

RCRA Alternative Standards for Ignitable
Spent Refrigerants:

Response to Comments Document

Docket ID: EPA-HQ-OAR-2022-0606

Introduction

On October 19, 2023, EPA published the proposed Emissions Reduction and Reclamation rule, which implements one of the goals of the American Innovation and Manufacturing Act, namely, to promulgate regulations for purposes of maximizing reclamation and minimizing releases from the management of certain hydrofluorocarbons (HFCs) and their substitutes. (88 FR 72216)

As part of the same Federal Register notice, EPA proposed, under the authority of the Resource Conservation and Recovery Act (RCRA), alternative RCRA recycling standards for ignitable spent refrigerants, including some HFCs and their substitutes.

This document contains the comments and EPA responses on only the RCRA proposed changes. The comment excerpts were taken verbatim from the comments submitted to EPA and are grouped by subject area. The comment ID number listed next to each comment excerpt corresponds to the last four numbers of the number in the EPA Docket for each comment. EPA's response to each group of comments is found in each table immediately following the grouped comments. The list of commenters who commented on the RCRA proposed changes and their full comment ID number is found in the Appendix to this document.

All comments and supporting documents for the rule (including this document) can be found in EPA docket #EPA-HQ-OAR-2022-0606, which can be accessed via [regulations.gov](https://www.regulations.gov).

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#	Section 1.0 Support for the Proposed RCRA Alternative Standards
0102	We fully support changing the RCRA standards for the benefit of the environment to allow and promote the reclamation of A2 and A2L refrigerants in the same manner as A1 refrigerants.
0109	A-Gas generally supports EPA’s proposed requirements under RCRA as they would apply to A2L refrigerants, as these requirements generally reflect A-Gas existing operating practices and procedures at its facilities in Bowling Green, Ohio, and Rhome, Texas.
0110	Koura generally supports the EPA on the RCRA requirement
0113	National strongly supports EPA’s proposal to apply RCRA alternative standards to ignitable spent refrigerants
0121	AHRI and the Alliance generally support EPA’s proposed treatment of regulated substances under the AIM Act under a new and less onerous standard under RCRA.
0139	CARB supports EPA’s proposed alternative RCRA standards for spent ignitable HFC refrigerants, as was similarly established for the CFC refrigerant recycling exclusion in 1991. The alternative RCRA standards EPA has proposed would apply to HFCs and substitutes that do not belong to flammability Class 3, as classified by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 34–2022, when recycled for reuse. These proposed alternative RCRA standards would increase recovery of mildly flammable refrigerants, reduce emissions, and actualize the goals of the AIM Act.
0145	Trane Technologies thanks the Agency for addressing this issue. Updates for new refrigerants and blends in the RCRA standards as a critical step to ensure proper recovery, reuse, and disposal of regulated substances at end of life. We look forward to the finalization of this modification.
EPA Response: EPA appreciate the support for the proposed RCRA alternative standards for ignitable spent refrigerants.	

#	Section 2.0 Proposed Scope of the RCRA Alternative Standards
#	Section 2.1 Scope of the RCRA Alternative Standards Should Be Expanded.
0111	<p>We strongly support the widest possible exclusion from burdensome RCRA requirements for reclaimers, including that... the scope of the proposed alternative standards should include Class 1, Class 2, Class 2L, and Class 3 flammable substances; (b) the limits for speculative accumulation are eliminated or significantly adjusted to reflect production facility requirements at fractionation facilities; (c) the proposed requirement that reclamation facilities processing ignitable refrigerants meet the standards under 40 CFR part 261, subpart M, Emergency Preparedness and Response for Management of Excluded Hazardous Secondary Materials should be eliminated; and (d) the requirement that all batches of reclaimed material meet ASHRAE standards (or manage the off-spec material under RCRA) should be lifted.</p> <p>The application of RCRA to HFC recycling exemplifies one of the substantial administrative and financial burdens that, if imposed on EPA-certified reclaimers, would increase the challenges for reclamation to reach its full and expected potential. We therefore support the widest possible application of the alternative RCRA standards, with the fewest possible conditions, at least with respect to operations that take place at EPA-certified off-site reclamation facilities. Particularly in advanced facilities designed to safely fractionate former patented blends of HFCs and small waste streams, it is unreasonable and unnecessary to propose the costliest solutions considering the 1.6% reclamation rate. Given the 98.4% release rate, it is unlikely that substantial quantities of hydrocarbon-containing former patent blends of HFCs will return to EPA-certified reclaimers. Accordingly, we recommend that the EPA instead allow insurance companies and local fire and building code authorities for each reclaimer to identify key risk characteristics and develop mitigation strategies, rather than imposing huge and unnecessary administrative and cost burdens on HFC reclaimers via default RCRA requirements.</p>
0111	First, we do not support the EPA's proposal to exclude Class 3 flammable substances, either in their pure form or typically found as components in Class A1 low flammability products like Chemours M099 (R438A), from the RCRA alternative handling standards
0139	CARB also supports EPA's consideration of expanding these [RCRA] reclamation requirements to include flammability Class 3 refrigerants in the future.
<p>EPA response: EPA disagrees with comments that support expanding the scope of the RCRA alternative standards to include highly flammable (Class 3) ignitable spent refrigerants. EPA proposed to limit the alternative standards to lower flammability substitutes (Class 1, 2 and 2L) because of the lower risk of fire from the collection and recycling for reuse of these refrigerants, and the greater market value of these refrigerants, which supports the conclusion that these spent refrigerants will be recycled for reuse and not stockpiled, mismanaged, or abandoned. (88 FR 72275) Comments did not address the safety or feasibility of expanding the standards to include Class 3 refrigerants, and therefore EPA is finalizing these provisions as proposed. (Comments regarding reducing the specific requirements in the standards are addressed in Section 3.0 of this comment response document, found below).</p>	

