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U.S. Environmental Protection Agency

Stratospheric Protection Division (6205T)

Docket ID No. EPA-HQ-OAR-2017-0629

1200 Pennsylvania Avenue NW

Washington, DC 20460

Subject: Duke Energy Comments on "Protection of Stratospheric Ozone: Revisions to the Refrigerant Management Program's Extension to Substitutes." 83 Fed. Reg. 49332 (October 1, 2018).

Duke Energy Business Services LLC (Duke Energy), on behalf of Duke Energy Carolinas LLC, Duke Energy Indiana LLC, Duke Energy Ohio LLC, Duke Energy Kentucky LLC, Duke Energy Florida LLC and Duke Energy Progress LLC ("Duke Energy"), submits the attached comments to the United States Environmental Protection Agency (EPA) on the proposed rulemaking entitled "Protection of Stratospheric Ozone: Revisions to the Refrigerant Management Program's Extension to Substitutes."[1] Headquartered in Charlotte, N.C., Duke Energy is one of the largest energy holding companies in the United States, serving

[1] 83 FR 49332

approximately 7.5 million customers through our electric utilities and infrastructure business and 1.6 million customers through our gas utilities and infrastructure business in the Southeast and Midwest. We also operate a growing renewable energy portfolio across the United States.

Duke Energy operates the largest regulated nuclear fleet in the nation and has consistently set industry benchmarks for safety and reliability. In 2017, our 11 nuclear units produced more than one-third of the company's electric generation, providing nearly 90 billion kilowatt-hours (kWh) of carbon-free electricity in North Carolina and South Carolina.[2] Regulatory clarity and certainty is key for us to continue to provide this safe, affordable and clean energy for our customers.

As some of our nuclear facilities use hydrofluorocarbons (HFCs) as cooling agents in load-control transformers that are essential to the operation of these nuclear power plants, we were directly impacted by EPA's decision in 2016 to extend the leak repair requirements under the Refrigerant Management Program for substitute refrigerants.[3] Duke Energy supports this proposed action to remove these burdensome and unnecessary requirements, and we urge EPA to finalize this rescission quickly. In the event EPA cannot finalize the rescission with ample lead time for Duke Energy to avoid operational impacts to our nuclear units and unnecessary expenditures, we encourage EPA to issue a separate action to extend the compliance deadline of January 1, 2019, for the leak repair requirements in 40 CFR § 82.157.

Ironically, while EPA expressed a motivation in the 2016 rule to expand the leak repair provisions to substitute refrigerants due to the global warming potential of those substances and their contribution to climate change, that rule perversely affects nuclear generation, which is the

[2] Duke Energy. (2018). *2017 Duke Energy Sustainability Report*. Retrieved from https://sustainabilityreport.duke-energy.com/downloads/2017-DukeSR.pdf
[3] 81 FR 82272

nation's largest source of carbon-free electricity. In 2017 alone, Duke Energy's nuclear plants are estimated to have avoided up to 82 million metric tons of CO_2 emissions.[4]

In 1993, EPA created the Refrigerant Management Program to implement the goals of Section 608 of the Clean Air Act (CAA) to reduce the use and emissions of refrigerants that are ozone-depleting substances.[5] Section 608(c)(1) of the CAA prohibits "any person, in the course of maintaining, servicing, repairing, or disposing of an appliance or industrial process refrigeration to knowingly vent or otherwise knowingly release or dispose of any class I or class II substance used as a refrigerant in such appliance (or industrial process refrigeration) in a manner which permits such substance to enter the environment."[6] Section 608(c)(2) extends this same prohibition to "any substitute substance for a class I or class II substance."[7] In 1993, EPA codified the "venting prohibition" of Section 608(c)(1) into the Refrigerant Management Program[8]; in 2004, pursuant to 608(c)(2), EPA extended this prohibition to substitute refrigerants[9] and codified a number of exemptions for substitute refrigerants in that rule and future rules. Thus, the substitute refrigerants that are subject to the venting prohibition are known as "non-exempt substitute refrigerants."

