January 22, 2018

Via Hand Delivery

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

Re: ***Entergy New Orleans' Application for Approval to Construct New Orleans Power Station and Request for Cost Recovery and Timely Relief***
Docket No. UD-16-02

Post-Hearing Brief, filed by the Alliance for Affordable Energy, Deep South Center for Environmental Justice, 350 – New Orleans, and Sierra Club

Dear Ms. Johnson:

Undersigned counsel make this filing on behalf of the Alliance for Affordable Energy, Deep South Center for Environmental Justice, 350–New Orleans, and Sierra Club (collectively, "Public Interest Intervenors"). Please find the original and three copies of the enclosed Public Interest Intervenors' Post-Hearing Brief. The Brief is being filed with the Clerk on today's date, as the Clerk of Council's office was closed on Friday, January 19, 2018, due to inclement weather.

Please return one date-stamped copy to our courier for our records and file the remaining original and two copies into the docket in this matter.

An electronic copy of this filing has been served by electronic mail on all parties to the distribution list for UD-16-02. HSPM and CEII confidential versions of this filing have been served on the designated recipients who have executed the respective confidentiality agreements in this docket.

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BEFORE THE

COUNCIL OF THE CITY OF NEW ORLEANS

APPLICATION OF ENTERGY NEW ORLEANS, INC. FOR APPROVAL TO CONSTRUCT NEW ORLEANS POWER STATION AND REQUEST FOR COST RECOVERY AND TIMELY RELIEF	**)** **)** **)** **)** **)**	**DOCKET NO. UD-16-02**

POST-HEARING BRIEF
BY THE ALLIANCE FOR AFFORDABLE ENERGY, DEEP SOUTH CENTER FOR ENVIRONMENTAL JUSTICE, INC., 350 – NEW ORLEANS, AND SIERRA CLUB

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Pursuant to the City Council of New Orleans Resolution R-17-426, the Alliance for Affordable Energy, Deep South Center for Environmental Justice, 350 – New Orleans, and Sierra Club (collectively, "the Public Interest Intervenors") respectfully submit this Post-Hearing Brief. Based on the evidence and record in this proceeding, as set forth below, the Public Interest Intervenors request the City Council of New Orleans deny the Application of Entergy New Orleans, Inc. ("ENO" or the "Company") for Approval to Construct New Orleans Power Station and Request for Cost Recovery and Timely Relief.

INTRODUCTION

Today, the City Council of New Orleans ("Council") stands at a crossroads. One path, the path proposed by Entergy New Orleans ("ENO" or "the Company"), is old, worn, and well past its usefulness. Essentially, ENO wants New Orleans to remain mired in the past, to build yet another fossil-fueled power plant that is unnecessary, will cost New Orleans ratepayers millions of dollars, will subject residents to increased levels of air pollution, and contribute to climate change.

The other path is recognition of the future of clean, sustainable energy generation and the harmful impacts of fossil-fuel generation. It is a path already selected by regulated utilities, states and local governments across this country. Utilities are abandoning reliance on fossil fuels and adopting a mix of new technologies. Technologies such as solar and battery storage, combined with innovative energy efficiency programs and demand response are replacing proposed fossil-fueled power plants across the country. This is the path that the Council should choose.

More important, ENO has utterly failed to prove that building either a 226 MW CT plant or a 128 MW RICE unit is in the public interest. As the intervenors and the Advisors have

demonstrated, ENO has failed to establish that it will have a capacity need for either size gas-fired plant in the next ten years. Evidence actually supports the conclusion that ENO will not need additional capacity for fifteen years. Moreover, ENO's proposed gas-fired plant would put New Orleans customers at unnecessary financial risk by requiring residents and businesses to pay for generation that they do not need and will also place at risk future investment in either renewable generation or demand-side management.

Similarly, while ENO created a reliability need by its decision to close Michoud Units 2 and 3, that need can be met far more cheaply and more quickly by alternatives to the gas-fired plant that ENO steadfastly refused to fully consider. The evidence demonstrates that gas-fired generation is not needed to meet reliability standards, and that neither NOPS alternative would mitigate reliability concerns *in any way* in the next two years. In fact, ENO's own data show that transmission upgrades, in combination with energy efficiency measures and solar generation, could resolve reliability violations more cheaply than either gas-fired plant. ENO's reliability arguments offer no support for approval of either gas-fired plant.

Furthermore, the gas-fired plants are not the least-cost alternatives and, in fact, would cost ratepayers more than transmission and solar-powered solutions. As the Advisor witnesses conclude, upgrading New Orleans' transmission lines and installing utility-scale solar, instead of constructing a gas-fired plant, would be the "economically preferred alternative." Moreover, ENO failed to adequately assess the impacts of constructing a gas-fired plant on the environment. These impacts include increased air pollution, subsidence or flooding. Similarly, ENO failed to adequately assess the impacts on the predominantly African American and Vietnamese American communities living near the Michoud site.

Thus, the Council should find that 1) there is no need for the capacity; 2) reliability concerns can be addressed through less costly and more timely means; and 3) neither proposal is in the public interest. Based on these finding, the Council should reject both ENO applications. The Council also should institute a transmission reliability proceeding to fully examine all the alternatives available to resolve the reliability concerns created by the deactivation of Michoud units 2& 3.

SUMMARY OF ARGUMENT

In this docket, Entergy New Orleans, LLC ("ENO" or "the Company") is asking the City Council to approve its application to build a gas-fired power plant in New Orleans East. ENO's latest, supplemental and amending application represents the culmination of nearly four years in which ENO has sought to convince the City Council that some sort of gas plant in New Orleans East is the Council's only option. In this effort, ENO has provided the Council with a series of shifting and illusory claims about the need for a gas plant.

In this docket proceeding, ENO has proposed varying sizes of a proposed gas plant and presented different reasons to justify a new gas plant. ENO has switched its justification for a new gas plant from an emphasis on capacity need[1] to an emphasis on reliability need.[2] The driving purpose of these inconsistencies is ENO's desire to build, and add to its rate base, a $200-plus million dollar gas-fired facility. ENO's desire for a new gas plant has resulted in its

[1] Rice-1 at 3:6-11. All citations to pre-filed testimony and admitted exhibits refer to the exhibit number assigned in the Administrative Record, Docket No. UD-16-02.

[2] Dec. 15, 2017 Tr. 62:2-10.

failure to seriously evaluate any alternative other than a gas plant to meet the City's capacity or reliability needs.

ENO's plan to close Michoud Units 2 and 3 and build a new gas plant apparently had been set in motion by 2014.[3] At this time, ENO had been conducting transmission system assessments, which suggested the need for system upgrades—such as transmission line upgrades or adding generation— in the event of Michoud Units 2 and 3 are decommissioned.[4] Apparently, these assessments were done internally. ENO witness Charles Long revealed that "all along," ENO concluded that it would not make the transmission line upgrades, even though they would resolve the reliability problems associated with decommissioning Michoud Units 2 and 3, but, instead ENO chose to add new generation.[5]

ENO's decision to decommission Michoud Units 2 and 3 was made unilaterally. ENO never sought Council approval prior to closing Michoud Units 2 and 3, or informed the Council or its Advisors of any near-term, serious reliability risks attending the closure.[6] ENO's reliability concerns would have been news to the public and to the City Council and its Advisors, who, apparently, never learned that the closure of the old Michoud units posed an immediate reliability risk, as modeled in the NERC, P-6 contingency, until at the earliest late 2016, and only then after reviewing studies produced in this docket.[7]

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[3] *See* Dec. 15, 2017 Tr. 185:5–12 (Charles Long cross examination).

[4] *Id*.

[5] *Id*. at 186:20–187:4.

[6] Dec. 21, 2017 Tr. 88:19-24; 89:6–7; 89:24-90:1; 90:11–20 (Vumbaco cross examination) (specifying, at December 20, 2017 hearing, that Advisors (and to Mr. Vumbaco's knowledge, the Council) had only been aware of the potential for a P6 contingency to occur by 2019 on ENO's system "within the last year" and, at any rate, never prior to the June 2016 commencement of the instant docket).

[7] Dec. 21, 2017 Tr. 88:19-24; 89:6–7; 89:24-90:1; 90:11–20 (Vumbaco cross examination).

A study conducted by MISO in 2014 found that, based on existing planned transmission upgrades, there were no reliability constraints and no voltage reliability concerns posed by ENO's plan to close Michoud Units 2 and 3.[8] It is worth noting that MISO did *not* specify that ENO should replace the shuttered units and did *not* recommend designating the closing units a "System Support Resource."[9]

In 2015 and 2016, ENO began to lay the groundwork to convince the City Council that it had little option but to build a gas plant at Michoud. In August 2015, ENO entered into a settlement agreement, later approved by the City Council on the recommendation of its Advisors. The overall purpose of the settlement agreement was to terminate the System Agreement governing the relationship between ENO and other ENO affiliates. The settlement agreement also included a term that essentially committed ENO to putting forward the second application it made in this docket, containing a combustion turbine and a 128 MW gas option:

> As part of this commitment, ENO will fully evaluate Michaud or Paterson, along with any other appropriate sites in the City of New Orleans, as the potential site for a combustion turbine ("CT") or other peaking unit to be owned by ENO, or by a third party with an agreed-to PPA to ENO.[10]

This settlement term was adopted verbatim in Council Resolution 15-524.

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[8] C. Long-2 at CWL-5 at 11 (Attachment Y Study); Lanzalotta-2 at 11:10–11 & n. 7; *see also* C. Long-1 at Ex. CWL-5, p.11 (concluding that Michoud generation is not required to maintain reliability because of MISO transmission projects).

[9] C. Long-2 CWL-5 at 11 (Attachment Y Study).

[10] Council Res. 15-524 at p. 12 (Nov. 11, 2015); *ENO Arkansas, Inc., et al. – Settlement Agreement*, FERC Docket Nos. ER14-75-000, ER14-75-001, ER14-76-000, ER14-76-001, ER14-77-000, ER14-77-001, ER14-78-000, ER14-78-001, ER14-79-000, ER14-79-001, ER14-80-000, ER14-80-001, ER14-128-000, ER14-1328-000, and ER14-1329 at p. 13 (Aug. 14, 2015).

After agreeing to purchase a unit of the Union Power Station in 2014, ENO concluded that it would have sufficient capacity, when combined with purchases on MISO's capacity market, to operate its system through at least 2020.[11]

However, ENO later claimed in its 2015 Integrated Resource Plan ("IRP") that a gas plant was needed to help meet a capacity shortfall of more than 340 MW by 2034.[12] For this IRP, ENO modeled the cost of potential resource options to meet its claim of capacity need using AURORA, which selected a combined cycle turbine or solar resources as preferred options, not one of the gas plants that ENO proposes here. ENO then manually adjusted the results of its AURORA model, to instead focus on a combustion turbine peaking resource. ENO included either a 194 MW or a 250 MW combustion turbine not just in its preferred portfolio, but in every single one of the four alternative portfolios ENO evaluated for the IRP.[13]

Prior to filing its first gas plant application in 2016, ENO began to include a 250 MW gas plant, and only a gas plant, in its NERC Corrective Action Plans and in the Company's "base case assumptions that [it] made from that point forward."[14] ENO also decommissioned Michoud Units 2 and 3 just before filing the application.[15]

In June 2016, ENO filed its initial application in this docket, seeking Council approval to build a new 226-MW combustion turbine in New Orleans East. Just as in the 2015 IRP, ENO's

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[11] *See* Cureington-2 at 19:12–14.

[12] ENO 2015 IRP at 47 (Feb. 1, 2016).

[13] *Id.* at 54–55, 76, 79.

[14] Dec. 15, 2017 Tr. 185:19–21; 186:20–187:4; 187:24–188:21 (Charles Long cross examination).

[15] *See* Cureington-2 at 4:13.

principal argument for the gas plant was that it was necessary to meet a capacity shortfall.[16] Although, by this time, the Company's load forecasts had begun to decline,[17] and the capacity shortfall of 340 MW claimed by ENO fell to 205 MW by 2030.[18] Despite the Council's directive in Resolution 16-506 for this docket, ENO never did an economic model of (1) making transmission upgrades to maintain reliability, (2) addressing any capacity shortfall with new solar or battery storage, and (3) continuing to reduce load by meeting the Council's two percent energy savings goal.[19]

In early 2017, ENO received its updated load forecast. This forecast showed further decline in customer demand,[20] and the Company moved to suspend this docket to study the implications of the declining forecast on its application to build a gas plant.[21] Under the new load forecast, even ENO agrees, the proposed combustion turbine would result in substantially more capacity than the City needs through the next two decades, and far more than the City needs in the next 10 years.[22] In other words, ENO cannot justify a gas plant as big as the combustion turbine based on capacity need.

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[16] *See, e.g.*, ENO Original Application at 2–3; Rice-2 at 3:6–7.

[17] *See* Rogers-2 at 8:13–15, 9:1 (Figure 1) (showing ENO's continually declining load forecasts from the time of the 2015 IRP to 2017). This analysis comports with the analysis by the Deep South Center for Environmental Justice that was filed earlier in Wright-2 at 9:6–10:3 (DSCEJ-3).

[18] Rice-2 at 3:6–7.

[19] Res. 16-506 at 8, 9; SC- 5 (chart containing production cost model runs ENO was required by the Council to run); Dec. 18, 2017 Tr. 139:16– 139:8; 140:13-15; 172:9-175:15; 177:9 (confirming that ENO did not run the Case 2, transmission and energy efficiency portfolio requested).

[20] *See* Cureington-6 at 5–8.

[21] ENO Mot. to Suspend Procedural Schedule, CNO UD-16-02, filed Feb. 14, 2017.

[22] *See* Cureington-6 SEC 12 at 12.

Rather than withdraw its request to build the combustion turbine, however, ENO reiterated its request to build the 226-MW unit. It also offered the Council the alternative of building a 128-MW set of 7 reciprocating internal combustion engines (the "RICE" units).[23] While smaller than the CT, the RICE units would also provide substantially more capacity than New Orleans actually needs, under ENO's own revised forecast, through at least 2032.[24] As a result, ENO changed its argument. Instead of focusing on a pressing capacity need, which no longer exists, ENO now calls attention to the speculative possibility of a "long-term" capacity need.[25] But far more stridently, the Company is now claiming that "if incremental generation is not added, and costly transmission upgrades are not performed, the Company's service territory will face the extraordinary reliability risk of cascading (or uncontrolled) outages under certain scenarios that would affect most of the New Orleans area."[26]

ENO's new claim of reliability need to justify a new gas plant also rests heavily on the argument that the gas generators supposedly would assist in hurricane response if New Orleans were to become "islanded" from the rest of the electric grid,[27] although it failed to conduct any system modeling for a hurricane or for system conditions resembling an islanding incident.[28] Moreover, ENO's selected location for the proposed gas plants is in an area designated as a high flood risk by FEMA, which discourages the construction of new power generating facilities in

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[23] Supplemental and Amending Application, CNO UD-16-02, at 1.

[24] *See* Cureington-6 SEC 12 at 11.

[25] *See, e.g.*, Rice-3 at 4-5.

[26] *Id*. at 5–6.

[27] *Id*. at 6.

[28] Dec. 15 2017 Tr. at 204:18–25.

such areas. As before, ENO persisted in its refusal to examine a solution that would instead focus on less costly transmission upgrades, batteries, and renewable resources, claiming it was too difficult to determine how much the transmission upgrades would cost and dismissing batteries and solar power.[29] Never missing an opportunity to alter its argument in support of building a gas plant, for the first time in its rebuttal testimony in November 2017, ENO also suggested that the gas plant might be able – "subject to further study" – to assist in backing up Sewerage and Water Board facilities in the event of an outage.[30]

What was once ENO's claim that a gas plant was necessary to resolve a 340MW capacity shortfall has evolved into a reliability argument for gas plants that are now too large from a capacity standpoint. ENO's central premise now is that regardless of the fact that the gas plants it is proposing cost more than the alternatives studied, regardless of the fact that ENO never fully evaluated the transmission-upgrades solution, regardless of the fact that the gas plants would create a very large and risky capacity surplus for the City, regardless of the fact that the gas plants would create significant health and flood risks for New Orleans East communities, regardless of the fact that the units' would contribute air and climate pollution, the Council must immediately approve them for purported reliability reasons.

As outlined in the sections that follow, none of ENO's claimed reasons for building the gas plant, whether the original capacity arguments or the new reliability arguments, justify this

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[29] Dec. 15, 2017 Tr. 216:9 (C. Long: "We did not explore batteries"); *id*. at 218:22-219:1 (C. Long: "we didn't look at batteries because it's not technically a feasible solution. But did we look at combination of that? No, we didn't, and the reason we would not is solar is intermittent."); Dec. 21, 2017 Tr. 85:13-17 ("Q. And ENO has not quantified those constructability risks that you reference there by assigning them a dollar value; is that correct? A. To my knowledge, they have not").

[30] Rice-4 at 20:4-7.

project. And in fact, ENO failed to study cheaper, faster, and less polluting means to resolve the reliability issues the City faces. The Council must reject ENO's application as against the public interest.

ARGUMENT

I. Issue I: Whether ENO's Analysis of Need Is Sufficient to Justify an Investment

ENO has failed to establish that it will have a capacity need for a $200-plus million gas plant at any point in the next ten years. As an initial matter, ENO's proposed gas plant would actually put New Orleans customers at unnecessary financial risk, by forcing New Orleanians to pay for surplus capacity they do not need. A large capacity surplus borne by ratepayers also could make it less cost-effective for the Council to invest in renewable generation and demand-side management. These clean energy options are increasingly the lowest cost options to serve demand, and are part of New Orleans' forward-thinking climate action strategy. The Council should reject ENO's gas plants as unneeded and risky from a capacity standpoint.

As discussed below in Section I.B, ENO's need for new gas generation to mitigate transmission reliability risks is unsupported by the record, and the Company's own analysis demonstrates that any long-term reliability risks can be mitigated more cheaply and effectively with a combination of energy efficiency measures, solar generation, and limited transmission upgrades. Moreover, ENO's behavior on the reliability issue raised in this proceeding was the polar opposite of the behavior that should be expected from a prudent utility. Indeed, ENO failed to properly plan for the deactivation of the units at Michoud, failed to properly analyze the needs of the system, and failed to fully evaluate alternatives to its preferred expensive option.

A. Whether ENO Has Demonstrated a Capacity Need

1. There is No Capacity Need to Build ENO's to Build a $200-Plus Million Gas Plant

In its 2016 original application, ENO argued that a new gas plant was necessary, foremost, to meet a capacity shortfall ENO then projected to be 205 MW in 2030.[31] But ENO's load forecasts have steadily declined in recent years, dropping by [redacted] MW for 2030 since the 2015 IRP.[32] Based on the Council's direction and present evidence, even with the City's continued economic and population growth ENO's system is actually moving toward a capacity surplus without the gas plant.

The evidence demonstrates that without building either gas plant proposed, by 2026, ENO will likely have a **capacity *surplus* of approximately [redacted] MWs**.[33] That figure assumes

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[31] *See, e.g.*, ENO Original Application at 2–3; Rice-2 at 3:6–7.

[32] Rogers-2 at 8:13–15, 9:1.

[33] The [redacted] MW surplus comes from adding ENO's stated capacity shortfall in 2026, -99 MW, (Cureington-6, SEC-11), to the 100-MW solar capacity ENO committed to acquire, and to the peak load reductions from the Council's 2-percent energy savings DSM goal. (*See* Dec. 18, 2017 Tr. 152:17–19; 187:2–4 (confirming the 99 MW figure does not include the 100 MW of solar or Council's 2% DSM load reductions).

The 100 MW of solar are discounted by 50 percent, MISO's capacity credit to reflect solar's class-average, peak period contribution. *See* Stanton-2 11:8–14; Cureington-8, SEC-17 at 13 (MISO 2017 MTEP study). The peak load reductions for the Council's 2 percent energy savings' goal are taken from Table 2 in the testimony of Advisor witness Victor Prep. (Prep-2 at 29, Table 2; *see also* Rogers-2 at 12.) Those savings amount to a projected, incremental [redacted] MWs from ENO's reference forecast. (Prep-2 at 29 (the difference between Council's 2% DSM goal and the Reference Case for 2026); Stanton-2 13:13–14:1; *see* Dec. 18, 2017 Tr. 193:18 – 20 (ENO witness Cureington agreeing with this math, assuming 2 percent target achievable).) Even those reductions are likely understated, as the energy efficiency decrement does not include ENO's demand response agreement with Air Products, Inc. that allows the Company to interrupt up to 20 MWs of load. *See* Prep-2 at 30:10–14; Movish-1 at 20:7–10.

As a result:

[redacted] $MW_{\text{capacity surplus}} = -99\ MW_{\text{ENO claimed capacity shortfall}} + 100MW_{\text{ENO utility solar}}(0.5) + $ [redacted] $MW_{\text{incremental DSM from Council 2\% goal}}$

ENO builds 100 MW of new solar power, as it has committed to do and included in every current production-cost resource portfolio in this case,[34] and continues on a path to meet the Council's 2 percent energy savings goal.[35] **Capacity surpluses would likely persist until 2033**, leaving the Council 15 years to decide whether to add new resources.[36] And if New Orleanians continue to install new residential or commercial solar at existing rates, rather than halting new installations in 2020 as ENO unreasonably assumes, the 2026 surplus could more than double, to well over [redacted] MWs in 2026, with the capacity surpluses lasting through at least 2036.[37]

Constructing the combustion turbine would only inflate the projected capacity surplus in 2026 to at least [redacted] MW. Building the RICE units would raise the surplus to at least [redacted] MW. ENO customers would bear the full risk of paying for that extra capacity, whether or not it is used. Instead, New Orleans has the time to focus on studying a more cost-efficient set of progressive alternatives, potentially including further demand-side management, renewable energy and bulk battery storage, and, as necessary, purchases on the MISO capacity market, to maintain resource adequacy across the long term.[38]

The conclusion that there is no immediately foreseeable capacity need for the gas plant is not just the considered result of the Public Interest Intervenors' witnesses' analysis. To the

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[34] *See* Rice-3 20:9-10; Cureington-6 SEC 12 at 2.

[35] *See* Stanton-2 at 14:12–15:1 & Figure 3.

[36] *See* Rogers-2 at 12, Figure 3. Witness Rogers' Figure 3 results reflect ENO's reference load forecast, adjusted to account for the Council's 2 percent DSM goal. Public Interest Intervenors added the 100 MW of new solar capacity, discounted by 50 percent as per note 33, *supra*, to the results in Figure 3 to reach the conclusion that the 2026 capacity surplus would last until 2033. *See* Rogers-2 at 12, Figure 3.

[37] *See* Stanton-2 at 6:10-11; 20:10–22:9.

[38] *See* Fagan-2 at 8:19–9:5; 39:4–11; *see also* Brubaker-3 at 10:9–12 (stating that building less capacity than either gas plant proposal would reduce risks to ENO's customers and allow the Council to better study how energy efficiency measures and other factors affect load).

contrary, Advisor witness Joseph Vumbaco agreed that with either proposed gas plant, "the capacity that they're planning to build is in excess of an immediate capacity need."[39] Air Products' witness Maurice Brubaker is concerned that "even the smaller RICE resource would provide substantially more capacity than ENO's load forecast would justify for about the next ten years."[40] ENO's own data show that building either gas plant would leave New Orleans long on capacity at least until [redacted].[41] As a consequence, ENO largely has abandoned its argument that there is a short-term or even a medium-term capacity need to build the gas plant and has switched to focus on the "long term," tail end of the 20-year planning horizon.[42]

Making a massive, $200-plus million investment based on claimed shortfalls at the end of a 20-year period is particularly risky.[43] And it would be unnecessary, as the Council would have well over a decade in which to evaluate the least-cost alternatives to meet any lingering, long-term need.

