Entergy New Orleans, LLC (“ENO”) respectfully submits its Renewable and Clean Portfolio Standard (“RCPS”) Compliance Plan covering 2023-2025 for Council review. This filing is being electronically submitted and the original and requisite number of hard copies once the Council resumes normal operations, or as you direct. ENO requests that you file this submission in accordance with Council regulations as modified for the present circumstances.

Should you have any questions regarding this filing, please contact my office at (504) 670-3633. Thank you for your assistance with this matter.

Sincerely,



Keith D. Wood

Enclosures

cc: Official Service List (*via email*)

**ENTERGY NEW ORLEANS, LLC**  
**RCPS COMPLIANCE PLAN COVERING COMPLIANCE YEARS 2023-2025**

**1. BACKGROUND**

*a. Requirement for a Three-Year RCPS Compliance Plan*

Under the Renewable and Clean Portfolio Standard (“RCPS”) adopted by the City Council of New Orleans (“Council”) in Resolution No. R-21-182 on May 20, 2021, Entergy New Orleans, LLC (“ENO”) is required to submit a three-year, prospective RCPS Compliance Plan for Council review. Section 4.e of the RCPS rules states that “Upon the Utility’s submission of its final Integrated Resource Plan (“IRP”) Report for each triennial IRP cycle, the utility shall develop a three-year prospective RCPS Compliance Plan, including a three-year Banking and Compliance Reserve provision for RECs, and the Utility’s calculation of the Alternative Compliance Payment (“ACP”).<sup>1</sup> The RCPS Compliance Plan shall be filed at the Council and served upon both the parties to the relevant IRP docket and the parties to Docket No. UD-19-01, with the opportunity for stakeholder comment prior to the Council’s review and approval.”

On March 25, 2022, ENO submitted its final IRP report in Docket No. UD-20-02. This document provides ENO’s RCPS Compliance Plan for the years 2023-2025.

**2. PROJECTED COMPLIANCE POSITION**

*a. Projected Clean Energy Credits from Existing Portfolio*

ENO projects to receive the following Clean Energy Credits (“CECs”) in 2023-2025 from its existing and expected portfolio resources, based on the electric system modeling performed for its most recent IRP.<sup>2</sup>

**Table 1: Projected 2023-2025 CECs from Existing ENO Portfolio**

Resource Name	Type	RCPS Multiplier	2023 Expected CECs	2024 Expected CECs	2025 Expected CECs
Grand Gulf	Nuclear	1.00	2,090,222	1,936,448	2,090,222
River Bend	Nuclear	1.00	695,269	837,141	773,070
ANO Unit 2	Nuclear	1.00	211,310	217,903	233,846
ANO Unit 1	Nuclear	1.00	198,570	184,880	184,319
Waterford Unit 3	Nuclear	1.00	170,332	183,930	170,329

<sup>1</sup> Any capitalized terms that are not explicitly defined herein are defined in the Council’s RCPS Rules.

<sup>2</sup> Nuclear output is modified to reflect the most recent refueling outage schedules. Energy efficiency figures are based on energy efficiency (“EE”) measures implemented since January 1, 2021 and a projection of 2023-2025 reductions that aligns with the EnergySmart Program Year 13-15 Implementation Plan covering 2023-2025 filed with the Council.

Resource Name	Type	RCPS Multiplier	2023 Expected CECs	2024 Expected CECs	2025 Expected CECs
Energy Efficiency <sup>3</sup> (implemented after 1/2021)	EE	1.25	256,749	381,418	503,789
Iris Solar	Solar	1.00	124,390	123,889	123,149
St James Solar	Solar	1.00	52,484	52,252	51,960
New Orleans Solar Station	Solar	1.25	51,561	51,488	51,039
Vidalia	Hydro	1.00	17,453	17,518	17,471
Commercial Rooftop Solar	Solar	1.25	13,561	13,423	13,243
Paterson Solar	Solar	1.25	2,936	2,942	2,936
EV Charging	EVCI	1.90-1.94	665	672	679
<b>Total:</b>			3,885,695	4,004,189	4,216,432

The actual number of CECs received from these resources may differ from the projected figures for a variety of reasons, including variations in weather patterns, unexpected maintenance requirements, or constraints that hinder ENO’s ability to fully implement its EnergySmart program, among others.