0158	<p>As its title indicates, Ignitable Spent Refrigerants Recycled for Reuse, proposed Subpart Q is limited to ignitable spent refrigerants. Ignitability is not the only possible reason that a spent refrigerant could be a hazardous waste. The corrosivity of spent CFC refrigerant—due to the presence of hydrochloric acid from degradation of CFCs during use as a refrigerant— was the reason that the hazardous waste exclusion at § 261.4(b)(12) was created for certain used CFC refrigerant that is reclaimed. By removing a RCRA Subtitle C regulatory barrier, this exclusion facilitated the reclamation of used CFC refrigerants for reuse. In the case of regulated substances (i.e., certain HFCs) and their substitutes, they do not and will not contain chlorine. Given that the pKa of HF (~3.2) is much greater than the pKa of HCl (~-6) 22 , a spent HFC refrigerant seems unlikely to exhibit the hazardous waste characteristic of corrosivity; however, that it cannot exhibit corrosivity is not a certainty. To account for this possibility and to eliminate the RCRA Subtitle C regulatory uncertainty, ISRI recommends that the scope of Subpart Q be expanded beyond ignitable spent refrigerants to include also spent refrigerants that exhibit the hazardous waste characteristic of corrosivity. Such expansion of the scope of Subpart Q further supports the goal of AIM Act Subsection (h) to safely maximize reclamation of HFCs from equipment and to safely minimize their releases.</p>
<p>EPA response: EPA disagrees with the comment to the extent that it suggests that the proposed RCRA alternative standards were designed to address risk of corrosivity. The proposed RCRA alternative standards were not designed to address risk of corrosivity.</p>	
#	<p align="center">Section 2.2 Scope of the RCRA Alternative Standards Should be Narrowed.</p>
0085	<p>Chemours supports alternative standards covering ASHRAE Class A2L but not A2 or B2L refrigerants. Reclaim facilities modifications to handle higher burning velocity gases (A2) or refrigerants with Class B toxicity rating (e.g., ammonia is a B2L) may slow ability to meet reclaim timeline so requirements should be limited to A2L. Because A2L products are critical to meeting the deadlines outlined in the Technology Transitions rule, EPA should consider phasing in requirements for other ASHRAE classes in future years to allow time for infrastructure development. But Chemours does not support expansion to products that include A3 refrigerants because their high flammability (low LFL, high burning velocity) would greatly increase risk for technicians and reclaimers and slow facility preparedness for handling lower flammability refrigerants.</p>
0121	<p>AHRI and the Alliance propose narrowing the scope to Class A Toxicity and Class 2L Flammability (and not ASHRAE Flammability Class 2L, 2, and 3).</p>
<p>EPA response: EPA disagrees with the comments. While any reclaimer may choose to only accept A2L refrigerants, limiting the alternative standards to only A2L refrigerants would unnecessarily prevent reclaimers who wish to invest in reclaiming those refrigerants from accepting them.</p>	
#	<p align="center">Section 2.3 Identification of Ignitable Spent Refrigerants Subject to RCRA Alternative Standards</p>
0102	<p>It may not be clear which refrigerants received are A2L refrigerants. R-410a is not an A2L refrigerant and is composed of 50% R-32 and 50% R-125. R-32 is an A2L refrigerant and will be used as a standalone refrigerant. When does R-410A mixed with R-32 become an A2L? at what percentage does this rule become effective. Reclaimers work with most of the</p>

	<p>ARI approved refrigerants which at last count were over 150 fluorocarbon components and blends, each combination of refrigerants received would have to be evaluated to see if it is now an A2L refrigerant.</p> <p>A2L refrigerants may be created from non-A2L refrigerants during processing. Several reclaimers have fractional distillation tower capacity. If R-410a or refrigerants mixed with R-410a (a non-A2L refrigerant) is partially separated and the material removed from the collector (the low boiler components concentrate in the collector) is primarily R-32, does this material now qualify under the non-speculation rule and must be processed or destroyed in in 12 months? How is this material any different from A2L mixtures received through collection?</p>
0129	<p>EPA does try to define ignitable, which may be out of sync with the marketplace, so we seek clarity related to what is considered ignitable per EPA accepting the concept that there is a difference between AHRI and OSHA/NIOSH terms for the same activity (ignitable). c. For instance, R-152A has a GWP of 124 and is listed as an A2, but it is classed as RCRA D001 yet no one, as you have stated, needs to modify their practices or meet any new RCRA requirements. The supply chain will be responsible for handling, transporting, and storing these materials so we seek clarity on these specific items when you publish your final rule.</p>
0111	<p>In particular, the act of reclaiming Class 1 materials that may contain minimal Class 3 flammables should not trigger costly process safety management compliance or RCRA compliance at the reclamation facility</p>
<p>EPA response: RCRA hazardous waste requirements only apply to spent refrigerants if they exhibit a hazardous waste characteristic, regardless of their ASHRAE Class. It is the generator's responsibility under 40 CFR 262.11 to determine if their waste meets the definition of hazardous waste under RCRA. Refrigerants that are flammable under ASHRAE Class A2, A2L and A3 are expected to exhibit the hazardous waste characteristic of ignitability under 40 CFR 261.21, unless testing were to demonstrate otherwise. For mixtures of A2L and non-A2L refrigerants, the refrigerant would be subject to RCRA requirements if it exhibits the ignitability characteristic.</p> <p>The RCRA hazardous waste characteristic of ignitability is defined in the regulations at 40 CFR 261.21. Under this standard, compressed gases (defined as "any material or mixture having in the container an absolute pressure exceeding 40 p.s.i. at 70 °F or, regardless of the pressure at 70 °F, having an absolute pressure exceeding 104 p.s.i. at 130 °F; or any liquid flammable material having a vapor pressure exceeding 40 p.s.i. absolute at 100 °F as determined by ASTM Test D-323) are ignitable if any one of the following occurs:</p> <p>(1) Either a mixture of 13 percent or less (by volume) with air forms a flammable mixture, or the flammable range with air is wider than 12 percent regardless of the lower limit. These limits shall be determined at atmospheric temperature and pressure. The method of sampling and test procedure shall be the ASTM E 681-85 (incorporated by reference, see § 260.11 of this subchapter), or other equivalent methods approved by the Associate Administrator, Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation.</p> <p>(2) It is determined to be flammable or extremely flammable using 49 CFR 173.115(I).</p>	

#	Section 3.0 Proposed Requirements of the RCRA Alternative Standards
Section 3.1 Speculative Accumulation Limits	
0084	<p>I have concerns with the EPA’s proposed limitations on speculative accumulation, regarding sites receiving recovered or recycled flammable refrigerants. Requiring reclaimers to process 75% of these refrigerants within one year will be very challenging for most reclaimers. If this stipulation is not met, the recovered refrigerants would become hazardous waste and fall under RCRA regulations. That is alarming, because in the ordinary course of running a reclamation business, certain refrigerants can accumulate for one or more years before being processed. There is often a mismatch between market demand and refrigerants received. When specific refrigerants are not in immediate demand, it is still in all parties’ best interest that reclaimers accumulate them for future market needs. Refrigerant reclamation does not always begin immediately upon receipt of recovered refrigerants – there is often a lengthy accumulation phase. Batches of like material are accumulated for varying periods of time before being processed. It can take anywhere from days to years before a sufficiently sized batch of recovered refrigerant has been accumulated to justify reclaiming and certifying the product. For example, if a reclaimer were to receive a specific recovered refrigerant in quantities of a few pounds each month, it would not make sense to reclaim such a small batch for well over a year. It could potentially take several years before the batch size had grown to a scale that was economical to process.</p>
0085	<p>Finally, EPA proposes that ignitable spent refrigerants should not be speculatively accumulated as defined in 40 CFR §261.1(c). As opposed to EPA’s proposed alternative, Chemours proposes that an initial, extended accumulation period should be allowed for recovered TT compliant Class A2L refrigerants (e.g., for 5 years) due to a very small initial installed equipment base and low equipment service rates in first years of operation. Limiting the accumulation period to a one year maximum would require processing of extremely small quantities which would be an inefficient use of reclaimer resources.</p>
0102	<p>However, the additional requirement that the refrigerants are not speculatively accumulated as defined in 40 CFR 261.1(c) ignores the realities of the reclamation industry and would place great burden on most reclaimers. Reclaimers must compete for the supply of recovered refrigerants to have material to process. To provide an effective solution to the customer, whether it is a wholesaler, contractor or other aggregator of recovered refrigerant, the reclaimer must be able to accept all refrigerants and refrigerant mixtures. If a reclaimer could or would turn away refrigerants it greatly increases the chances that the refrigerant would be illegally vented. The average contractor, wholesaler, or aggregator has relatively little to no access to most destruction facilities and no entity in the supply chain is better equipped to collect, store, and properly handle otherwise unwanted refrigerants. There are several reasons why these refrigerants may not be able to be reclaimed within a 12-month period. The refrigerants a reclaimer receives are usually not in proportion with the refrigerants the marketplace is demanding. Reclaimers receiving refrigerants which are not in demand will usually set these refrigerants aside and use their manufacturing capacity towards refrigerants that needed currently by the markets. Refrigerants are not always received in reclaimable quantities. Reclamation is usually done in large batches once enough material is accumulated to efficiently process. When refrigerants are received in smaller quantities, they are stored until a reasonable amount of material has been accumulated. With some A1 refrigerants, a reclamation batch may be run infrequently with as much as several</p>