To the extent ENO even argues anymore that there is a foreseeable capacity need for a gas plant, ENO is relying on misleading assumptions or suggesting it will not meet the Council's energy efficiency goals. ENO incorrectly suggests that the Council should focus on ENO's "peaking and reserve" need, which ENO claims is substantially larger than its overall capacity

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[39] Dec. 21, 2017 Tr. at 91:16–18; *see* Rogers-2 at 13:6–13.

[40] Brubaker-3 at 3:17–19.

[41] *See* Cureington-6, SEC-12 at 11–12.

[42] *See, e.g.*, Rice-4 at 7:10–11 (arguing that the CT would "substantially address these long-term [capacity] needs"); Cureington-8 at 24:10–11 ("As demonstrated throughout the Company's application, it is striving to build a fast-start resource to meet the Company's long-term needs and support grid reliability in New Orleans.").

[43] *See* Brubaker-3 at 6:2–6 (explaining uncertainty in relying on 20-year forecasts of out-year capacity position).

need.[44] But as multiple witnesses conclude, in determining whether there is a capacity need, the focus must be on ENO's overall need.[45] As Air Products' witness Maurice Brubaker explains, "it is neither reasonable nor prudent to install more capacity than is required simply for the purpose of increasing the amount of one particular type of capacity that is not otherwise needed."[46] ENO's attempt to isolate a claimed, greater "peaking & reserve" deficit is merely sleight of hand to create the impression of a need.

ENO also adverts to the worst-case possibility that capacity it owns could retire sooner than forecast, reducing any capacity surplus.[47] This worry is speculative and redundant, in that ENO already projected retirement dates for its resources in its reference load forecast.[48] By ENO's account, the capacity at any risk of early retirement during the entire 20-year planning period totals only about 93 MW.[49] Even in the unlikely event that all of those retirements occurred early and at the same time, they would still amount to substantially less than the capacity of the 128-MW RICE units proposed. Most likely, ENO could replace those units by smaller, less costly, and less polluting resources than either of the gas plants at issue in this case, or purchase capacity on the MISO market.

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[44] *See, e.g.*, Cureington-6 at 7:5–11; Rice-4 at 7:8–10, 16–17. For instance, ENO is claiming a 338 MW "Peaking & Reserve" deficit in 2026, as compared to the 99 MW deficit in overall capacity. Cureington-5 at 7 Table 2.

[45] Brubaker-3 at 7:7–13; Stanton-2 at 9:12–11:1 (explaining that none of the ISOs, including MISO, divide capacity into such sub-categories for resource adequacy purposes); *cf.* Rogers-2 at 9:7–13:13(examining only ENO's total capacity need).

[46] Brubaker-3 at 7:10–13; *see* Stanton-2 at 9:12–11:1.

[47] Cureington-6 at 9:14–18; 10:1–11:4.

[48] Cureington-6 SEC 11.

[49] Cureington-6 at 9:14–18; 10:1–11:4.

In another attempt to manufacture a capacity deficit, ENO's forecasted capacity position does not include the 100-MW of solar ENO has committed to purchase or build, leaving out about 50 MW of likely, MISO-credited capacity resources.[50] With the 100-MW of utility solar alone, the Company is already on track to meet half of its projected 2026 need.

In addition, ENO's forecast of load is misleading because it fails to account for any peak demand savings from new energy efficiency programs approved by the Council after 2016.[51] ENO decided it would not even measure the additional peak savings from Energy Smart Years 7–9 programs that the Council mandated ENO achieve and would keep ENO on track to meet the Council's 2 percent energy savings goal.[52] The Council adopted the Program Years 7–9 measures in April 2017, three months before ENO's amended gas plant application.[53] Failing to include the Years 7–9 programs was no slight omission, as they would double the current yearly rate of energy savings.[54]

ENO's refusal to model the Council's incremental energy efficiency programs apparently stems from ENO's opinion that the Council's goals are not "cost effective or achievable."[55] ENO's position is a misguided and inappropriate attempt to re-litigate the Council's recent energy efficiency proceeding. For one, ENO has been consistently wrong about energy efficiency. ENO's last two load forecasts have had to be revised downward substantially, in large

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[50] Cureington-6 SEC-11, SEC-12; Dec. 18, 2017 Tr. 187:2–4.

[51] See Dec. 18, 2017 Tr. 152:17–19.

[52] Dec. 18, 2017 Tr. 152:17–19; Rogers-2 at 10:3–5; *see* Cert. N.O. City Council Res. 17-176 at p.32 (Apr. 6, 2017).

[53] *Id.*

[54] Dec. 18, 2017 Tr. at 154:8–11, 158:19-159:2.

[55] Dec. 18, 2017 Tr. at 156:20–157:5 (Seth Cureington); *see* Dec. 20, 2017 Tr. 78:8–9 (Charles Rice).

part because ENO underestimated the declining use per customer due to energy efficiency and behind-the-meter solar.[56]

ENO's extreme skepticism of energy efficiency also is contrary to the outside analysis. ENO's own energy efficiency consultant, Navigant, projected that ENO can cost-effectively more than double its existing rate of energy savings, to 0.85% annually.[57] Moreover, according to the City, New Orleans is on track to meet the Council's 2 percent goal by 2024.[58] The City of New Orleans estimates that by 2030, ENO could exceed that goal and reach 3.3 percent annual energy savings, as part of the City's Climate Action strategy.[59] Nonetheless, ENO persistently doubts it has the ability to implement energy efficiency programs that will reduce peak load, leading it to over-forecast its capacity need.

Finally, ENO's forecast is misleading because it unrealistically projects that ENO customers will no longer install new rooftop solar panel systems after 2020. ENO actually projects that customer solar reductions to load at the time of peak would drop by [redacted].[60] In fact, behind-the-meter solar installations have and will continue to reduce ENO's customer demand at peak.[61]

ENO's claim of a complete and abrupt halt in new rooftop solar installations, and declining solar contributions to reducing peak load is convenient for ENO's case to build a new

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[56] Cureington-8 at 55:8; Cureington-6 at 8:17–19; Rogers-2 at 8:11–13.

[57] Cureington-6 at 37:2–5, 37:13–15, SEC-14 at 7; Fagan-2 at 16:2–12; Stanton-2 at 32:10–15.

[58] City of New Orleans, *Climate Action for a Resilient New Orleans*, p.30, https://www.nola.gov/nola/media/Climate-Action/Climate-Action-for-a-Resilient-New-Orleans.pdf.

[59] *Id.*

[60] Dec. 18, 2017 Tr. 235:24–236:4; 236:1–13; *see* ENO's Response to Advisors' RFI 7-3.

[61] Dec. 18, 2017 Tr. 241:22–242:1; 233:13–17; ENO's Response to Advisors' RFI 7-3; Fagan-2 at 12:20–13:4.

gas plant. But it is not realistic and goes against the trend of declining prices for installing residential and commercial solar and solar-plus-battery capacity despite the withdrawal of some tax incentives.[62] ENO failed to account for the risk that it could be wrong on rooftop solar, and did not analyze any scenario in which its customers would continue to install new rooftop solar after 2020.[63]

The Council should note that ENO's 2018 load forecast is to be released early this year.[64] Given the misleading and erroneous forecast ENO presented in this proceeding, the Council should examine the new load forecast before accepting ENO's assertions that extra capacity is needed.

But even under ENO's unrealistic forecast of its capacity position, the Company would only face a 99 MW capacity shortfall in 2026.[65] That need is manageable in the short run. In fact, the Company is managing it right now, prior to the expected operation dates of the new gas plants and solar capacity: in both 2018 and 2019, the Company will have [redacted] MW deficits.[66] Meanwhile, ENO is proposing to build a combustion turbine that is over two times as large as that 99 MW need, at 226 MW, or the 128-MW RICE units that are still considerably larger than ENO's claimed need in 2026. As ENO witness Seth Cureington conceded, ENO could operate at

[62] Station-2 at 17:1–19:6; Cureington-8, SEC -18 at 41 (NERC 2016 LTRA).

[63] Dec. 18, 2017 Tr. 242:11-24; 243:16–244:23.

[64] Dec. 18, 2017 Tr. 164:11–17.

[65] Cureington-6 SEC-11.

[66] Rogers-2 at 12 Figure 3.

a surplus [redacted], even if it installed only [redacted] MW of new capacity (equivalent to just [redacted] of the seven proposed RICE units).[67]

Rather than spend over $200 million to build a gas plants, ENO should meet any shortfall more cheaply with smaller resources, further investments in renewable energy or bulk battery storage, or with MISO capacity market purchases.

Simply put, within most of the foreseeable future, the evidence shows that ENO will have excess generating capacity. ENO has not made the case for a capacity need to build a new gas plant.

2. Building Either Gas Plant Will Expose New Orleans Residents and Businesses to Significant Financial Risk and Could Limit the Council's Options to Invest in Renewables or Energy Efficiency.

The evidence clearly shows that in the most likely scenarios, the ratepayer will pay significantly more than ENO claims for the surplus capacity created by a gas plant. ENO bets heavily on the assertion that it could recoup some of the gas plant's costs by selling excess power on MISO's capacity market. However, for this to happen prices will have to hit levels which have never been seen before in the history of that market.

ENO assumes that in 2022 the MISO market will reach equilibrium and prices will reach the "cost of new entry" (CONE) price, the cost to build a new power plant.[68] Prices would have to rise over **16,000 percent** from current levels by 2022[69] for ENO's projections to be realized.[70]

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[67] Dec. 18, 2017 Tr. 330:7–19; 334:12–15.

[68] *See* Cureington-6 at 5 Table 1; Rogers-2 at 31:1–9.

[69] In the 2017-18 MISO Planning Resource Auction, "CONE" was $92 per kW-yr, but the auction clearing price for capacity was just $0.55 per kW-yr. Rogers-2 at 33, Table 3.

[70] Cureington-6 SEC-12 at 8 (capacity price forecast); Rogers-2 at 35:10–36:3.

As ENO acknowledges, MISO capacity prices in Load Zone 9, which includes New Orleans, have never reached anywhere near CONE.[71] Nonetheless, ENO hypothesizes that because of the resulting increased capacity price, the CT would earn [redacted] from capacity market sales and the RICE unit would reap [redacted], to offset their $200-plus million capital costs.[72]

The evidence shows that the MISO capacity auction in Louisiana's Load Zone 9 has consistently generated a price close to zero.[73] The 2017/18 auction in Load Zone 9 produced the lowest price yet recorded, $0.55 per kW-year, only 1 percent of CONE.[74] Load Zone 9's prices have never risen above $6.00 per kW-year, or 7 percent of CONE.[75] Market fundamentals further point to prices remaining low, because of capacity surpluses in MISO.[76] MISO's 2017 survey of its system-wide capacity position showed a healthy surplus of at least 2.6 GW of committed capacity in 2021-22, and MISO has the potential to be long tens of gigawatts of capacity in out years, in substantial part due to enormous amounts of generating capacity coming online.[77] As witness Robert Fagan testified, after lengthy study of MISO's and Load Zone 9's resource adequacy, not only is there little risk of prices rising to CONE by 2022, but "[b]eyond 2022, the increasing trend of surplus capacity (both within Zone 9, and within all of MISO) would have to

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[71] Dec. 18, 2017 Tr. 205:7–206:13; *see* Rogers-2 at 33 Table 3.

[72] Cureington-6 at 5 Table 1.

[73] Rogers-2 at 33, Table 3.

[74] *Id.*; *see also* Fagan-2 at 25:14–26:2; 26:12–27:4.

[75] Rogers-2 at 33, Table 3.

[76] Fagan-2 at 4:4–5:9.

[77] Fagan-2 at 18:1-12, 19 Table 1, 20:7–13, RMF-2 at 9, 13. In Load Zone 9 alone, MISO projects a capacity surplus of 0.2-1.5 GW in 2022. Fagan-2 RMF-2 at 14–15.

reverse in order for capacity prices to rise to CONE. There is no evidence in ENO's application supporting such a reversal."[78]

The evidence plainly showed why MISO market prices have consistently remained extremely low. MISO's own Independent Market Monitor explains that MISO's capacity markets predictably have a vertical demand curve and a low price, because participating utilities are only penalized by MISO when they fail to meet their reserve requirement and are not rewarded for carrying excess capacity.[79] Once a utility secures enough capacity to avoid paying a deficiency penalty, "[t]he marginal cost of selling capacity for most units is close to zero."[80] As a result, "a vertical demand curve will predictably establish clearing prices close to zero (if supply is not withheld)."[81] In addition, the capacity market experiences relatively low demand, depressing prices, because most participating utilities tend to carry capacity surpluses.[82]

Critically, as the Independent Market Monitor observes, this structurally low price harms utility customers if their utility overbuilds capacity, because "under a vertical demand curve, the cost of the surplus must entirely be borne by the [utility's] retail customers because [utilities] will generally receive very little capacity revenue to offset the costs that they incurred to build the resources."[83]

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[78] Fagan-2 at 32:11–19.

[79] Cureington-8 SEC 15 at 15 (IMM report).

[80] *Id.*

[81] *Id.*

[82] Rogers-2 at 36:6–37:15.

[83] Cureington-8, SEC 15 at 16.

Advisor and Public Interest Intervenor witnesses testified that ratepayers would be at risk of exposure to low MISO capacity market prices.[84] If capacity prices remain low, New Orleans residents and businesses will pay more than ENO has projected for excess capacity. As Advisor witnesses point out, this risk is most pronounced with the combustion turbine.[85] But the RICE units also present a troubling level of capacity market risk. In the RICE case, ENO is counting on [redacted] in capacity sales at the CONE price to offset [redacted] percent of the units' cost.[86] Under the Advisors' revised capacity price assumption, however, the RICE units would only be able to make [redacted] in capacity market sales, leaving New Orleans customers to carry nearly the entire, $200-plus million cost of the plant.[87]

This risk of overpaying for ENO's gas plant is magnified, and poses a real social justice concern, given that New Orleanians' energy bills as a share of gross income are already third highest among the nation's major cities.[88] Thirty percent of ENO customers live at or below the poverty line,[89] and low-income households in New Orleans spend almost 10 percent of their income on energy.[90] New Orleanians, especially the most vulnerable New Orleanians, should not have to increase their energy burden even further to subsidize ENO's unnecessary gas plant capacity.

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[84] Stanton-2 at 21 Figure 8; Fagan-2 at 4:4–5:9; Rogers-2 at 33:7–11; 36:6–37:15.

[85] Rogers-2 at 31:1–9; Vumbaco-1 at 8:7–12.

[86] Cureington-6 at 5 Table 1.

[87] Rogers-2 at 44 Table 6.

[88] Stanton-2 at 11:13-14-1 & n.25.

[89] Dec. 20, 2017 Tr. at 86:2.

[90] Stanton-2 at 14:1 & n.25.

It is telling that while ENO is nearly unshakeable in its conviction that MISO capacity market prices will make the 16,000 percent leap from near-zero to CONE by 2022 and render the gas plants economical for ratepayers, ENO CEO Charles Rice testified clearly that ENO is *not* willing to hold ratepayers harmless if MISO prices do not make that implausible jump.[91] It is likewise telling that after closing Michoud Units 2 and 3 in 2016, ENO was willing to "plan to meet near-term peaking and reserve capacity and energy needs through MISO markets until NOPS is constructed."[92] Apparently, ENO only believes MISO capacity prices will skyrocket after its gas plant is built and the market risk shifts to ENO's customers.

A final risk to the Council and New Orleans' ratepayers in overbuilding gas capacity is that doing so will reduce the incentive to invest instead in new sources of renewable energy and demand-side management, key goals of the Council's and the City of New Orleans' strategies to address climate change by reducing energy sector greenhouse gas emissions.[93]

ENO witness Charles Long specified that if ENO builds the RICE units, there would not be a foreseeable need for additional generation, such as renewables, in ENO's system.[94] Likewise, Advisor witness Joseph Vumbaco confirmed that the capacity surplus from building the RICE plant or combustion turbine would reduce the need to build additional renewable

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[91] *See* Dec. 20, 2017 Tr. 83:15–84:1, 85:8–13 (Charles Rice); Dec. 18, 2017 Tr. 207:6–13; 211:20–212:10; 352:10–18 (Seth Cureington).

[92] Cureington-2 at 19:12–14.

[93] *See* Cert. N.O. Council Res. 17-303 (June 2017) (committing Council to "continue its efforts to mitigate carbon emissions through promoting and adopting achievable increased energy efficiency measures and use of alternative energy sources" as well as its "commitment to the principles of the Paris agreement"); City of New Orleans, *Climate Action for a Resilient New Orleans*, p.26, 28, *supra* (setting a goal for the City of 100 percent low-carbon electricity, and showing natural gas as second most carbon-intensive fuel source); Cert. N.O. Council Res. 17-428 (Aug. 2017) (committing to work with the Mayor on developing the strategies in the City's Climate Action Plan).

[94] Dec. 15, 2017 Tr. at 232:8–11.

energy.[95] If the City has a large capacity surplus, it may not have economic incentive to invest in additional demand-side management measures to further reduce load.

Not only is there no capacity need to justify building a new gas plant, doing so would put New Orleanians at the mercy of the capacity market to offset the costs of a capacity surplus and could limit otherwise cost-effective future investments in renewables and energy efficiency. The Council should reject ENO's gas plant as unneeded.

B. Whether ENO Has Demonstrated a Reliability Need

After ENO's revised load forecast provided further evidence that NOPS is not needed to meet system electricity needs, ENO shifted to a reliability justification for building gas-fired generation at NOPS. . The record demonstrates that gas-fired generation is not needed to meet reliability standards, and that neither NOPS alternative would mitigate reliability concerns *in any way* in the next two years. In fact, ENO's own data show that transmission upgrades, in combination with energy efficiency measures and solar generation, could resolve reliability violations more cheaply than either gas plant. ENO's reliability justification for NOPS is unsupported and its application should be denied.

1. ENO Has Failed to Demonstrate a Reliability Need for Its Preferred Gas-Burning Generation Alternative.

Citing ENO's decision to deactivate approximately 780 MW of "reliability must run" generation at Michoud,[96] and relying on load flow modeling performed to evaluate compliance

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[95] Dec. 21, 2017 Tr. at 93:13-22.

[96] *See* Movish-1 at 9:19-10:7 (noting that ENO had designated Michoud units 2 and 3 as "reliability must run" and that MISO had designated the units as necessary for "voltage and local reliability" because of

with North American Electric Reliability Corporation ("NERC") standards, ENO and the Advisors effectively assert that the New Orleans transmission system is currently unreliable and at near-constant risk of NERC violations and cascading outages.[97] ENO and the Advisors also note that the lack of local generation in the Downstream of Gyspy ("DSG") load pocket leaves the Company at risk of storm-related outages, and leaves the city without a source of dynamic reactive power for voltage control.[98] To address these reliability risks, ENO and the Advisors assert that the installation of a gas-fired, local resource is necessary to meet resource adequacy needs and protect against violations of NERC reliability standards.

The consequences of those reliability risks are overstated and unfounded for each of the reasons outlined below. First, ENO admits that it does not have any specific resource adequacy or transmission security need for a new gas generation unit, so long as it develops a plan to reinforce *five* transmission lines at a cost of approximately $57 million,[99] or, as discussed below, the Company meets NERC transmission standards with alternative reinforcements that it has, thus far, failed to evaluate. Second, the Company's reliability concerns are belied by its failure to seriously evaluate any *transmission* reliability or reactive power alternatives, the absence of any cascading outage events since the Company's deactivation of Michoud, and the fact that ENO's preferred alternative—the 226 MW CT—cannot provide black start support, and will not provide *any* reliability benefits for at least three years. Third, the Company has failed (or refused) to

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the transmission constrained nature of the DSG load pocket so as "to protect against the unplanned outage of external DSG generation and/or transmission, and to provide a local source of reactive power").

[97] *See* Dec. 21, 2017 Tr. 175:10-13 ("The nature of the P-6 contingency is such that it could occur no matter what or whatever is not installed in ENO's system relative to generating capacity.").

[98] Fagan-1 at 33 (quoting ENO Resp. to Advisors 8-6.d.iii).

[99] C. Long-2 at 10-11, Table 1.

provide the Council or the public with information necessary—and, in some instances, specifically requested by the Council—to make an informed decision about the reliability need for any gas generation.

a. ENO Admits that it does not have any specific resource adequacy or transmission security need for a new gas generation unit and could in fact resolve its reliability need with cheaper and less-polluting alternatives.

The record is clear that ENO does not actually have any specific reliability need for a new gas plant, as long as the Company develops a contingency plan that includes modest transmission improvements.[100] As Public Interest Intervenors' witnesses Mr. Luckow and Mr. Fagan explained, there are two categories of reliability requirements: (1) resource adequacy, and (2) transmission security needs.[101] Gas-fired generation is not necessary to address either need, as even ENO acknowledges.

First, as long as the transmission improvements are made, resource adequacy needs can be met by resources located within and outside of the load pocket, *without* construction of NOPS.[102] Notably, resource adequacy can be maintained through meeting MISO's Zone 9 capacity obligations, which do not include any requirement for additional generation in New Orleans.[103] Moreover, Nine Mile Station, which is directly across the Mississippi River and well within the DSG load pocket, can also serve as a source of local dynamic reactive power supply

[100] Fagan-1 at 33:13-16; Luckow-1 at 22:3-6.

[101] Luckow-1 at 21.

[102] *Id*. at 22:4-6 (citing ENO Resp. to SIE 2-9k).

[103] ENO Resp. to Advisors 8-6.d.

for voltage control.[104] And as Public Interest Intervenors' witness Mr. Lanzalotta explains, if needed, additional dynamic reactive supply could be installed in the form of Static Var Compensation ("SVC") or synchronous condensing devices easily and relatively quickly without having to install NOPS.[105]

Second, although ENO has conducted a series of "load flow" analyses indicating potential transmission security reliability issues under "low probability" events where multiple transmission circuits are overloaded,[106] the Company admits that transmission security standards do not specifically require ENO to install gas-fired capacity within New Orleans.[107] As an initial matter, it is important to note that, despite ENO's dire warnings about the impacts of NERC P6 contingencies, there have been no such events in New Orleans since the deactivation of Michoud, and the Company has not quantified the risk of any such contingency.[108] Moreover, despite the apparent risks of a NERC P6 contingency, the Company never warned the Council or the Advisors of any such risk prior to filing this docket. [109]

In any case, the Company's own study shows that it can address transmission security reliability issues as by reinforcing *five* transmission lines at a cost of approximately $57 million, or, as discussed below, alternative reinforcements. Additionally, as part of its Attachment Y

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[104] Fagan-1 at 33:18-20.

[105] *Id*. at 33-34; Lanzalotta-1 at 11-12 and Exs. PJL-5 and PJL-6. *See also* Dec. 21, 2017 Tr. at 6-9 (Mr. Movish: a static bar [*sic*] compensator, if it's called for and necessary on a utility system, can be a valuable contributor of reactive power in regulation.")

[106] Movish-1 at 13:21.

[107] Dec. 21, 2017 Tr. 159:23-25.

[108] Dec. 21, 2017 Tr. 160:1-3.