Appendix A includes a summary of the electric vehicle charging infrastructure (“EVCI”) credit calculation for 2023-2025, which uses the same methodology and inputs as those approved by the Council for the 2022 compliance year.<sup>4</sup>

***b. Adjustment for Green Power Option***

Per the Council’s direction, “no RECs associated with the GPO shall be utilized to satisfy RCPS compliance until such time as the Council may revise the RCPS in a future RCPS Periodic Review proceeding.”<sup>5</sup> In estimating its compliance position, ENO reduced its projected number of CECs available for RCPS compliance from Table 1 by the amounts shown below that are reserved for use in the GPO.

**Table 2: Projected 2023-25 GPO Throughput (MWh)**

	2020 (Actual)	2021 (Actual)	2022	2023	2024	2025
<b>GPO Throughput</b>	71	423	700	1,000	1,500	2,000

<sup>3</sup> Energy Efficiency MWh reflect total estimated MWh of reductions delivered in 2023-2025 from all measures installed after January 1, 2021. This figure will differ from the annualized figures in which EnergySmart Plan Year targets are denominated, as measures installed after January 1, 2023, will provide only a portion of their expected annualized reductions in 2023, for example.

<sup>4</sup> See, Resolution No. R-22-145, dated March 24, 2022.

<sup>5</sup> Resolution No. R-22-145, at p.7.

**c. Projected Retail Compliance Load**

Per Section 4.a of the RCPS rules, “Retail Compliance Load is the reported annual MWh sales for each compliance year, increased by the cumulative MWh savings of DSM programs installed after January 1, 2021.”

Table 3 below shows ENO’s projected Retail Compliance Load consistent with its most recent IRP:

**Table 3: Projected 2023-2025 Retail Compliance Load**

	2023	2024	2025
<b>Retail Compliance Load</b>	5,714,254	5,780,697	5,812,915

**d. Projected Compliance Position with Existing Portfolio**

Compliance with the annual RCPS requirements is measured through the calculation described in Section 4.c of the RCPS rules: “RCPS Compliance Credits (MWh) are divided by Retail Compliance Load (MWh), and expressed as a percentage.” Sections 3.a.2 through 3.a.4 of the RCPS rules specify that for 2023, 2024, and 2025, ENO must meet 66%, 68%, or 70%, respectively, “of Retail Compliance Load ... with a combination of Tier 1, 2 and 3 resources ... with not more than 25% compliance through RECs purchased without the associated energy.” Table 4 below shows ENO’s projected CEC surplus or shortfall from existing resources and planned EE, before accounting for additional compliance actions proposed in this plan.

**Table 4: Projected 2023-25 Compliance Position**

		2023	2024	2025
(a)	<b>Retail Compliance Load</b>	5,714,254	5,780,697	5,812,915
(b)	<b>RCPS Requirement (%)</b>	66%	68%	70%
(c) = (a)*(b)	<b>RCPS Requirement (CECs)</b>	3,771,408	3,930,874	4,069,041
(d)	<b>Projected CECs from Existing Portfolio</b>	3,885,695	4,004,189	4,216,432
(e)	<b>RECs Retired for Green Power Option</b>	1,000	1,500	2,000
=(d)-(e)-(c)	<b>Projected CEC Surplus / (Deficit)</b>	+113,287	+71,815	+145,391

Although the RCPS requirements are increasing by two percentage points each year, ENO is also in the midst of an aggressive deployment of energy efficiency which aims to install measures that correspond to 2% of ENO’s retail sales in each year. As a result, the accelerating contributions from EE measures in each year, if achieved in full, are projected to roughly keep pace with the additional RCPS requirements. As the reductions achieved by installed EE measures decay over each measure’s lifetime, and as incremental EE reductions become more difficult to capture, ENO will need to pursue additional measures to ensure RCPS compliance. Nuclear

refueling outage schedules – which occur every 18 or 24 months, depending on the nuclear unit – add year-to-year variability to ENO’s projected CEC surplus or deficit.

If, at the end of any compliance period, ENO has created and procured a number of CECs that exceeds that year’s RCPS percentage requirement multiplied by Retail Compliance Load, ENO will make use of the Banking and Compliance Reserve Provision described in Section 4.h of the RCPS rules. This will allow ENO to bank any excess Green-e certified RECs it procures and utilize those RECs within the next two compliance years, subject to the rules specified in Section 4.h.