In November 2016, EPA greatly expanded the scope of the venting prohibition by reversing EPA's historic interpretation of whether "topping off" an appliance is a knowing release of refrigerant in the course of maintaining, servicing or disposing of an appliance.[10] At that time, EPA concluded that if a refrigerant must be added to an existing device, the owner or operator of such device knows that the system has leaks and that refrigerant is entering the

[4] Duke Energy. (2018). *2017 Duke Energy Sustainability Report*. Retrieved from https://sustainabilityreport.duke-energy.com/downloads/2017-DukeSR.pdf
[5] 58 FR 28660
[6] 42 USC § 7671g(c)(1)
[7] 42 USC § 7671g(c)(2)
[8] 58 FR 28714
[9] 69 FR 11946
[10] 81 FR 82272

environment, and that the owner or operator has violated the venting prohibition under CAA Section 608(c) unless applicable practices are followed. Using this rationale, EPA extended the applicability of their appliance maintenance and leak repair regulations promulgated under CAA Section 608(a) to also cover non-exempt substitute refrigerants under CAA Section 608(c)(2). Of most significance to Duke Energy, EPA's reversal of its position on "topping off" for the first time extended the requirements of the appliance maintenance and leak repair provisions in 40 CFR § 82.157 to appliances that contain 50 pounds or more of non-exempt substitute refrigerant. Since load control transformers at our nuclear power plants contain approximately 100 pounds of HFCs apiece, Duke Energy was impacted by these requirements. Duke Energy was additionally impacted by EPA's decision to extend other requirements of the Refrigerant Management Program in 40 CFR Part 82, Subpart F, to non-exempt substitute refrigerants, under the rationale that such an expansion would fulfill the goals of Section 608(a) in reducing the use and emission of ozone-depleting substances.[11]

Duke Energy agrees with EPA's current proposal to rescind the 2016 extension of the leak repair requirements to non-exempt substitute refrigerants. Under Section 608, EPA's explicit authority to regulate substitute substances is limited to the venting prohibition found in Section 608(c)(2), which prohibits venting in the course of maintaining, servicing, repairing or disposing of an appliance or industrial process refrigeration. Even if "topping off" did suggest there was a venting of the appliance, the venting occurred while the appliance was operating, not during the course of maintaining, servicing, repairing or disposing of an appliance, as is required under Section 608(c)(2). As a result, EPA inappropriately extended the applicability of the leak repair regulations to non-exempt substitute refrigerants under Section 608(c)(2). Furthermore, EPA's previous reliance on the goals of Section 608(a) to extend Subpart F requirements to non-

[11] 42 USC § 7671g(a)(3)(A)

exempt substitute refrigerants is also unsupported. Section 608(a) provides EPA with the explicit authority to regulate the use and disposal of Class I and Class II substances, but Congress did not choose to explicitly extend that authority to substitute substances.

In the Duke Energy Carolinas nuclear fleet, 84 transformers utilize HFCs as cooling agents. No other refrigerant has been identified as suitable for this special nuclear application. Nuclear plants are designed to operate for extended periods, and outages must be planned well in advance to ensure that there is no impact to safety or electric reliability. Currently, refrigerant is only added to these transformers during the nuclear units' refueling outages, which typically occur every 18 months. The 2016 rule would require leak repairs to transformers to occur outside of this planned schedule, and it would create severe operational challenges to shut down a nuclear unit, even temporarily, to do so. In order to maintain the plant's operation and avoid unit outages, individual transformers would have to be taken offline and load would have to be shifted to another transformer to perform a leak repair per the 2016 rule requirements. As this procedure is seldom done due to safety concerns, Duke Energy would need to undertake extensive planning to avoid the potentially unsafe situation of a unit tripping offline.

Due to the long lead time needed to implement a leak repair program and the pending January 1, 2019, compliance deadline, it is imperative that EPA move quickly to finalize the rescission of the extension of the leak repair requirements to non-exempt substitute refrigerants, or extend the compliance deadline in a separate action. If this rescission is not finalized, Duke Energy will soon need to modify existing procedures or develop new procedures for implementing the leak repair provisions for the HFCs in our fleet, and will thus incur irreversible costs. If it could also be accomplished in a timely manner, Duke Energy would also support the

rescission of the full suite of subpart F requirements that were extended to non-exempt substitute refrigerants in the 2016 rule.

Duke Energy appreciates EPA's proposal to remove this unnecessary regulatory burden on nuclear facilities so that we can continue to provide this safe, affordable and clean energy for our customers. Thank you for your consideration of our comments, and we look forward to working productively with you through the implementation of a final rule. Should you have any questions regarding these comments, please contact me at venu.ghanta@duke-energy.com.

Sincerely,

Federal Regulatory Affairs Director

Duke Energy