[109] Dec. 21, 2017 Tr. 88:19-24 ("Q. Prior to the start of this docket, which was, just for reference, June 2016, prior to that June 2016 date, did Entergy New Orleans ever reveal to you the possibility that New Orleans could suffer a P-6 contingency in 2019? A. No, I do not believe so.").

reliability study process for the retirement of the Michoud units, MISO evaluated NERC contingency requirements and concluded that generation is *not* required at Michoud to maintain reliability, so long as the transmission reinforcements that are already planned as part of the MISO Transmission Expansion Plan process continue to be implemented.[110] ENO admits the system will be NERC compliant with transmission upgrades,[111] and the Company does not dispute that those upgrades can, in fact, be constructed, even if it is unwilling to study how long it would take.[112] And there is no reliability standard that requires ENO to have local generation resources to provide black start services, or in preparation for restoration during extreme storm events.

b. The Company's failure to seriously evaluate any *transmission* reliability or non-fossil fuel generation and power alternatives, and its selection of an alternative that cannot provide black start support or *any* reliability benefits for at least three years, undermine the exigency of ENO's reliability concerns.

ENO and the Advisors effectively assert that without gas-fired generation, New Orleans could be subject to potentially catastrophic cascading outages, would lack "black start" capability for restarting the electric system after a storm or other major outage, and could face potentially prohibitive costs and logistical difficulties to make transmission upgrades. But those

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[110] *See* C. Long-2 at 14-15. During the Attachment Y reliability assessment for Michoud unit 3, MISO identified the failure of the circuit breaker at the Nine Mile 230 kV switchyard as a critical reliability risk. *Id*. To mitigate that risk and allow the retirement of Michoud, ENO has, for nearly three years, operated that circuit breaker in the open position to "prevent[] the disconnection of more transmission lines and more system overloads." *Id*. at 15:4-5. The continuous implementation of this transmission operating procedure over the last three years, (Dec. 15, 2017 Tr. 200:10-25), provides further indication that the Company can, in fact, continue to safeguarding the security of the transmission grid *without* the need for local generation at Michoud. *See also* C. Long-1 at Ex. CWL-5, p.11 (concluding that Michoud generation is not required to maintain reliability because of MISO transmission projects).

[111] ENO Resp. to Advisors 8-6d.

[112] ENO Resp. to Advisors 8-12d.

dire reliability concerns are belied by the Company's failure to seriously evaluate any transmission reliability or generation alternatives despite knowing of potential reliability issues since 2014, when the Company voluntarily—and with the approval of MISO—decided to deactivate the Michoud units without any firm replacement plan.

In fact, ENO knew of the risk associated with the deactivation of Michoud as early as 2014—nearly four years ago—but has refused to conduct a detailed analysis of specific transmission needs or generation alternatives that could avoid any purported reliability risk.[113] In fact, although the Company had conducted reliability assessments and was apparently aware of some reliability concerns in 2014, the record indicates that the Company never informed the Council or the Advisors of any reliability concerns prior to filing its application in this docket.[114] In essence, ENO failed to properly plan for the deactivation of the units at Michoud, failed to properly analyze the needs of the system, failed to inform the Council of any reliability issues, and then failed to fully evaluate alternatives to its preferred expensive option.

In any event, even if the Company could demonstrate a specific reliability need for *gas* generation (which it cannot), the Company has failed to evaluate the *minimum* amount of generation necessary—and thus, the minimum cost option for customers—to avoid any reliability concerns. While the Company now asserts that its alternative 128 MW RICE unit is the minimum amount of generation necessary to avoid NERC contingencies, the record demonstrates that any reliability risks could be effectively mitigated with as few as 70 MW of

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[113] Dec. 15, 2017 Tr. 179:22–180:21.

[114] *See* Dec. 21, 2017 Tr. 156:1-21 (Movish: earlier reliability assessments "came to my attention when it was provided in response to discovery in this case"); *see also* Dec. 15, 2017 Tr. 190:2-4 (C. Long: "I don't think we provided earlier shortfall assessments to the Council").

generation, meeting the Council's 2% DSM goals, and modest transmission reinforcements in 2027.[115]

Additionally, despite the Company's warnings of cascading outages, there has been no such event since the deactivation of the Michoud units. In fact, Company has not even attempted to quantify the admittedly "low probability" of NERC violations that could result in cascading outages. The Company's purportedly serious concerns about black start capability and system reliability ring especially hollow given that ENO's preferred alternative—the 226 MW CT—cannot provide black start support, and will not provide *any* reliability benefits for at least three years while it is being constructed.[116] Moreover, other than baldly asserting that a gas generator would provide storm-related benefits for New Orleans, the Company has failed to conduct any assessment of storm-related reliability risks or benefits of any particular option.

To this day, the Company still lacks this Council's approval and environmental permits required to even begin constructing a replacement unit. If these transmission reliability risks represented the sort of existential threat that ENO and the Advisors suggest they are, one would expect that a prudent utility would have developed a "Plan B" for addressing those critical risks, or, at the very least, would have conducted a detailed assessment of the feasibility, time, and costs of upgrading the five transmission lines necessary to mitigate any risk. But the Company

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[115] ENO's No NOPS—Solar Alternative would "mitigate" any transmission security risk. Movish-1 at 22:1-3; C. Long-2 at 22-23; Dec. 21, 2017 Tr. 188:10-16. That option includes 200 MW of solar PV installed at or near Michoud. And as Mr. Movish explains, using ENO's assumed 35 percent dispatch factor for solar, that alternative "effectively" assumes 70 MW of generation support at Michoud. Dec. 21, 2017 Tr. 187:19-188:16.

[116] Dec. 20, 2017 Tr. 91:17-22 (proposed CT option does not have black start capability); Dec. 15, 2017 Tr. 125:4-10 and 126:20-25 (noting that proposed NOPS RICE and CT units cannot be installed until 2020, and 2021, respectively, and as a "practical matter" cannot mitigate any of the modeled NERC violations until then).

failed to conduct any such analysis despite knowing of the risk for nearly four years. By its actions, it seems apparent that ENO only sees the reliability risks facing the City urgent to the extent they justify building a new gas plant.

c. The Company's failure to provide the Council or the public with critical information about the feasibility of alternatives is fatal to its claim that there is a reliability need for gas generation.

Even more troubling, while ENO effectively insists that the Council has no choice but to build a new gas resource to address transmission needs, the Company has failed (or refused) to provide the Council or the public with information necessary—and, in some instances, specifically requested by the Council—to make an informed decision about the need for gas generation. This failure directly contrasts the Council's admonishment in the show cause order that the CT decision "demands the maximum scrutiny possible in an open and transparent process."[117] It is well-established that a utility "does not meet its burden of proof" of demonstrating that a proposed generation investment is necessary to serve the public interest "by mere speculation, guesswork, hopes[,] or aspirations."[118] Instead, "a present *need* must be established"[119] as part of a "reasoned investigation of all relevant factors and alternatives" as they existed at the time the decision.[120]

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[117] R-16-263 at 7.

[118] *In the Matter of the Application of KCP&L Greater Missouri Operations Co. v. Missouri Pub. Serv. Comm'n*, 515 S.W. 3d 754, 760 (W.D. Mo. App. Ct. 2017).

[119] *Id*. (emphasis added).

[120] *Gulf States Utilities Co. v. Public Utility Com'n of Texas*, 841 S.W.2d 459, 476 (Tex.App. Austin,1992); *see also Gulf States v. Pub. Serv. Comm.*, 578 So.2d 71 (1991) (the utility bears the burden of establishing public convenience and necessity, which includes a showing that its proposal is "prudent"—*i.e.*, that the process leading to the decision was a logical and reasonable one, and that the utility conducted a reasoned evaluation of the alternatives and reasonably relied on information and planning techniques known or knowable at the time).

The Company failed to provide the Council with information necessary to determine whether new gas-fired generation is, in fact, necessary to maintain system reliability. And as a result, the Company's application fails meet its burden of proof. Indeed, the Company's assertions about system reliability, and in particular, the ability of transmission reinforcements and alternatives to meet any reliability needs, are impermissibly premised almost entirely on speculation and guesswork.[121] The Company failed, for example, to conduct a detailed evaluation of transmission alternatives, including available and off-the-shelf transmission reinforcements that could be installed within months, such as additional autotransformers to improve the flow of electricity from Nine Mile, Little Gypsy, and Waterford to the New Orleans system.[122] Although the Company makes the conclusory assertion that transmission upgrades will take too long, or are too difficult to implement, it admits that it failed to conduct any assessment of cost, feasibility, or the time necessary to make those upgrades.[123] As Advisor witness Joseph Vumbaco highlights, to allow the Council properly to assess the transmission alternative, ENO would first have to provide the Council with firm details or projections of the

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[121] C. Long-2 at 16:20-17:9 (asserting that the No NOPS alternatives present "significant constructability issues" but admitting that the Company "has not conducted detailed planning-level cost estimates for the transmission upgrades"); *see also* Dec. 21, 2017 Tr. 81: 21-82:18 (Mr. Lanzalotta concluding that the transmission option has not been "sufficiently studied," and recommending that a detailed study include a "physical inspection," study of the "operating history . . . what kind of outages the line has had, . . . the history of repairs and all on the line," none of which has been done.).

[122] *See, e.g.*, Dec. 15, 2017 Tr. 156:3-4; 157:7-11(C. Long acknowledging that a second autotransformer at Michoud "would allow more flow" between the 230 kV and 115 kV systems, but dismissing it out of hand, and without any analysis or study, because it is not a "constructable" upgrade).

[123] Dec. 21, 2017 Tr. 85:13-17 (Q. And ENO has not quantified those constructability risks that you reference there by assigning them a dollar value; is that correct? A. To my knowledge, they have not"); Dec. 21, 2017 Tr. 182:19-20 ("Q. And ENO did not provide any firm cost estimates for those upgrades? A. No."); Dec. 21, 2017 Tr. 182:5-9 (Q. ENO "did not attempt to document how many months exactly or any other interval it would take to conduct those reinforcements in 2027, did they? A. No, they did not.").

cost, timing, and reliability impacts of the proposal, that are simply lacking in this docket currently.[124]

Similarly, as explained in Section I.B.1 above, ENO failed even to evaluate the Council's existing energy efficiency programs' reductions to peak load requirements that would reduce the risk of reliability violations by lowering system stress. The Company also admits that it did not evaluate the feasibility of securing the ability to shed or curtail additional industrial load—an effective planning tool for mitigating transmission constraints during peak loading hours. Finally, the Company refused to conduct a thorough evaluation of whether some portfolio of additional solar generation, battery storage, DSM, reactive power support, or even smaller generating units could more cheaply and effectively mitigate any potential reliability concerns in the New Orleans area. [125] This is a critical shortcoming in the analysis because solar and batteries together can provide both dispatchable real power and reactive power support.[126] Nevertheless, ENO brushes aside those options, asserting that there is insufficient space available in East New Orleans to install sufficient solar capacity. But the Company admits that it did not even evaluate whether there was additional space available on commercial rooftops, or otherwise, that could be interconnected to Michoud.[127] Moreover, the Company conducted no analysis of the ability of

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[124] Vumbaco-1 at 7:1–8.

[125] Dec. 15, 2017 Tr. 216:9 (C. Long: "We did not explore batteries"); *id*. at 218:22-219:1 (C. Long: "we didn't look at batteries because it's not technically a feasible solution. But did we look at combination of that? No, we didn't, and the reason we would not is solar is intermittent."); Dec. 21, 2017 Tr. 85:13-17 ("Q. And ENO has not quantified those constructability risks that you reference there by assigning them a dollar value; is that correct? A. To my knowledge, they have not").

[126] Dec. 21, 2017 Tr. 193: 3-12 ("Q. A battery is a dispatchable resource, though, isn't it? A. It's dispatchable for a very short duration of time. Q. ENO didn't evaluate whether a peaking battery could mitigate some of the observed contingencies in the load flow analysis, did they? A. I've seen nothing submitted in this application relative to that.").

[127] Dec. 21, 2017 Tr. 192:16-24.

batteries to provide voltage support and dispatchable real power to help mitigate any reliability concerns, even though the Council specifically requested that the Company evaluate batteries as an alternative to installing new gas generation.[128]

In sum, the Company refused to provide a detailed evaluation of whether available and technically feasible alternatives to gas generation, such as transmission, could mitigate any transmission reliability concerns. As Mr. Fagan explained, a more aggressive schedule for energy efficiency resource implementation, increased installation of local (e.g., DSG, or New Orleans proper) solar PV, the installation of appropriate transmission reinforcements, and the appropriate sequencing of any required outage would reduce local peak loading on transmission, thereby having a material and beneficial effect on transmission reliability. Instead, based on speculation and conjecture, the Company asserted that none of the available alternatives to gas-fired generation can reliably mitigate transmission security concerns. Just as the Company failed to demonstrate a generation capacity need, the Company has also failed to demonstrate a specific transmission reliability need for either of the preferred gas options.

d. <u>ENO has failed in its responsibilities as the monopoly provider of service to the residents of New Orleans and failed to follow the directives of the City Council.</u>

The major conclusion that the Council should derive from this proceeding is that ENO has failed in its responsibility to provide reliable, least cost service to the residents of New Orleans. ENO failed to properly plan for the deactivation of the units at Michoud, failed to

[128] *See* SC-5 (requesting consideration of battery storage as an alternative to NOPS); Dec. 18, 2017 Tr. 177:5-9 ("Battery as an alternative to the gas-fired peaker rather than as a supplemental resource, that is, an addition to that? A. No.")

properly analyze the needs of the system, and failed to fully evaluate alternatives to its preferred expensive option. ENO now asks to be rewarded for those failures. The Council remains the only protection the residents of New Orleans have against abuses by a monopoly provider of an essential service and must demand better of its regulated utility.

A reasonably prudent utility will, among other things, operate its electric system consistent with good utility practice such that ratepayers have electricity available a high percentage of the time and will take preventative measures sufficient to avoid outages that are preventable at a reasonable cost.[129] In essence, a reasonably prudent utility uses good business judgment and common sense in order to avoid service interruptions. For example, a reasonably prudent utility promptly develops a plan to protect reliability upon evidence that circumstances may harm that reliability; evaluates necessary or desirable maintenance, repairs, replacements or investments in electric plant in developing the reliability improvement plan; and promptly implementing that reliability improvement plan.

ENO's behavior on the reliability issue raised in this proceeding was the polar opposite of the behavior that should be expected from a prudent utility. ENO's plan to close Michoud Units 2 and 3 and build a new gas plant apparently had been set in motion by 2014.[130] At this time, ENO had been conducting transmission system assessments, which suggested the need for system upgrades—such as transmission line upgrades or adding generation— in the event of Michoud Units 2 and 3 are decommissioned.[131] Apparently, these assessments were done

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[129]Robert Burns, Esq., Sr. Research Spec., The National Regulatory Research Institute, *Regulatory Policiesfor Electricity Outages: A Systems Approach*, at 2-4.

[130] *See* Dec. 15, 2017 Tr. 185:5–12 (Charles Long cross examination).

[131] *Id.*

internally. ESI's Transmission Planning provided that analysis to ENO[132] and recommended 250 MW of capacity at Michoud.[133] ENO witness Charles Long revealed that "all along," ENO concluded that it would not make the transmission line upgrades, even though they would resolve the reliability problems associated with decommissioning Michoud Units 2 and 3, but, instead ENO chose to add new generation.[134]

By 2016, the corrective action plan proposed to NERC was to replace some of the capacity that ENO lost with the deactivation of Michoud unit 2& 3.[135] After ENO concluded there was a need to replace some of Michoud capacity, this conclusion became part of the base case assumptions that ENO made from that point forward.[136]

ENO's decision to decommission Michoud Units 2 and 3 was made unilaterally. ENO never sought Council approval prior to closing Michoud Units 2 and 3, or informed the Council or its Advisors of any near-term, serious reliability risks attending the closure.[137] ENO's reliability concerns would have been news to the public and to the City Council and its Advisors, who, apparently, never learned that the closure of the old Michoud units posed an immediate

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[132] *Id. at* 186:10-11.

[133] *Id.* at 186:22-25 -187:1-4.

[134] *Id*. at 186:20–187:4.

[135] *Id.* at 185:16-21.

[136] *Id.* at 188:18-21.

[137] Dec. 21, 2017 Tr. 88:19-24; 89:6–7; 89:24-90:1; 90:11–20 (Vumbaco cross examination) (specifying, at December 20, 2017 hearing, that Advisors (and to Mr. Vumbaco's knowledge, the Council) had only been aware of the potential for a P6 contingency to occur by 2019 on ENO's system "within the last year" and, at any rate, never prior to the June 2016 commencement of the instant docket).

reliability risk until at the earliest late 2016, and only then after reviewing studies produced in this docket.[138] Michoud Units 2&3 were deactivated on June 1. 2016.

On June 20, 2016, ENO filed the application seeking authority to construct the 226 MW CT unit. Throughout this filing, ENO argued that the construction of CT was in the public interest because the Company has a long-term supply need for peaking/reserve capacity.[139] ENO's only mention of the Category P6 contingency was in one paragraph in Mr. Charles Long's Direct Testimony. Specifically, Mr. Charles Long asserted that without the CT a Category P6 event would result in cascading outages resulting in the loss of the electrical load served from twelve of the fourteen ENO substations operating at 115 kV; multiple transmission lines operating well in excess of their thermal capabilities (overloading); and the need to install additional reactive power resources to prevent voltage instability.[140] These few sentences, comprising half a page in a filing that consisted of hundreds of pages, constitute ENO's total discussion of the Category P6 issue. Clearly, not only were concerns about a Category P6 event NOT the justification for the CT, such a brief discussion in a voluminous document could not be intended to inform the Council of the nature of the concern.

In January 2017, six months after the filing of the CT application, ENO "received" a new load forecast which called into question its justification for the CT project. The Council should note that if the Category P6 reliability concern was the actual justification for the CT project, the new load forecast would have had no bearing on ENO's contention that the project should be

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[138] Dec. 21, 2017 Tr. 88:19-24; 89:6–7; 89:24-90:1; 90:11–20 (Vumbaco cross examination).

[139] See, e.g., Application for CT at 2.

[140] Direct Testimony of Charles Long at 7:7-15.

approved. ENO requested a stay of the proceeding to consider whether and how to move forward in light of this new load forecast.

On July 6, 2017, ENO filed its supplemental and amending application which for the first time raised the specter of a serious Category P6 concern that needed to be resolved either by the CT project or the newly proposed RICE units. Essentially, ENO never informed either the Council or the Advisors that a reliability problem existed prior to filing its second application.

Shockingly, ENO waited approximately **2 years** after the Company knew of the potential Category P6 problem to inform the Council of its reliability concerns. The Council, Advisors and interested stakeholders lost 2 years during which they would fully examine all the alternatives and begin instituting a solution for New Orleans, a solution that would not cost ratepayers over $200 million. ENO failed to use good business judgment and common sense. ENO's actions constitute a failure to plan and a failure to perform in a prudent manner. The Council should not reward ENO for its failure to implement a plan to correct any reliability concerns in a timely manner.

2. The "No NOPS" Alternatives Each Mitigate Any Potential NERC Violations at a Lower Cost Than NOPS and Provide Reliability Advantages Over ENO's Preferred Gas-Burning Options.

As discussed more fully below, the Company's own modeling analyses make clear that any long-term reliability risks can be mitigated more cheaply and effectively with a combination of energy efficiency measures, solar generation, and limited transmission upgrades. Similarly, the "No NOPS-Transmission" option—*i.e.*, the transmission upgrade only option—would indisputably mitigate *any* transmission reliability need for New Orleans at a fraction of the cost of a new peaking generation unit in East New Orleans, saving ratepayers approximately $150

million over the next decade.[141] Moreover, ENO's gas-burning options fail to provide any near-term reliability benefits and carry their own set of risks. The Council should direct ENO to provide the information necessary to fully consider a transmission alternative, along with DSM, solar and/or batteries.

a. A brief overview of ENO's transmission security modeling.

The North American Electric Reliability Corporation ("NERC"), which is subject to oversight by the Federal Energy Regulatory Commission, develops and enforces transmission reliability standards. Under those standards, utility system operators like ENO are required to prepare annual, forward-looking planning assessment analyzing the performance and reliability of the transmission system under a broad range of single and multiple contingency conditions. If the analysis identifies a transmission reliability violation, the utility is required to develop a "corrective action plan" designed to eliminate the violations and maintain reliability.

To evaluate ENO's compliance with NERC standards, ENO conducted a series of load flow analysis, covering the 2016 - 2025 period, and modeling the reliability of the ENO system under various assumptions relating to peak system load, available generation resources, and the existing transmission capabilities and configuration. As a general rule, the higher the peak system load, and the lower the available generation, transmission capability, or voltage support,

[141] In his July 2017 testimony, Charles Long identified five transmission line segments that would need to be reinforced under the No NOPS transmission only alternative, at a cost of approximately $57 million. C. Long-2 at 10-11, Table 1. In his November 2017 rebuttal, however, which corrects ENO's erroneous DSM inputs, the No NOPS—Transmission alternative requires only four transmission line reinforcements over the next decade, at a cost of approximately $44 million. *See* SC-2 at slide 20. In either case, the cost of the transmission only alternative is significantly less expensive than ENO's preferred $232 million CT option, or the $210 million RICE alternative.

the higher the likelihood of a transmission system overload that triggers a NERC violation. Conversely, the lower the peak system load, and the greater the generation, transmission capability, or voltage support, the less likelihood that the modeling will reflect a transmission constraint. In other words, by reducing load or increasing generation, transmission capability, or voltage support, the utility can reduce or eliminate transmission constraints, and thereby reduce the need for transmission reinforcement.

To evaluate compliance with NERC standards, ENO performed transmission system reliability modeling analyses for the 2019, 2022, 2024, and 2027 study years under various assumptions. Four basic alternatives were analyzed:

(1) No NOPS-Transmission Only: No NOPS, transmission upgrades, 2 percent Demand Side Management ("DSM") load reduction, and 100 MW solar generating facility at Michoud.

(2) No NOPS-Solar Plus: No NOPS, but with a 200 MW solar generating facility at Michoud and a 2 percent DSM load reduction;

(3) RICE Alternative: 110 MW gas generation unit as a proxy for ENO's proposed 128 MW RICE unit assumed to be installed 2019; with 2 percent DSM load reduction, and 100 MW solar generating facility at Michoud;

(4) CT Alternative: 226 MW gas combustion turbine assumed to be installed 2019; with 2 percent DSM load reduction, and 100 MW solar generating facility at Michoud.

It is important to note that all of the modeled alternatives included a 2 percent DSM load reduction and assumed the 100 MW solar generating facility at Michoud. The "No NOPS-Solar Plus" alternative included an additional 100 MW of solar at Michoud. ENO's transmission reliability analyses reflect ENO's revised load forecast (corrected to reflect lower load forecasts), a regional transmission topology which reflects all approved 2016 MISO Transmission Expansion Plan ("MTEP16") Appendix A and MTEP17 Target Appendix A transmission

projects throughout the MISO region, and the addition of a new 350 MW two-unit combustion turbine generation facility installed at the Washington Energy Center in 2024.

Moreover, in contrast to the Company's economic modeling assumptions which included a 50% capacity factor for solar, ENO's modeling assumed that solar would only achieve a 35% dispatch factor. In other words, the economic analysis assumes that a 100 MW solar PV facility would produce 50 MW on peak, whereas the Company's ENO's transmission reliability analyses assume that the same installed solar PV facility would only produce 35 MW on peak. This capacity mismatch creates a generation assumption that inaccurately decreases available real power, and therefore "inaccurately increases the stress level on ENO's transmission" system.[142]

Under ENO's assumptions, the load flow analyses for all alternatives reflected violations of the NERC Category P2.3 contingency, which is a single contingency internal breaker fault. The load flow analyses for the No NOPS and RICE alternatives also reflected violations of the NERC Category P6 contingencies, which is a multiple contingency initiated by the loss of a transmission circuit, transformer, shunt device, or single pole of a DC line, followed by system adjustments, followed by the loss of an additional transmission circuit or transformer. While the occurrence of a P6 contingency in the real world is a "low probability event,"[143] ENO's modeling indicated that the contingency would sever the connection between ENO's 230 kV and

[142] Movish-1 at 16:7-9. As explained by Advisor witness Prep, ENO's July 2017 modeling failed to correctly account for the effect of ENO's percent DSM goal. As a result, the transmission reliability analyses reflected a load that is approximately 33 MW too high by 2027. Like the solar capacity mismatch, ENO's erroneous load assumptions reflected an inaccurately increased stress on the transmission system. ENO corrected the erroneous load assumptions in its November 2017 modeling, which did reduce loading on the transmission system.