### **3. ADDITIONAL RESOURCES**

#### ***a. Sources of Additional Clean Energy Credits***

ENO proposes to buy additional unbundled RECs, as needed, in order to ensure that it has a sufficient level of CECs to meet its RCPS requirements. To the extent that ENO has RECs that have been banked through the Banking and Compliance Reserve Provision in Section 4.h. of the RCPS rules, it will utilize those RECs before purchasing additional unbundled RECs. While ENO projects to have a surplus of CECs in each year between 2023 and 2025, it is possible that ENO will need to acquire some additional level of CECs in any or all compliance years due to a number of factors that may materialize, such as lower than projected clean resource generation, EE implementation, or EVCI usage; higher than projected retail sales; or higher than projected GPO enrollment, among others. ENO will monitor these factors and adjust its REC procurement target as its projected needs change to allow it the flexibility to enable compliance at the end of each year.

#### ***b. Sewerage & Water Board Electrification as a Qualified Measure***

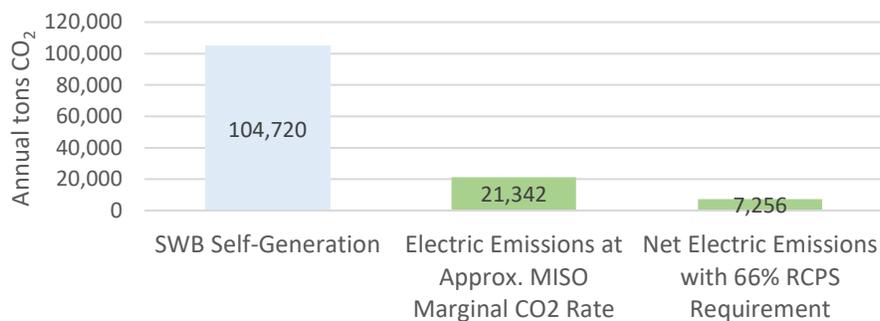
Through Resolution No. R-22-258, the Council approved the Agreement in Principle (“AIP”) between ENO and the Sewerage & Water Board (“SWB”), under which ENO will construct and own the new 230 kV Sullivan Substation that will serve power to the SWB’s Carrollton Facility and replace the SWB’s legacy gas generators currently in use. The Sullivan Substation is expected to be placed into service by 4Q2023.

ENO proposes that the electrification of self-generated power at the SWB facilities be considered a Qualified Measure. The RCPS rules define a Qualified Measure in Section 2 as a “project, program or measure which produces a measurable net reduction in carbon emissions in Orleans Parish, is cost-effective from the utility perspective, and is approved by the Council for purposes of RCPS compliance.” SWB electrification satisfies these requirements:

- *SWB electrification produces a measurable net reduction in carbon emissions in Orleans Parish:* Over the last ten years, SWB consumed an annual average of 1,729,869 MCF of

gas and 8,682 gallons of oil to fuel its 35,570 MWh of annual self-generation.<sup>6</sup> This is equivalent to 104,720 tons of CO<sub>2</sub> per year emitted within Orleans Parish, or 5,888 pounds of CO<sub>2</sub> per megawatt-hour generated.<sup>7</sup> Grid power replacing this generation has an emission rate approximately 80% lower, resulting in CO<sub>2</sub> emissions reductions of over 80,000 tons annually, as shown in Figure 5. Not only are net emissions reduced significantly, nearly all of the electric emissions are expected to occur at power plants located outside of Orleans Parish. Further, given that this increased electric demand will lead to the procurement of CECs matching 66% or more of the consumption – and as much as 100%, if the goals of Resolution No. R-22-11 are met – emissions will be even further reduced. In addition to these CO<sub>2</sub> reduction benefits, emissions of criteria air pollutants within Orleans Parish such as nitrous oxides, ammonia, and volatile organic compounds will be significantly reduced.

