BEFORE THE

NEW ORLEANS CITY COUNCIL

IN RE: RESOLUTION AND ORDER ESTABLISHING A DOCKET AND OPENING A RULEMAKING PROCEEDING TO ESTABLISH RENEWABLE PORTFOLIO STANDARDS.	**DOCKET NO. UD-19-01** **July 15, 2019**

AIR PRODUCTS AND CHEMICALS, INC.
REPLY COMMENTS

Air Products and Chemicals, Inc. ("Air Products") respectfully submits the following replies to comments filed by stakeholders in the referenced docket relating to the potential establishment of a Renewable Portfolio Standards ("RPS"). Pursuant to the Order issued on July 1, 2019, in which the deadline for filing reply comments was extended to July 15, 2019, Air Products Reply Comments are timely filed.

1. **What would an appropriate RPS target for New Orleans be, and should it be a requirement or a goal?**
   a. **What percentage of ENO's load should be met through renewable resources, and what data or other information exists indicating that the target is achievable in New Orleans?**

   b. **In what year should ENO be required to meet this target, and should ENO have specific, incremental targets to meet?**

   Air Products Reply: Air Products reiterates that it does not recommend the Council set an RPS target for New Orleans, but should encourage Entergy New Orleans, LLC ("ENO") to pursue generation resources (acquisition or contract) that use clean energy (including renewable energy resources and other clean energy resources) when there is a need for additional generation and the proposed resource is the lowest reasonable cost resource to meet the need and provide reliability of service.

   To the extent the Council adopts a target, Air Products agrees with ENO that the target should be clean energy standard ("CES") target. Further, Air

Products recommends the target be a goal, and not a requirement, to avoid uneconomic generation resources being added to ENO's fleet in order to meet a mandated target RPS, particularly if generation is not needed to serve load. The timing of the RPS target depends on the size of the target and should consider and align with ENO's capacity need and expected load growth. In addition, a rate cap should be included, as was discussed in Air Products initial response to Question 4, filed on June 3, 2019.

Air Products further replies to specific proposals of other stakeholders as follows:

Reply to ENO: Air Products agrees that to the extent a standard is adopted by the Council, the standard should be focused on clean energy rather than solely renewable energy and should be voluntary rather than mandatory. In particular, Air Products agrees that a mandatory RPS could harm customers by raising costs and compromising reliability. However, Air Products has concerns with ENO's proposed voluntary goal of serving 70% of customers through zero carbon emitting resources by 2030. Given that ENO does not have a need for additional resources beyond those already planned prior to 2030 (as ENO indicates in its initial comments), AP has concerns with setting a goal that increases the percentage of customers served with zero carbon emitting resources by 2030. Any goal should be set for a date beyond 2030 and then reassessed should a capacity or reliability need develop in the interim. Air Products objects to ENO acquiring additional resources, at the expense of its customers, if there is no capacity or reliability need for the resource - - particularly given the low capacity values in MISO.

Reply to Alliance: In its initial comments, the Alliance recommends adoption of a mandated 100% RPS by 2040, with an incremental goal of 55% by 2033, and inclusion of annual compliance targets using a straight-line schedule. The Alliance also indicated that a target should consider expected retirement timelines of Entergy assets, including Union Power (2032) and potentially early dissolution of PPAs with Entergy affiliates for fossil fuel and nuclear resources. Air Products agrees that any target should consider the timing of retirement of Entergy generation assets. However, given the uncertainty with the actual date when generation assets may be retired, which can be sooner or later than forecasted by ENO, any target should be voluntary and not mandatory. This would provide more flexibility in timing any new resource additions to when existing generation is retired and avoid customers paying for new resources prematurely. Further, Air Products disagrees with any target being limited to renewables.

Reply to Southern Renewable Energy Association ("SREA"): Air Products agrees with SREA that any 100% goal should be focused on clean energy and timed when existing Entergy assets are retired. However, Air Products disagrees with SREA that any RPS/CES goal should be mandated. Further, Air Products submits that setting a mandatory goad of 60% renewables by 2030 based on the forecasted retirement of Union Power in the early 2030s is premature. If the Council is inclined to adopt a target, Air Products supports a voluntary target that focuses on clean energy and that recognizes ENO does not need any additional capacity beyond what is already planned prior to 2030, and that any forecasted retirements in 2030 are too uncertain to impose a mandate that would result in the acquisition of new resources without a capacity or reliability need.