[143] Movish-1 at 13:21.

115 kV transmission networks at two "important" transformer locations,[144] essentially eliminating the ability of the 230kV transmission system to deliver power from large generation like Nine Mile, Little Gypsy, and Waterford to ENO customers on the 115 kV network.[145] As a result of the severed connection between the two systems, the 115 kV network would suffer cascading voltage collapse.

As a result of these contingencies, under NERC transmission reliability standards, ENO is required to develop a corrective action plan to insure the future transmission reliability of ENO's system. ENO's preferred corrective action plan to address those NERC violations entails the construction of either a $232 million 226 MW gas CT or a $210 million 128 MW gas-powered RICE unit at Michoud.

b. Any long-term reliability risks can be mitigated more cheaply and effectively with a combination of energy efficiency measures, solar generation, or limited transmission upgrades.

Although ENO would prefer to install a gas-fired generation resource to address "low probability"[146] NERC reliability risks, the Company's own data make clear that any transmission reliability risks can be mitigated more cheaply and effectively with a combination of energy efficiency measures, solar generation, or limited transmission upgrades. As an initial matter, the "No NOPS" option—*i.e.*, the transmission only option—would indisputably mitigate *any* transmission reliability need for New Orleans at a fraction of the cost of a new peaking generation unit in East New Orleans. Indeed, ENO admits that making transmission

[144] Dec. 21, 2017 Tr. 165:12-22.

[145] *Id*. at 165:20-166:2.

[146] Movish-1 at 13:21.

reinforcements to just five transmission line segments would mitigate *all* the reliability-based system constraints over the next ten years without building new generation.[147] These transmission upgrades are estimated to cost at the highest estimate, $57.3 million,[148] which compares favorably to the cost of the NOPS 226 MW CT at $232 million, or the cost of the alternate RICE peaker at $210 million.[149]

Alternatively, the "No NOPS—Solar" scenario is virtually identical to the Company's 128 MW RICE option in terms of mitigating potential reliability risks, and is also less expensive than either of the Company's proposed NOPS alternatives under almost every scenario.[150] As a result of already "planned transmission upgrades that are expected to be in-service by 2020" under MISO's MTEP transmission planning, both the "No NOPS—Solar Plus DSM" and RICE alternatives are equally "effective in preventing cascading outages in the New Orleans area" until 2027, when both options require identical upgrades to the *same* two 230 kV transmission lines at the same projected cost of approximately $23 million.[151]

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[147] C. Long-2 at 10-11; ENO Resp. to Advisors 8-6.d. This is just the highest estimate. In reality, as explained in footnote 141, the Company's latest modeling shows that ENO would only need to upgrade *four* transmission lines at a cost of approximately $44.3 million to mitigate all reliability risk over the decade.

[148] C. Long-2 at 10-11, Table 1; Ex. CWL-6 at page 5 of 17.

[149] Under ENO's comparison of levelized real supply costs for different alternatives, "No NOPS—Transmission" alternative is [redacted] less costly than ENO's 128 MW RICE option and [redacted] lower cost than the 226 MW CT under ENO's "reduced capacity price" sensitivity. Fagan-1 at 10.

[150] *See* ENO Resp. to Advisors 14-1 (Errata) (Figures 4 and 5 demonstrating that the fixed and variable costs of the No NOPS solar scenario are less expensive than the 128 MW RICE option under all planning assumptions, and comparable or less expensive than the 226 MW CT under all scenarios).

[151] C. Long-2 , Ex. CWL-6, p.14 of 17. For a comparison of the transmission upgrades required under the No NOPS-Solar and RICE alternatives, *compare* C. Long-2 at Ex. CWL-6, p.8 of 17 (under the RICE proxy scenario, requiring reinforcement of Almonaster and Southport segments in 2027 with a cost of approximately $23.2 million) *with* p.15 of 17 (requiring upgrade of same segments at same cost under the No NOPS-Solar alternative).

With respect to the transmission upgrades required under the RICE alternative, the Company notes that because the "overloading in 2027 is relatively marginal and occurs approximately ten years in the future, the Company would propose to wait to determine if any transmission upgrades are necessary once [the RICE unit] is constructed."[152] Given that the reliability constraints are virtually identical under both options, there is no reason the Company cannot also further evaluate transmission upgrades under the No NOPS—Solar Plus DSM alternative.

Contrary to the Company's repeated suggestions, the Council has options for addressing any reliability risks. Indeed, ENO's own analysis demonstrates that those risks can be fully mitigated with a combination of energy efficiency measures, solar generation, and limited transmission upgrades, and at a fraction of the cost of a new peaking generation unit in East New Orleans.

c. <u>The Company's arguments against the transmission and renewable energy alternatives are unfounded, and the Council should direct ENO to provide the information necessary to fully consider those options.</u>

ENO and the Advisors assert that the No NOPS alternatives are infeasible. In particular, they repeatedly insist that there are "significant constructability" issues[153] that will make the transmission-reinforcement alternative too difficult, too expensive, and too time consuming to mitigate urgent reliability risks. They similarly assert that it is "extremely unlikely" that the Company could obtain sufficient land in close proximity to Michoud to install 200 or even 100 MW of solar capacity, or that it can achieve the Council's 2 percent DSM goals.

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[152] C. Long-2 at 11:12-14.

[153] *Id*. at 1:20-21.

But as discussed above, these conclusory assertions have no record support. The Company admits that it can, in fact, install the required transmission upgrades by "mid-2021,"[154] in sufficient time to mitigate the reliability risks identified in the load flow modeling. Moreover, ENO reported "robust" proposals to build up to 325 MW of solar capacity.[155] Similarly, the Council has projected that at ENO's current rate of energy efficiency savings, the Company will meet the Council's 2% DSM goal by 2024.[156]

In any event, ENO failed to conduct a detailed evaluation of transmission alternatives, failed to perform any of the detailed design and scoping work necessary to provide the timetable required to construct any of the transmission reinforcements purportedly necessary to maintain reliability, and failed to conduct any assessment of cost or the time necessary to make those upgrades.[157] ENO similarly failed to evaluate the Council's existing energy efficiency programs or other DSM opportunities, such as additional industrial load shedding alternatives, which could reduce peak load requirements and reduce the risk of reliability violations. Nor did the Company conduct any evaluation of the availability of additional solar generation. Without this critical information, there is no basis for the Council to reject either of the No NOPS alternatives.

d. ENO's NOPS proposal has its own set of reliability risks.

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[154] *See* Movish-1 at 28:9-10 (citing ENO Resp. to Advisors 12-4a).

[155] SC-6 at 8.

[156] City of New Orleans, *Climate Action for a Resilient New Orleans*, p.30, https://www.nola.gov/nola/media/Climate-Action/Climate-Action-for-a-Resilient-New-Orleans.pdf.

[157] Movish-1 at 28:17-29; ENO response to Advisors 12-4a; Dec. 21, 2017 Tr. 85:13-17; 182:19-20; Dec. 21, 2017 Tr. 182:5-9.

ENO not only makes several unsupported arguments regarding the feasibility of the "No NOPS" alternatives, but the Company ignores serious reliability concerns that cannot be mitigated by either of the Company's proposed centralized gas-powered generation units. First, neither of the proposed generation units can be placed in service until 2020, at the earliest, and therefore cannot possibly provide any reliability benefits for at least two years.[158] Moreover, ENO's preferred alternative—the larger 226 MW CT—will not be placed in service until 2021, at the earliest, and thus cannot serve to mitigate any reliability concerns for the next three years.

Second, the Company hypothesizes, that if the transmission system suffers major damage during a hurricane, having generation located at Michoud would enable the Company to restart service and supply local loads more quickly. This argument, however, ignores the fact that a hurricane strong enough to produce major damage to the transmission system also poses the threat of significant damage to any generating units.[159] Moreover, ENO proposes to construct the NOPS generator in a high-risk flood hazard area that has been impacted by several hurricanes. Yet, the Company has failed to evaluate or model the risk that a hurricane could damage the proposed NOPS generation unit.[160] Given the Michoud location's vulnerability to coastal flooding, ENO's proposal to address reliability concerns with a single large CT, especially one sited in an area subject to routine hurricane events, flooding, and subsidence only places the area at further risk of reliability constraints.

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[158] Dec. 15, 2017 Tr. 126:20-25.

[159] Lanzalotta-1 at 7-8.

[160] Dec. 15, 2017 Tr. at 204:18–25 (Charles Long) ("We don't model hurricanes.").

3. There Are Numerous Pathways to Maintaining and Supporting Transmission System Reliability While Renewable Energy and Transmission Alternatives Are Implemented.

The record demonstrates that there are numerous available pathways to effectively and quickly mitigate any transmission reliability concerns while longer-term solutions are put into place, including: (1) continued reliance on resources both within and outside of the DSG load pocket (and outside of New Orleans); (2) ongoing MISO South transmission reinforcement projects; (3) additional off-the-shelf transmission reinforcements; (4) installation of additional reactive power; (5) the evaluation and implementation of a combination of options, such as additional steps to reduce peak load, solar PV, and dispatchable battery storage options. Indeed, several of these options already are contributing to reduce system peak loads on ENO's system, thereby directly mitigating any reliability risk.

a. Resources both within and outside of the DSG load pocket (and outside of New Orleans) will continue to ensure resource adequacy until alternative resources are fully deployed.

Although ENO effectively insists that the Council has no choice but to build new generation in East New Orleans, the record is clear that existing resources both within and outside of the DSG load pocket (and outside of New Orleans) are sufficient to meet existing *resource adequacy* needs. Indeed, ENO has acknowledged that with the continued operation of the three large units at Nine Mile Station directly across the river from New Orleans, MISO resource adequacy needs can be maintained through meeting MISO Zone 9 capacity obligations, which do not include any reliability requirement for New Orleans generation.[161] That the most-

[161] Resp. to Advisors 8-6.d.

recent MISO Planning Reserve Auction cleared at extremely low prices in the ENO Zone 9 and all other zones in MISO[162] suggests that there is ample capacity to maintain resource adequacy in the New Orleans area. ENO has the authority to ensure that Nine Mile Station, Little Gypsy, and Waterford remain operational, and none of those resources are subject to any planned deactivation. With the continued operation of those units, and given the surplus capacity in MISO, gas-fired generation is simply not necessary to meet resource adequacy requirements. That ENO has sufficient capacity to maintain resource adequacy is critical because it indicates that existing resources, like Nine Mile Station, provide ENO with additional flexibility and time to develop and implement alternative generation or transmission reinforcements that may be needed in East New Orleans.

b. Transmission reinforcements are already being constructed and implemented, and are currently contributing to improved transmission system security in the DSG area.

Although ENO asserts that "constructability" issues and outage risks disqualify the No NOPS alternatives, numerous MISO South transmission reinforcement projects are already improving transmission system security in ENO's service territory and will provide ENO with additional time and flexibility to evaluate and implement any additional transmission reinforcements that may be necessary. According to MISO, the following reinforcements are already underway, contributing to improved transmission reliability in the DSG load pocket, and can been seen directly on the Company's transmission map:[163]

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[162] Fagan-1 at 4:13.

[163] *See* SC-8 (ENO transmission map, bottom right-hand corner within the "DSG" labeled load pocket area) (CEII).

1. Avenue C to Paris Tap 115 kV; Reconductor Line[164]
2. Gypsy to Claytonia 115 kV: Reconductor Line
3. Almonaster to Midtown 230 kV: Reconductor Line
4. Snakefarm 230-115 kV: Add second autotransformer
5. Jefferson Parish Area Reliability Plan Phase I (new 230 kV substation and increase of 650 MW capability into the DSG load pocket from the Waterford area)
6. Gulf Outlet 115 kV: Add capacitor bank
7. Cullichia 230 kV: New Substation
8. J396-Snakefarm to Labarre 230 kV Upgrade station
9. Nine Mile to Westwego and Harvey, 115 kV Reconductor Line[165]

Note that numbers 1 through 6, 8, and 9 are all within or around New Orleans and the immediate areas of concern regarding transmission security violations expressed in Mr. Long's testimonies. These transmission upgrades are separate from the transmission upgrades Mr. Long concludes would be necessary under the No NOPS alternative.[166]

As a result of these ongoing MISO transmission projects, ENO's updated July 2017 power flow analyses reflect a reduction in the number of transmission reinforcements required—from eight lines in 2016 to five lines in July 2017.[167] In fact, ENO's July 2017 load flow analysis demonstrates that under the No NOPS alternative, and including those ongoing MISO projects and with ENO's 2017 revised load forecast, the transmission "overloads range from

[164] Notably, this proposed project is one of the critical transmission projects that ENO asserts will be required under the "No NOPS" scenario. *See* SC-2 at Slide 20 (identifying specific transmission upgrades that would have to be constructed under the "No NOPS" resource category P6 contingency analysis); see also C. Long-2 at 11 (asserting that Avenue C line would have to be upgraded by 2021 under "No NOPS" alternative). In other words, ongoing MISO transmission reinforcements directly mitigate some of the transmission reliability concerns identified by Mr. Long in his load flow analysis.

[165] *See* Fagan-1 at 37; Ex. RMF-4 to Fagan 1 (MISO 2017 MTEP Appendix D1 South, page 28 and MISO 2016 MTEP Appendix D1 South, page 23).

[166] *See* C. Long-2 at 11, Table 1.

[167] C. Long-2 at 9-11.

approximately 121% in 2019 to 102% in 2022"[168]—a nearly 20% decrease in transmission line loading. And as ENO's modeling makes clear, "the inclusion of these [MISO] projects accounts for the reduced overloads in the study years after 2019."[169] Notably, when ENO again revised its load forecast in November 2017, to correct the erroneous DSM input identified by Advisor witness Prep, the extent of the transmission overloads was reduced even further, with only four transmission segment reinforcements now required to mitigate any transmission reliability risk.[170] Thus, ENO's own analyses demonstrate that ongoing MISO transmission projects and decreasing load are already working to improve transmission security on the ENO system. This not only reduces the likelihood of critical transmission contingencies and cascading outages, but it provides ENO with additional operational flexibility to appropriately sequence any outages that may be still be required to make necessary transmission reinforcements, if any.

ENO admits that the MISO transmission projects that are coming online will help reduce load, and therefore improve reliability, but the Company insists that those transmission projects are one of the "smallest" factors in the improved load flow modeling results.[171] But this claim is belied by the record. As noted, Mr. Long's own load flow analysis explicitly attributes improved reliability to those MISO transmission projects.[172] Moreover, ENO's load forecasts for 2019 and

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[168] C. Long-2 at Ex. CWL-6, p.3 of 17.

[169] SC-1 at slide 10; *see also* C. Long-2 at Ex. CWL-6, p.3 of 17 n.1 ("Planned transmission upgrades help reduce the overload").

[170] *Compare* C. Long-2 at 11, Table 1 and Ex. CWL-6, p.5 of 17 (July 2017 analysis identifying five transmission segments needing reinforcement under No NOPS alternative) *with* SC-2 at slide 20 (November 2017 analysis identifying only four lines needing reinforcement over the next decade under the No NOPS alternative).

[171] Dec. 15, 2017 Tr. 148:15.

[172] SC-1 at slide 10; *see also* C. Long-2 at Ex. CWL-6, p.3 of 17 n.1 ("Planned transmission upgrades help reduce the overload").

2022 are virtually identical, indicating that any improvement in reliability is not attributable to changes in load.[173] Additionally, under the No NOPS—Solar and No NOPS—Transmission scenarios, ENO's modeling assumes that any solar generation would be installed in 2019,[174] making clear that the any improvement in transmission reliability also cannot be attributed solely to additional solar generation. Instead, under the No NOPS alternatives, the only variables that change are the addition of MISO transmission improvements coming online in 2020 and ENO's corrections to the DSM forecast. And as discussed, these two variables result in a nearly 20% decrease in transmission overloading from 2019 to 2022, under the No NOPS scenario. This significant improvement in the modeling indicates that ongoing MISO transmission upgrades are not only materially improving transmission reliability in New Orleans, and thereby decreasing the likelihood of cascading outages, but that those transmission improvements will provide ENO with additional flexibility and time to schedule any outages that may be required to address remaining transmission risks or explore additional alternatives, like increased DSM, that can mitigate any remaining reliability risk.

c. <u>There are alternative transmission reinforcements that are readily available and can be implemented within months.</u>

The record also demonstrates that ENO failed to seriously consider additional transmission reinforcement options that could improve system reliability without requiring new

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[173] [redacted] *See* Cureington-6 at Ex. SEC-11. Thus, for the NO NOPS alternatives, the improvement in reliability from 2019 to 2022 cannot be primarily attributed to reduced load from DSM initiatives.

[174] *See, e.g.*, SC-1, slides 8, 9, and 11 [redacted]

rights of way or extended outages to supplement or repair transmission lines, are cost-effective, and can be installed within a short period of time. As noted above, ENO's transmission reliability modeling indicated that two critical NERC P6 contingencies would sever the connection between ENO's 230 kV and 115 kV transmission networks [redacted][175]—[redacted][176]—essentially eliminating the ability of the 230kV transmission system to deliver power from large generation like Nine Mile, Little Gypsy, and Waterford to ENO customers on the 115 kV network.[177] Both of those substations [redacted]. Thus, when the two systems are "severed" at those autotransformers during a P6 contingency, there is not a functioning autotransformer "integrating" or allowing "flow" between the 230 kV and 115 kV systems.[178]

ENO admitted that a second transformer at either location would "allow more flow between the 230 and 115 systems"[179] and provide helpful transmission reliability benefits. Indeed, ENO plans to install a second autotransformer at another critical substation to improve reliability.[180] The record demonstrates that such reinforcements can be completed more quickly than installing new generation, and more cost effectively.[181] Yet ENO failed to seriously evaluate

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[175] Dec. 21, 2017 Tr. 165:12-22.

[176] *See, e.g.*, SC-1 at slide 4 [redacted]

[177] Dec. 21, 2017 Tr. 165:20-166:2; Movish-1 at 13:22-14:4.

[178] *See* SC-8; Dec. 17, 2017 Tr. 156:8-9; Dec. 21, 2017 Tr. 166:3-5.

[179] Dec. 15, 2017 Tr. 155:23-156:4.

[180] *See* Fagan-1 at Ex. RMF-4 (MISO MTEP17 Appendix D1 page 34, "Second 230/115 kV Transformer at Snakefarm 230 kV substation").

[181] *Id.* at 34 (describing installation of a second 230/115 kV transformer at the Snakefarm substation to improve system reliability at estimated cost $7.5 million, and an in-service date of December 1, 2019.)

the installation of a second autotransformer at either of those locations to help mitigate any transmission reliability risks.

Just as ENO failed to provide any support for its assertion that there are significant constructability issues with upgrading transmission lines, Mr. Long provides no support for his conclusory assertion that it would be "extraordinarily" difficult to install a [redacted] substations.[182] As an initial matter, both of the [redacted] are owned by ENO, so the purported obstacles to obtaining rights of way or upgrading miles of transmission lines do not exist with the autotransformer option. Moreover, there is nothing in the record to indicate space constraints at those locations. Finally, the fact that ENO was able to secure the outages required to install a second transformer at the Snake Farm substation indicates that it would be feasible to install similar transmission reinforcements at the two substations most susceptible to critical NERC contingencies. In any case, the critical point is that the Company failed to seriously examine a readily available transmission alternative that is cost-effective and could improve system reliability, and could effectively provide ENO with additional time and flexibility to make additional transmission improvements, if necessary.

d. Reactive power can be timely deployed and has significant operational benefits.

As discussed, both the No NOPS (i.e., transmission plus 2% DSM) and the 200 MW solar plus DSM options mitigate near-term local reliability needs, including voltage concerns, just as effectively as ENO's RICE option.[183] As Mr. Fagan explains, the Nine Mile Station,

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[182] Dec. 15, 2017 Tr. 157:11-14.

[183] Lanzalotta-1 at 11:10-13.

which is directly across the Mississippi River and well within the DSG load pocket, currently serves as a source of local dynamic reactive supply.[184] To the extent that additional voltage stability is a concern, however, reactive power options such as Static Var Compensators or synchronous condensers that can supply significant amounts of reactive power and are considered a "valuable" transmission asset.[185]

Moreover, reactive power alternatives have straightforward deployment process, are cost-effective, and can be installed very quickly—*i.e.*, within a matter of months. In its transmission reliability analysis, ENO failed to evaluate dynamic voltage support options,[186] but it is widely accepted that such alternatives provide additional operational flexibility. As explained by Witness Lanzalotta, dynamic reactive power support options like Static Var Compensation, are the preferred tool for dynamic reactive power support in high voltage transmission grids due to its inherent capability for high-speed response to voltage depressions, and its ability to quickly supply inductive loads, such as air conditioning compressors, elevator drives, and industrial motors.[187]

e. Additional steps to reduce peak load and implement additional solar PV and dispatchable battery storage options are available.

In addition to ongoing MISO transmission reinforcements and other readily available upgrades, ENO can take more aggressive steps to both reduce peak load on its system through additional DSM measures and increase installation of local solar PV and battery options.

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[184] Fagan-1 at 33:18-20.

[185] Dec. 21, 2017 Tr. 198:8.

[186] *Id*. 198:15-20.

[187] Lanzalotta-1 at 11-12.

Coupled with the use of existing within-DSG generation (such as the three major units at the Nine Mile station) and ongoing transmission upgrades, a portfolio of energy efficiency measures, solar PV, and batteries can provide improve transmission security, help mitigate outage scheduling difficulties, provide dispatchable real power and reactive support.

First, as ENO admits, additional DSM can help lower system loading and thus help mitigate transmission security risks.[188] And reflected in ENO's November 2017 load flow analysis, which "corrected DSM assumptions" and "properly account for the 2% DSM goal,"[189] the inclusion of additional DSM can materially reduce stress on system. Indeed, applying just that 2% DSM correction, ENO's update load flow modeling for the No NOPS, transmission-only alternative shows a reduction in the number of transmission reinforcements needed, from five lines in the July 2017 analysis to four lines in the November 2017 analysis.[190] This change reduces the cost of the No NOPS transmission alternative by approximately $12 million. With a price tag of $43 million, the transmission-only alternative is *approximately 80 percent cheaper* for New Orleans than the cost of the $232 million CT or the $210 million RICE units.

The Company's conclusory assertion that additional DSM is infeasible is belied by the fact that the Company did not actually conduct any analysis of additional opportunities for DSM load reductions,[191] including the potential for securing additional industrial load shedding or curtailment contracts—an acceptable, NERC-compliant way to deal with transmission reliability

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[188] Dec. 15, 2017 Tr. 143:1-10.

[189] C. Long-3 at 42:12-15.

[190] *Compare* C. Long-2 at 10-11, Table 1 and CWL-6 at p.5 of 17 (July 2017 analysis showing that five lines need reinforcement under No NOPS transmission only) *with* SC-2 at slide 20 (November 2017 analysis showing [redacted]).