**Figure 5: SWB Electrification Reduces CO<sub>2</sub> Emissions in Orleans Parish**

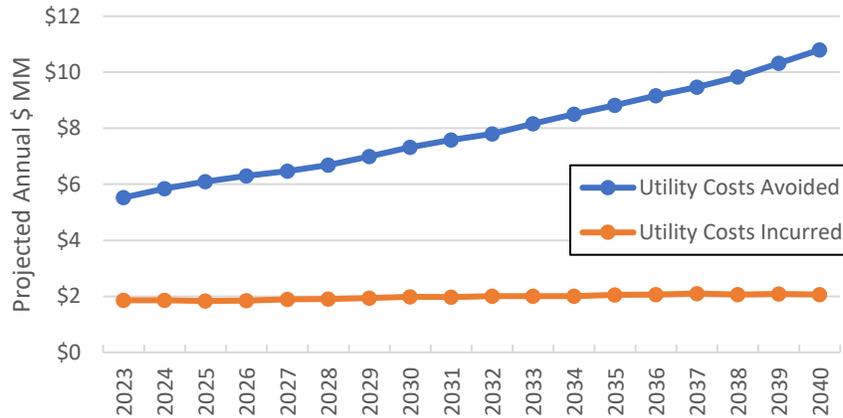


- SWB electrification is cost-effective from the utility perspective:* From the utility’s perspective, the incremental costs incurred to serve new SWB demand are equal to the sum of the infrastructure costs incurred and the cost of energy and capacity needed to serve the incremental electric demand. Because of the \$30 million Contribution in Aid of Construction (“CIAC”) from SWB, the incremental infrastructure costs will be greatly reduced. The costs to serve the demand are based on the energy and capacity cost forecasts developed in the latest IRP. The projected cost of incremental infrastructure and cost to serve SWB demand are shown as the “Utility Costs Incurred” in Figure 6 below. From the utility’s perspective, the costs avoided are equal to the decrease in natural gas supply costs that ENO’s gas distribution utility would otherwise incur to deliver gas at SWB to support self-generation. These costs, based on the Henry Hub natural gas price forecast used in the IRP, are shown as “Utility Costs Avoided” in Figure 6 below.

<sup>6</sup> Sewerage and Water Board of New Orleans, Louisiana, *Comprehensive Annual Financial Report for the years ended December 31, 2020 and 2019*, p.IV-6.

<sup>7</sup> Using conversion factors from U.S. Energy Information Agency, *Carbon Dioxide Emissions Coefficients by Fuel*, [https://www.eia.gov/environment/emissions/co2\\_vol\\_mass.php](https://www.eia.gov/environment/emissions/co2_vol_mass.php)

**Figure 6: SWB Electrification is Cost-Effective from the Utility Perspective**



As a Qualified Measure, SWB electrification would be eligible for RCPS credit as a Tier 3 Resource, which is defined as “any Qualified Measure or electric vehicle charging infrastructure directly connected to the Utility’s transmission or distribution system. For Tier 3 Resources, the Utility must provide the Council with either a certified engineering calculation demonstrating the net reduction in carbon emissions or data demonstrating measured emissions reductions. The Utility must also propose the annual amount of CECs in MWh associated with each proposed Tier 3 Resource for Council consideration.”<sup>8</sup> Per Section 4.b.2 of the RCPS rules, “CECs associated with Tier 3 Resources can be applied as RCPS Compliance Credits until 2040.” Appendix B shows a detailed calculation of the net emission reductions of SWB electrification and the proposed credit rate.

***c. Evaluation of Alternative: Accelerated Solar***

ENO’s IRP did not identify a need for additional capacity during the 2023 to 2025 compliance period, or in the several years to follow. In the IRP’s Manual Portfolio 3a, solar resource additions scheduled for 2033 or later in the Scenario 3 Optimized Portfolio were accelerated to have in service dates as early as 2024. The IRP stated that:

“TRSCs for Manual Portfolio 3a are higher across each Scenario relative to the TRSCs for the other three portfolios that use Guidehouse DSM programs. The goal in creating Manual Portfolio 3a was to evaluate the viability of achieving near-term RCPS compliance by keeping Union 1’s deactivation at 2033 while accelerating the addition of renewable resources as an alternative to relying on the purchase of unbundled RECs. This result suggests that, while there could be benefits to accelerating renewable resources under some circumstances, completely excluding the use of RECs from near-term RCPS compliance could result in added costs for customers depending on the cost of unbundled RECs.”<sup>9</sup>

<sup>8</sup> RCPS Rules, Section 2.

<sup>9</sup> Entergy New Orleans, LLC, “2021 Integrated Resource Plan,” March 25, 2022, Docket No. UD-20-02, at p.6.