Reply to PosiGen Solar ("PosiGen"): In its initial comments, PosiGen supports a MWh goal with the following targets for reaching 100% renewables by 2040: 15% retail electricity sales by 2022; 25% retail electricity sales by 2025; 40% retail electricity sales by 2029; 55% retail electricity sales by 2033; and 100% retail electricity sales by 2040. PosiGen also supports creating a schedule for annual targets for Tier I and Tier II resources. Further, PosiGen indicates that it would also support entertaining the idea of a supplemental capacity goal.

In reply, Air Products disagrees that an RPS should be mandated. To the extent the Council determines to establish a standard, the focus should be on clean energy and timed to avoid adding resources and costs when there is no "need" for new capacity or energy. Posigen's comments and proposed 100% renewables by 2040 and interim targets do not appear to be informed by when ENO will have a need for energy or capacity and should not be adopted by the Council. Ignoring both need and cost, PosiGen writes a prescription for run-away costs. The suggested goals are overly ambitious and PosiGen has not provided any evidence to suggest that they are realistic.

Moreover, the prices for electricity paid by customers of ENO (residential, commercial and industrial) are already quite high in comparison to the rates paid by customers of ENO's sister company Entergy Louisiana. For example, according to the Winter 2019 "Typical Bill" publication of Edison Electric Institute, the average price paid by residential customers of ENO in 2018 was 11.33 ¢ per kWh; whereas, the price paid by Legacy ELL customers was 8.92 ¢ per kWh and by Legacy EGSL customers was 8.39 ¢ per kWh. The ENO rates are already some 30% above the rates of ELL. Similar differences exist for commercial and industrial customers.

Reply to Vote Solar and 350 New Orleans ("Vote Solar/350"): Initial comments of Vote Solar/350 support a resilient and mandatory RPS ("R-RPS") that

encourages distributed renewable energy interconnected to the ENO distribution system and requires that 55% of all retail sales being from renewable energy products by 2033, with annual interim goals, and a 100% carbon free grid by 2040. The Vote Solar/350 Comments recognize that the target date and means of achieving 100% carbon free may need to be adjusted after some experience is gained with the initial R-RPS phases. Air Products agrees that any target or goal that may be set for an RPS or CES should provide for some flexibility to allow adjustment as experience is gained. For this reason, Air Products does not support a mandatory target. Further, based on the data cited to in Vote Solar/350 comments,[1] Air Products questions the ability of ENO to meet a 55% target of all renewables by 2033 without ratepayers bearing the costs of a significant amount of additional renewable resources without ENO having a capacity or reliability need. As ENO indicated in its comments, and as was stated above, ENO does not have a capacity or reliability need beyond the resources already planned prior to 2030.

Reply to Audubon Louisiana ("Audubon"): In its initial comments, Audubon supports a decarbonization and 100% RPS goal by 2040 for services provided by both electricity and gas, with the goal being applicable to city functions, all energy uses and services, public and private. Specifically, Audubon indicated that the RPS should be: (1) all electricity generation for loads served by the City to be fueled by renewable energy; (2) all heat and process loads served by the City should be fueled by renewable gas (methane derived from renewable resources) or converted to renewable electricity; (3) all heat, process and transportation loads served by petroleum should be converted to renewable electricity or gas, and (4) all new electric loads such as those relating to electrified transportation, building electrification, or other should be driven by renewable electricity.

Air Products urges the Council to reject the expansive and unsupported recommendations of Audubon. Audubon ignores the use of clean energy resources and wants the target to be 100% renewable resources. Audubon provides absolutely no analysis to suggest that its goals are practical, and does not even attempt to estimate the costs that such ambitious goals might impose on ENO customers who already are paying very high electricity rates.