[191] Dec. 15, 2017 Tr. 150:7-9.

risks. Indeed, ENO's NERC contingency plan currently assumes the ability to shed approximately 16 to 20 MW of industrial load. Advisor witness Movish points out that the Company can deal with transmission reliability risks in the short term by shedding another 20 to 20 MW of firm load. The Company refused to study—and fails to explain—why it cannot secure additional curtailable load. ENO's claims about the feasibility of reducing load through energy efficiency are similarly unsupported. In fact, those arguments are contradicted by ENO's own energy efficiency consultant,[192] and the City of New Orleans' determination that the Company could actually achieve 3.3% annual energy savings.[193]

Second, ENO also admits that the installation of additional solar resources, interconnected at Michoud, can improve system reliability.[194] But again, the Company failed to study whether additional solar resources, including siting solar PV on commercial rooftops, is possible. Contrary to ENO's pessimism, the Company's request for proposal ("RFP') suggests that local additional solar resources are, in fact, available. Indeed, ENO represented to this Council that there was "robust" participation in the Company's 2016 renewables RFP process, with 17 conforming proposals representing approximately 325 MW of potential solar PV capacity.[195] These proposals demonstrate that "renewable resources were available that could

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[192] *See* Cureington-6 at 37:2–5, 37:13–15, Ex. SEC-14 at 7; Fagan-2 at 16:2–12; Stanton-2 at 32:10–15.

[193] City of New Orleans, *Climate Action for a Resilient New Orleans*, p.30, https://www.nola.gov/nola/media/Climate-Action/Climate-Action-for-a-Resilient-New-Orleans.pdf.

[194] Dec. 15, 2017 Tr. 151:11-12.

[195] SC-6 at 8.

provide cost-effective supply, fuel diversity benefits, and other potential benefits to ENO's customers."[196]

Finally, ENO criticizes the transmission benefits of additional solar capacity because solar is "not a dispatchable resource," and thus cannot provide operational benefits. But the Company again failed to evaluate the potential transmission benefits of additional solar resources coupled with battery storage, which is a dispatchable resource, can provide numerous system benefits, and can be installed within a matter of months. Remarkably, despite the Council's explicit request that ENO evaluate battery storage alternatives to fossil resources,[197] the Company failed to even consider the possibility that battery storage coupled with renewable resource could provide transmission benefits during peak load, which generally occurs over period of hours.[198] Even more astonishing, the Advisors' and ENO's utility system transmission experts, who have each been working in the industry for decades, each professed to have absolutely no knowledge of whether batteries could provide reliability benefits, or whether other utilities across the country have installed solar and battery arrays to mitigate transmission reliability issues.[199] In any event, as Mr. Luckow explained, utilities across the country are

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[196] *Id*. at 6. As explained in ENO's Renewables RFP, the evaluation process was designed "to result in the selection of one or more proposals that meet the RFP's requirements and ENOI's needs at the lowest reasonable cost, taking into account reliability, risk, and other relevant factors." *Id*. at Ex. SEC-3, p.37.

[197] *See* SC-5 (requesting consideration of battery storage as an alternative to NOPS); Dec. 18, 2017 Tr. 177:5-9 ("Battery as an alternative to the gas-fired peaker rather than as a supplemental resource, that is, an addition to that? A. No.").

[198] Dec. 15, 2017 Tr. 218:22.

[199] *See* Dec. 21, 2017 Tr. 193-96. As experts charged with planning and evaluating utility system needs it simply defies belief that neither ENO's nor the Advisors' experts have any knowledge of the transmission system benefits associated with battery storage.

actively seeking and procuring battery storage alternatives in lieu of other peaking resources to satisfy local capacity and reliability requirements.[200]

In sum, the record makes clear that lower-cost means of securing resources and transmission reinforcements necessary to meet resource adequacy and maintain reliability are already available, and in many cases already being implemented. ENO's application does not sufficiently address, through careful system reliability modeling, the combinations of resources and transmission upgrades that can mitigate any transmission reliability far more cost-effectively than expensive gas generation. As Mr. Fagan explains, optimal levels of energy efficiency, increases in utility-scale or smaller-scale solar PV, and potentially increases in demand response and even battery storage resources all contribute to lowering peak load, thereby easing transmission outage scheduling concerns, and even reducing or eliminating some of the NERC requirements for transmission reinforcement.

The Council should deny ENO's gas-fired NOPS proposals, and direct the Company to evaluate all available transmission reinforcements at Michoud, obtain current specific estimates for costs for any transmission upgrades, as well as increased levels of solar PV and other distributed resources such as demand response and battery storage, and should direct ENO to deploy a combination of increased energy efficiency, DSM, solar, battery resources, and potential transmission upgrades to help mitigate any reliability risk.

4. ENO's Remaining "Reliability" Arguments for NOPS Are Illusory.

[200] *See* Luckow-1 at 25:20-26:2 and materials cited in n.32 (discussing competitive procurement of storage alternatives to satisfy reliability needs).

ENO and the Advisors rely on two additional reliability benefits in support of the Company's proposal to build a new gas-fired generation: (1) the potential to provide power to the Sewerage & Water Board of New Orleans' ("S&WB") Carrolton pumping plant, in the event of an islanding event, and (2) storm restoration and "black start" capability to assist in returning service to customers as quickly as possible after extreme storm events or outages.[201] The Council should reject these speculative arguments, as ENO and Advisor witnesses have not supplied any evidence demonstrating that these purported benefits will be realized.[202]

a. <u>There is no evidence in the record that the gas plant will be able to provide power to the Sewerage & Water Board of New Orleans' ("S&WB") Carrolton pumping plant.</u>

In response to the Company's supplemental case, Advisor witness Phillip Movish testified that fossil-fuel generation located at Michoud could "potentially" provide power to the Sewerage & Water Board of New Orleans' ("S&WB") Carrolton pumping plant in the event that the S&WB's generating capacity is impaired.[203] As an initial matter, there is no evidence that S&WB has even asked ENO to provide backup power for Carrolton with a new power plant, and it is unclear where Mr. Movish obtained the idea to inject the distinct, ongoing crisis at the S&WB into this proceeding when there was no longer the chance for any intervenor to respond with testimony.

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[201] *See, e.g.*, Dec. 15, 2017 Tr. 204:25 (C. Long: "We don't model hurricanes"); C. Long-3 at 44–45(describing that the Company had only done a "preliminary assessment" of serving S&WB); Movish-1 at 8-9, 45 (noting that providing support to the S&WB is possible, "subject to further study').

[202] *In the Matter of the Application of KCP&L Greater Missouri Operations Co. v. Missouri Pub. Serv. Comm'n*, 515 S.W. 3d 754, 760 (W.D. Mo. App. Ct. 2017) (holding that that a utility seeking approval for a particular investment "does not meet its burden of proof by mere speculation, guesswork, hopes[,] or aspirations," and instead that "a present *need* must be established.").

[203] Movish-1 at 8-9, 45.

Secondly, Mr. Movish noted that ENO has not demonstrated that this potential benefit exists and discussed the type of analyses that ENO would have to perform to make such showing. As Mr. Movish explained in testimony, to verify the feasibility of utilizing NOPS to support operation of the S&WB, ENO would have to identify a suitable "cranking path," perform load flow, and steady-state and transient stability studies, develop an operating guide and switching plan, as well as develop a plan to coordinate operations with the S&WB.[204] In rebuttal testimony, ENO Witness Charles Long discussed this purported benefit of ENO's proposal for the first time and represented that the Company conducted a preliminary analysis of the viability of providing power to Carrolton. But ENO's cursory discussion of a preliminary analysis – an analysis that was not actually provided in the record in this case – does not come close to demonstrating any benefit related to powering S&WB's Carrolton pumping station.[205] Neither ENO nor the Advisors have established that proposed gas generation can be used to supply power to S&WB. As such, the Council should disregard this purported benefit of ENO's proposal.

To the extent ENO does need to provide power to S&WB (which, again, has not been established), ENO fails to explain why the Company's Nine Mile power plant, which is directly across the river from Carrolton, cannot provide generation support for the facility. Nor did ENO evaluate whether any less expensive alternative, such as installing a substation at Carrolton, could serve S&WB load more cheaply and reliably than the gas plant. Moreover, given that

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[204] Movish-1 at 5.

[205] Dec. 21, 2017 Tr. 199:19-200:8; 214:1-23. While Mr. Movish asserts that the Council should consider the benefits of potentially powering S&WB, he admitted that he has not reviewed ENO's preliminary analyses and cannot say whether it is correct or sufficient to demonstrate that the proposed NOPS unit could provide power to the S&WB. *Id*. at 214:21-23.

S&WB recently installed its own quick-start emergency generator, it is not clear that the facility even has a need for black start capability from ENO.[206] Finally, it is worth noting that this purported benefit of building NOPS does not apply to the Company's preferred alternative—the 226 CT—as it lacks black start capability to supply power if the transmission grid is down. The Council should disregard the claim that the new gas plant would support the S&WB's operations. It has not been demonstrated on this record and therefore cannot be considered a benefit of ENO's proposal.

b. Any storm-restoration benefits are speculative and unsupported by the record, and any "black start" concerns are belied by ENO's continued preference for the 226 MW CT.

ENO asserts that a local gas generating unit can help provide electric service restoration after events such as hurricanes.[207] The Company hypothesizes that, if the transmission system suffers major damage during a hurricane, generation located at NOPS would enable ENO to supply local loads more quickly. But the Company never conducted any modeling to determine how a gas plant, or any alternatives to a gas plant, would support the City's recovery from a major storm.[208] ENO provided no evidence that a new plant at Michoud would be helpful, or

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[206] *See* Louisiana Dep't of Envtl. Quality, Regulatory Permit for Emergency Engines, Sewerage & Water Board of New Orleans—Carrollton Water Plant, New Orleans (AI 5673) (Permit No. PER20130001; Doc. No. 8822089) (final permit issued May 2, 2013), *available at* http://edms.deq.louisiana.gov/app/doc/view.aspx?doc=8822089&ob=yes&child=yes. The Council may take judicial notice of the operating permit for the S&WB facility, which constitutes a final agency rule or action that has been duly published and promulgated in the Louisiana Register. La. Code of Evidence, Article 202. Alternatively, the fact that the S&WB has a final Louisiana Department of Environmental Quality permit authorizing the operation of a quick start emergency generator is a fact that is known and capable of accurate confirmation by resort to sources whose accuracy cannot reasonably be questioned. La. Code of Evidence, Article 201.

[207] C. Long-1 at 13:7-9.

[208] Dec. 15, 2017 Tr. 204:25 (C. Long: "We don't model hurricanes").

even available, during the next hurricane event. ENO's conclusory assertions that its proposal is best suited to handling hurricane response are simply not supported by any evidence and should be disregarded.

In touting the storm restoration benefits of gas-fired generation as compared to transmission upgrades, ENO ignores the fact that a hurricane strong enough to produce major damage to the transmission system also poses a significant threat to any local generating units. Indeed, this is precisely what happened at Michoud during Hurricane Katrina. The now-deactivated Michoud units each suffered significant physical damage. Michoud unit 1 was so badly damaged that it was never repaired; and it took approximately 16 weeks and $10.7 million to repair Michoud units 2 and 3.[209]

Hurricane Gustav provides another example undermining the Company's assertion that generation is needed at Michoud to deal with storm impacts. Hurricane Gustav caused extensive damage to the distribution system, resulting in and islanding of the DSG area and requiring ENO to take the Michoud units offline.[210] Despite lacking any generation Michoud, there was still sufficient generation, primarily from Nine Mile Station across the river, to power the DSG load pocket, which the Company acknowledges mitigated against widespread outages.[211] In other words, even though there was generation still located at the Michoud site during Gustav, it could not provide storm support for the load pocket. The ability of generation outside the load pocket to serve New Orleans when the Michoud units went down during Hurricane Gustav undermines the

[209] Lanzalotta-1 at 8:6-10 (citing Exhibit PJL-8, ENO response to AAE 8-12).

[210] Dec. 21, 2017 Tr. 211:14-24; Lanzalotta-1 at 8:11-18.

[211] ENO Resp. to SIE 5-1(b); Lanzalotta-1, Ex. PJL-9.

Company's assertion that it needs generation at that same location is necessary to mitigate against widespread system outages during a storm.

In any event, even if the proposed gas plants could operate following the storm, on their own, they could only supply enough power to serve a small part of ENO's normal load.[212] Moreover, the ability of a gas-burning generation unit to provide power to the city after a storm necessarily depends on the availability of natural gas supply[213]—by no means a given as we enter an era of extreme weather events. A solar installation, by contrast, is not subject to the availability of fuel.

And while ENO pays lip service to the "black start" capability of the RICE unit, it continues to argue that the more expensive, 226 MW CT that lacks black start is the "best option" for ENO customers.[214] If the Company truly needed improved black start capability, it would not tell the Council it should approve a unit that does not have black start. Similarly, even though the Company currently lacks a local black-start unit, the Company maintains that its existing procedures are "certainly robust and sufficient to provide power to the Company's customers if a complete loss of electric power supply were to occur . . . . ."[215] As ENO's latter statement appears to concede, the Company not only must, but is, relying on existing generation to ensure service in the face of widespread storm outages. If it performs further upgrades to its

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[212] *See* Cureington-6 SEC-12 at 7(showing ENO's load forecast in 2020, the year the RICE unit would be installed, to be [redacted] MW, of which the RICE unit, the only one with blackstart, could only supply [redacted] while operating at full capacity).

[213] Dec. 15, 2017 Tr. 205:14-19

[214] ENO Am. and Supp. Application at 14, 16; Rice-3 at 7:7-12.

[215] C. Long-2 at 28:19-21.

transmission lines, rather than deferring those upgrades to build a gas plant, it can also improve the system's ability to respond to outages and storm events.[216]

In sum, ENO's arguments about the storm-related and black start benefits of gas-burning generation are speculative, and do not support approval of a $200-plus million gas plant.[217]

II. Issue II: Whether Either of ENO's Choices of Technologies Is in the Public Interest

Neither ENO's proposed RICE units nor the CT would serve the public interest. As explained above, ENO has not satisfied its burden to show either a capacity or a reliability need that the gas plants are suited to meet. In addition, either gas plant would pose higher financial costs and greater risk of environmental and health harm to New Orleanians than any of the alternatives. ENO failed to abide by the Council's orders to properly evaluate alternatives to the gas plants that could meet the City's need at lesser cost and with a lower risk of harm. The Council should therefore reject ENO's application as contrary to the public interest.

A. Issues II.A and II.B: Whether ENO's Selection of a CT or RICE Unit Is in the Public Interest

1. The Council's Resolutions and the Public Interest Standard Require Consideration of a Broad Range of Cost, Environmental, and Public Health Considerations.

In its resolution and order considering the 2015 final integrated resource plan of ENO, the Council resolved that, in determining whether NOPS is in the Public Interest, "all issues related to ENO's NOPS CT proposal should be fully vetted in Council Docket No. UD-16-02

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[216] Lanzalotta-1 at 10:5-13.

[217] *KCP&L*, 515 S.W. 3d at 760 (a utility "does not meet its burden of proof by mere speculation, guesswork, hopes[,] or aspirations.").

including, but not limited to the need for a CT, size, timing, environmental concerns, social justice, cost, transmission, and reliability considerations."[218] The Council's comprehensive definition of the public interest is consistent with City Code Sec. 158-782, which provides, in reference to approving a utility resource plan, that "the City Council shall determine which combinations of resource options passing the screening test best serve the public interest considering economics, safety, reliability, flexibility, risk, equity among ratepayers and classes, customer bills, externalities and other factors as may be determined appropriate by the City Council."[219] The Council's definition is also consistent with that of other regulatory bodies that require consideration of public policy interests and social interests such as environmental effects and environmental justice.[220]

Given all of the factors identified by the Council, the evidence shows that ENO has not met its burden in proving that NOPS is in the public interest of New Orleans citizens. The Company has not proven a capacity need nor a reliability need for the CT or Alternative Peaker, as described in Section I above. The gas plants are not the least-cost alternatives and, in fact, would cost ratepayers more than transmission and solar-powered solutions. Moreover, ENO

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[218] R-17-100, docket No. UD-08-02.

[219] City Code of New Orleans § 158-782.

[220] See *Clean Wisconsin v Public Service Commission of Wisconsin, ,* 2005 WL 93 at ¶ 69, 282 Wis. 2d 250, 320-21 (quoting Wis. Stat. § 196.491(3)(d), which states that "the design and location or route is in the public interest considering alternative sources of supply, alternative locations, or routes, individual hardships, engineering, economic safety, reliability and environmental factors…"); *see also Grand Canyon Trust v. Arizona Corp. Com'n*, 210 Ariz. 30, 35 (2005) ("according to its plain terms, ARS 40-360.07(B) requires the Commission upon a challenge to a decision of the siting committee concerning a CEC, to 'balance, in the broad public interest, the need for an adequate, economical and reliable supply of electric power with the desire to minimize the effect thereof on the environment and the ecology of this state."); *see also Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591, 610 (1944) (federal public interest provisions "plainly designed to protect the consumer interest against exploitation at the hands of private natural gas companies.").

failed to adequately assess the impacts constructing a gas-fired plant on the environment. These impacts include increased air pollution, subsidence or flooding. Similarly, ENO failed to adequately assess the impacts on the predominantly African American and Vietnamese communities near the Michoud site. Further, the Company failed to reasonably consider alternative sites for the gas plant as ordered by the Council. Considering all of these failures, the Council should deny the Company's application to construct NOPS.

2. Neither of ENO's Gas Plants Is in the Public Interest Because Neither Is the Least-Cost Resource to Meet New Orleans' Need.

As the Advisor witnesses conclude, upgrading New Orleans' transmission lines and installing utility-scale solar, instead, would be the "economically preferred alternative."[221] Moreover, the transmission and solar alternative to a gas plant, "compares favorably under a significant range of capacity market price forecasts,"[222] indicating that it would provide the best hedge against the risk to ratepayers from MISO capacity price fluctuations outlined in Section I.A.2 above.

ENO's case for the combustion turbine or the RICE units on an economic basis, as described in Section I.A.2, *supra*, rests heavily on MISO capacity market prices approaching CONE, allowing New Orleans ratepayers to offset the relatively high construction costs of the plants with capacity sales revenues.[223] But as explained at length above, ENO's assumption of a **16,000 percent increase** in the MISO capacity market price by 2022 is unlikely to occur and is

[221] Rogers-2 at 3:1–5, 45:4–11, 50:4–11; Vumbaco-1 at 7:13–8:5.

[222] Rogers-2 at 45:10–11.

[223] Cureington-6 at 5 Table 1; Rogers-2 at 31:1–9.

unreasonable.[224] Rather, there is substantial likelihood that the capacity price will remain low.[225] In that event, as Advisor Witness Joseph Rogers describes, the "No NOPS" transmission-upgrades option plus 100 MW of new solar (Case 2), or the "No NOPS," 200-MW of new solar option with transmission upgrades not necessary until approximately 2027 (Case 4A), would be the least cost alternatives.[226]

In fact, it's not even close. Case 2 would beat a gas plant by as much as [redacted], while Case 4A would beat the gas plant by as much as [redacted].[227] The difference in cost would also translate into a difference in the average bill for New Orleans customers.[228] For example, the impact on the average, monthly residential customer electric bill in the No-NOPS Case 2 would be approximately 75 percent less than in the case of either of the gas plants (Cases 1 or 1G).[229]

While the Advisors argue that the cost savings for the transmission plus solar is modest and, on balance, should be overcome by the other collateral benefits of the RICE units,[230] this argument ignores the many detrimental effects of installing the RICE units. As discussed elsewhere in this brief, these detrimental effects include air pollution, increased risk of subsidence and flooding, adverse impacts on the solar and energy efficiency markets caused by over-supply of generation. Moreover, as discussed below, ENO failed to establish that placing

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[224]Stanton-2 at 21 Figure 8; Fagan-2 at 4:4–5:9; Rogers-2 at 33:7–11; 36:6–37:15; Cureington-8 SEC 15 at 15 (IMM report).

[225] Cureington-8 SEC 15 at 15.

[226] Rogers-2 at 43:9–12.

[227] Rogers-2 at 44 Tables 6–7.

[228] Watson-2 at 21 Table 7.

[229] *Id.*

[230] Rogers-2 at 45.

the RICE units in a high-risk flood hazard area would have any beneficial impact on storm resiliency. Finally, this modest difference in cost will not have a modest effect on low and moderate income residents, who already have difficulty paying for electricity service.

The Council should reject both gas plants as not in the public interest, because neither is the least-cost resource to meet New Orleans' need.

3. ENO's Proposed Combustion Turbine and RICE Units Are Not in the Public Interest As Each Employs Polluting Technologies That Would Place Significant Environmental Burdens on Predominantly People of Color and Poor Communities.

Racial discrimination is certainly not in the public interest and is prohibited by federal laws and standards that govern our city as well as ordinances and resolutions to protect civil rights and promote equity, sustainability, and resilience in New Orleans.[231] In Resolution R-17-100, the City Council o furthers this legal framework by establishing that all issues related to ENO's application for the proposed New Orleans Power Station shall be vetted in this proceeding, including environmental concerns and social justice, among other issues.[232]

As discussed below, ENO's application is contrary to the public interest served by this legal framework. In this regard, the application reflects the sentiment expressed by ENO's President and CEO, Charles L. Rice, Jr., on cross-examination: "it's really not that much of a concern" that the proposed power plant would operate in close proximity to a predominantly African American and Vietnamese American neighborhood.[233]

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[231] U.S. Constitution, Fourteenth Amendment; Convention on the Elimination of All Forms of Racial Discrimination; Title VI of the Civil Rights Act of 1964 and the U.S. Environmental Protection Agency's implementation regulations at 40 CFR Part 7; City Code of New Orleans §§ 78-140 and 86-1 *et seq.*

[232] *See* Council Res. R-17-100.

[233] Dec. 20, 2017 Tr. 94: 7- 95:25.

Each of ENO's proposed gas-burning generation options would create racially disproportionate environmental burdens on predominantly African American and Vietnamese neighborhoods in New Orleans East. Each would annually release significant amounts of air pollution near homes and schools. And the Company's preferred CT unit option would also create significant flood risks that can impact the same surrounding neighborhoods which have yet to fully recover from the levee failure during Hurricane Katrina.

Public Interest Intervenors' expert witness, Dr. Beverly Wright, analyzed the 1950 US Census data, which indicates a plan to operate the Michoud power plant (now decommissioned) in a remote location in New Orleans East that was away from neighborhoods.[234] At that time, New Orleans East was mostly undeveloped with a sparse population of approximately 8,000 people.[235] The 2010 US Census data reflect the population growth in New Orleans East, which is now home to approximately 64,000 people. New Orleans East is a people-of-color community, where 84% of residents are African American and 8% are Vietnamese American.[236] And the population of New Orleans East has grown with residential developments extending to a distance that is less than one mile from the Michoud site boundary.

ENO has not presented any evidence in this docket of an effort to mitigate the impact of permitted pollution on nearby residents who are predominantly African American and Vietnamese American. The record shows that, even when it was required to do so by the Louisiana Department of Environmental Quality, the Company did not conduct an assessment of

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[234] Wright-1 at 13:7-15.

[235] *Id*. at 13:11-15.

[236] *Id*. at 13:16-14:1.

the environmental impact of operating a power plant in close geographic proximity to a residential community. Instead, ENO provided a false statement in its 2004 Environmental Assessment Statement that there are no homes or schools in the vicinity of the Michoud site.[237] For years, ENO has operated the Michoud power plant in complete disregard of its racially disproportionate environmental burdens on predominantly African-American and Vietnamese-American residents.