In addition, accelerating the procurement of a solar resource at this time would expose ENO customers to a number of uncertainties. Given the time required to design and conduct an RFP, select a winning project(s), submit a certification filing and receive Council approval, and have the winning project commence and complete construction, ENO believes that the earliest potential in-service date (“ISD”) would be no earlier than 2026. Supply chain issues may provide uncertainty surrounding the cost and timeline of solar construction. Given that ENO’s projected annual generation exceeds projected load by 40% or more in some years, adding an additional generating resource would result in ENO selling more energy into the MISO wholesale market, exposing customers to the uncertainty and volatility of MISO wholesale energy prices.

***d. Evaluation of Alternative: Incremental EE***

As it did for its 2022 Interim Compliance Plan (“ICP”), ENO considered pursuing incremental EE beyond the amount targeted in the EnergySmart Plan as an incremental compliance measure. In the ICP development process, ENO “consulted with its Third-Party Administrator, Aptim, regarding opportunities to install Energy Efficiency measures beyond the EnergySmart Plan Year 12 targets,” and found that “the costs per incremental kWh saved would be significant given the amount of DSM already included in the Energy Smart PY12 implementation plan.”<sup>10</sup>

Due to the ambitious level of reductions identified in the pursuit of the Council’s 2% EE goal, the EnergySmart Program Year 13-15 goals target a level of EE reduction which endeavors to capture all the measures that are cost-effective and commercially feasible to achieve in a year. Both the Guidehouse 2021 Integrated Resource Plan DSM Potential Study and the GDS Associates et al., 2021 DSM Market Potential Study identified the years 2023-2025 as a period that would target the highest, or nearly the highest, level of incremental EE measures that the EnergySmart program has seen or is projected to see. As a result, incremental EE beyond that expected to be included in the EnergySmart Program Years 13-15 is not projected to be a feasible, cost-effective compliance option.

**4. OTHER RCPS PROVISIONS**

***a. Alternative Compliance Payment***

In determining the level of the Alternative Compliance Payment (“ACP”) for the 2022 compliance period, ENO considered publicly available MISO REC pricing data from December 2018-November 2021. The highest value over this period was \$7.35/REC for a Texas REC, quoted from August 2021. Table 7 below shows that between December 2021 and August 2022, there were no MISO RECs whose market value exceeded \$7.35, meaning that the \$7.35/REC market price in August 2021 remains the highest market value over the previous three years.

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<sup>10</sup> ICP, at p. 6.

**Table 7: REC Prices, December 2021 through August 2022<sup>11</sup>**

<b>Product Name</b>	<b>Period with Quotes Available</b>	<b>Highest Price (\$/REC)</b>	<b>Date of Highest Price</b>
Texas REC	12/2021-3/2022	\$4.35	1/20/22
Texas non-Solar Compliance REC	4/2022-8/2022	\$3.90	4/21/22
Texas Green-e Eligible Wind REC	4/2022-8/2022	\$3.70	4/14/22
M-RETS Compliance REC from CRS Listed Facilities FH	4/2022-8/2022	\$3.40	4/14/22
M-RETS Compliance REC from CRS Listed Facilities BH	4/2022-8/2022	\$3.10	4/14/22
Texas SREC	4/2022-8/2022	\$5.25	4/28/22
Texas Compliance SREC from CRS Listed Facilities	4/2022-8/2022	\$4.75	4/28/22
Michigan non-Solar REC	4/2022-8/2022	\$3.75	6/30/22

As a result, ENO recommends that the ACP remain at \$8.45/MWh for the 2023-2025 period, as it was set for 2022 in the ICP.

***b. Projected Contribution towards RCPS Customer Protection Cost Cap***

Section 6 of the RCPS rules establishes a Customer Protection Cost Cap “that the Utility shall not exceed to acquire RCPS Compliance Credits. The Customer Protection Cost Cap in any RCPS plan year is one percent (1%) of plan year total utility retail sales revenues, beginning in 2022.” Section 4.d of the RCPS rules describes the calculation of RCPS compliance costs that are subject to this Cost Cap as follows:

