



Mark Kametches
Senior Products and Services Manager

411 Fayetteville Street
Raleigh, NC 27601

T: 919.546.2366

January 15, 2025

Ms. Melanie King
Energy Strategies Group
Sector Policies and Programs Division
Office of Air Quality Planning and Standards
U.S. Environmental Protection Agency
109 T.W. Alexander Drive
Mail Code: D243-01
Research Triangle Park, NC 27709

King.melanie@Epa.gov

SENT VIA E-MAIL ONLY

Dear Ms. King:

Duke Energy respectfully requests a regulatory interpretation confirming that its PowerShare® “Mandatory 50” demand response (DR) program (Program) meets the requirements of 40 C.F.R. § 63.6640, which allows emergency engines to operate for up to 50 hours per year to mitigate local transmission and/or distribution limitations. For the following reasons, Duke Energy asserts the Program meets all of the conditions set forth in subsection (f)(4)(ii) of section 63.6640.

Background on Duke Energy

Duke Energy serves as its own balancing authority in North Carolina and South Carolina; its service area is not covered by any regional transmission organization or independent system operator. In 2021, the North Carolina General Assembly enacted Session Law 2021-165: *Energy Solutions for North Carolina* (House Bill 951), which directs the North Carolina Utilities Commission (NCUC) to determine the least-cost path for Duke Energy to reduce carbon emissions from its electric generating facilities and to take all reasonable steps towards achieving an interim goal to reduce carbon emissions by 70 percent from 2005 levels by 2030 and a target of achieving carbon neutrality by 2050. The law also requires the NCUC to ensure that all planned generation and resource changes maintain or improve upon the adequacy and reliability of the existing grid.

In compliance with House Bill 951, Duke Energy filed its 2023-2024 Carbon Plan Integrated Resource Plan (CPIRP) with the NCUC in August 2023 in Docket No. E-100, Sub 190, and subsequently supplemented the CPIRP in January 2024 to address emerging, unprecedented growth in electric demand now occurring in North Carolina and South Carolina. In the CPIRP, Duke Energy projects significant load growth resulting from the state’s growing population and significant new and expanding load from manufacturing, electric transportation, data centers, and advanced cloud

computing and blockchain operations. To meet this incremental load growth, Duke Energy is now planning for 33.6 gigawatts of new resource additions by 2035. In addition to new natural gas-fired generation, the CPIRP includes carbon-free nuclear, renewables, energy storage projects, and demand-side solutions.

Importantly, the CPIRP plans for the orderly retirement of Duke Energy's remaining 8,400 megawatts of coal-fired generating capacity in North Carolina by 2035, representing approximately 20 percent of the winter capacity requirement. As a result, the Program would serve an important role in ensuring reliability as Duke Energy's system and the region transition from fossil to renewable resources of generation. Although the generators subject to the Program would operate very infrequently on a calendar-year basis, they would serve as an important reliability resource in the Carolinas as the region experiences increasingly extreme weather and transmission constraints. While Duke Energy transitions to renewable resources to meet the requirements of House Bill 951, the Program will increasingly assist with bridging the gap brought about by the replacement of reliable baseload capacity with intermittent resources.

Duke Energy's PowerShare® Demand Response Program

PowerShare® is a voluntary DR program designed for large commercial and industrial customers to help mitigate grid constraints during times of unusually high energy demand. One of the emergency options currently offered under PowerShare® requires participants to be available to curtail loads during emergency situations where Duke Energy, serving as the balancing authority, has determined that reliability is at risk. The program is a last-resort resource for our system operators, so historically it has not been used every year. The total number of hours varies in years when it is used, but it has ranged from six to 20 hours and has been dispatched for a total of only 73 hours since inception in 2009.