	<p>years between batches. Requiring reclaimers to run a batch every 12 months or to destroy the material would add cost and complexity to a process that works well in its current state.</p> <p>Reclaimers receive refrigerant blends which are patented and out of specification. EPA regulations prohibit the reintroduction of the patented refrigerant blends if after reclamation they do not meet the full ARI 700 specification. Patent laws, which are vigorously enforced by chemical producers, prohibit the addition of any material that is not also the patented blend. Reclaimers should have the right to store this material until a usable solution to return this material to the market is found.</p> <p>Reclaimers receive mixed refrigerants which may be waiting on the development of additional technologies to separate and process. The AIM act itself provides for grants to entities to be used to invest in and develop new technologies however, this rule would not allow refrigerants to be set aside for more than 12 months while these grants are used to develop the technologies. Reclaimers would have to ensure that they had excess manufacturing capacity prior to receiving refrigerants. Many solutions are being proposed to increase the amount of refrigerant being turned in for reclamation. If a solution is found and implemented most everyone would consider the additional capture of refrigerants as an environmental benefit. Reclaimers may be placed in the uncomfortable position that they would not be allowed to accumulate additional refrigerant while they build additional processing capacity due to the non-accumulation rule.</p>
0102	<p>The AIM act directs the EPA to establish regulations for purposes of maximizing reclamation, the non-accumulation rule would reduce reclamation and increase destruction. It could also dampen the acceptance of A2L refrigerants by reclaimers as it increases the cost and complexity of working with them without providing benefit to the reclaimer.</p>
0109	<p>However, A-Gas does not support – and, in fact, opposes – any limitation on the ability of a certified reclaimer to store quantities of recovered material on site. A-Gas respectfully requests EPA allow such storage for an unlimited amount of time and free of any special requirements and not consider it under RCRA or otherwise as speculative stockpiling. This is because a reclaimer often receives recovered materials as they become available and must hold them until market conditions create sufficient demand for reclamation and sale. The timing is difficult to predict and will vary both throughout the year and from year to year. Affirmative requirements under RCRA regarding speculative stockpiling or otherwise risks significantly undermining a reclaimer’s ability to receive recovered gas. Ultimately, such a requirement poses serious risk to the reclaim industry’s potential to increase the supply of reclaimed gas in response to market demand. In other words: reclaimers need to be able to receive and store recovered gas indefinitely, without incurring additional or excessive costs or compliance burdens.</p>
0111	<p>Second, we do not support the proposed requirement that the alternative standards apply only if storage at the off-site reclamation facility falls below the existing thresholds for “RCRA speculative accumulation,” and that large volumes of ignitable refrigerants destined for reclamation can be safely accumulated and handled and need not fall into a specified category of RCRA-regulated wastes when accumulating ignitable spent refrigerants for fractionation. Accordingly, such accumulations should not be misconstrued as speculative storage of flammable components. Expanding reclamation capacity, including through fractionation, will necessarily lead to the short-term accumulation of refrigerants before processing due to the size of assets requiring larger inbound feed volumes than currently available. The RCRA speculative accumulation limits for reclamation feedstock, and likewise the emergency preparedness requirements – neither of which apply to analogous virgin production facilities despite identical risks</p>

	associated with ignitable virgin components – create an unlevel playing field between reclaimers and virgin HFC producers. Moreover, it is crucial to highlight that the presence of mixed HFCs in railcars across various HFC Coalition member facilities renders the impracticality of processing all reclaims within a single year, introducing an additional obstacle to mitigating the 98.4% refrigerant release rate. The focus should pivot from the 1.6% adherence to responsible practices to tackling the 98.4% release rate on a product-specific basis
0113	National also recommends that EPA’s proposed requirements that refrigerants not be speculatively accumulated per 40 C.F.R. § 261.1(c) be revised as they apply to class 2 and 2L refrigerants to allow for storage beyond the current one calendar year limit, as long as it can be shown that the material has a feasible means of being recycled. We believe this change is necessary since processing and batching practices allow for the analysis and storage of accumulated recovered refrigerant that often extend past a calendar year, and the need to address market demands and operating efficiencies could lead to storage beyond one year. Moreover, material comes in throughout the year, so the deadline is impractical. As currently drafted, EPA’s proposed restriction on speculatively accumulated HFCs could lead to unnecessary disposal and destruction of useful material. This would obviously undermine the goals of subsection (h) and thus not be supported under the AIM Act
159	“Speculatively accumulated” means that at least 75 percent of the material is recycled within one year. This could be problematic for many reclaimers for several reasons. Refrigerants are not always received in reclaimable quantities, and reclamation is usually done in large batches once enough material is accumulated to process efficiently. Because refrigerants are received in smaller quantities and stored until a reasonable amount of material has been accumulated, the proposed one-year time limit is not workable. Reclaimers also receive refrigerant blends, which may be both patented and out of specification, and imposing a one-year time limit on these blends could foreseeably lead to the need to destroy refrigerants (i.e., accumulated beyond one year) that otherwise could be reclaimed. Reclaimers should have the ability to store this material until a usable solution to return this material to the market is found.
EPA response: See discussion in the final rule preamble in Section IV.H.3.	
#	Section 3.2 Emergency Preparedness and Response Requirements
0113	However, we believe the proposed emergency response, training, and very small quantity generator (“VSQG”) requirements should be applied only when the reclaimer is not already subject to similar existing regulatory requirements, such as under U.S. Occupational Safety and Health Administration (“OSHA”) Process Safety Management (“PSM”), Emergency Action Plan (“EAP”), and Hazard Communication Standard (“HCS”) requirements at its facility. While we believe EPA’s proposed alternative RCRA standards will provide incentives for the recapture and safe recycling of HFC refrigerants and contribute to a safer work environment for industry employees, our proposed clarification will eliminate the potential for duplicative requirements that would increase the regulatory burden without enhancing safety beyond the requirements already in effect.
EPA response: As noted in the proposed rule preamble, EPA proposed the requirement that facilities receiving refrigerant to be recycled for reuse meet the RCRA standards under 40 CFR part 261, subpart M, Emergency Preparedness and Response for Management of Excluded Hazardous Secondary Materials because these third-party recyclers would be receiving ignitable spent	

refrigerant from multiple sources, and are likely to store greater volumes for longer time periods than companies that recycle for reuse onsite or as part of an MVAC refrigerant recovery and recycling system in compliance with 40 CFR part 82, subpart B. (88 FR 72276) The proposed requirements included maintaining appropriate emergency equipment on site, having access to alarm systems, maintaining needed aisle space, making arrangements with local emergency authorities, and having a designated emergency coordinator who is responsible for responding in the event of an emergency. These requirements are designed to help protect human health and the environment in the event of a fire or other emergency at the recycler.