Reply to Center for Climate and Energy Solutions ("C2ES"): Air Products disagrees that any RPS should be mandatory, as proposed by C2ES. Further, Air

[1] Vote Solar/350 comments cite to the following information that they indicate was provided by ENO in its IRP docket: ENO anticipates that 17-46% of its market coal and legacy gas capacity would be retired by 2028, growing to 57-76% in 2038, which represent more than 60% of ENO's operating capacity in 2015; and Union Power is anticipated to retire in 2033.

Products disagrees that the Council should "expand" the RPS to focus on clean energy above the initial 60% renewables proposed by C2ES by 2050. Rather, any standard should focus on clean energy without a carve out for renewable resources for the initial compliance targets.

2. **How should a New Orleans RPS target be satisfied?**

   a. **Should ENO be allowed to purchase RECs to satisfy the requirement, and if so what, if any, limitations should be applied to the use of RECs? If RECs are allowed, how should they be certified or verified?**

   b. **What resources should be included in the definition of resources that may be used to meet the target (whether through the addition of resources to ENO's system or through the purchase of RECs) -- Solar Water Heat, Solar Space Heat, Geothermal Electric, Solar Thermal Electric, Solar Thermal Process Heat, Solar Photovoltaics, Wind (Large and Small), Biomass, Hydroelectric, Geothermal Heat Pumps, Combined Heat & Power, Landfill Gas, Hydroelectric (Large and Small), Geothermal Direct-Use, Anaerobic Digestion, Fuel Cells using Renewable Fuels, other?**

   c. **Should there be a requirement that some portion of the RPS must be met through specific types of renewables (or RECs), such as solar or distributed generation?**

   d. **Should the Council consider adopting a method of encouraging local renewable resources, such as by providing ENO with greater credit toward meeting the RPS requirement for local resources than for remote resources?**

   Air Products Reply: As Air Products indicted in its initial comments, should the Council adopt an RPS target, the RPS should allow all clean energy resources to count towards meeting the target and include the purchase of properly verified RECs, subject to verification by an independent third-party. Air Products recommends that any standard not be limited to renewable resources but consider all resources that produce clean energy, including nuclear. However, Air Products considers Solar Water Heat, Solar Space Heat, Geothermal Electric, Solar Thermal Process Heat and Geothermal Heat Pumps to be load and not generation resources. The resources that Air Products identified in initial comments for including in the definition of resources that can satisfy any target adopted by the Council include the following resources (through acquisition or contract): Solar Photovoltaics, Wind, Biomass, Hydroelectric, Anaerobic Digestion, Fuel Cells using Renewable Fuels, Nuclear, and Waste Heat Recovery Facilities. Further, to the extent that Solar Thermal Electric is intended to mean concentrating solar generation, then

Air Products would agree that Solar Thermal Electric should also be eligible to meet an RPS target.

As Air Products stated in initial comments, any target should not mandate a certain portion of the target to be met through a specific type of renewable resource or RECs, or that any portion should be met only through renewable resources in general. The RPS target should include non-renewable resources that generate clean energy - - *i.e.*, a CES target. Further, to the extent a particular type of renewable resource is economic, it would be selected on merit. When a mandate is needed for a particular renewable resource to be selected, then resources will be added (through acquisition or contract) that are not lowest reasonable cost or otherwise economic.

Air Products objects to the use of carve outs or tiers to promote certain resources over others. The use of carve outs or tiers will drive up the costs of achieving an RPS/CES by potentially disregarding whether a resource is the lowest reasonable cost resource to meet a capacity/reliability need of ENO while maintaining compliance with the objective of an RPS/CES.

Air Products further replies to specific proposals of other stakeholders as follows:

Reply to ENO: ENO indicates in its initial comments that its preferred path to meeting a voluntary CES goal would include adding 240 MW of new, large scale solar (inclusive of the 90 MW solar portfolio recently proposed to the Council), electrification of the Sewerage and Water Board of New Orleans ("S&WB") pumping load to reduce S&WB costs and reduce air pollution in the City. ENO indicated that these additions with energy efficiency would produce Clean Energy Credits ("CEC" with one CEC equaling one MWh) equal to approximately 15% of ENO's forecasted 2030 customer load. While Air Products appreciates that electrification of S&WB load may help reduce air pollution, Air Products objects to such costs being treated as CES program costs and recovered from ENO customers through a CES rider. ENO should follow its Schedule EOES-3, regarding Extension of Electric Facilities, to determining whether the additional costs to serve the S&WB should be directly recovered from the SW&B or socialized among all customers.