A new program concept, called "Mandatory 50," seeks to provide an opportunity for customers whose operational characteristics restrict the number of hours that they can curtail, including those with an emergency-classified generator, to participate in a DR program. Key target segments would include water treatment, retail, grocery, data centers, and hospitals. The Program would provide access to a network of customer-owned emergency engines, which Duke Energy may contractually request to dispatch for the precise purposes set forth in the 50-hour exemption. When needed, our PowerShare® customers would make their generators available to Duke Energy to support the local transmission and distribution system. Critically, the Program would not be used for peak shaving or for general demand response.

More specifically, under the Program, participants will agree to reduce loads down to a contracted level when Duke Energy system operators implement an emergency curtailment period. In return for the commitment to curtail, participants will receive a monthly capacity credit and an energy credit for all energy curtailed. The Mandatory 50 option will only be dispatched when forecasted grid reserves fall below certain thresholds established by Duke Energy for maintaining reliable service. Specifically, the program would be dispatched under EEA Level 1 (or higher) when transition to EEA Level 2 is imminent without further action. The Program would fall below all current emergency DR programs in the resource stack, while being constrained to 50 hours in any given calendar year to comply with the EPA's 50-hour exemption. Due to the interdependencies across the bulk electric system, implementation of this and other

emergency DR programs seeks to maintain system reliability with the goal of preventing the need for rotating load shed, which would create a series of many local disturbances that could result in the use of all generators throughout the affected areas.

Mandatory 50 Meets the Regulatory Conditions for Applicability

EPA's final rule for reciprocal internal combustion engines (RICE) promulgated on January 30, 2013, which amended sections 63.6640(f) and 63.6675 of 40 C.F.R. part 63, subpart ZZZZ, specified that owners and operators of stationary emergency RICE may operate their engines for up to 100 hours per year for emergency demand response and system reliability

during periods in which the Reliability Coordinator, or other authorized entity as determined by the Reliability Coordinator, has declared an EEA Level 2 as defined in the NERC Reliability Standard EOP-002-3, Capacity and Energy Emergency, and during periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

78 Fed. Reg. 6674, 6680.

In addition, in response to comments regarding "situations where the local balancing authority or transmission operator within the electric system determines that electric reliability is in jeopardy [and such] . . . conditions . . . could lead to a blackout for the local area," EPA specified in the final rule that existing emergency stationary RICE at area sources may be used for 50 hours per year as part of a financial arrangement with another entity if all of the conditions set forth in section 63.6640(f)(4)(ii) are met; to wit:

- The engine is dispatched by the local balancing authority or local transmission and distribution system operator;
- The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region;
- The dispatch follows reliability, emergency operation, or similar protocols that follow specific NERC, regional, state, public utility commission, or local standards or guidelines;
- The power is provided only to the facility itself or to support the local transmission and distribution system; and
- The owner or operator identifies and records the specific NERC, regional, state, public utility commission, or local standards or guidelines that are being followed for dispatching the engine.

Response to Public Comments on Proposed Amendments to National Emission Standards for Hazardous Air Pollutants for Existing Stationary Reciprocating Internal Combustion Engines and New Source Performance Standards for Stationary Internal Combustion Engines (Jan. 14, 2013) [hereinafter, "2013 RTC"] at 97-99.

On April 1, 2013, the state of Delaware and industry and environmental organizations filed a petition for judicial review challenging, among other things, EPA's modification of the national emissions standards and new source performance standards allowing backup generators to operate without emission controls for up to 100 hours per year as part of an emergency demand-response program. *Del. Dep't of Natural Res. & Envtl. Control v. EPA*, 785 F.3d 1 (D.C. Cir. 2015). Petitioners were concerned with consumers substituting the supply of capacity from traditional sources with backup generators whereby they would draw energy from the generators and not from the grid thereby reducing electricity consumption from the grid as measured at the customer's meter. *Id.* at 13. Petitioners were specifically concerned with "demand response aggregators" that would group backup generators together to form large "virtual power plants." *Id.* They reasoned that relying on backup generators to serve load in lieu of utility generation resulted in increased air pollution. *Id.*