In its application to the City Council, ENO does not examine, or even consider, the racially-disproportionate environmental burdens of operating a power plant in close geographic proximity to predominantly African-American and Vietnamese-American neighborhoods.[238] Instead, the Company simply asserts that "no people live within a one mile radius of the *center* of the Michoud site."[239] The only way to reach that conclusion, however, is to assume that a substantial part of this one-mile radius is the Michoud site itself, not the surrounding properties that include homes. ENO carefully avoids either starting the one-mile radius from the perimeter of the Michoud site, which would include the residential area discussed in Dr. Wright's Direct Testimony,[240] or even following the standard three-mile radius typically used for environmental justice analysis of polluting facilities that are nearby populations.[241]

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[237] Wright-2 at 7-8 and Ex. 1.

[238] Dec. 18, 2017, Tr. at p.95:line 9 –p. 99:line 9 (Cross-examination of Jonathan E. Long).

[239] Higgins-2 at 10-11 and BMH-1 (Emphasis added).

[240] Wright-1 at 14 -15.

[241] In the *EJ Screening Report for the Clean Power Plan*, which is discussed in the Direct Testimony of Dr. Beverly Wright, Ph.D., Wright-1 at 22:6-12, the US Environmental Protection Agency explains on page 10 that its analysis of power plants and nearby populations is based on a "3 mile study area/buffer" typically used in environmental justice literature and studies.

ENO estimates that its preferred gas plant option, the combustion turbine, would annually release 2,135,760 pounds (1,067.88 tons) of air pollutants.[242] ENO also estimates that the alternative RICE units would annually release 886,340 pounds (443.17 tons) of air pollutants.[243] These pollution estimates by ENO have not been confirmed by the Louisiana Department of Environmental Quality.[244] ENO's pollution estimates do not include the amounts of sulfuric acid mist that would be released into the air[245] or the types and amounts of toxins that would be discharged as water pollution. It is important to note that, notwithstanding these limitations, ENO's pollution estimates demonstrate that ambient air quality will worsen with the RICE units' annual release of approximately 1,000,0000 pounds of air pollution or the CT unit's annual release of more than 2,000,000 pounds of air pollution.

Although the City Council directed ENO to address "the air quality effects of the proposed New Orleans Power Station,"[246] ENO failed to do so. The Council's directive implicitly recognizes that a proposed ENO gas plant would require permits to release air pollution that would, in turn, have an effect on air quality. Instead of following the Council's directive, ENO argues that the proposed gas plant would meet the requirements for obtaining air permits. Leaving aside whether or not ENO can meet these requirements, doing so would cause air quality to worsen. Across Louisiana, the effects of poor air quality arise from permitted air pollution. In fact, ENO's expert witness, Bliss Higgins, a former employee at the Louisiana

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[242] Higgins-1 at 18, Table 1.

[243] *Id.* at 19, Table 2.

[244] *Id.* at 18-19, n.2 and 3.

[245] *See id.*at 18, n.2 (noting ENO permit application to the Louisiana Department of Environmental Quality, which includes an application for an Acid Rain Permit).

[246] City Council of New Orleans, Res. R-16-506.

Department of Environmental Quality, acknowledged her previous approvals of air permits issued to major industrial facilities operating in Louisiana's infamous Cancer Alley.[247]

One effect of air pollution is cancer. However, ENO's expert witness, stated that she had no experience with compiling evidence or studies of cancer risk related to air pollution.[248] Other effects of air pollution are impaired function of the respiratory and cardiovascular systems. Public Interest Intervenors' expert witness, Dr. George Thurston, a noted expert on the health effects of air pollution,[249] is the only witness to assess the health effects of ENO's proposed gas plants' air pollution. He concludes that with regard to either the CT unit or the RICE units:

> [T]he proposed facility will add to the existing levels of $PM_{2.5}$ [fine particulate matter] in the vicinity of the plant, and, because no threshold of air pollution effects has yet been found, any incremental $PM_{2.5}$ exposures add an incremental adverse health risk to nearby residents from power plant air pollution. Thus, any action that increases the ambient concentration of $PM_{2.5}$ in this area will have an adverse impact on human health in the exposed population. . . . I therefore conclude that, to the extent that the proposed facility will emit additional levels of $PM_{2.5}$, it will cause an increase in the risk of adverse health effects among those who breathe that pollution, and especially for those who live within the most affected areas immediately surrounding the plant.[250]

Dr. Thurston's testimony on the health effects of permitted air pollution released by power plants lays bare the reality, which is recognized by Louisiana courts, that "a regulatory standard and a guarantee of safety are not synonymous."[251]

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[247] Dec. 19, 2017 Tr. 64: 2-5 (Cross-Examination of Bliss M. Higgins).

[248] *Id.* at 69:17-18.

[249] Dr. George Thurston is a Professor at the New York University School of Medicine in the Department of Environmental Medicine, where he is the Director of the Program on Human Exposure and Health Effects of Air Pollution. *See generally* Thurston-2.

[250] Thurston-2 at 8.

[251] *Johnson v. Orleans Parish School Board*, 975 So.2d 678, 711 (La. App. 4th Cir. 2008).

ENO's proposed gas plant options—the CT unit and the RICE units—each employ technologies that would create racially disproportionate environmental burdens on predominantly African-American and Vietnamese-American neighborhoods in New Orleans East. ENO has failed to assess these effects, even though it was required to do so by Council Resolution R-16-506. Instead of addressing the air quality effects of the proposed technologies, ENO attempts to misdirect the City Council with the argument that these technologies will comply with air permits, which have not been issued by the Louisiana Department of Environmental Quality. In sum, ENO presents the City Council with a woefully inadequate application that impermissibly omits the assessment of the significant environmental burdens that are racially disproportionate and not in the public interest.

4. ENO's Preferred CT technology Would Continue Groundwater Withdrawals, Adding to the Risk of Continued Subsidence.

Water and subsidence management issues are some of the most important this city faces. "These issues are challenging to get right even under the best of circumstances given the multiple flood threats the area faces (rainfall, storm surge, river floods) and the notoriously poor quality of many of the soils the city is built on."[252]

ENO's preferred CT technology would use groundwater. This is a concern as the City Council is aware of the scientific report by NASA Jet Propulsion Laboratory and university researchers that found adverse impacts from groundwater withdrawals for the operation of the Michoud power plant, before it was decommissioned in 2016. According to the NASA report, the groundwater withdrawals on the Michoud site caused accelerated land subsidence and

[252] Kolker-2 at 2:6-10.

correlated with the impaired flood control infrastructure that breached during Hurricane Katrina.[253] In light of this NASA report, the City Council directed ENO to address "groundwater withdrawal and subsidence at the Michoud site and surrounding area."[254]

While ENO does not refute the findings and conclusion of the NASA report, ENO does assert that the CT would cause only a minimal drawdown of the water levels in the Gonzales-New Orleans aquifer coupled with the trend of rising water levels in the Gonzales-New Orleans aquifer and thus the operation of the CT will not exacerbate subsidence in New Orleans East.[255] However, this conclusion ignores that the ground in New Orleans is naturally prone to subsidence and any human-driven action that causes subsidence will intensify something that is already known to be problematic.[256] Furthermore, while natural processes fluctuate wetting and drying throughout the year, the CT could be operating up to 365 days per year, meaning that it could reduce natural recharge, and intensify natural subsidence.[257] Moreover, Public Interest Intervenors' expert witness, Dr. Alexander Kolker, noted that a withdrawal rate of 96 gallons per minute would result in 504,907,538 gallons in a 10-year period and that the question of what happens to the void space left behind after this water is withdrawn remains unanswered.[258]

Dr. Alexander Kolker also identifies the correlation between ENO's groundwater withdrawals at the Michoud site and impaired flood control infrastructure protecting nearby

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[253] Wright-2 at 18, n.10 (findings and conclusions in the NASA subsidence report).

[254] City Council of New Orleans, Resolution R-16-506.

[255] Dec. 19, 2017 Tr. 8:5-14 (Losonsky Testimony).

[256] Dec. 20, 2017 Tr. 3:18-19 (Kolker Testimony).

[257] *Id.* at 3:20-22.

[258] *Id.* at 2-6.

communities as a serious issue that warrants independent engineering analysis.[259] ENO's application and the testimonies provided on behalf of the Company do not directly address the effect of groundwater withdrawal – which would continue with the preferred CT unit – on land subsidence that is very close to newly strengthened flood control infrastructure. However, the Southeast Louisiana Flood Protection Authority-East, a governmental agency with responsibility for the maintenance of this infrastructure, has voiced concern over flood control infrastructure being impaired as a result of continued groundwater withdrawals by ENO's preferred CT unit..[260] Given the massive losses that New Orleans has suffered with levee failure during Hurricane Katrina, it would not serve the public interest to ignore this governmental agency's concerns. Furthermore, it would not serve the public interest to approve ENO's application given the flood risks associated with groundwater withdrawals for its proposed gas plant operations.

5. Neither of ENO's Gas Plants is in the Public Interest, as Either Would Increase the Emission of Harmful Air Pollutants in New Orleans East.

The air pollutants the gas plants would emit include particulate matter (both $PM_{2.5}$ and PM_{10}); sulfur dioxide ("SO_2"); nitrogen oxides ("NO_x"); carbon monoxide ("CO"); Greenhouse

[259] Kolker-2 at 1:12-19.

[260] Southeast Louisiana Flood Protection Authority-East, Meeting Minutes, Dec. 15, 2016, p. 9, *available at* https://www.floodauthority.org/wp-content/uploads/minutes/2016%2012%2015%20-%20Board%20Meeting%20minutes.pdf. The City Council may take notice of the official minutes of the Dec. 15, 2016 meeting of the Southeast Louisiana Flood Protection Authority-East, which are relevant to this public interest determination. *See Dingle v.Bioport*, 270 F. Supp.2d 968, 972 (W.D. Mich. 2003) ("Public records and government documents are generally considered 'not to be subject to reasonable dispute'").

Gases[261] ("GHGs"); and volatile organic compounds[262] ("VOCs"). For decades into the future, operation of either proposed gas plant will increase the level of harmful pollutants emitted in New Orleans East communities, and the Council should reject the gas plants as contrary to the public interest in a safe and healthy New Orleans, particularly given ENO's failure to review other reasonable alternatives.

ENO's witnesses downplayed the harmful effects of these pollutants, including the sharp increase in PM pollution from present levels. ENO's argument is that the air emissions from the new plant will not be as bad as the emissions from the previous, now non-existent plant, and that this net reduction in emissions is sufficient to meet minimum Clean Air Act ("CAA") permitting requirements.[263] This amounts to a paradoxical argument that it's acceptable to expose New Orleans East residents to elevated levels of new pollution, because they, or prior residents, have been exposed to even higher levels of the same pollution in the past.

As noted, the Council's public-interest authority to protect the residents of New Orleans is broader than the simply allowing ENO to meet the minimum standards to get an air emissions permit under EPA standards. The Council is not bound by the CAA regulatory fiction that allows ENO to pretend that a significant increase in harmful pollutants is actually a decrease in those

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[261] GHGs are regulated as carbon dioxide equivalent emissions under the Clean Air Act. *See generally Massachusetts v. EPA*, 549 U.S. 497 (2007).

[262] VOCs are ozone precursors, which are compounds that contribute to the formation of ozone in the atmosphere. *See* 40 C.F.R. §§ 51.100(s); 52.21(b)(50).

[263] *See, e.g.*, Higgins-1 at 20:4–21:9; 27:17–28:8. The Advisors did not offer an expert witness to address this important issue, despite the Council's directive to the parties to "vet" the environmental and social justice concerns posed by the combustion turbine in this docket. *See* Council Res. R-17-100, docket No. UD-08-02.

pollutants and find that the public interest requires a focus on the actual emissions from either gas plant.

Both the CT and the RICE units in fact will emit a significant amount of harmful air pollutants. The table below presents the proposed permitted emissions for each alternative, based on data supplied by ENO. The table also shows the Clean Air Act Prevention of Significant Deterioration ("PSD") levels of increased pollutant emissions from an existing stationary source in an attainment area like Orleans Parish that would trigger specific requirements for emissions control and analysis.

Pollutant	Anticipated CT Emissions[264] (tons per year)	Anticipated RICE Emissions[265] (tons per year)	EPA PSD Level[266] (tons per year)
PM_{10}	13.97	97.61	15
$PM_{2.5}$	13.97	97.61	10
SO_2	7.40	2.87	40
NO_x	275.28	50.39	40
CO	657.48	89.31	100
VOC	102.99	105.38	40
Greenhouse Gases	687,501.47[267]	358,560.80[268]	75,000

ENO avoids the more stringent review under the Clean Air Act because, as a technical matter, it is allowed to "net" the emissions from the old Michoud plant to the proposed new plants. Contrary to ENO's misleading claim that the RICE units have "a low emissions

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[264] CT emissions rates (other than Greenhouse Gas emissions) are from the CT Technical Report prepared by CK Associates, Exhibit JEL-6, Table 1 at 24.

[265] For RICE emissions rates (other than Greenhouse Gas emissions), *see* Higgins-1 at 19.

[266] *See* Higgins-1 at 24.

[267] ENO Application for Renewal and Modification of the Part 70 Operating Permit Acid Rain Permit Michoud Electric Generating Plant (August 18, 2017) App. E - CT Scenario at 3. Pursuant to Article 201 of the Louisiana Code of evidence, the Council should take notice of these greenhouse gas emissions rates since the information was provided by ENO to another state agency, the LDEQ.

[268] *Id.* App. G – RICE Scenario at G-7.

profile,"[269] the RICE units will emit particulate matter at high levels, approximately 6.5 times the respective limits triggering review for increases to existing stationary sources for $PM_{2.5}$ and PM_{10}.[270]

ENO also asserts that since either gas plant will meet the EPA's minimums for national air quality standards, there will be no risk to the neighbors of the plant. The assertion that the plant will meet minimum federal standards is not going to be much comfort to the residents who actually have to breathe the pollution from the plant. Moreover, this statement is plainly incorrect based on the information provided by ENO. As the table above demonstrates the RICE unit will exceed EPA's PSD levels for $PM_{10,}$ $PM_{2.5,}$ NO_x, VOCs and GHGs. Similarly, the CT will exceed EPA PSD levels for $PM_{2.5,}$ NO_x, CO, VOC and GHGs. Not only is ENO's statement cold comfort, it is incorrect.

Dr. George Thurston's direct testimony explains why. Medical research examining air pollution and public health has shown that air pollution from sources like power plants is associated with a host of serious adverse human health effects.[271] These studies demonstrate that air pollution exposures lead to increasing numbers of adverse health impacts, including:

- decreased lung function (a measure of our ability to breathe freely);
- more frequent asthma symptoms;
- increased numbers of asthma and heart attacks;
- more frequent emergency department visits;

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[269] J. Long-4 at 10:8.

[270] The RICE units' high emission rates should not be surprising. The RICE technology is not new or efficient; in fact, it dates from the 1800s. *See, e.g.*, Questions and Considerations for RICE Generation Facilities, Power Engineering (Apr. 18, 2017), http://www.power-eng.com/articles/print/volume-121/issue-4/features/questions-and-considerations-for-rice-generation-facilities.html. As ENO witness Jonathon Long noted in his testimony, this same technology is used in the automobile combustion engine and is descended from Industrial Revolution era steam engines. J. Long-4 at 7:5–12.

[271] Thurston-1 at 3.

- additional hospital admissions; and
- increased numbers of deaths.[272]

In addition to lung damage, recent studies of $PM_{2.5}$ air pollution[273] have shown adverse effects on the heart, including an increased risk of heart attacks. For example, when PM stresses the lung, it places extra burden on the heart, which can induce fatal complications for persons with cardiac problems. Increased concentrations of fine particles in the air can elevate the risk of heart attacks within a few hours, and that risk can remain elevated up to one day after PM exposure.[274] Acute short-term exposures to PM air pollution also are associated with increased risk of mortality. Indeed, the most recent U.S. EPA Particulate Matter Integrated Science Assessment ("ISA") (USEPA, 2009) unequivocally states that "[t]ogether, the collective evidence from epidemiologic, controlled human exposure, and toxicological studies is sufficient to conclude that *a causal relationship exists between short term exposures to $PM_{2.5}$ and cardiovascular effects . . . and mortality*."[275]

When considering the impact of a power plant that will be operated for thirty years or more, the long term effects of exposure to air pollutants cannot be ignored. Recent studies have found that long-term exposure to combustion-related fine particulate air pollution is an important environmental risk factor for cardiopulmonary and lung cancer mortality.[276] For example, long

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[272] *Id.* at 4.

[273] $PM_{2.5}$ is fine particulate matter consisting of airborne particles that are 2.5 micrometers in diameter or smaller—i.e., less than one-thirtieth the thickness of a human hair. *Air Quality Designations and Classifications for the Fine Particles (PM2.5) National Ambient Air Quality Standards* ("*$PM_{2.5}$ Designations Rule* "), 70 Fed.Reg. 944, 945 (Jan. 5, 2005) (codified at 40 C.F.R. pt81).

[274] Thurston-1 at 5.

[275] *Id.* at 6-7 (quoting EPA report; emphasis added).

[276] *Id.* at 7.

term exposure to PM pollution results in approximately a 20 percent increase in lung cancer risk.[277] Moreover, for every death associated with air pollution, many more people will suffer from morbidity effects, including hospital admissions, emergency department visits, doctor visits, missed work days, missed school days, asthma symptoms days, etc. When the whole scope of other adverse health effects associated with these air pollution deaths is considered, there is no doubt as to the significance of these adverse effects.[278]

The poor are especially at risk from air pollution. Similarly, older adults are at greater risk of severe adverse outcomes from air pollution. Also, children, a population known to be especially susceptible to the effects of air pollution because their bodies are developing (and because they spend larger amounts of time exercising outside) are an especially affected sub-population that is well represented in the community surrounding the plant. This subpopulation of children can be expected to be among those most strongly affected by any increases in $PM_{2.5}$ concentrations in the vicinity of the plant.[279]

Finally, there are two known characteristics of natural-gas-fired power plant particulate matter that make them likely to have especially strong adverse health effects, on a per-pound basis. First, natural-gas-fired PM have a higher percentage of ultrafine particles, as compared to PM from other fossil fuel sources. These ultrafine particles have very high surface areas and penetrate deep into the lungs when breathed. Second, like other fossil fuel combustion particles, natural-gas-plant PM emissions contain a high percentage of toxic transition metals. These

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[277] *Id.* at 8.

[278] *Id.* at 10.

[279] *Id.* at 25.

characteristics tend to increase the dose and toxicity of gas-fired power plant particles, relative to most other ambient particles.[280]

Again, ENO's basic response to these facts is that the Council should be content that, as a technical matter the gas plant can avoid more stringent review, and will meet the minimum air quality standards set by EPA. And again, ENO's position ignores the fact that EPA's standards do not remove the risk to neighbors of the plant.

Rather than being a part of a regulatory framework designed to protect people from the harms associated with pollution emissions, the EPA distinction between a major or minor modification is simply a regulatory construct designed for administrative ease in determining the baseline that triggers certain kinds of review when a permit is issued permit. The Clean Air Act's ambient air quality standards also focus on maintaining region-wide air quality, not on addressing pollution impact to specific communities near a plant's fenceline like those in New Orleans East.

To protect the public interest, the Council should adopt a "baseline" level to judge the proposed projects effect on New Orleans East that reflects existing physical conditions. As a result of ENO's decision to close the old Michoud units in 2016, there are no power-plant emissions from the Michoud site. The proposed projects will result in substantial increases in pollution emissions from the current status quo.

The Council also should take into account how the New Orleans East neighborhood has changed since the first Michoud power plant was constructed. When construction of the Michoud

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[280] *Id.* at 28.

power plant began in the 1950s, the total population of New Orleans East was just over 8,000.[281] Since the 1950s, the population of New Orleans East has grown significantly. According to the 2010 US Census, the total population of New Orleans East is 64,310, which is approximately 20% of the City's population.[282]

The Council also should categorically reject the bald assertion of ENO's consultant, CK Associates, that emissions are dissipated before they reach the fence line to concentrations much below the limits for public breathing level air.[283] CK Associates cites no evidence or analysis for this conclusion. Moreover, CK Associates cannot support this claim. $PM_{2.5}$ can travel hundreds or thousands of miles.[284] Moreover, even if the $PM_{2.5}$ emissions magically dissipate at the fence line, as explained above and in Dr. Thurston's testimony, the limits established by the NAAQS are not fully protective of health. Particularly in this instance, where clean options such as solar and energy efficiency are readily available, the Council should select that option that preserves public health rather than the option which puts public health at greater risk of serious disease and death.

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[281] Direct Testimony of Dr. Beverly Wright at 13, citing US Census Bureau (1950). *Selected Population and Housing Characteristics: New Orleans Louisiana.*

[282] Wright-1 at 13-14, citing The Data Center, *Neighborhood Statistical Area Data Profiles*, Planning Districts 9, 10 and 11(compiled from the US Census Bureau (2010)) http://www.datacenterresearch.org/dataresources/neighborhood-data/. The population of New Orleans East is 84% African American and 8% Asian American. *Id.*

[283] J. Long-2, JEL-6 at 16 (Technical Report – Evaluation of Groundwater Withdrawal and Air Quality CK Associates for Proposed Combustion Turbine (Nov. 16, 2016)); J. Long, JEL-12 (Technical Report Reciprocating Internal Combustion Engines ("RICE") Air Quality Evaluation CK Associates (July 6, 2017).

[284] *Catawba County, North Carolina v. Environmental Protection Agency*, 571 F.3d 20, 26 (2009). (discussing EPA's $PM_{2,5}$ rules *Air Quality Designations and Classifications for the Fine Particles (PM2.5) National Ambient Air Quality Standards* ("*$PM_{2.5}$ Designations Rule* "), 70 Fed. Reg. 944, 945 (Jan. 5, 2005) (codified at 40 C.F.R. pt. 81).

As noted by the EPA, EPA's process is designed and implemented "to reach a public health policy judgment as to what standards would be requisite…based on scientific evidence and technical assessments that have inherent uncertainties and limitations."[285] More importantly, in adopting the current $PM_{2.5}$ standards, EPA explicitly noted that "no population threshold, below which it can be concluded with confidence that $PM_{2.5}$ -related effects do not occur, can be discerned from the available evidence."[286] To determine that the air emissions of either project are "safe" or "reduced," when in fact they will increase and have no proven safe level, misleads the residents of New Orleans East and deprives them of the protections from the harms caused by air-born pollutants.

The public interest standard requires that the Council be honest with the residents of New Orleans East and to assess how the gas plant's actual emissions will affect their actual health and safety. Simply put, the Council should reject building either gas plant, which would increase the emission of dangerous air pollutants in the area of New Orleans East, and instead focus on installing clean, renewable energy or transmission options that can meet the City's need without posing an environmental and public-health risk.

6. Approval of Either Proposed Project Would be Contrary to the Public Interest, Because it Would Violate the Council's Policy on Climate Change.

Fossil fuels come with grave consequences for our health and our future. Burning these fossil fuels, particularly natural gas, causes climate change through the release of greenhouse

[285] 78 Fed. Reg. 3097(Jan. 15, 2013).

[286] *Id.*

gases. Greenhouse gases warm the Earth by absorbing energy and slowing the rate at which the energy escapes to space; they act like a blanket insulating the Earth.[287] Methane is a component of natural gas and a powerful contributor to climate change. "While carbon dioxide is typically painted as the bad boy of greenhouse gases, methane is roughly 30 times more potent as a heat trapping gas."[288] The direct effect of methane is about 84 times stronger than the same mass of carbon dioxide over a 20-year time frame.[289] No credible plan to combat climate change can ignore methane emissions.