Reply to Alliance: Air Products disagrees with the recommendation of the Alliance to establish carve outs and tiers for resources that would be eligible to satisfy an RPS. As previously discussed herein and in initial comments, any carve out would increase costs. Similarly, use of tiers to require or favor resources from certain geographic areas would likewise frustrate a competitive bidding process

and selection of the lowest reasonable cost resource to meet a capacity/reliability need of ENO while also satisfying an RPS/CES. Air Products has concerns that favoring resources located within the city will result in too much reliance on solar rooftops and create reliability issues. Air Products also objects to any carve out for low and moderate income customers unless the subsidization of those customers is confined to within the residential customer class.

While the Alliance supports establishing geographic preferences for certain resources, the Council should not. As noted above, establishing geographic restrictions on where resources can be acquired, restricts competition and raises prices. As shown on page 14 of the Alliances' comments, Massachusetts and New Jersey have geographic preferences. As reported in the 2018-2019 edition of the publication "Megawatt Daily," qualifying solar RECs were trading for $383 per MWh in Massachusetts and $231 per MWh in New Jersey, both of which would geographically restrict the origin of RECs to their state. In contrast, near-by states with less restrictions were trading at much lower prices. For example, trades in Ohio were for $23 per MWh and in Pennsylvania for $42 per MWh. While there may be some attractiveness to "buying local," such a policy would not be beneficial to the customers of ENO.

Reply to Southern Renewable Energy Association ("SREA"): Air Products agrees with SREA that the use of carve outs for specific technologies and preference for resources within New Orleans will increase ratepayer costs and should not be adopted. Air Products also agrees with SREA that the use of competitive bidding will help with implementation costs, but Air Products disagrees that any standard should be limited to renewables. If the Council adopts a standard, the standard should be for clean energy and all resources and technologies determined in this proceeding to be eligible for meeting the CES should be allowed to participate in the competitive bidding process, which would avoid a resource that is not the lowest reasonable cost for the specified need being approved.

Reply to PosiGen Solar ("PosiGen"): In its initial comments, PosiGen outlines a "Green New Orleans Deal" to mirror the Green New Deal being considered in the US Congress, which would include 100% renewable energy by 2040 incentivizing low-income programs, prioritizing "Opportunity Zone neighborhoods" for grid modernization, subsidizing solar, energy efficiency and storage programs, mandating retirement of old infrastructure, encourage electrification of transportation, incentivizing rental housing energy efficiency and solar programs. PosiGen also supports the adoption of a three tier system and solar carve out, and the use of multipliers, which would favor resources located within Orleans parish, and secondarily within Louisiana, and favors various forms of solar resources.

Further, PosiGen recommends that ENO be barred from adding any new fossil fuel generation resources after 2022.

In reply, Air Products disagrees that solar, energy efficiency and storage programs should be subsidized as RPS or Clean Energy Programs. Air Products further disagrees that the Council should mandate the retirement of any infrastructure unless it is established that the resource is no longer cost effective and retirement of the resource would not adversely affect reliability and would otherwise be prudent.

While Air Products agrees that it is reasonable to look at the possibility of adding clean energy resources when there is a need for new resources, forcing the retirement of perfectly reliable and cost-efficient existing resources solely for the purpose of compliance with an artificial portfolio standard is neither good practice, nor cost effective for customers.

