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Gopika Patwa
Washington Department of Ecology
300 Desmond Drive SE
Lacey, WA 98503

Re: Amendments to Chapter 173-443 WAC

Dear Mr. Patwa:

Vertiv is pleased to submit the following comments regarding the Washington State Department of Ecology (“Ecology”) Preproposal Statement of Inquiry regarding a rulemaking to amend Chapter 173-443 WAC, Hydrofluorocarbons (HFCs) and Other Fluorinated Greenhouse Gases. Specifically, Vertiv comments address provisions contained in Chapters 173-443-030 and 173-443-040, Table 2 that have been interpreted by Ecology to apply to the classification of cooling equipment utilized in computer rooms, data centers and information technology equipment facilities (“ITEF”). Vertiv requests that Ecology propose and take final action on regulatory changes that would:

- (1) Align Chapter 173-443 provisions with the final Technology Transitions Rule adopted by the U.S. Environmental Protection Agency (“EPA”) providing for a limit of 700 global warming potential (“GWP”) for refrigerants utilized in cooling equipment used in computer room, data centers and ITEF. 40 C.F.R. §§84.54(a)(11), (c)(13).
- (2) Align Chapter 173-443 provisions with the date for implementing the 700 GWP contained in EPA’s Technology Transitions Rule: January 1, 2027. *Id.*

I. Background and Basis for Requested Regulatory Changes

Issues regarding the classification and use of refrigerants in computer rooms, data centers and ITEF were extensively reviewed by EPA during its consideration of the Technology Transitions Rule in 2023. During that proceeding, EPA noted that equipment used for these purposes “is designed specifically for large-scale cooling or AC of information technology (IT) . . . Equipment typically has large refrigerant charge capacities to satisfy the significant cooling demands of the heat-generating equipment . . . As communications and information technology has developed over the past few decades, the heat produced and the cooling demand has increased significantly, complicating designs in consideration of the weight and location of the cooling equipment and how these issues might impact the structural requirements of the facilities.”¹ In other words, EPA recognized that computer rooms,

¹ 88 Fed. Reg. 73098, 73147 (Oct. 24, 2023).

data centers and ITEF present unique design and manufacturing challenges that are dissimilar to other air-conditioning and cooling equipment.

EPA's final rule therefore created a separate subsector for computer rooms, data centers and ITEFs, thereby allowing the agency to better evaluate the availability of substitutes and the unique demands of this end use. And, after considering comments received by several parties, EPA specifically determined that such equipment should not be classified as Industrial Process Refrigeration ("IPR") given the substantial differences between IPR (traditionally understood to involve pharmaceutical, petrochemical and manufacturing industries as well as industrial ice machines, appliances used in electric generation and ice rinks)² and information technology equipment.

EPA also determined that a January 1, 2027 implementation date was necessary to address both the challenges in developing new equipment using new refrigerants as well as differences in code sections that apply to data centers and ITEFs. In the final rule, EPA explicitly cited the time that is needed to both adopt and implement new safety code provisions:

*As commenters noted, equipment for this purpose has been granted its own annex in the 4th edition of UL 60335–2–40, "Household and Similar Electrical Appliances—Safety—Part 2–40: Particular Requirements for Electrical Heat Pumps, Air Conditioners and Dehumidifiers," and is in the process of being added to ASHRAE 15–2022, "Safety Standard for Refrigeration Systems." EPA proposed to include data centers and server farm cooling equipment within the IPR subsector. *Based on a review of the comments, including information on how the availability of substitutes for data centers, ITEF, and computer rooms can be affected by the safety standards covering the equipment, EPA has decided to consider data center, ITEF, and computer room cooling equipment as a separate subsector, independent of the IPR subsector, for the purposes of establishing GWP restrictions for this equipment.* Additionally, rather than including data center, ITEF, and computer room cooling equipment in the residential and light commercial AC subsector, also covered by the UL 60335–2–40 safety standard, EPA agrees with most commenters that the *significantly larger charge sizes and delays in being addressed by safety standards warrant independent evaluation of the availability of substitutes for this subsector.*³*

Allowing additional time for the transition to lower GWP refrigerants in this end use is therefore both technically appropriate and correlates to the State legislature's concern that appropriate building codes have been adopted to facilitate the use of lower-GWP refrigerants,⁴ in this case, UL-60335-2-40.

In this regard, it should be understood that information technology equipment was historically "covered" under safety and energy efficiency standards related to comfort cooling. But given the evolution of ITEF equipment (to handle high heat loads, to utilize higher refrigerant charges and to

² 40 C.F.R. Part 82, Subpart F.

³ 88 Fed. Reg. 73098, 73147 (Oct. 24, 2023) (emphasis added).