The Council rightly has recognized the catastrophic threat New Orleans and other coastal cities face from climate change and has decided to reduce the City's greenhouse gas emissions and pursue renewable energy and energy efficiency to address the problem.[290] Building either gas-fired power plant would be counterproductive to those goals, as the gas plant would add hundreds of thousands of tons each year to the greenhouse gas emissions that imperil the City.

In Resolution 17-303, passed in June 2017, the Council made clear its "diligent commitment to a sustainable future including improved energy efficiency and alternative energy resources to reduce greenhouse gas emissions and investment in sustainable infrastructure to build resilience."[291] Based on these and other factors, the Council committed to continue to

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[287] https://www.epa.gov/ghgemissions/understanding-global-warming-potentials.

[288] https://www.sciencedaily.com/releases/2014/03/140327111724.htm.

[289] IPCC Fifth Assessment Report , Appendix 8.A, Chap. 8, p. 731.

[290] *See* Council Res. R-17-303 at 1–2 (June 2017) at 1–2 (recognizing that "without continued efforts to stop current trends, a rise in the global average temperature by two degrees Celsius above the pre-industrial global average temperature [will] have catastrophic consequences including for New Orleans").

[291] *Id.* at 2.

adhere to the Paris Climate Agreement and reaffirmed its commitment to the principles of that agreement.[292]

After the Council adopted Resolution R-17-303, Mayor Landrieu issued Executive Order MJL 17-06, committing the City to "reduce its communitywide greenhouse gas emissions by 50% by 2030" and adopting the "*Climate Action for a Resilient New Orleans*" ("Climate Strategy") as a guiding policy to achieve its commitment. The Climate Strategy notes that Louisiana is experiencing the highest rate of relative sea level rise in the world, 4.3 feet by 2100.[293] The Climate Strategy also notes that Louisiana has lost 1,900 miles of coastal land since 1932 and that the projected land loss without any action is another 1,806 miles by 2060.[294] Finally, the Climate Strategy notes that the City's 2014 greenhouse gas pollution levels were 3,606,199 metric tons CO_2e and that if no corrective actions are taken, the City of New Orleans will have an estimated 4.3 million metric tons of greenhouse gas pollution by 2030.[295]

In order to address this crisis, the Climate Strategy commits the City of New Orleans to reduce its greenhouse gas emissions by 50% by 2030. The Climate Strategy establishes interim milestones of a 10% reduction in greenhouse gas pollution by 2020 and 30% reduction by

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[292] *Id.* The Paris Agreement is an agreement within the United Nations Framework Convention on Climate Change dealing with greenhouse gas emissions, mitigation, adaptation and finance starting in the year 2020. Among other things, the Paris Agreement aims to increase the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development.

[293] Climate Report at 33.

[294] *Id*. at 37.

[295] *Id.* at 19.

2025.[296] Finally, the Climate Strategy also establishes a goal of 255 MW of solar power by 2030 to serve the City of New Orleans.[297]

According to the Climate Strategy, the City's energy use accounts for the biggest proportion of its greenhouse gas emissions: 50% or 1,800,090 tons of CO2e. The bulk of this—63%—comes from electricity usage. The remaining energy emissions—37%—come from the City's direct use of natural gas and its natural gas infrastructure.[298] The Climate Strategy concludes that to reduce the City's greenhouse gas pollution quickly and with lasting results, New Orleans must both reduce its overall energy use and reduce the greenhouse gas intensity of the energy it uses.[299]

In order to achieve this result, the Climate Strategy recommends that the fastest way to reduce greenhouse gas emissions and help slow climate change is to reduce the carbon intensity of the City's electricity supply and a sure source of low-carbon energy to achieve this reduction is the power of the sun and wind. The Climate Strategy also notes that transitioning the City's electricity sources to renewable electricity such as solar and distributed energy, along with ancillary technologies such as battery storage and microgrids, will make the City's energy supply more resilient in the event of crisis while reducing the City's overall greenhouse gas pollution during steady state operations.[300]

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[296] *Id.*

[297] *Id.* at 23.

[298] *Id.* at 24.

[299] *Id.* at 25.

[300] *Id.* at 17; *see also* Dec. 19, 2017 Tr. 38:12-19 (Mr. Fagan discussing the value of microgrids to storm restoration and planning: "There certainly could be isolated areas where rooftop solar, if configured properly, could play a valuable role, you know, for example, in a microgrid type of an arrangement where critical facilities are designed to allow something like rooftop solar and batteries to allow something to

On August 10, 2017, the Council issued a resolution addressing the Climate Strategy. In R-17-428, the Council reiterated its commitment to achieving a sustainable, resilient future with reduced greenhouse gas emissions.[301] The Council expressly stated that it supports the City's goal to reduce overall greenhouse gas emissions dramatically by 2030.[302]

Approval of either the CT or the RICE units would constitute a giant step backwards in the City's efforts toward improved resilience and combating climate change. According to ENO's own figures, the CT will emit **687,501.47 tons** of greenhouse gases per year.[303] Similarly, the RICE units will emit **358,560.80 tons** of greenhouse gases each year.[304] ENO intends to operate the gas plant for 30 years. Increasing the level of greenhouse gas emissions in the City by such a significant amount will make it impossible for New Orleans to achieve its milestone goal of a 30% reduction by 2025 and the 50% reduction by 2030 will become totally out of reach.

Continuing to invest in a new fossil-fueled power plant at a time when non-combustion reliability solutions provide feasible alternatives severely undercuts the City's ability to achieve its greenhouse gas reduction goals and the Council should reject the gas plant as contrary to its climate goals and the public interest.

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operate until the rest of the system comes back after a hurricane. But, you know, it involves all the moving parts. It's never just about DSM and renewables. It's everything.").

[301] R-17-428 at 1.

[302] *Id.* at 2.

[303] ENO Application for Renewal and Modification of the Part 70 Operating Permit Acid Rain Permit Michoud Electric Generating Plant (August 18, 2017) App. E - CT Scenario at 3.

[304] *Id.* App. G – RICE Scenario at G-7.

7. ENO's Proposed Gas Plant Options Would Increase Flood Risks.

As explained, ENO's proposed CT poses unnecessary risks of continuing subsidence due to groundwater withdrawals. Either gas plant could also violate the City's flood-protection ordinance, and would conflict with FEMA critical-infrastructure guidance. The Council should reject the gas plant, because its potential to exacerbate flood risk runs contrary to the public interest.

The City of New Orleans is obliged to implement FEMA standards to prevent flood damage.[305] The flood policy is issued by FEMA's Federal Insurance and Mitigation Administration, which manages the National Flood Insurance Program. This flood policy discourages the construction of a new power plant in a special flood hazard area:

> Examples of *critical care facilities include . . . power generating stations* and other private and public utility facilities vital to maintaining or restoring services to a flooded area before, during and after a flood . . . . If at all possible, *critical facilities should be located outside all high-risk flood hazard areas* . . . .[306]

However, ENO proposes to build the CT unit or the RICE unit in a high-risk flood area.[307] This area is designated as Zone AE on FEMA's Flood Insurance Rate Map for Orleans

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[305] New Orleans City Code § 78-51 *et seq*.

[306] FEMA-Flood Insurance and Mitigation Administration, Critical Facilities and Higher Standards, *available at* https://www.fema.gov/media-library-data/1436818953164-4f8f6fc191d26a924f67911c5eaa6848/FPM_1_Page_CriticalFacilities.pdf. The City Council may take judicial notice of the FEMA flood policy applicable to power plants, which is the official policy of the federal government, capable of accurate confirmation by resort to sources whose accuracy cannot reasonably be questioned, and relevant to a public interest determination and La. Code of Evidence, Article 201.

[307] *See* FEMA Flood Insurance Rate Map for Orleans Parish, panel no. 22011C0143F, which shows the high-risk flood hazard areas on the Michoud site that include the locations for the proposed CT unit and RICE unit. *See also* J. Long-1, JEL-1 (aerial map of proposed CT unit on Michoud site); J. Long-5 at 11, Figure 3 (aerial map of proposed RICE unit on Michoud site).

Parish (panel no. 22011C0143F), which is adopted by reference in the City of New Orleans Flood Damage Prevention Ordinance, Section 78.53(b). Nowhere in ENO's application is there any acknowledgement of the FEMA flood policy and standards adopted by local ordinance that set restrictions on the construction of a new power plant. The cross-examinations of ENO's witnesses responsible for planning the gas plant options reveal they had no knowledge of the FEMA policy or the City of New Orleans Flood Damage Prevention Ordinance, which adopts FEMA standards.[308]

ENO's proposed CT unit and RICE unit pose unnecessary flood risks that are not in the public interest. Additionally, ENO's failure to plan these gas plant options in accordance with the FEMA policy and the local ordinance adopting the FEMA standard is not in the public interest.

8. Neither of ENO's Choices of Technologies Is in the Public Interest Because They Were Selected Outside of the Public Participation and Integrated Resource Planning Processes.

The evidentiary record in this docket shows an agreement was made between ENO and Utility Advisors to the City Council for 120 MW of new-build peaking generation in the city of New Orleans.[309] As part of the Settlement Agreement terminating the ENO System Agreement, Section E of sets forth the following:

> **Agreements of Specified Parties with Respect to Certain Potential Future Generation in the City of New Orleans**
>
> ENO and CCNO agree as follows:
>
> (1) ENO will use reasonable diligent efforts to pursue the development of at least 120 MW of new-build peaking generation capacity within the

[308] Dec. 18, 2017 Tr. 87:15-88:5; 88: 23-89:7 (J. Long); Dec. 19, 2017 Tr. 87:7-90:18 (Losonsky); Dec. 20, 2017 Tr. 93: 4-94:5 (C. Rice).

[309] Dec. 20, 2017 Tr. 107:11-19 (Rice); Dec. 20, 2017 Tr. 120: 23-123: 18 (Vumbaco).

> City of New Orleans. As part of this commitment, ENO will fully evaluate Michoud or Paterson, along with any other appropriate sites in the City of New Orleans, as the potential site for a combustion turbine ("CT") or other peaking unit to be owned by ENO, or by a third party with an agreed-to PPA to ENO. This evaluation will take into consideration, among other material considerations, the results of the Michoud site analysis that was completed in connection with the Summer 2014 RFP.[310]

This term of the Settlement Agreement was adopted verbatim by the City Council when it issued Resolution R-16-524 on the recommendation of the Utility Advisors.[311]

The prior agreement provides no justification as to why developing at least 120 MW of new-build peaking generation at the Michoud site near predominantly African American and Vietnamese American residents and in a flood-prone area should be pursued by ENO. The prior agreement is also silent on how such a development would be in the public interest. Nonetheless, it is pursuant to this prior agreement that ENO makes its application to the City Council for approval of a gas plant with a capacity of at least 120 MW for construction on the Michoud site. In support of ENO's original application for the combustion turbine gas plant, Shauna Lovorn-Marriage, Director of Regulatory Filings for Entergy Services, Inc., explained that:

> ENO's activities related to NOPS comply with Resolution R-15-524, which the Council adopted on November 5, 2015 in Docket Nos. UD-13-03 and UD-13-04, wherein the Council approved the proposed settlement terminating the ENO System Agreement.[312]

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[310] *ENO Arkansas, Inc., et al. – Settlement Agreement,* FERC Docket Nos. ER14-75-000, ER14-75-001, ER14-76-000, ER14-76-001, ER14-77-000, ER14-77-001, ER14-78-000, ER14-78-001, ER14-79-000, ER14-79-001, ER14-80-000, ER14-80-001, ER14-128-000, ER14-1328-000, and ER14-1329, August 14, 2015, p. 13 (caption emphasized in original).

[311] Dec. 20, 2017 Tr. 123:18-131: 18 (Vumbaco).

[312] Lovorn-1 at 8: 4-7 (emphasis added).

In support of ENO's second application, which presents the options of the 226 MW combustion turbine gas plant or the 128 MW reciprocating internal combustion gas engines, Seth Cureington, Director of Resource Planning and Market Operations for Entergy New Orleans, Inc., explains that:

> As previously discussed in ENO's original Application, the Council has already ordered ENO in Resolution R-15-524, to "use reasonable diligent efforts to pursue the development of at least 120 MW of new-build peaking generation capacity within the City of New Orleans." . . . . NOPS, if approved, would comply with each of these directives from the Council.[313]

It appears that the position maintained by the Utility Advisors in advising the City Council to oppose the size of ENO's proposed 226 MW combustion turbine gas plant[314] and support the proposed 128 MW reciprocating internal combustion gas engines is also pursuant to this prior agreement.[315]

The prior agreement has determined the positions taken by ENO and the Utility Advisors in this docket proceeding. They both support Council approval of constructing a gas plant with at least 120 MW of capacity on the Michoud site in New Orleans East. The record of the evidentiary hearing provides no alternative explanation for their positions. The strong hold of the prior agreement is demonstrated by ENO and the Utility Advisors rejecting the least cost and reasonable alternatives to a gas plant, such as renewable and efficient energy systems, demand-side management, and increased electric capacity of the transmission system. These alternatives

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[313] Cureington-4 at 20: 6-12.

[314] *See* City Council Resolution R-16-263 at 9 (arguing "ENO has not 'made its case' for the larger CT").

[315] Vumbaco-1 at 28:1-2.

are being employed across the United States and in foreign countries with positive benefits for the economy, including lower customer bills, and the environment.

The Integrated Resource Planning ("IRP") process should be a meaningful opportunity for New Orleans residents to vet energy alternatives and have input on determining how energy will be made and used in New Orleans for the next 20 years. However, the prior agreement fundamentally undermined public participation in the IRP process. As shown in the Direct Testimony of Dr. Wright, 100 percent of the public comments made at the June 15, 2016 public hearing on the final IRP report were opposed to ENO's recommendation for a new gas plant.[316] This public opposition did not trigger a pause for consideration by ENO, which filed its application for a gas plant on the third business day following the public hearing.

There is a lack of transparency in this docket regarding the prior agreement. Council resolutions R-16-332, R-16-506, and R-17-426, each of which establish the proceedings for this docket, present a chronology of events and recitation of issues pertaining to the ENO gas plant application that entirely omit any reference to the prior agreement. During the evidentiary hearing, witnesses testifying on behalf of ENO and the Utility Advisors, who have knowledge of the prior agreement, have been less than forthcoming about its existence.

The positions taken by ENO and the Utility Advisors in this docket appear to reach a foregone conclusion, as expressed in the prior agreement, which supports a new gas plant in New Orleans with a capacity of least 120 MW. The prior agreement taints what should be an open and transparent public participation process of decision-making on ENO's application for a new gas plant. Assuring due process is in the public interest, but there is no assurance that this prior

[316] Wright-1 at 8, Ex. 4.

agreement does not in any way pre-determine the outcome of the decisions leading up to the one that is anticipated from the City Council. The record of this proceeding shows that no action has been taken by the Utility Advisors or the City Council to resolve the due process issues that arise from the prior agreement. The fundamental guarantees of Due Process in this docket are undermined by the prior agreement, which is not in the public interest.

B. Issue II.C: Whether ENO Considered a Full Range of Options to Meet the Identified Need

1. ENO Failed to Follow the Council's Specific Direction to Consider Transmission and Battery Storage as Alternatives to the Gas Plant.

ENO's application failed to consider an adequate range of alternatives to the proposed gas-fired plants, including specific alternative portfolios that the Council ordered ENO to evaluate so that the Council could make an informed decision in this proceeding.[317] Despite the Council's order to do so, ENO has never assessed in a single portfolio 1) the potential for making transmission upgrades to remain compliant with NERC reliability standards, 2) installing the planned 100-MW of solar, 3) implementing the Council's 2 percent energy savings goal, and 4) the inclusion of battery storage. To this day, ENO **still** has not adequately assessed the potential for transmission-based and battery-storage-focused alternatives to its gas-fired plant. Because ENO has yet to even attempt the alternatives analysis the Council required, and is therefore in violation of a Council resolution, the Council should deny ENO's application as incomplete.

[317] *Compare* Council Res. 16-506 (Nov. 3, 2016), and SC-5, *with* Cureington-3 at SEC-8.

ENO's original, June 2016 application called for building the 226-MW combustion turbine, without comparing the combustion turbine to any specific alternative portfolio that could meet the same need.[318] When the Council approved the procedural schedule for this docket in November 2016, the Council also correctly directed ENO to specifically evaluate a set of four resource portfolio alternatives, instead of solely relying on ENO's analysis of its preferred combustion turbine.[319] The portfolios were designed by the Council Advisors and were previously provided to ENO in a September 19, 2016 communication.[320] The four portfolios were intended "to assist the Council in determining whether the construction of NOPS is necessary and in the public interest."[321]

The September 19, 2016 communication from the Advisors to ENO contained the four portfolios are in exhibit SC-5 and put in text below:

[318] *See* Cureington-2 (analyzing only the combustion turbine in production cost modeling).
[319] Res. 16-506 at 9.
[320] *Id*.
[321] *Id.*at 8.

Alternate Runs to Inform Council on Pending and Upcoming Decisions			
Case No. 1	**Case No. 2**	**Case No. 3**	**Case No. 4**
	Informs Council Decision on CT	**Informs Council on Energy Smart Target**	**Informs Council Decision on AMI**
Load Forecast Consistent with Business Plan 16 Update (BP16-U) and consistent with NOPS Application (include Algiers)	Load Forecast Consistent with Business Plan 16 Update (BP16-U) and consistent with NOPS Application (include Algiers)	Load Forecast Consistent with Business Plan 16 Update (BP16-U) and consistent with NOPS Application (include Algiers)	Load Forecast Consistent with Business Plan 16 Update (BP16-U) and consistent with NOPS Application (include Algiers)
BP16-U Forecast Natural Gas Price Forecast or BP16-U Forecast (All Stakeholders to Confirm if Appropriate)	BP16-U Forecast Natural Gas Price Forecast or BP16-U Forecast (All Stakeholders to Confirm if Appropriate)	BP16-U Forecast Natural Gas Price Forecast or BP16-U Forecast (All Stakeholders to Confirm if Appropriate)	BP16-U Forecast Natural Gas Price Forecast or BP16-U Forecast (All Stakeholders to Confirm if Appropriate)
Use Synapse Energy Economics 2016 CO2 Mid Case Price Forecast ($20/ton in 2022, $41/ton in 2035)	Use Synapse Energy Economics 2016 CO2 Mid Case Price Forecast ($20/ton in 2022, $41/ton in 2035)	Use Synapse Energy Economics 2016 CO2 Mid Case Price Forecast ($20/ton in 2022, $41/ton in 2035)	Use Synapse Energy Economics 2016 CO2 Mid Case Price Forecast ($20/ton in 2022, $41/ton in 2035)
Proposed NOPS CT	No NOPS CT but necessary transmission solutions ensure compliance with NERC Standard TPL-001-4	Proposed NOPS CT	Proposed NOPS CT
Include 100 MW of Renewable Capacity (Solar)	Include 100 MW of Renewable Capacity (Solar)	Include 100 MW of Renewable Capacity (Solar)	Include 100 MW of Renewable Capacity (Solar)
Incorporation in run of implementing programs to increase Energy Smart Program Savings by 0.2 % per year until such time as program generates savings at a rate equal to 2% of annual kWh sales (R-15-599)	Incorporation in run of implementing programs to increase Energy Smart Program Savings by 0.2 % per year until such time as program generates savings at a rate equal to 2% of annual kWh sales (R-15-599)	Incorporation of Stakeholder Input Case Energy Smart Savings and Programs	Incorporation in run of implementing programs to increase Energy Smart Program Savings by 0.2 % per year until such time as program generates savings at a rate equal to 2% of annual kWh sales (R-15-599)
Include Direct Load Control and Non-Enabled Dynamic Pricing Measures from Stakeholder Input Case	Include Direct Load Control and Non-Enabled Dynamic Pricing Measures from Stakeholder Input Case	Include Direct Load Control and Non-Enabled Dynamic Pricing Measures from Stakeholder Input Case	Include planned rollout of AMI and Expand/implement associated Load Control measures now capable with AMI
Include Planned and Recent Completed Transmission Upgrades	Include Planned and Recent Completed Transmission Upgrades	Include Planned and Recent Completed Transmission Upgrades	Include Planned and Recent Completed Transmission Upgrades
Include Effects of Planned new Generating Resources including the proposed St Charles Power Station	Include Effects of Planned new Generating Resources including the proposed St Charles Power Station	Include Effects of Planned new Generating Resources including the proposed St Charles Power Station	Include Effects of Planned new Generating Resources including the proposed St Charles Power Station
Incorporate Termination of the Entergy System Agreement	Incorporate Termination of the Entergy System Agreement	Incorporate Termination of the Entergy System Agreement	Incorporate Termination of the Entergy System Agreement
Unless otherwise Identified, Use IRP Stakeholder Input Case Parameters	Unless otherwise Identified, Use IRP Stakeholder Input Case Parameters	Unless otherwise Identified, Use IRP Stakeholder Input Case Parameters	Unless otherwise Identified, Use IRP Stakeholder Input Case Parameters
Perform runs through 2035, Provide Load and Capability tables by year, Provide annual results as well as NPV comparison, Provide Ratepayer Impact	Perform runs through 2035, Provide Load and Capability tables by year, Provide annual results as well as NPV comparison, Provide Ratepayer Impact	Perform runs through 2035, Provide Load and Capability tables by year, Provide annual results as well as NPV comparison, Provide Ratepayer Impact	Perform runs through 2035, Provide Load and Capability tables by year, Provide annual results as well as NPV comparison, Provide Ratepayer Impact
Identify any likely PPA or CHP resources and include as appropriate and agreed by the stakeholders	Identify any likely PPA or CHP resources and include as appropriate and agreed by the stakeholders	Identify any likely PPA or CHP resources and include as appropriate and agreed by the stakeholders	Identify any likely PPA or CHP resources and include as appropriate and agreed by the stakeholders
Include, as appropriate, battery storage alternatives as the technology matures and becomes cost effective during the 20 year run	Include, as appropriate, battery storage alternatives as the technology matures and becomes cost effective during the 20 year run	Include, as appropriate, battery storage alternatives as the technology matures and becomes cost effective during the 20 year run	Include, as appropriate, battery storage alternatives as the technology matures and becomes cost effective during the 20 year run

As shown in Case 2 of the above chart, the Council, through the Advisors, required ENO to evaluate a portfolio containing, among other things, "transmission solutions ensure compliance with NERC Standard TPL-001-4," 100 MW of new solar capacity, the Council's 2 percent energy efficiency goal, as well as, "as appropriate, battery storage." Case 2 was so significant to the Council that it bears the header, "Informs Council Decision on CT." By pairing additional renewable energy with the Council's energy efficiency goal and with battery resources, Case 2 also closely resembles the portfolio of resources Public Interest Intervenors' witness Robert Fagan clearly established would likely be more cost-effective to meet the City's

reliability and capacity need.[322] Moreover, in every case listed above, in the bottom row, the Council asked ENO to evaluate the potential for battery resources.

On November 18, 2016 ENO made a supplemental filing that purported to respond to the Council's resolution.[323] However, in that filing, and as ENO resource planner Seth Cureington confirmed on cross examination, ENO did not run the Case 2 described above that the Council requested.[324] ENO refused to model the transmission upgrades with the 2 percent energy savings goal, and instead used a load forecast that did not include the Council's Energy Smart programs intended to meet the 2 percent target.[325] By using a higher load forecast than the Council had requested, ENO made its version of Case 2 appear more costly and therefore less attractive than building a gas-fired plant. For example, ENO's distorted version of Case 2 would result in higher load and higher system stress, thus ENO would have to make more costly transmission upgrades and more costly capacity purchases from MISO's capacity market.[326] ENO also never evaluated the possibility of a battery resource in Case 2, or in any case in which it would not also build a gas-fired plant.[327]

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[322] Fagan-2 at 8:19–9:5; 39:4–11.