As discussed above in reply to the Alliance, Air Products disagrees with the use of carve outs or tiers to favor certain resources over others, as such mechanisms would inflate the cost of achieving the RPS or CES by forcing specific technology to be used rather than allowing economics and/or reliability needs dictate. The adverse consequence of making the wrong resource choices is amply illustrated by Figure 2 on page 12 of ENO's comments. This chart shows that substituting energy efficiency investments for baseline grid-scale solar and electrification would cause ENO's rates to increase by 15%, as opposed to the relatively more modest 1% - 2% increase under the baseline scenarios. This amply illustrates that while many policies and resource implementations may "sound good," they are economically ineffective and create adverse consequences for utility consumers.

In addition, Air Products strongly disagrees that the Council should bar consideration of any fossil fuel resources at a specific point in time in the future. Such policy decision would preclude the Council from being able to consider facts that may make such a resource necessary at the time it is proposed, such as if needed for reliability reasons.

Reply to Vote Solar and 350 New Orleans ("Vote Solar/350"): As discussed in its reply to the Alliance and PosiGen, Air Products does not support the use of carve outs or tiers for meeting an RPS or CES.

Reply to Audubon Louisiana ("Audubon"): In its initial comments, Audubon supports incremental date-certain milestones towards the 2040 goal with use of tiers for low-income customer demand, local and remote generation, direct supply and REC based renewable energy and other categories. Further, Audubon

supports use of mandates or penalties, or in alternative use of performance-based regulation ("PBR") measures, such as increases or decreases to ROE. Air Products agrees that any RPS/CES goal would benefit from incremental milestones, but supports tying those milestones to retirement of generation assets once such information is more certain. Further, Air Products disagrees with the use of tiers or carve outs, as previously discussed in these Reply Comments. Air Products also strongly disagrees with the use of PBR measures, such as increases or decreases in ROE, to incentivize ENO. While Air Products recognizes that ENO should have the opportunity to recover all prudently incurred costs to comply with an RPS/CES, assuming consistent with any budgets determined by the Council, Air Products disagrees with allowing ENO to increase its ROE simply because it has complied with policy decisions of the Council.

Reply to Center for Climate and Energy Solutions ("C2ES"): Air Products has concerns with the resources that C2ES proposes to include for meeting an RPS target. Air Products considers solar water heat, solar space heat, geothermal electric, solar thermal electric, solar thermal process heat, and geothermal heat pumps to be load and not generation resources. Air Products also questions the inclusion of CHP, municipal solid waste, landfill gas as "clean energy" resources.

3. How should the RPS standard be enforced, should the Council consider a penalty or Alternative Compliance Payment structure?

Air Products Reply: As Air Products indicated in its initial comments, to the extent the Council adopts and RPS (or CES) with a required target, the Council should review on an annual basis ENO's compliance with the target. Should ENO be found out of compliance, the Council should initiate a docket, with opportunity for intervention and discovery, to evaluate the non-compliance and to determine if the non-compliance was the result of reasonable and prudent decision-making. To the extent it is determined the non-compliance was the result of reasonable and prudent decision-making by ENO, a penalty or compliance payments should not be imposed.

Air Products further replies to specific proposals of other stakeholders as follows:

Reply to ENO: In its initial comments, ENO proposes to address budgets and goals for the CES in its IRP dockets, similar to the process used for energy efficiency measures in the Energy Smart program. The CES plan would be proposed in the IRP for the Council's review as part of the larger IRP report and upon approval, ENO would proceed with the plan with regular reporting on results, costs and any unanticipated barriers. Beginning in 2020, ENO would

begin to measure and track total clean energy (supply and demand side) as a percent of retail electric sales, with the first CES Report filed by May 31, 2021 (for the 2020 year); the Council would recommend any changes as part of review of the reports; and the reports would also be subject to prudence review by the Council. Under ENO's proposal, the reports would not trigger any form of litigated process but would include a public meeting and opportunity for comments. ENO would seek Council pre-approval of certain clean energy resource acquisitions to be undertaken to meet the goal-based CES.

AP objects to ENO's proposal. AP objects to using the IRP for the development of a plan and for setting budgets for a CES - - without significant changes to the IRP process being made. AP objects to a CES budget and plan being developed without the opportunity for discovery, testimony and hearing. Thus to the extent a CES plan is developed in the context of an IRP, there should be opportunity for discovery and a litigated proceeding if there are disputed issues. Further AP objects to prudence reviews of the plan being undertaken or changes to the plan being made in annual reports without the opportunity for discovery, testimony and hearing. AP does not believe that the Council can determine and should not determine if ENO has acted prudently without opportunity for a litigated proceeding.