However, it should be noted that according to 40 CFR 261.420(b)(2), if a facility already has an emergency response or contingency plan, it need only amend the plan to incorporate those provisions needed to comply with the requirements. EPA recommends that the plan be based on the National Response Team's Integrated Contingency Plan Guidance ("One Plan"). Thus if a facility is already under a plan due to the requirements under U.S. Occupational Safety and Health Administration ("OSHA") Process Safety Management ("PSM"), Emergency Action Plan ("EAP"), or Hazard Communication Standard ("HCS"), and that plan fulfills the requirements of 40 CFR 261 Subpart M, then this provision is met.

#	Section 3.3 Management of Off-Specification Ignitable Refrigerant
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0111	Lastly, mandating that reclaimers confirm the compliance of each batch of reclaimed refrigerant with ASHRAE specifications or manage off-spec materials in accordance with RCRA requirements for off-specification commercial chemical products under 40 CFR § 261.2(c) is unduly cumbersome.
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EPA response: The regulation of off-spec commercial chemicals under 40 CFR 261.2(c) is an existing RCRA requirement that is not affected by the new RCRA alternative standards for ignitable spent refrigerants. However, it should be noted that if there is an allowable use for the off-spec reclaimed refrigerant and the material is used as an effective substitute for commercial product, it may be exempt from RCRA requirements altogether under the use/reuse provisions of 40 CFR 261.2(e). If the off-spec reclaimed refrigerant goes to further legitimate reclamation, it could also be exempt from RCRA under 40 CFR 261.2(c)(3). If the ignitable off-spec reclaimed refrigerant cannot be either legitimately reused or further reclaimed, it would need to be managed as a hazardous waste.

#	Section 3.4 Applicability to Non-Reclamation Facilities
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0152	Further, the preamble discussion's focus on "spent refrigerant being recycled for reuse" seems to overlook the recovery step which, as we understand EPA's intent, is to be regulated in addition to recycling. In other words, the present-tense phrase "being recycled" is confusing when applied to the step of recovering refrigerant for future recycling. With respect to the proposed requirements for recycling facilities, the preamble provides: The specific standards that EPA is proposing for facilities receiving refrigerant from offsite to be recycled for reuse are (1) the reclaimer must maintain certification by EPA under 40 CFR 82.164; (2) the facility must meet the emergency preparedness and response requirements of 40 CFR part 261 subpart M, and (3) the ignitable
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	spent refrigerants must not be speculatively accumulated as defined in 40 CFR 261.1(c). Id. at 72,275. Docket # EPA–HQ–OAR–2022-0606 NEDA/CAP’s Comments on Proposed HFC Management of HFCs under AIM § (h) December 18, 2023 12 While the preamble discussion of the requirements for recycling facilities appears clear on its face, closer review indicates several needed clarifications
0152	Further, EPA needs to clarify that the duties for facilities “receiving refrigerants” only apply when the receiving facility will actually be performing the recycling; these requirements should not apply if the receiving facility will further transfer the refrigerant to another facility for recycling.
EPA response: See discussion in the final rule preamble in Section IV.H.3.	

#	Section 4.0 Imports and Exports Under the Proposed RCRA Alternative Standard
0085	Chemours does not support imports of recovered refrigerant. If EPA were to permit imports of spent refrigerant, it would be imperative that a full document trail be provided and approved prior to any imports, including manufacturer of unspent refrigerant and refrigerant residence time in the equipment prior to recovery (e.g., to ensure intellectual property rights are not being violated).
EPA Response: EPA disagrees with this comment. As long as the imported refrigerants meet the requirements of the RCRA alternative standard, including being recycled for reuse at an EPA-certified reclaimer per 40 CFR 82.164, EPA finds it unnecessary to also apply the RCRA import requirements in 40 CFR part 262 Subpart H. This provision does not affect or reopen any of the requirements for regulated substances established under the AIM Act that are codified at 40 CFR part 84, subpart A. The requirements codified at 40 CFR part 84, subpart A are outside the scope of this rulemaking, and to the extent the comment pertains to them, it requires no further response.	

#	Section 5.0 State Authorization Issues
0136	The Subcommittee does not have specific comments on the proposed RCRA refrigerants recycling standards. Our comments focus on the Hazardous and Solid Waste Amendments (HSWA) authority under which EPA is proposing to promulgate the standards. We read the proposed standards as being very similar to the optional and less stringent provisions of the transfer-based exclusion for hazardous secondary materials in the 2018 Definition of Solid Waste (DSW) rule. By adopting the ignitable spent refrigerant recycling

standards under HSWA authority, the provisions become immediately effective in States that chose not to adopt the optional DSW provisions. The proposed rule will make a change to very small quantity generator (VSQG) requirements that mandates spent refrigerants regulated by the proposed alternative standards be recovered / recycled using equipment that is certified by 40 CFR 82.158 and at a facility certified via 40 CFR 82.164. EPA indicates that the change makes the proposed rule more stringent and would therefore be a HSWA rule, which would consequently make the standards automatically applicable on the effective date in all States. However, EPA also indicates that the rule “reduces the applicability of many RCRA requirements” and “VSQGs would experience no additional burden since under the CAA [Clean Air Act] section 608 rules, all reclaimers...must meet EPA’s certification requirements in 40 CFR 82.164”. When viewed through this lens, the proposed rule is not more stringent, it simply reinforces regulatory requirements already applicable to the reclamation of used / spent refrigerants by the CAA and reduces RCRA requirements. We observe it accomplishes this reduction of RCRA requirements by, more or less, mandating portions of the 2018 DSW rule that, until now, were optional. Page 2 of 2 The Subcommittee does not have an issue with the proposed management of the waste stream. Our concern is with standards being considered more stringent when in effect they are not, with the outcome being the standards would become immediately effective in all States. The history of the DSW rule is one of varying State views towards it. As a result, it has been left up to States to adopt or modify it in ways that meet their individual needs.

EPA Response: EPA disagrees with this comment. The final RCRA alternative standards are being promulgated under the authority of HSWA, and are more stringent than the existing federal regulations. Thus, the standards will be applicable on the rule’s effective date in all states and will be implemented and enforced by EPA until the states receive authorization. This action adds a new subpart Q to 40 CFR part 266 Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities, and it is being finalized under the authority of HSWA due to its purpose of reducing air emissions from the management of ignitable spent refrigerants, in accordance with EPA’s mandate to control air emissions from hazardous waste management, as may be necessary to protect human health and the environment, per RCRA section 3004(n), which was promulgated under HSWA. In addition, the changes to the Very Small Quantity Generator Regulations in 40 CFR 262.14 are being promulgated under RCRA section 3001(d)(4), also a HSWA provision.