- 1) The RCPS Cost of Compliance is calculated as all incremental costs prudently incurred by the Utility in complying with RCPS Section 3, including, but not limited to, the incremental costs of new resources for compliance, the Incremental DSM costs, and other costs related to RCPS compliance. The cost of RECs as allowed through the Banking and Compliance Reserve provision that are applied in the compliance year shall be included in the RCPS Cost of Compliance for that year. The cost of RECs acquired for the Banking and Compliance Reserve provision but not applied in that year shall be treated as working capital and shall not be included in the RCPS Compliance Cost for the compliance year.
- 2) Incremental costs are the total electric utility revenue requirements associated with the Utility’s operations in compliance with the RCPS, less the total electric utility revenue requirements associated with the optimized resource portfolio that may have been in place absent the requirements of the RCPS. The Utility’s most recently filed Integrated Resource Plan shall inform the calculation of incremental costs as to the optimized resource portfolio that may have been in place absent the requirements of the RCPS.

ENO calculates the incremental costs of the elements of its proposed additional resources as follows:

<sup>11</sup> S&P Global Platts, as published in *Megawatt Daily*. As of April 1, 2022, S&P Global Platts expanded the number of products it quotes weekly and ceased quoting an undifferentiated “Texas REC” product.

**Table 8: Projected Costs Towards Cost Cap**

<b>Resource</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>
REC Purchases	As needed	As needed	As needed
SWB Electrification	\$0	\$0	\$0

The cost of any REC purchases needed to ensure RCPS compliance will be counted against the Customer Protection Cost Cap. This amount may be zero if ENO does not need to make any REC purchases to achieve compliance. ENO’s projected retail sales revenues, consistent with its most recent IRP, are \$631 million in 2023, \$650 million in 2024, and \$633 million in 2025. If this level of revenue were to materialize in any compliance year covered by this plan, the Customer Protection Cost Cap would be set at approximately \$6.3 to \$6.5 million. While retail sales revenues may differ in 2023-2025, this figure serves as a reasonable proxy and illustrates that this plan is not projected to approach the Customer Protection Cost Cap. Even if ENO purchased unbundled RECs at the price of the proposed ACP, the Customer Protection Cost Cap would not be reached unless over 745,000 RECs were purchased in a given year.

ENO will serve SWB under the Large Municipal Electric Service rate schedule, which includes a Monthly Infrastructure Charge to recover the costs of the Sullivan Substation. Therefore, SWB electrification is not expected to have a cost impact on other customers and is not considered to contribute any costs towards the Customer Protection Cost Cap.

***c. Limitation on Use of Unbundled RECs***

As stated in Section 3.a.2 – 3.a.4 of the RCPS rules, in 2023, 2024, and 2025 “not more than 25% compliance [shall be] through RECs purchased without the associated energy.” Based on ENO’s projection of Retail Compliance Load, ENO would not be permitted to use more than approximately 900,000 to 1 million unbundled RECs. ENO will not exceed the limits in Table 9 below.

**Table 9: Projected Limit on Unbundled RECs**

	<b>2023</b>	<b>2024</b>	<b>2025</b>
Projected Retail Compliance Load MWh	5,714,254	5,780,697	5,812,915
RCPS Requirement	66%	68%	70%
Projected CECs Required	3,771,408	3,930,874	4,069,041
Maximum Compliance with Unbundled RECs	25%	25%	25%
<b>Maximum Number of Unbundled RECs</b>	<b>942,852</b>	<b>982,718</b>	<b>1,017,260</b>

**5. Conclusion**

ENO requests that the Council review this RCPS Compliance Plan Covering Compliance Year 2023-2025, and take the following actions:

- a) Approve ENO’s proposal to purchase unbundled RECs as needed to achieve compliance with the RCPS;

- b) Approve treatment of Sewerage & Water Board Electrification as a Qualified Measure;
- c) Establish the ACP for 2023-2025 at \$8.45/MWh; and
- d) Approve the Tier 3 credit calculations in Appendix A (for EVCI) and Appendix B (for SWB).

## APPENDIX A – EVCI Credit Calculation

Similar to the calculation proposed in the ICP, ENO presents its calculation of the number of CECs to be provided for each megawatt-hour of beneficial electrification from ENO’s public charging stations installed through funding approved by the Council in its 2018 rate case. Table A-1 below shows the appropriate credit rate to be 1.90, 1.92, and 1.94 CECs per MWh electrified for 2023, 2024, and 2025, respectively. All input assumptions about vehicle efficiencies and electric emissions are the same as in the ICP, and the CEC per MWh-electrified rates are the same as the forecasted rates for 2023-2025 submitted in the ICP. The total number of CECs counted in each annual compliance demonstration will be equal to the annual credit rate in row 12 of Table A-1 multiplied by the actual metered consumption at the EV charging stations.