In vacating those portions of the rule containing the 100-hour exemption, the court found, among other things, that EPA "relied on faulty evidence" and failed to "consider the alternative of limiting the exception to parts of the country not served by organized capacity markets." *Id.* at 14. In so holding, the court specifically referenced petitioners' assertion that "backup generator-based demand response resources 'simply provide a reliability service that could and would be equally met by alternative resources' traditional energy generators that comply with emissions controls *especially in organized capacity markets.*" *Id.* at 16 (emphasis added). The court further found that EPA's action was arbitrary and capricious because it did not adequately respond to commenters' concern over how the rule "threatens the efficiency and reliability of the energy markets by creating incentives for backup generators to enter the capacity markets and force out more efficient, traditional power generators." *Id.*

Duke Energy's Mandatory 50 program does not suffer from any of the deficiencies associated with the 100-hour exemption that was vacated by the court. First and foremost, the Program would operate in an area of the country not served by organized capacity markets. As noted above, Duke Energy serves as its own balancing authority in the Carolinas. In addition, Duke Energy system operators would implement the program only during emergency periods to prevent rotating load shed conditions creating a series of local disturbances, and the program would fall below all current emergency DR programs in the resource stack. Accordingly, the power would not replace more efficient electricity that would have otherwise been generated by Duke Energy's traditional resources; rather, the Program would serve as a resource of last resort to maintain system reliability. Accordingly, an inordinate amount of reliance will not be placed on the Program to ensure grid reliability; rather, it will be used solely as emergency backup. 2013 RTC at 37. As EPA indicates in its 2013 RTC, the 50-hour exemption "allow[s] for limited use of these engines prior to full emergency conditions," which is precisely the purpose of the Program. 2013 RTC at 93.

Finally, in response to a comment emphasizing "the need to allow the local balancing authority, transmission operator or local distribution systems to activate emergency engines as necessary in order to maintain system reliability and power quality," as well as DR and load management issues at the local level, provided the entity "follow[s] a developed emergency operating plan and . . . [acts in] accord[ance with its] . . . expert judgment" . . . consistent with how NERC manages the actions of the local balancing authorities," EPA agreed that "emergency engines can be appropriately used in such situations, if limited to the pre-existing 50 hour allowance for non-emergency use and if operation is limited to specified conditions and reporting and recordkeeping

requirements are included to prevent abuse.” 2013 RTC at 98. Consistent therewith, under the Program (i) the engines would be dispatched solely by the local balancing authority—Duke Energy; (ii) the dispatch would avert or reduce the risk of local power supply interruptions by mitigating impending local energy emergencies, local transmission and/or distribution reliability equipment or line limitations or averting potential voltage collapse; (iii) the dispatch would follow reliability/emergency operation protocols that follow specific NERC and public utility commission standards; (iv) the power would be provided to support the local transmission and distribution system; and (v) Duke Energy would identify and record the specific NERC and public utility commission standards being followed for dispatching the engine.

Accordingly, not only is the Program consistent with EPA’s intent behind promulgating the 50-hour exemption, but it also meets each of the five conditions established by EPA to assure that the engines will only be used in limited circumstances to address emergency situations, which could not reasonably be planned for by Duke Energy—the balancing authority. Indeed, the Program will “only be used where electric reliability is threatened, and where [Duke Energy] believes dispatch of RICE to be the most reasonable alternative” to avoid rolling blackouts that create localized issues. Response to Public Comments on Notice of Reconsideration of National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines and New Source Performance Standards for Stationary Internal Combustion Engines (June 16, 2014) at 16.

Conclusion

For the foregoing reasons, Duke Energy is confident that its PowerShare® Mandatory 50 Program meets the requirements of 40 C.F.R. § 63.6640(f)(4)(ii) and requests EPA’s concurrence with same. Thank you for your time and consideration. If you have any questions, please do not hesitate to contact me at mark.kametches@duke-energy.com or (919) 880-7266.

Sincerely,



Mark L. Kametches
Senior Products and Services Manager