The final alternative standard establishes a “cradle-to-cradle” management system for ignitable spent refrigerants being recycled for reuse and includes requirements that are more stringent than the current applicable RCRA recycling requirements in 40 CFR 261.6(c), which exempts the recycling process itself from RCRA regulation. This final management system includes the requirement that refrigerant be recovered and/or recycled for reuse on-site using equipment that is certified for that type of refrigerant and appliance under 40 CFR 82.36 or 82.158, and that the recovered refrigerant sent off-site to be recycled for reuse at a facility certified by EPA under 40 CFR 82.164. In addition, the revisions to the VSQG regulations in 40 CFR 262.14 limit where VSQGs can send ignitable spent refrigerant for recycling for reuse to facilities that meet EPA’s certification requirements in 40 CFR 82.164 and are more stringent than the current standard. These certifications involve a number of requirements for reclamation that are more stringent than those under the RCRA hazardous waste program, including an explicit limit of no more than 1.5

percent of the refrigerant released during the reclamation process (see 40 CFR 82.164(a)(3)). In addition, these certified reclaimers must follow recordkeeping and reporting requirements, per 40 CFR 82.164(d) including (1) maintaining records of the names and addresses of persons sending them material for reclamation and the quantity of the material (the combined mass of refrigerant and contaminants) sent to them for reclamation, and (2) reporting annually the quantity of material sent to them for reclamation by refrigerant type, the mass of refrigerant reclaimed by refrigerant type, and the mass of waste products. Finally, EPA-certified refrigerant reclaimers must verify that each batch of reclaimed refrigerant meets the specifications in the regulations (40 CFR 82.164(a)(2)), which helps ensure that the reclamation process is legitimate recycling under the RCRA regulations. These alternative standards are designed to function as system that is better tailored to the reclamation of ignitable spent refrigerants than the RCRA requirements in 40 CFR 262-270, and when considered as a whole are more stringent when compared to the previously applicable RCRA recycling requirements. Because the revisions in this rule are considered to be more stringent than the existing federal requirements, authorized states must modify their programs to adopt regulations equivalent to the provisions contained in this final rule.

Under RCRA section 3006, states may be more stringent than the federal program. Thus, states may choose to include additional requirements for ignitable spent refrigerants being recycled for reuse when they modify their program in response to this action. However, those modification must include, at minimum, requirements that are equivalent to those being finalized in this action.

#	Section 6.0 Venting of Ignitable Spent Refrigerants Under RCRA
0082	Resource Conservation and Recovery Act (RCRA) – The EPA is proposing language changes in the RCRA regulations that will allow ignitable spent refrigerants recycled for reuse to be managed as recyclable materials. It is recommended the EPA take this opportunity to revise the RCRA regulations to allow for non-households to take advantage of the exemption from venting prohibition for flammable refrigerants listed under 40 CFR 82.154(a)(1)
0129	Flammable Refrigerant handling will impact maintenance and operations; however, gaps in the existing proposed rulemaking related to the venting ban exist. The EPA suggests that if a user vents a refrigerant listed as an RCRA substance, i.e., ignitable refrigerant, then the EPA has no authority; however, if it is recovered, then it is RCRA controlled, we ask the EPA to reconsider the wording and clarify the obligation when you publish the final rule. a. As written, bypassing the EPA's responsibility/suggestion/guidance for recovery is possible since venting of this kind is not specified. (specifically referring to the commercial sector) If venting is allowed, please define the thresholds and limits. The marketplace will need to know what is allowable for venting. Is it a blend that contains a portion of flammable or ignitable material?
158	ISRI commented on subsequent EPA's proposals involving flammable refrigerants and exemptions to the venting prohibition at § 82.154(a). ISRI noted while these CAA Title VI exemptions to the venting prohibition allow release to the atmosphere of certain HC refrigerants, the RCRA Subtitle C regulations may consider such releases to be disposal of hazardous waste, besides the original

generation of hazardous waste via recovery from equipment. (Authorized state CAA regulations may impose additional restrictions on releases to the atmosphere of HC refrigerants as volatile organic compounds.) While EPA has acknowledged this hazardous waste issue, EPA has also rationalized that the household waste exclusion from hazardous waste at § 261.4(b)(1) makes this issue somewhat moot. While § 261.4(b)(1) does apply at all times to refrigerant-using equipment, including refrigerant, from actual households and equivalent residential settings, it does not apply to other types of (i.e., non-“household”) small appliances (e.g., vending machines) or even a “household” refrigerator/freezer that came from, say, a staff kitchen in EPA Headquarters. “Household” does not mean the same thing between the RCRA Subtitle C and the CAA Title VI regulations, and not all CAA “small appliances” are RCRA “household” appliances (RCRA). MVACs and MVAC-like appliances are neither “household” nor “small” appliances under either set of regulations. In practice, § 261.4(b)(1) is not particularly useful to recycling of end-of-life (EOL) small appliances and vehicles under § 82.155 for two reasons: the scope of § 261.4(b)(1) is limited (e.g., it does not apply to MVACs); and proving the provenance of small appliances as actual RCRA “household” appliances is exceedingly difficult in complex supply chains. How is a recycler supposed to distinguish which EOL refrigerator/freezer delivered for recycling by a big-box store’s appliance trade-in recycling program (under contract per § 82.155(b)(2)) came from the staff kitchen of EPA Headquarters or another business vs. from an actual household?

EPA Response: Section 608 of the Clean Air Act prohibits individuals from knowingly venting or otherwise knowingly releasing or disposing of ozone-depleting substances or their substitutes while maintaining, servicing, repairing, or disposing of air-conditioning or refrigeration equipment. EPA’s implementing regulations in 40 CFR 82.154(a) include exemptions for releases of substitute refrigerants in particular applications, where EPA has determined that such venting, release, or disposal does not pose a threat to the environment. For purposes of RCRA, and as EPA has previously stated (81 FR 86800, 88 FR 72274), EPA considers incidental releases of spent refrigerant that occur during the maintenance, service, and repair of appliances subject to CAA section 608 generally not to be disposal of a hazardous waste under RCRA. However, even if an exemption from the venting prohibition applies under 40 CFR 82.154(a), ignitable spent refrigerant from commercial and industrial appliances would be classified as hazardous waste and would need to be managed under the applicable RCRA regulations when recovered (i.e., removed from an appliance and stored in an external container) or disposed of.