**Table A-1: Net CO<sub>2</sub> Emissions Reductions per MWh of Electric Vehicle Charging**

<i>Electric Emissions from 1 MWh of EV Charging:</i>		<u>2023</u>	<u>2024</u>	<u>2025</u>	
(1)	Average Electric Vehicle Efficiency <sup>12</sup>	0.30	0.30	0.30	kWh/mi
(2) = 1,000/[1]	Miles of Gasoline-Powered Travel Avoided per MWh of EV Charging	3,333	3,333	3,333	mi/MWh
(3)	Approximate MISO South Marginal Emission Rate	1,200	1,200	1,200	lbs/MWh
(4)	RCPS Requirement	66%	68%	70%	%
(5) =(100%– [4]) * [3]	Approximate Electric Sector Emissions Increase per 3,333 miles, or 1 MWh of EV Charging	408	384	360	lbs/MWh
<i>Non-Electric Emissions Avoided with 1 MWh of EV Charging:</i>		<u>2023</u>	<u>2024</u>	<u>2025</u>	
(6)	Average Fuel Economy of U.S. Passenger Cars <sup>13</sup>	24.2	24.2	24.2	mi/gal
(7)	CO <sub>2</sub> Content of Gasoline <sup>14</sup>	19.55	19.55	19.55	lbs/gal
(8) = [7] / [6]	Per mile CO <sub>2</sub> Content of Gasoline	0.808	0.808	0.808	lbs/mi
(9) = [8] * [2]	CO <sub>2</sub> Emissions Avoided from Gasoline Vehicle per 3,333 miles (or 1 MWh of EV Charging)	2,693	2,693	2,693	lbs/MWh
<i>Net CO<sub>2</sub> Emissions Avoided per MWh of EV Charging:</i>		<u>2023</u>	<u>2024</u>	<u>2025</u>	
(10) = [9]–[5]	Net CO <sub>2</sub> Emissions Reduction per MWh of EV Charging	2,285	2,309	2,333	lbs/MWh
(11) = [3]	Expected CO <sub>2</sub> Emissions Reduction per CEC	1,200	1,200	1,200	lbs/MWh
(12) = [10]/[11]	<b>EV Charging CECs per MWh Electrified</b>	<b>1.90</b>	<b>1.92</b>	<b>1.94</b>	<b>CEC/MWh</b>

<sup>12</sup> Median of 2020 Model Year Battery Electric Vehicle efficiencies via U.S. EPA, <https://www.epa.gov/greenvehicles/what-if-one-your-cars-was-electric>. See also “Electric Vehicle Supply Equipment Standards Standardized Regulatory Impact Assessment,” California Air Resources Board, <https://ww2.arb.ca.gov/sites/default/files/classic/regact/2019/evse2019/appc.pdf>

<sup>13</sup> “Average Fuel Economy by Major Vehicle Category,” U.S. Department of Energy’s Alternative Fuels Data Center, <https://afdc.energy.gov/data/10310>

<sup>14</sup> “Greenhouse Gas Emissions from a Typical Passenger Vehicle,” U.S. EPA, <https://www.epa.gov/greenvehicles/greenhouse-gas-emissions-typical-passenger-vehicle>



## **APPENDIX B – Sewerage & Water Board Electrification Credit Calculation**

In conjunction with the demonstration that SWB electrification meets the requirements for a Qualified Measure in Section 3.b. of this Compliance Plan, ENO presents its calculation of the number of CECs to be provided for each megawatt-hour of electrified demand that would otherwise have been self-generated by the SWB. Table B-1 below shows a calculation of the appropriate credit rate based on the net CO<sub>2</sub> emissions reduction of each electrified MWh. This credit rate is equal to 4.57, 4.59, and 4.61 CECs per MWh electrified for 2023, 2024, and 2025, respectively. The total number of CECs counted in each annual compliance demonstration will be equal to the annual credit rate in row 13 of Table B-1 multiplied by the actual metered consumption of the newly electrified SWB demand.