⁴ "Therefore, it is the intent of the legislature to reduce hydrofluorocarbon emissions, including by . . . [d]irecting the state building code council to adopt codes that are consistent with the goal of reducing greenhouse gas emissions associated with hydrofluorocarbons." RCW 70A. 60. 005(e). See also RCW 70A. 60. 020(b)(i) providing that for "other types of stationary air conditioning equipment" adoption of GWP limitations by dates certain was dependent upon the state building code council adoption of

handle much higher airflows when compared with comfort cooling) UL 60335-2-40 edition 4 defined ITEF as a unique cooling application with specific safety requirements. In doing so, UL included the following explanation:

The updated requirements are mandatory for all new certifications of these products by UL Solutions, effective Jan. 1, 2025. Because the previous Standard for these products, UL 1995, the Standard for Heating and Cooling Equipment, does not address refrigerants other than class A1, UL 1995 is no longer being maintained and will not be used for new certifications after Jan. 1, 2025. Products certified to UL 1995 before this date may be allowed to have continuing certification until Jan. 1, 2028, in alignment with the Environmental Protection Agency's (EPA's) allowed sell-through date.⁵

Finally, within the underlying statute Ecology is implementing, it should be noted that the legislature provided criteria for 750 GWP standards based on code adoption of UL 60335-2-40 edition 4, which specifically includes ITEF. In contrast, the 150 GWP standards which apply to IPR are associated with UL 60335-2-40 edition 2.⁶ Ecology should therefore correlate standards applicable to "data centers and data servers"⁷ to UL 60335-2-40 edition 4 with an associated GWP of 700 applied as a prohibition.⁸

II. Proposed Regulatory Amendments

Vertiv believes that relatively straightforward amendments may be made to Chapter 173-443 WAC to accomplish these purposes:

(1) Amend definition of "Industrial process refrigeration"

Within WAC 173-443-030, amend the second sentence in the definition of "industrial process refrigeration" to read as follows:

"This also includes equipment used in the generation of electricity and for large scale cooling of heat sources."

⁵ See: [Updated Requirements for Refrigerant Detection Systems | UL Solutions](#)

⁶ RCW 70A 60.020(2)(c)(3)(a)(C). In submitting these comments, we are of the understanding that Ecology considers at least some computer room, data center and ITEF equipment to be IPR equipment designed to cool a process. Vertiv is separate seeking clarification regarding this issue. But to the extent that this issue may be clarified or resolved through regulatory amendments, Vertiv is supportive of that process regardless of the outcome of any other actions that Ecology may take regarding requests made by the company.

⁷ Vertiv just notes that WAC regulations use the term "data centers and data servers" which is undefined in the regulation and thus refers to this categorization as interpreted by DEC for purposes of its request for a determination or variance.

⁸ Vertiv would support a 700 GWP limit as being consistent with EPA's final Technical Transitions rule.

- (2) Provide prohibitions that specifically apply to computer room air conditioning, data centers and information technology equipment facilities (ITEF)

Within WAC 173-443-040, Table 3, include the following new end-use category:

End-Use	Criteria	Prohibited Substances	Effective Date
Products in data center, information technology equipment facility, and computer room cooling	New air conditioning equipment	Refrigerants with a GWP greater than 700	January 1, 2027

III. Legal and Policy Rationale

“Industrial process refrigeration” is not a defined term within Chapter 70A.60 RCW. Rather, the regulatory definition of “industrial process refrigeration” within WAC- 173-443-030 is apparently based on EPA’s *proposed* Technology Transitions Rule within the *preambular* discussion of the IPR subsector that included a reference to “data centers and data servers.”⁹ The definition of IPR used within Chapter 173-443 almost directly quotes this language (not replicated in either the AIM Act or EPA’s final regulatory text for the Technology Transitions Rule) and which was not adopted by EPA in its’ final rule.¹⁰

Instead, after full consideration of how to classify computer room air conditioning, data centers and ITEF, including multiple comments received on the technology utilized, commercial demands and code provisions, EPA excluded such equipment from the IPR subcategory. EPA then created a separate subcategory in the final rule for computer room air-conditioning, data centers and ITEF with a corresponding prohibition of 700 GWP applying as of January 1, 2027.

From reviewing the regulatory history of Chapter 173-443, it appears that Ecology did not align its regulations affecting IPR based, at least in part, on the misconception that while “there is overlap with some requirements in this rule and EPA’s recently adopted Technology Transitions Rule, we do not believe there is conflict between the two.”¹¹ Based on the six versions of the regulatory text that Ecology made available during its rulemaking process this could just be a product of the close timing between the federal and state rulemakings.¹² But, objectively, there is a direct conflict between EPA and Ecology

⁹ Compare discussion of IPR at 87 Fed. Reg. 76774 (Background on Industrial Process Refrigeration) with final rule at 88 Fed. Reg. 73147-49.