#	Section 7.0 Technical Corrections and Clarifications
0091	<p>Due to inconsistencies and out-of-date references/language found in part 261, subpart M and the beginning paragraphs of §§261.400, 261.410, 261.411, and 261.420, we recommend the following changes:</p> <ul style="list-style-type: none"> • “Subpart M—Emergency Preparedness and Response for Management of Excluded Hazardous Secondary Materials and Ignitable Spent Refrigerants”

<p>EPA response: EPA disagrees with this comment. Because spent refrigerants are a type of hazardous secondary material it is unnecessary to revise the title of this Subpart to include them.</p>	
0091	<p>Under §261.400 Applicability, write:</p> <ul style="list-style-type: none"> • “The requirements of this subpart apply to entities managing hazardous secondary materials excluded under §261.4(a)(23), (a)(24), and/or for ignitable spent refrigerants, regulated under part 266, subpart Q, where such materials are generated or accumulated on site.”
0091	<p>Continuing with §261.400:</p> <ul style="list-style-type: none"> • “(a) Generators, reclaimers, and intermediate facilities managing hazardous secondary materials under §261.4(a)(23) and/or (a)(24) that accumulate 6000kg or less of hazardous secondary material at any time must comply with §§261.410 and 261.411.” • “(b) Generators, reclaimers, and intermediate facilities managing hazardous secondary materials under §261.4(a)(23) and/or (a)(24) that accumulate more than 6000kg of hazardous secondary material at any time must comply with §§261.410 and 261.420.” • “(c) Entities that manage ignitable spent refrigerants under part 266, subpart Q must comply with §§261.410 and 261.420.” <p>Note: The new language in (c) is necessary as part 261, subpart M applies to not only the recycler but also the generator of the ignitable solvent [sic], as mentioned in the §261.400 introductory paragraph. A similar addition will be seen in §266.602 below. §261.410(a) should read:</p> <ul style="list-style-type: none"> • “<i>Maintenance and operation of facility.</i> Facilities generating or accumulating hazardous secondary materials and/or ignitable spent refrigerants regulated under part 266, subpart Q must be maintained and operated...” followed by the rest of the existing paragraph (a). <p>The §261.420 title should read:</p> <ul style="list-style-type: none"> • “Contingency planning and emergency procedures for facilities generating or accumulating more than 6000kg of hazardous secondary material and for entities managing ignitable spent refrigerants under part 266, subpart Q. <p>Change the §261.420 introductory paragraph to read:</p> <ul style="list-style-type: none"> • “Generators, reclaimers, and intermediate facilities managing hazardous secondary materials under §261.4(a)(23) and/or (a)(24) that accumulates more than 6000kg of hazardous secondary material, and entities managing ignitable spent refrigerants under part 266, subpart Q must comply with the following requirements:” <p>§261.420(a) should read:</p> <ul style="list-style-type: none"> • “<i>Purpose and implementation or contingency plan.</i> (1) Each generator, claimer, and intermediate facility managing hazardous secondary materials under §261.4(a)(23) and/or (a)(24) that accumulates more than 6000kg of hazardous secondary material, and entities managing ignitable spent refrigerants under part 266, subpart Q must have a contingency plan for his facility...” followed by the rest of the existing paragraph (a). <p>A similar change is necessary in §261.420(b)(2), which should read:</p>

	<ul style="list-style-type: none"> If the generator, reclaimer, or intermediate facility managing hazardous secondary materials under §261.4(a)(23) and/or (a)(24) accumulating more than 6000kg of hazardous secondary material, or the entity managing ignitable spent refrigerants under part 266, subpart Q already prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan in accordance with part 112 of this chapter,...” followed by the rest of the existing paragraph (b)(2).
0091	<p>Since part 261 subpart M compliance is required for the “generators” or the persons who recycle their ignitable spent solvents [sic], such a provision should be added to §266.602. We recommend adding the language at §266.602(a)(2) and bumping the proposed (a)(2) to (a)(3) to match the order found in §266.602(b). §266.602(a)(2) and (3) should therefore read:</p> <ul style="list-style-type: none"> “(2) Meet the emergency preparedness and response requirements of 40 CFR part 261, subpart M; and (3) Not speculatively accumulate the ignitable spent refrigerant per §261.1(c).”
<p>EPA response: EPA disagrees with these comments. These suggested changes are based on the premise that 40 CFR part 261 subpart M would apply to not only the recycler but also the generator of the ignitable refrigerant, which is not the case. As explained in the proposed rule, EPA proposed that facilities receiving ignitable spent refrigerants from other parties for recycling for reuse be subject to this additional emergency preparedness requirement because these third-party recyclers would be receiving ignitable spent refrigerant from multiple sources, and are likely to store greater volumes for longer time periods than companies that recycle for reuse for their own equipment or as part of an MVAC refrigerant recovery and recycling system in compliance with 40 CFR part 82, subpart B. (88 FR 72276). EPA has revised the applicability language in 40 CFR 261.400 to make this clearer.</p>	
0091	<p>Note: The EPA’s proposed language of “alternative standards” is removed since the agency’s language in §266.600(b) and at 88 FR 72275 make clear subpart Q applies in lieu of the main hazardous waste program and is not an “option.” Removing “alternative” makes it clear the refrigerants applicable to part 266, subpart Q must be managed under that standard. Compare this approach to a “true” alternative, such as the alternative treatment standards for lab packs in §268.42(c) vs. managing lab packs under the §268.40 treatment standards.</p>
<p>EPA response: EPA’s use of the word “alternative” in describing the new RCRA standards for ignitable spent refrigerants is meant to explain that these are different hazardous waste requirements than those found in 40 CFR part 262 – 268, not that they are optional. Clarifying language has been added to the preamble to the final rule and the word “alternative” in the regulatory text has been removed.</p>	
0091	<p>We want to point out other corrective language changes can be made throughout part 261, subpart M due to the hazardous secondary materials exclusions of 261.4(a)(23) and (24), changing from 2015 to 2018 but that is beyond the scope of this letter which is focused on the ignitable spent refrigerant proposal.</p>
<p>EPA response: EPA agrees these changes are beyond the scope of this rule.</p>	

0091	<p>We recommend changing the conjunctions for clarity in the proposed §262.14(a)(5)(vi) changes to read:</p> <ul style="list-style-type: none"> • “(A) Beneficially uses or reuses, or legitimately recycles or reclaims its waste. (B) Treats its waste prior to beneficial use or reuse, or legitimate recycling or reclamation; or (C) For ignitable spent refrigerants regulated under part 266, subpart Q, meets the requirements of that subpart;”
<p>EPA response: EPA has revised the regulatory language to be clearer. Specific, §262.14(a)(5)(vi) has been revised to read: (A)(1) Beneficially uses or reuses, or legitimately recycles or reclaims its waste, or (2) Treats its waste prior to beneficial use or reuse, or legitimate recycling or reclamation; and (B) For ignitable spent refrigerants regulated under part 266, subpart Q, meets the requirements of that subpart.</p>	
0091	<p>§266.600 should be rewritten to improve clarity of applicability and consistency with other exemptions referenced in §261.6(a). While we feel §266.600(a) is written correctly, we recommend changing paragraphs (b) and(c) to read:</p> <ul style="list-style-type: none"> • “(b) The requirements of this subpart operate in lieu of parts 262 through 270 and 124 and apply only to ignitable spent refrigerants, as defined in §266.601, that meet the definition of lower flammability spent refrigerant, and are being recycled for reuse in the U.S. (c) These requirements do not apply to ignitable spent refrigerants that do not meet the definition of lower flammability spent refrigerant. Ignitable spent refrigerants not subject to this subpart are subject to all applicable requirements of parts 262 through 270 and 124 when recovered (i.e., removed from an appliance and stored in an external container) and/or disposed of.”
<p>EPA response: EPA has revised this section to improve clarity.</p>	
0091	<p>A formal definition of “ignitable spent refrigerant” in §266.601 is necessary as it is what is actually being regulated and helps clarify the language in §266.600. We recommend the definition read:</p> <ul style="list-style-type: none"> • “<i>Ignitable spent refrigerant</i> means a spent refrigerant that is a hazardous waste only because it exhibits the characteristic of ignitability per 261.21, does not exhibit another characteristic of part 261, subpart C, and is not listed per part 261, subpart D.”
<p>EPA response: EPA has added a definition of “ignitable spent refrigerant” to 40 CFR 266.601 consistent with the preamble discussion in the proposal.</p>	
0091	<p>The title of §266.602 should use the word “persons” instead of “facilities” since, per §270.1(c)(2)(xi), these entities do not need a RCRA permit. The title of §266.602 should read:</p> <ul style="list-style-type: none"> • “§266.602 Standards for persons that recycle ignitable spent refrigerant for reuse under this subpart.”
<p>EPA response: EPA has made this suggested change.</p>	
0152	<p>EPA’s preamble discussion of the proposed RCRA requirements regarding the use of certified recovery and/or recycling equipment and certified reclaimers, and the proposed regulatory text implementing these requirements are unclear and inconsistent. In the preamble discussion, there appears to be lack of a clear command for persons recovering/recycling ignitable spent refrigerants for</p>