**Table B-1: Net CO<sub>2</sub> Emissions Reductions per MWh of SWB Electrification**

<i>Non-Electric Emissions Avoided from 1 MWh of SWB Electrification:</i>		<u>2023</u>	<u>2024</u>	<u>2025</u>	
(1)	Average Annual Natural Gas Consumption, 2011-2020 <sup>15</sup>	1,729,869	1,729,869	1,729,869	MCF
(2) = [1]*120.96 /2,000	Average Annual CO <sub>2</sub> Emissions from Natural Gas Consumption, 2011-2020 <sup>16</sup>	104,622	104,622	104,622	Tons CO <sub>2</sub>
(3)	Average Annual Fuel Oil Consumption, 2011-2020 <sup>17</sup>	8,682	8,682	8,682	Gallons
(4) = [3]*22.46 /2,000	Average Annual CO <sub>2</sub> Emissions from Fuel Oil Consumption, 2011-2020 <sup>18</sup>	98	98	98	Tons CO <sub>2</sub>
(5) = [2] + [4]	Average Annual CO <sub>2</sub> Emissions from SWB Self-Generation, 2011-2020	104,720	104,720	104,720	Tons CO <sub>2</sub>
(6)	Average Annual Self-Generation, 2011-2020 <sup>19</sup>	35,570	35,570	35,570	MWh
(7) = [5] / [6] * 2,000	Average CO <sub>2</sub> Emissions Rate from SWB Self-Generation	5,888	5,888	5,888	lbs/MWh
<i>Electric Emissions with 1 MWh of SWB Electrification:</i>		<u>2023</u>	<u>2024</u>	<u>2025</u>	
(8)	Approximate MISO South Marginal Emission Rate	1,200	1,200	1,200	lbs/MWh
(9)	RCPS Requirement	66%	68%	70%	%
(10) =(100%– [9]) * [8]	Approximate Electric Sector Emissions Increase per MWh of SWB Electrification	408	384	360	lbs/MWh

<sup>15</sup> Sewerage and Water Board of New Orleans, Louisiana, *Comprehensive Annual Financial Report for the years ended December 31, 2020 and 2019*, p.IV-6.

<sup>16</sup> Using conversion factors from U.S. Energy Information Agency, *Carbon Dioxide Emissions Coefficients by Fuel*, [https://www.eia.gov/environment/emissions/co2\\_vol\\_mass.php](https://www.eia.gov/environment/emissions/co2_vol_mass.php)

<sup>17</sup> Sewerage and Water Board of New Orleans, Louisiana, *Comprehensive Annual Financial Report for the years ended December 31, 2020 and 2019*, p.IV-6.

<sup>18</sup> Using conversion factors from U.S. Energy Information Agency, *Carbon Dioxide Emissions Coefficients by Fuel*, [https://www.eia.gov/environment/emissions/co2\\_vol\\_mass.php](https://www.eia.gov/environment/emissions/co2_vol_mass.php)

<sup>19</sup> Sewerage and Water Board of New Orleans, Louisiana, *Comprehensive Annual Financial Report for the years ended December 31, 2020 and 2019*, p. IV-6.

<i>Net CO<sub>2</sub> Emissions Avoided per MWh of SWB Electrification:</i>		<u>2023</u>	<u>2024</u>	<u>2025</u>	
(11) = [7]-[10]	Net CO <sub>2</sub> Emissions Reduction per MWh of SWB Electrification	5,480	5,504	5,528	lbs/MWh
(12) = [8]	Expected CO <sub>2</sub> Emissions Reduction per CEC	1,200	1,200	1,200	lbs/MWh
(13) = [11]/[12]	<b>SWB CECs per MWh Electrified</b>	<b>4.57</b>	<b>4.59</b>	<b>4.61</b>	<b>CEC/MWh</b>

**CERTIFICATE OF SERVICE**  
**DOCKET NO. UD-20-02**

I hereby certify that I have served the required number of copies of the foregoing report upon all other known parties of this proceeding, by the following: electronic mail, facsimile, overnight mail, hand delivery, and/or United States Postal Service, postage prepaid.

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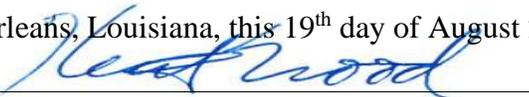
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