[323] Cureington-3 at 2.

[324] Cureington-3 at 7 Table 1; Dec. 18, 2017 Tr. 139:16-139:8; 140:13-15; 172:9-175:15; 177:9 (confirming that ENO did not run the Case 2, transmission and energy efficiency portfolio requested).

[325] Cureington-3 at 7 Table 1.

[326] *Compare* Cureington-3 at 8 Table 2 (total supply cost of Case 2 described above, showing $78 million in capacity purchases), *with* Rogers-2 at 42, Table 5 (showing total supply cost of Case 4A, which included 200-MW of solar and 2 percent energy efficiency goal and has only [redacted] in capacity purchases).

[327] Cureington-3 at 7 Table 1. ENO only evaluated battery storage in one case, Case 4, and only in combination with the combustion turbine, rather than in substitution for the gas plant. Predictably, because ENO layered a battery on top of the even more costly 226-MW combustion turbine, Case 4 was the most expensive case modeled. Cureington-3 at 8 Table 2. Notably, however, ENO found that the battery's discounted present value cost would be $40 million *less* than the combustion turbines. Cureington-3 at 7 Table 1.

In the well over a year that has followed the Council's resolution 16-506, ENO still has not modeled a No-NOPS scenario pairing transmission upgrades with the Council's 2 percent goal, as Seth Cureington confirmed on cross.[328] As Advisor witness Joseph Vumbaco has confirmed, ENO has still not provided information concerning the timing and firm costs of making transmission upgrades that would allow for a basic comparison of the alternatives that include transmission upgrades with the gas-fired plant proposals.[329] ENO still has not evaluated an alternative that would include battery storage as an alternative to building a gas plant.[330]

ENO's alternatives analysis in this case has been an exercise in avoiding looking at specific scenarios, including those requested by the Council and highlighted by Intervenors, which might prove to be lower cost alternatives to a gas-fired plant. Because ENO violated a specific directive of the Council and failed to properly evaluate transmission-related and battery alternatives to a gas-fired plant, the Council should reject ENO's application as incomplete and in violation of Resolution 16-506.[331]

2. ENO's Method of Selecting the Contractors for These Projects Demonstrates that a Competitive Process is Necessary to Protect Ratepayers.

[328] Dec. 18, 2017 Tr. 139:16– 139:8.

[329] Vumbaco-1 at 7:1–8.

[330] Dec. 18 Hr'g Tr. at 140:13-15.

[331] This is not the first time the Council has been forced to act in the face of ENO's intransigence. On July 14, 2016, the Council issued a show cause order directing ENO to show cause why its actions and omissions in its utility operations were not imprudent. R-16-263 at 14. These actions and omissions occurred in four separate proceedings; 1) the IRP proceeding; 2) storm hardening; and 3) the gas infrastructure rebuild. Tellingly, many of the concerns raised by the Council regarding ENO'S behavior in the IRP proceeding stemmed from the consideration of the CT proposal as part of the IRP.

ENO failed to use a competitive procurement process to select its two proposed gas plants, making it impossible to determine whether they are the best, least-cost resources to meet the City's needs. The only thing ENO has done is to ensure that it proposed the most advantageous options for its bottom line. The Council should reject ENO's application and require the Company to conduct a competitive procurement process.

Competitive procurement is designed to ensure that utility regulators such as the Council have the information necessary to allow detailed cost and benefit comparisons they need to choose resource investments that are in ratepayers' best interests.[332] Through competitive procurement, regulators review proposals from market participants in a manner that allows both the utility and the regulators to compare a variety of resources on an equal footing.

Allowing different providers to compete to provide the energy services needed by the residents of New Orleans will provide the following benefits:[333]

1) Transparency for regulators and stakeholders;
2) Cost proposals that are based on market conditions;
3) Bids that reflect competitive pressures, offering the best value for the money;
4) Full documentation of financial and engineering assumptions used to develop bids;
5) Power supply and demand-side resources are evaluated on an equal footing;

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[332] Pursuant to the Louisiana Constitution and the Home Rule Charter of the City of New Orleans, the Council is the governmental body with the power of supervision, regulation and control over public utilities providing service within the City of New Orleans. The Council is responsible for fixing and changing rates and charges of public utilities and making all necessary rules and regulations to govern applications for the fixing and changing of rates and charges of public utilities. Traditionally, the Council has broad powers to regulate the relationship of the utility to the ratepayer. The Council has the authority to question a utility's actions when matters of public concern are at stake. The regulatory powers of the Council are the same as the powers exercised by the Louisiana Public Service Commission. ("LPSC"). The LPSC currently requires ENO's Louisiana affiliate to obtain resources through a competitive procurement process. Lovorn-2 at 11-13. Thus, unless the Council is determined to have less regulatory authority than the LPSC, the Council has the authority to adopt a competitive procurement process for ENO. In this instance, competitive procurement will provide a needed baseline for determining reasonable rates and offer better consumer protection to ratepayers.

[333] Henderson-1 at 3:17-5:14.

6) Assessment of a complete set of both conventional and innovative alternatives; and
7) Creative solutions from a wider marketplace, based on the latest technology.

These benefits should be contrasted with the method ENO used to select its contractors. According to Mr. Jonathan Long,[334] his project team was directed to only examine gas-fired peaker plants. The project team did not consider solar, transmission upgrades, battery storage, demand response or any other resource as an alternative to the gas-fired plant.[335] Rather than conduct an open solicitation, ENO spoke to only six companies, and only four of those companies participated by submitting bids.[336] The method by which ENO selected the companies it would approach with a request to submit a bid is incredibly opaque. According to Mr. Long, "[W]e went out to companies that we were aware of that did this sort of work."[337] Moreover, the request for proposal was specifically limited to the use of the Mitsubishi 501GAC gas turbine, as the combustion turbine ENO proposed in its application.[338] The technology was preselected by ENO because the Mitsubishi turbine was the same turbine to be used for the St. Charles Power Station and the Montgomery County Power Station.[339] ENO ultimately selected Chicago Bridge & Iron Environmental and Infrastructure, Inc. ("CB&I").[340]

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[334] Mr. Jonathan Long is Vice President of Capital Projects. Dec. 18, 2017 Tr. at 13.

[335] *Id*. at 16-19.

[336] *Id*. at 45.

[337] *Id.* Mr. Long specifically agreed that ENO's process was not an open competitive solicitation. Tr at 46.

[338] *Id*. at 46.

[339] *Id*. at 47.

[340] ENO also selected CB&I to be the third party administrator for ENO's energy efficiency programs. *See* R-17-177 at 1. The Council should be very concerned about the conflict of interest CB&I's selection created in this proceeding. In this proceeding, ENO has essentially attempted to relitigate the Council's energy efficiency decision, arguing that the 2% goal adopted by the Council is unreasonable. If the energy efficiency third party administrator had been truly independent, the administrator could have presented evidence in this proceeding regarding the success of the program so far and whether ENO is on a

Thus, from the beginning ENO had no intention of evaluating alternatives to the gas-fired peaker plant. ENO did not issue an RFP stating it had transmission needs and generation needs and asking for proposals on how to resolve these concerns.[341] ENO decided in advance what it wanted and then conducted a process designed to only consider its preferred alternative, and then only from an incredibly small number of contractors.

Examination of the process ENO used to select Burns & McDonnell ("B&M"), the contractor selected to provide the RICE units, fares no better. With regard to the RICE units, after ENO's new load forecast called into question the capacity needs of the Company, ENO began "to consider a technology with a lower output."[342] According to Mr. Long, ENO engaged WorleyParsons, an engineering firm, to conduct a study regarding ENO's "potential options for a smaller resource."[343] WorleyParsons considered 5 natural-gas fired peaker units, ranging in MW output from 106 MW to 130 MW, and no other possible alternatives were even considered.[344] At the same time, ENO entered into talks with only two companies, CB&I and B&M.[345] While Mr. Long claims that ENO initiated a "competitive process," the Company only requested bids from these two contractors.[346]

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trajectory to achieve the 2% goal. However, in this instance, it is in CB&I's interest that the energy efficiency program be viewed as not being successful because that point of view increases the likelihood that the CT project will receive Council approval and CB&I stands to make over $200 million if the application is approved.

[341] Dec. 18, 2017 Tr. at 48.

[342] J. Long-5 at 6.

[343] *Id.*

[344] *Id.* at 10. This MW range was specified by ENO. Dec. 18, 2017 Tr. 20-21.

[345] *Id*. at 64.

[346] *Id.* at 15. Pursuant to Article 201 of the Louisiana Code of Evidence, the Council should take notice of the results of the recent competitive procurement process conducted by Xcel Energy. On December 28, 2017, Xcel Energy reported that it received more than 400 individual bids in response to its resource

According to ENO, there was no need for an RFP process because the Company had a specific need for local dispatchable generation resources and ENO decided that DSM and the supply-side resources would not be sufficient.[347] ENO also asserted that the Company's desire to locate the resources at Michoud somehow negated the ability to seek proposals from a variety of companies.[348]

ENO's contentions with regard to the lack of a need for an RFP illustrate the fundamental flaw in the Company's point of view and demonstrates why the Council must require an all-source competitive solicitation. ENO's process is simply a failed version of traditional utility procurement. In traditional utility procurement, the utility identifies the amount of generation needed and seeks that amount through a competitive solicitation. While this type of solicitation, if done correctly, may deliver price competition, the bidding does not address the fundamental question of whether building a power plant is the optimal use of customer funds.[349] In contrast, an "all source" competitive solicitation seeks information about and proposals from resource alternatives, thus addressing the question of the optimal solution. An all source competitive solicitation would provide information about costs and benefits of many resource alternatives that could potentially fulfill the utility's needs. This competitive procurement process adds

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solicitation for renewable energy and storage. Xcel Energy, 2016 Electric Resource Plan, 2017 All Source Solicitation, 30 Day Report, Colorado Public Utility Commission Proceeding No. 16A-0396E. The Council should contrast the Xcel Energy result with the meager number of bids considered by ENO.

[347] Dec. 20, 2017 Tr. 39 (Lovorn-Marriage).

[348] *Id*. at 39-40. Ms. Lovorn-Marriage also did not seem to understand the selection process used by ENO. Ms. Lovorn-Marriage argued that a third party would be required to provide its own site, ignoring the fact that third parties (CB&I and B&M) were selected by ENO to construct the generator for ENO at ENO's Michoud site. The issue is ENO's failure to seek a variety of proposals from a significant number of companies rather than the location, which has its own separate issues. *Id*. at 43-44.

[349] Henderson-1 at 4:3-11.

confidence that the selected resource is the optimal resource to fulfill the utility's identified need and would provide transparency into the criteria used to select the resource.

In this instance, the selection method use by ENO was not a competitive solicitation at all. Thus, the Council cannot even be assured that the price to be paid by ratepayers is reasonable or fair. With regard to the combustion turbine contract, ENO only approached six companies and used unknown criteria in determining which companies would be offered a chance to bid for the project. Remarkably, the process used to select the RICE contractor is even less competitive. Only two companies were offered a chance to bid on the contract. Given such a small sample size and the lack of transparency surrounding how the potential bidders were selected, it is impossible for the Council to know whether costs associated with either of these projects adequately reflect the market.

Moreover, ENO's method of selection illustrates a pervasive problem of utility culture. Utilities operate with a culture that prefers traditional solutions and avoids innovation.[350] This attitude hinders the adoption of new alternatives that have advantages over the traditional methods of conducting business. ENO selection method also demonstrates the inherent incentive for a utility to self-build since the utility earnings are linked to owning assets such as power plants.

ENO's process for picking its contractors also ignores the fact that the market landscape for utility resources has changed substantially in recent years. Today, utilities have a robust and

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[350] Henderson-1 at 5:15-21. The Council should find that ENO's willful ignorance of the options available in the energy market is unacceptable. For example, despite the fact that ENO's selected RICE contractor (B&M) touts battery options as solutions providing black start capability and aiding in resolving transmission congestion concerns, ENO was unaware of the battery storage capabilities B&M offered. Dec. 18, 2017 Tr. 43.

remarkable array of options to fulfill resource needs.[351] Given this variety of options, utility planners must seek input from the market to accurately assess and compare the price, functionality, and other attributes of the various resource alternatives.

These alternatives include solar generation, whose costs have declined markedly over the past decade. Demand-side management and energy efficiency are proven low-cost resources. New energy storage technologies offer utilities new opportunities to manage load and obtain valuable grid services. New technologies also offer tools for load-shifting demand response programs, which are particularly important when, as ENO claims here, a utility's resource need is driven by peak demand. These market developments and variety of alternatives means that when a utility faces a resource need, a competitive procurement process is a powerful and necessary tool to ensure that utility planners and stakeholders have the information required for integrated decision making.[352]

Using a competitive process which encourages all resources to participate allows the utility and the regulators to determine the optimal resource and therefore the optimal use of ratepayers' funds. The process also helps assure that the utility and stakeholders have current market information on all the choices. The Council should reject both of ENO's proposed projects and order an all source competitive solicitation designed to meet both ENO's true reliability and capacity needs. Instituting a competitive solicitation will ensure that the ratepayers of New Orleans receive the benefits of innovative technology at the optimal cost.

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[351] Henderson-1 at 2:19-21.

[352] Henderson-1 at 3:15-20.

III. Issue III: Whether ENO's Selection of the Michoud Site Is Reasonable

ENO's selection of the Michoud site is unreasonable for the operation of a proposed gas-fired plant for the following reasons:

- New Orleans residents would suffer from the massive amounts of harmful air pollution released by the proposed gas plants;
- New flood control infrastructure protecting New Orleans East and Ninth Ward that is next to the Michoud site would have the added risk of being weakened by accelerated land subsidence caused by groundwater withdrawals for the proposed gas plant options;
- The proposed gas plants would each create racially disproportionate pollution and flood risk burdens on nearby African American and Vietnamese American neighborhoods, which have been disregarded by ENO[353];
- FEMA has determined that the location chosen on the Michoud site for the proposed gas plants has a high incidence of flood events, and cautions against building new power plants in such locations;
- ENO has developed a deeply flawed design plan for the proposed gas plants that completely fails to ensure compliance with the City of New Orleans Flood Damage Prevention Ordinance as well as FEMA policy and standards applicable to new construction of power plants; and
- ENO only considered Michoud and A. J. Paterson as potential sites for a proposed gas plant, and did not consider other sites as directed by Council Resolution R-15-524.[354]

IV. Issue IV: Whether ENO's Proposed Costs, Cost Recovery Mechanism and Monitoring Plan Are Just and Reasonable and Should Be Approved by the Council

For the reasons outlined above, the Public Interest Intervenors strongly urge the Council to reject ENO's gas plant application as against the public interest. But, in the event the Council

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[353] *See also* Wright-2 at 12: 3-6 ("ENO's site selection for the proposed gas power plant is unreasonable because there was no consideration of the risks and adverse impacts to nearby residential neighborhoods. The fact that these residential neighborhoods are predominantly African American and Vietnamese American underscores a profound disregard which perpetuates environmental injustice.")

[354] Dec. 18, 2017 Tr. 275-285.

approves a gas plant, the Public Interest Intervenors ask the Council to deny ENO's request for immediate rate recovery via riders. It would also be imperative for the Council to take steps now, in approving a gas plant, to mitigate the financial risk to ratepayers from the MISO capacity market and construction-cost overruns.

A. If the Gas Plant is Approved, the Public Interest Intervenors Generally Agree with the Advisors that ENO's rate recovery should be adjudicated in the Combined Rate Case and Subsequent Rate Evaluations.

As a general matter, the Public Interest Intervenors agree with the Advisors' witnesses that ENO's rate recovery for the gas plant should be decided in the 2018 rate case and future rate proceedings, and that ENO should not be permitted to assess a contemporaneous rider or a fuel-adjustment clause.[355] Relying on a rider poses an unnecessary risk of single-issue ratemaking, when the Council will soon undertake a full rate case to evaluate the prudence of ENO's decisions in the context of its entire rate base.[356] The Public Intervenors also agree with Advisor witness Byron Watson, to the extent he argues that ENO's return on equity would need to be considerably below the 11 percent ENO presently requests to better align with market conditions and the practice in other jurisdictions.[357] A lower return on equity would reduce the likelihood of ENO gaining a windfall on the backs of the City's ratepayers, who are already disproportionately burdened by high energy costs as a percentage of their income.[358]

B. The Council should Condition any Approval of either Gas Plant on ENO Guaranteeing its Projections as to the MISO Capacity Price and Construction Costs.

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[355] Prep-1 at 19:9–14; 22:3–23:2; 24:17–25:2; Vumbaco-1 at 30:10–16.

[356] Prep-1 at 12:12–14; 18:1–12.

[357] Watson-2 at 17:10–18:16.

[358] Stanton-2 at 11:13-14-1 & n.25.

The Public Interest Intervenors request that the Council condition any approval to construct a gas plant on ENO mitigating the risks to ratepayers from ENO's assumptions about the MISO capacity market and the gas plant's construction-cost contingency budget, as follows:

- The Council should require ENO to bear the cost of any shortfall in actual capacity market sales revenue from the gas plant as compared to the expected sales revenues under a CONE auction price, if the MISO capacity market does not reach at least 60 percent of CONE by 2022 and remain at or above that level throughout the planning horizon.[359] The 60 percent of CONE price is the lowest capacity market auction price ENO agreed even to study in this docket.[360]

- In addition, the Council should impose a construction-costs recovery cap at the presently quoted amounts in ENO's application, preventing ENO's recovery of construction costs beyond the level of ENO's contingency budget.[361] ENO's contingency budget, which is based on a 50 percent confidence interval,[362] stands a 50 percent chance of being overrun by cost increases. In the alternative, the Council could require ENO to submit a revised application for the Council's consideration, using a 95 percent confidence interval for the contingency budgets.

Because ENO's predictions regarding the MISO capacity market and its contingency budget are so crucial to ENO's economic case to build the gas plant, they warrant attention from the Council at the certificate stage, rather than awaiting prudency review. As explained in Section I.A, the reality is that the gas plants proposed by ENO would provide substantially more capacity than the City needs. ENO is guaranteed a return on its capital expenditures to build even the surplus portions of this capacity, while ratepayers will be at the mercy of the capacity market to offset the costs with sales. ENO's questionable assumption that capacity market prices are

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[359] Cureington-6, SEC 12 at 8 (capacity market forecast); Cureington-6 at 5, Table 1 (expected capacity market sales revenues at CONE price).

[360] Cureington-6, SEC 12 at 8; Dec. 18, 2017 Tr. 203:19–204:23.

[361] *See* J. Long-5 at 3:8 (RICE cost), 5:20 (CT cost).

[362] Dec. 18, 2017 Tr. 28:18–24.

about to rise more than 16,000 percent by 2022 to CONE and remain at that high is the only way the gas plants could be a financially competitive deal for New Orleans ratepayers to meet the City's reliability need.[363] But ENO's claim is disputed by essentially all other witnesses in this case who examined it and by MISO's Independent Market Monitor.[364] Given that ENO's capacity-price projection has such tenuous foundation, but is the linchpin of ENO's economic case, ENO should bear the majority of the risk for its capacity-price prediction failing to pan out, not New Orleans ratepayers.

Moreover, as explained in Section II.B.2 above, ENO did not conduct a competitive solicitation for capacity.[365] It simply solicited bids from a limited number of vendors for the specific gas-fired technology the Company preferred.[366] Compounding this problem, ENO witness Jonathan Long admitted on cross-examination that the Company's contingency budgets have a so-called "P-50," 50 percent confidence interval.[367] ENO's choice of a 50-percent confidence interval allowed the Company to quote relatively low contingency budgets in its application, and make the total construction cost appear lower than had the Company used a higher confidence interval.[368] But, as Mr. Long admitted, the "P-50" contingency budget would only be "sufficient by our analysis to cover approximately half of the outcomes that are created

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[363] *Compare* Rogers-2 at 42 Tables 4-5, *with id.* at 44 Tables 6-7.

[364] See Stanton-2 at 21, Figure 8; Fagan-2 at 4:4–5:9; Rogers-2 at 33:7–11, 36:6–37:15; Cureington-8, SEC-15 at 15 (IMM report).

[365] Henderson-1 at 7:3–10:2 (describing competitive all-source procurement process).

[366] Dec. 18, 2017 Tr. at 45 – 46; J. Long-5 at 6, 10.

[367] Dec. 18, 2017 Tr. at 28:18–24.

[368] *Id*. at 28:18–24, 31:2–6.

through that simulation process."[369] Had ENO used a higher confidence interval (such as 95 percent), it would have increased the size of the contingency budget but allowed the Company to firmly state the amount necessary to cover nearly all cost overruns.[370] As Mr. Long conceded, using the higher confidence interval would not have cost ratepayers any money: ENO does not charge ratepayers for unused contingency funds, but presumably would seek to recover costs incurred beyond its P-50 contingency budget.[371] To impose some discipline on ENO and ensure ratepayers are not overcharged for capacity that was not procured in a competitive process, the Council should require ENO shareholders to pay for any cost overruns that exceed the contingency budget. Alternatively, the Council could require ENO to file a revised application with construction budgets based on a 95 percent confidence interval for contingencies.

Should the Council elect to certify on of the proposed gas plants, to ensure ENO's assumptions in this case do not transfer undue risk onto ratepayers, the Council should require ENO to guarantee its MISO capacity sales revenue projections and construction budgets for building the gas plants.

CONCLUSION

ENO wants the Council to believe that it has no choice but to approve one of ENO's hand-selected, $200-plus million gas plants. This is absolutely not the case. ENO simply has failed to evaluate and present alternatives to the Council that are cheaper and faster to meet the City's need, and pose less risk of financial, health, and environmental harm to New Orleanians

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[369] *Id*. at 28:20–24.

[370] *Id*. at 31:2–6.

[371] *Id*. at 31:2–14.

than ENO's gas plant. This includes a solution based on transmission grid upgrades, increased penetration of solar power, and, potentially, battery storage, that, despite the Council and Advisors' requests, ENO has never fully studied. Despite claiming that the Council must act immediately for reliability reasons, ENO argues the Council should choose the combustion turbine, which could not be built for approximately three more years. The Council has the time to order ENO to rectify its mistakes in this docket. The Council should order ENO to fully study transmission upgrades and to conduct a competitive solicitation that would allow the Council to evaluate less costly, less polluting, and more progressive alternatives to meet the City's reliability need and any capacity need that may arise in the future

As outlined above, ENO has failed to carry its burden to prove that either its proposed combustion turbine gas plant, or that its proposed RICE units gas plant are needed, in the public interest, or consistent with Council directives. The Council should reject ENO's application.

In the event the Council approves a gas plant, the Council should deny ENO's request for immediate rate recovery via riders, and defer the question of rate recovery for the gas plant to the next rate case. In addition, as discussed above, the Council should require ENO to bear the cost of any shortfall in actual capacity market sales revenue from the gas plant as compared to the expected sales revenues if the MISO capacity market does not reach at least 60 percent of CONE by 2022 and remain at or above that level throughout the planning horizon. The Council should impose a construction-costs recovery cap at the presently quoted amounts in ENO's application, preventing ENO's recovery of construction costs beyond the level of ENO's contingency budget.

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CERTIFICATE OF SERVICE

I hereby certify, this 19th day of January, 2018, that copy of the foregoing has been served upon the official service list for this docket maintained by the Council Utilities Regulatory Office via electronic mail and/or U.S. Mail, postage properly affixed.

Michael L. Brown