	reuse to use certified recovery/recycling equipment, but we believe that the inserted language below reflects EPA’s intent. The specific standards EPA is proposing for ignitable spent refrigerant being recycled for reuse either on-site for further use in equipment of the same owner, or by the owner of the recovery equipment in compliance with MVAC standards in 40 CFR part 82, subpart B, are (1) the ignitable spent refrigerants that are recovered (i.e., removed from an appliance and stored in an external container) and/or recycled for reuse [must be recovered and/or recycled] using equipment that is certified for that type of refrigerant under 40 CFR 82.36 or 40 CFR 82.158; and (2) the ignitable spent refrigerants are not speculatively accumulated as defined in 40 CFR 261.1(c).
EPA response: EPA has revised the regulatory language to make this clearer.	
0152	The proposed regulatory language, 40 CFR §266.602, adds confusion as, among other things, it switches from the “facilities receiving” approach used in the preamble to a “persons receiving” approach. In order to more clearly express what we believe to be EPA’s intent with respect to these proposed RCRA requirements, and rationalize the proposed regulatory text with the preamble discussion, we suggest the following revisions to the proposed language in 40 CFR 266.602: §266.602 Standards for facilities that recover and/or recycle ignitable spent refrigerant for reuse under this subpart. (a) Persons who recover (i.e., remove from an appliance and store in an external container) and/or recycle ignitable spent refrigerants for reuse either on-site for further use in equipment of the same owner, or for use by the owner of the recovery equipment as part of an MVAC refrigerant recovery and recycling system in compliance with motor vehicle air conditioner (MVAC) standards in 40 CFR part 82, subpart B, must: (1) Recover (i.e., remove from an appliance and store in an external container) and/or recycle for reuse the ignitable spent refrigerant using Use recovery and/or recycling equipment that is certified for that type of refrigerant and appliance under §82.36 and 82.158; and (2) Not speculatively accumulate the ignitable spent refrigerant per §261.1(c). (b) Persons receiving ignitable spent refrigerant from another person off-site to be recycled by the recipient for reuse under this subpart must: (1) Maintain reclaimer certification by EPA under §82.164, (2) Meet the emergency preparedness and response requirements of 40 CFR part 261, subpart M; and (3) Not speculatively accumulate the ignitable spent refrigerant per §261.1(c).
EPA response: EPA has revised the regulatory language to make this clearer.	
158	E. Proposed § 266.602 Must Be Revised Because It Covers Certain Situations in which Ignitable Spent Refrigerants Are Not Solid Waste When Recycled for Reuse. Notwithstanding the comments in Section II.D. above, proposed § 266.602, Standards for facilities that recycle ignitable spent refrigerant for reuse under this subpart, applies to people in two basic situations: a) people who recycle for reuse on-site ignitable spent refrigerant generated on-site, regulated under § 266.602(a); and b) people who receive ignitable spent refrigerant from off-site to be recycled for reuse, regulated under § 266.602(b). 22 See, for instance, https://www.sigmaaldrich.com/US/en/technical-documents/technical-article/chemistry-and-synthesis/acid-base-chart . EPA-HQ-OAR-2022-0606 -10- December 18, 2023 The first situation seems to involve ignitable spent refrigerant that remains in the control of the generator through recycling for reuse, all on-site. The second situation does not (and is dropped from further discussion). A spent material that remains in the control of the generator—including that it has been properly handled so that it does not endanger human health or the environment—is not necessarily discarded. If a spent material is not discarded, it is neither solid waste nor hazardous waste and exists outside RCRA Subtitle C authority. However, what happens to the spent material in the

	<p>control of the generator does matter respecting whether it will become solid waste or hazardous waste. As noted above, the first situation includes recycling for reuse of ignitable spent refrigerant. As noted in the preamble of the Proposal, the proposed definition of “recycle for reuse” at § 266.601(b) includes various processes for removing contamination from spent refrigerant so that it can be reused. Some of these processes appear to meet the RCRA Subtitle C definition of “reclaimed” at § 261.1(c)(4). The process described under § 82.34(d)(1)(ii) for recovering and recycling of refrigerant does not appear to meet the RCRA Subtitle C definition of “reclaimed” at § 261.1(c)(4). The case of recovery and recycling under § 82.34(d)(1)(ii) is a specific circumstance listed in the first situation under proposed § 266.602(a). To the extent that § 82.34(d)(1)(ii) involves recycling of ignitable spent refrigerant without reclamation per § 261.1(c)(4), the recycled ignitable spent refrigerant is covered by the exclusion at § 261.2(e)(1)(ii) for “[m]aterials that are not solid waste when recycled” by being “[u]sed or reused as effective substitutes for commercial products”. Because such recycled ignitable spent refrigerant is not solid waste, it is not hazardous waste and outside RCRA Subtitle C authority. This situation should not be included in § 266.602(a), and neither should any other situation for recycling an ignitable spent refrigerant that involves a process covered by the proposed definition of “recycle for reuse” that does not involve reclamation per § 261.1(c)(4). This conclusion is consistent with an earlier EPA statement that “these [flammable] refrigerants may be subject to regulation as hazardous waste, with the exception of refrigerants that are directly reused.” The above recycling in the first situation without reclamation under the control of the generator may be tantamount to “direct reuse”. 23 81 Fed. Reg. 82309-82310, November 18, 2016; EPA-HQ-OAR-2015-0453-0125. EPA-HQ-OAR-2022-0606 -11- December 18, 2023 In the alternative, when recycling of spent refrigerant does involve reclamation, such spent refrigerant would be hazardous waste per § 261.2(c)(3) and thus appropriate to include in § 266.602(a). EPA must review proposed § 266.602(a) to remove from its scope any recycling for reuse situations that involve ignitable spent refrigerants covered by the exclusion from solid waste at § 261.2(e)(1)(ii).</p>
	<p>EPA response: EPA agrees that ignitable spent refrigerant that can be legitimately reused directly for its intended purpose without processing is not a solid waste under 40 CFR 261.2, and would not be subject to the new RCRA alternative standards. EPA has added a definition of “ignitable spent refrigerant” to make it clear that refrigerants that can be reused in such a way would not be included. EPA disagrees that the definition of “reclaimed” at § 261.1(c)(4) would not include “various processes for removing contamination from spent refrigerant so that it can be reused”. The RCRA regulations at 40 CFR 261.1(c)(4) say that “a material is “reclaimed” if it is processed to recover a usable product, or if it is regenerated.” Any process that removes contamination so that a refrigerant can be reused would fall under this RCRA provision.</p>
<p>0152</p>	<p>First, the “off-site” concept would appear to potentially trigger applicability to activities conducted solely by a single person or entity when recovered ignitable spent refrigerants are transferred between commonly owned/operated sites. But, so long as such recovered refrigerants will be used in equipment owned by the same owner as the equipment from which the refrigerants were recovered, it should not make a difference that the refrigerant was recovered at one site, recycled at another site and then reused at another site owned/operated by the same person/entity. EPA needs to clarify that the proposed requirements for recycling facilities do not apply to a single person/entity transferring recovered refrigerants between sites owned or operated by the same person/entity or to the recycling of those recovered refrigerants at any of those sites. Instead, these requirements should only</p>