¹⁰ In discussing IPR systems, the preamble to EPA’s proposed rule stated that IPR systems “also includes appliances used directly in the generation of electricity and for large scale cooling of heat sources such as data centers and data servers.” 87 Fed. Reg. at 76744.

¹¹ Concise Explanatory Statement Chapter 173-443 WAC, Hydrofluorocarbons (HFCs) and Other Fluorinated Greenhouse Gases and Chapter 173-455, WAC Air Quality Fee Rule, Summary of Rulemaking and Response to Comments, November 2023 at 28.

¹² The Technology Transitions Rule was published in the Federal Register on October 24, 2023. Ecology adopted Chapter 173-443 on November 30, 2023. Draft rule language made available on March 31, 2022, May 10, 2022, July 6, 2022, September 14, 2022, November 17, 2022 and January 25, 2023 **did not** include “data centers and data servers” within IPR. The proposed rule language incorporating “data centers and data servers” appears to have

provisions affecting computer rooms, data centers and ITEF both with regard to the level of the GWP prohibition and the timing of when this prohibition will be implemented. Ecology should resolve this conflict during this rulemaking proceeding.

To resolve this conflict would be consistent with Ecology's legal authority and indeed, prescribed by it. As provided in RCW 70A.60.020 (5)(b), Ecology "[t]o the extent practicable . . . must adopt rules to implement [RCW 70A. 60.020] that are consistent with similar programs in other states that reduce emissions from refrigerants." Currently, rules that are applicable in 48 other states impose a prohibition of 700 GWP on computer room air conditioning, data center and ITEF equipment starting on January 1, 2027.¹³ One other state, California, has adopted an earlier prohibition effective on January 1, 2025, but this prohibition imposes a 750 GWP limitation, not the 150 GWP limitation promulgated by Ecology (as contained in WAC 173-443-040, Table 3 applicable to IPR).¹⁴ And in all other 49 states, for purposes of addressing HFCs, "air-conditioning equipment" is defined to include either equipment in EPA's subcategory¹⁵ or "computer room and data cooling."¹⁶ To our knowledge, no other state considers computer room air conditioning, data center and ITEF equipment to constitute IPR equipment.

There would be substantial value to the State of Washington to have HFC regulations that fully align with national requirements being implemented by EPA. First, companies operating within the state would continue to have access to equipment utilizing refrigerants that are allowable *in all other states*.¹⁷ This would not only benefit commercial businesses operating within the state, but also public health and safety concerns, such as hospitals and 911 call centers which heavily rely on both on-site and remote data equipment.

Second, Washington would benefit from the introduction of newly designed equipment utilizing refrigerants with 700 or less GWP. Vertiv and other companies are currently investing in the development and commercialization of such equipment, equipment that would be fully scalable to meet various requirements for computer rooms, data centers and ITEF.

Finally, aligning Washington regulations with those applicable in other states would recognize that adoption and implementation of appropriate safety codes is a vital part of the process of transitioning between refrigerants. RCW 70A.60.020 references several limitations regarding the adoption of appropriate codes. As noted above, the appropriate code for ITEF is UL 60335-2-40 edition 4; sufficient time is needed for this code to be applied in an appropriate fashion, e.g., to allow designers and installing contractors to be trained on relatively new, published safety codes.

first been included within proposed rule changes with a filing date of July 13, 2023, a date that is after EPA's proposed Technology Transitions Rule, *i.e.*, June 26, 2024.

¹³ EPA rules became effective December 26, 2023.

¹⁴ See 17 CCR §95374(c), Table 3, which specifies "other air-conditioning equipment" as subject to a 750 GWP prohibition. Vertiv would note that with respect to the January 1, 2025 implementation date it has filed a request for a variance from this requirement, which is currently pending.

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¹⁶ California separately defines such equipment as constituting "air-conditioning equipment" or an "air-conditioning system." See 17 CCR 95373.

¹⁷ California has also promulgated regulations limiting the GWP of refrigerants utilized in "Other air-conditioning (new) equipment, residential and non-residential" but the state has imposed a limit of 750 GWP, not 150 GWP. See 17 CCR §95374(c), Table 3.

IV. Conclusion

Vertiv respectfully requests that Ecology propose and consider alterations to its current HFC regulations to provide a 700 GWP prohibition applicable to refrigerants utilized in new or retrofit computer room air-conditioning, data centers and ITEF with an effective date of January 1, 2027. We believe that such revisions will help to ensure a smooth transition away from high-GWP refrigerants that are currently used in this equipment, align with prohibitions that are applicable in other states, and preserve the ability of Washington businesses to develop and construct new IT facilities within the state.

Respectfully
Submitted,



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On Behalf of Vertiv