Reply to Alliance: While Air Products does not oppose use of an ACP, as is supported by the Alliance, Air Products objects to APC dollars being used to fund energy efficiency programs. Air Products would support the funds being used to offset costs of achieving the RPS/CES goal, which is separate from the cost to undertake Energy Smart programs.

Reply to Southern Renewable Energy Association ("SREA"): SREA suggests that for penalties, the City of New Orleans could become a shareholder of Entergy such that fines are paid to the city in shares of company stock. Air Products strongly disagrees with this proposal. Air Products believes that the City being a shareholder of Entergy would create a conflict of interest in the City's regulation of ENO and is inappropriate.

Reply to PosiGen Solar ("PosiGen"): PosiGen supports establishing an ACP schedule for different tiers of resources that is set for each year through 2029, with funds used to invest in Tier I resources. While Air Products agrees that any ACP dollars should be used to offset costs to achieve compliance with any RPS or CES adopted by the Council, Air Products disagrees that the dollars should be dedicated to any particular resource (*e.g.*, Tier I).

Reply to Audubon Louisiana ("Audubon"): In its initial comments, Audubon supports use of mandates or penalties, or in alternative use of performance-based regulation ("PBR") measures, such as increases or decreases to ROE. Air Products strongly disagrees with the use of PBR measures, such as increases or decreases in ROE, to incentivize ENO. While Air Products recognizes that ENO should have the opportunity to recover all prudently incurred costs to comply with an RPS/CES, assuming consistent with any budgets determined by the Council, Air Products disagrees with ENO being allowed to increase its ROE for complying with policy decisions of the Council.

4. **What protections should be put in place to protect ratepayers from unreasonable increases in rates due to the RPS?**

   a. **What would be an unacceptable level of rate impact resulting from compliance with an RPS?**

   b. **If a limit on rate impact is established, how should it be structured -- as a flat cap, as an Alternative Compliance Payment structure, or through some other structure?**

Air Products Reply: As Air Products stated in initial comments, to the extent an RPS (or CES) target is adopted by the Council, it should be subject to a 1% rate cap, such that if acquiring or contracting for the resource being added to satisfy the RPS target would cause rates to serve ENO customers to increase by 1% or more compared to either not adding the resource or adding another resource that would otherwise be available, the RPS-compliant resource would not be added. As shown in Figure 2 on page 12 of ENO's comments, a 1% cap appears to be consistent with the rate impacts ENO estimates would be required to achieve 70% Clean by 2030 under its Scenario 2. With the exception of Audubon Louisiana, some form of a cost cap appears to be generally agreed upon by all stakeholders as a means of mitigating rate impacts.

Air Products further replies to specific proposals of other stakeholders as follows:

Reply to Alliance: As noted above, Air Products supports use of a cost cap, but believes an appropriate cap would be a flat 1% cap, such that if acquiring or contracting for the resource being added to satisfy a clean energy target would cause rates to serve ENO to increase by 1% or more compared to either not adding the resource or adding another resource that would otherwise be available, the RPS-compliant resource would not be added.

Reply to PosiGen Solar ("PosiGen"): Generally, Air Products agrees that cost caps should be used. However, Air Products recommends use of a flat 1% rate impact cap, as discussed above in reply to the Alliance and as outlined in Air Products initial comments.

Reply to Audubon Louisiana ("Audubon"): Air Products disagrees with Audubon that it is premature to determine cost caps for complying with an RPS/CES. Such caps are necessary from the outset in order to prevent ratepayer impact. Waiting until after the plan is implemented would be too late to control costs.

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CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing has been served by hand delivery to the Clerk of Council with a copy to the Director, Council Utilities Regulatory Office, and upon the Official Service List via electronic mail.

New Orleans, Louisiana this 15th day of July, 2019.

Carrie R. Tournillon