	apply to “third party recyclers” as indicated at page 22776 of the preamble; these requirements should not apply to “in-house” recovery/recycling when the refrigerant will be reused by the same person/entity
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EPA response: EPA has revised the language to reflect that recycling ignitable spent refrigerant for reuse in equipment owned by the same owner from which the refrigerants were recovered would be covered under the requirements in 40 CFR 266.602(a).

#	Section 8.0 Request for New Hazardous Waste Exemption for Flammable Refrigerants
158	<p>To eliminate this hazardous waste issue and the associated regulatory uncertainty regarding flammable refrigerants, especially those exempt from the venting prohibition, ISRI suggested via those comments that the RCRA Subtitle C regulations be revised to include an exclusion from hazardous waste specific to these situations. ISRI’s suggestions included a request that EPA create a new exclusion for flammable refrigerants that is analogous to the hazardous waste exclusion at § 261.4(b)(12) for certain used CFC refrigerant that is reclaimed. EPA has denied or ignored ISRI (i.e., the commenter) every time (emphasis added):</p> <p>“A commenter representing recyclers of automobiles and scrap metal expressed concern about the regulatory burden and costs that automotive recyclers are likely to incur if they must manage flammable refrigerants that are regulated as hazardous waste under EPA’s regulations implementing the Resource Conservation and Recovery Act (RCRA). The same commenter also suggests that the RCRA subtitle C regulations would need to be changed to alleviate the hazardous-waste management requirements for handling HFO–1234yf. ... We believe the potential burden of complying with RCRA regulations placed on those recycling or recovering a substitute is generally not pertinent to a decision of whether HFO–1234yf should be found acceptable under SNAP. ... To the extent the costs referred to by the commenter are already imposed under RCRA, they would not be new costs, but costs associated with the relevant RCRA regulations. Moreover, under this SNAP final rule, EPA is not requiring the use of HFO–1234yf, and thus the costs associated with its use are not due to enforceable regulatory requirements under SNAP. The commenter suggests that EPA could create a new exclusion from hazardous waste at 40 CFR 261.4(b) for an acceptable ignitable refrigerant substitute, or determine that an acceptable ignitable refrigerant is equivalent to household waste under 40 CFR 261.4(b)(1). ... The commenter’s request to modify the hazardous waste regulations is beyond the scope of this rulemaking, since it focuses on Sections 608 and 612 of the CAA. One commenter requested that EPA exclude hydrocarbon refrigerants that are vented from the definition of hazardous waste. ... The commenter notes that a household-type appliance may also originate from institutional and commercial settings and therefore would not qualify for the household waste exclusion under RCRA. ... EPA responds that these refrigerants may be subject to regulation as hazardous waste, with the exception of refrigerants that are directly reused. The Agency did not propose to amend the regulations issued under RCRA in the proposal to this final action and has not undertaken the analysis to do so at this time. This comment is also outside the scope of this rulemaking, which relates to regulations under section 608 of the CAA, not to regulations under RCRA.”</p> <p>Consistent with and maybe in response to this, EPA has pre-emptively cut-off discussion about such a RCRA Subtitle C exclusion in this Proposal: “EPA is not reopening the original CFC refrigerant recycling exclusion and is not requesting comment on 40 CFR 261.4(b)(12). Any comments received on the CFC refrigerant recycling exclusion will be considered out of scope of this rulemaking.” It is mystifying why EPA has been so adamant about not discussing such an exclusion (for more than 13 years). The fact that the Proposal includes a new Subpart Q, Ignitable Spent Refrigerants Recycled for Reuse, under 40 CFR Part 266 of the RCRA Subtitle C regulations seems incidental.</p>

EPA response: The commenter is correct that EPA did not reopen or request comment on the CFC refrigerant recycling exclusion at 40 CFR 261.4(b)(12). EPA also did not propose or request comment on adding a new hazardous waste exemption for flammable refrigerants to 40 CFR 261.4(b) and comments to that effect are outside the scope of this RCRA rulemaking, which is focused on the new RCRA alternative standards proposed for ignitable spent refrigerants at 40 CFR part 266 Subpart Q.

Appendix – List of Commenters by Comment ID Number

Comment ID Number	Comment Submitted by
EPA-HQ-OAR-2022-0606-0082	Savannah River Nuclear Solutions (SRNS)
EPA-HQ-OAR-2022-0606-0084	American Refrigerants
EPA-HQ-OAR-2022-0606-0085	The Chemours Company
EPA-HQ-OAR-2022-0606-0091	Lyons Educational Services, LLC
EPA-HQ-OAR-2022-0606-0102	Golden Refrigerant
EPA-HQ-OAR-2022-0606-0109	A-Gas
EPA-HQ-OAR-2022-0606-0110	Mexichem Fluor Inc. (d/b/a Koura)
EPA-HQ-OAR-2022-0606-0111	FluoroFusion Specialty Chemicals, Inc.
EPA-HQ-OAR-2022-0606-0113	National Refrigerants, Inc.
EPA-HQ-OAR-2022-0606-0121	Air-Conditioning, Heating and Refrigeration Institute (AHRI) and the Alliance for Responsible Atmospheric Policy
EPA-HQ-OAR-2022-0606-0129	Trakref
EPA-HQ-OAR-2022-0606-0136	Association of State and Territorial Solid Waste Management Officials (ASTSWMO)
EPA-HQ-OAR-2022-0606-0139	California Air Resources Board
EPA-HQ-OAR-2022-0606-0145	Trane Technologies
EPA-HQ-OAR-2022-0606-0152	National Environmental Development Association's Clean Air Project (NEDA/CAP)
EPA-HQ-OAR-2022-0606-0158	Institute of Scrap Recycling Industries, Inc. (ISRI)
EPA-HQ-OAR-2022-0606-0159	Hudson Technologies, Inc.