

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

_____))
Potential Future Regulation))
Addressing Pyrolysis and))
Gasification Units:))
Advanced Notice of Proposed))
Rulemaking)) Docket No. EPA-HQ-OAR-2021-0382
))
86 Fed. Reg. 50,296))
(September 8, 2021)))
_____)

COMMENTS OF BEYOND PLASTICS, CALIFORNIA COMMUNITIES AGAINST TOXICS, CT COALITION FOR ENVIRONMENTAL AND ECONOMIC JUSTICE, EARTHJUSTICE, ENERGY JUSTICE NETWORK, GLOBAL ALLIANCE FOR INCINERATOR ALTERNATIVES, INSTITUTE FOR LOCAL SELF-RELIANCE, IRONBOUND COMMUNITY CORP., KENTUCKY ENVIRONMENTAL FOUNDATION, LOUISIANA ENVIRONMENTAL ACTION NETWORK, NATURAL RESOURCES DEFENSE COUNCIL, OCEANA, PARTNERSHIP FOR POLICY INTEGRITY, SIERRA CLUB, AND TISHMAN ENVIRONMENT & DESIGN CENTER AT THE NEW SCHOOL

Submitted via regulations.gov and email on December 23, 2021 by Earthjustice

I. INTRODUCTION.

Beyond Plastics, California Communities Against Toxics, CT Coalition for Environmental and Economic Justice, Earthjustice, Energy Justice Network, Global Alliance for Incinerator Alternatives, Institute for Local Self-Reliance, Ironbound Community Corp., Kentucky Environmental Foundation, Louisiana Environmental Action Network, Natural Resources Defense Council, Oceana, Partnership for Policy Integrity, Sierra Club, and Tishman Environment & Design Center at The New School submit the following comments on EPA’s Advance Notice of Proposed Rulemaking regarding “Potential Future Regulation Addressing Pyrolysis and Gasification Units” published at 86 Fed. Reg. 50,296 (Sept. 8, 2021) (“ANPRM”). The ANPRM seeks comments and data related to potential changes to existing regulations for gasification and pyrolysis units (“G&P Incinerators”) under Clean Air Act § 129 or the development of new regulations.

G&P Incinerators have existed for decades and EPA has recognized since shortly after the Clean Air Amendments of 1990 were enacted that they combust waste and are solid waste incineration units for which Clean Air Act § 129 regulations are required. *See* 60 Fed. Reg. 65,387, 65391 (Dec. 19, 1995) (Municipal Waste Combustors (MWC) Rule). Although the ANPRM states there is “confusion” on this issue, 86 Fed. Reg. at 50,298, EPA has never reversed or withdrawn its initial finding in any final rule. At the end of the last administration, EPA proposed to exempt certain G&P incinerators that

burn municipal solid waste from regulation. That proposed exemption was not only inconsistent with EPA's long-established position that G&P Incinerators are incinerators, but flatly unlawful and arbitrary. *See* Comments of Earthjustice re Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Other Solid Waste Incineration Units; Review (Oct. 16, 2020), **Ex. A**. EPA's initial finding that G&P Incinerators are incinerators is consistent with the text and purpose of the Clean Air Act, and nothing in the ANPRM or in the Trump-era proposal provides reason for the agency to depart from it now.

More importantly, because they combust waste G&P Incinerators are incinerators within the plain meaning of the Clean Air Act. It would contravene the Act and defeat the Act's purpose to exempt them from meeting § 129's incinerator requirements.

Most importantly, people in communities across the country badly need the protection from G&P Incinerators' toxic emissions that Congress intended Clean Air Act § 129 to provide. EPA's partial list shows G&P Incinerators burning plastics, sludge, medical wastes, industrial wastes, and hazardous wastes.¹ Although EPA needs to develop a thorough and accurate inventory of their real world emissions,² the ANPRM itself states they emit hazardous air pollutants including dioxins and polycyclic aromatic hydrocarbons ("PAHs"), an extremely toxic category of organic chemicals. There is strong evidence that they also emit metals. The vast majority of communities in which the listed G&P Incinerators operate are populated disproportionately by people of color and people with low incomes. Exposure to these pollutants, many of which persist and build up in the environment after they have been emitted, can cause cancer, birth defects, and other catastrophic health harm.

G&P Incinerators can and do meet § 129 standards where required to do so. Most G&P Incinerators, however, are currently operating without meeting EPA's existing incinerator standards under Clean Air Act § 129 or, indeed, any emission standards at all. They can emit as much toxic pollution as they like, without having to do anything to control it—even though effective control measures are readily available. To make matters even worse, they need not monitor or report their emissions, and may not even need to get a permit. As a result, the people in the communities where they operate are wholly unprotected from their emissions, unable to find out about the pollution to which their families are being exposed, and unable to hold the polluters accountable.

The problem is growing. The fact that G&P Incinerators have been largely allowed to operate without meeting emission standards or control requirements and without reporting their toxic emissions to the public threatens to bring about an explosion in their population. It is well known that, since China and other Asian countries have stopped accepting plastic wastes from the U.S., the U.S. is now forced to confront the enormous quantities of plastic wastes it generates and the environmental and

¹ The G&P Incinerators burning hazardous waste that are listed in the ANPRM are described as "thermal desorption unit/pyrolysis." 86 Fed. Reg. at 50,302, tbl.3.

² EPA should evaluate G&P Incinerators' emissions considering all of the wastes they burn. When an incinerator tests its emissions while burning "virgin pellets," for example (*see* EPA-HQ-OAR-2021-0382-0007), the test results are unlikely to reflect that unit's emissions when it is burning other materials.

environmental justice consequences of creating these wastes. Rather than confronting this issue honestly, however, the plastics and chemical industry seeks to greenwash it by pretending that burning these plastic wastes in G&P Incinerators—incinerators that do not have to control, monitor, or report their pollution to the public—is somehow beneficial to the public. They even call it recycling. To pave the way for the growth of unregulated plastics incineration, lobbyists for this industry have pushed at least 14 state legislatures to pass laws declaring that G&P Incinerators are not incinerators. They have secured subsidies for G&P Incinerators, as if the taxpayers that pay for these subsidies somehow benefit from them. If EPA does not act promptly to ensure that G&P Incinerators must meet the same health and environmental standards as other incinerators, it will have created a regulatory subsidy that incentivizes building and operating them as an easy way to get paid for burning plastics and other wastes without having to take any steps to protect neighboring communities. *See* 86 Fed. Reg. at 50,298 (citing “market trends” driving increased interest in gasification and pyrolysis incinerators); Steve Toloken, ExxonMobil plans ‘large-scale’ advanced recycling plant, plasticnews.com (Oct. 11, 2021), **Ex. B**.

The problem can be fixed quickly and before it gets worse, however, if EPA acts now. Commenters urge EPA to confirm, consistent with its own precedent and with the plain meaning of the Clean Air Act and binding D.C. Circuit precedent, that:

(1) gasification and pyrolysis units combust waste material and are therefore solid waste incinerators for which § 129 regulation is unambiguously required by the Clean Air Act;

(2) any G&P Incinerator that combusts any municipal waste must comply with all existing requirements for municipal waste combustors promulgated under 42 U.S.C. § 7429(a)(1)(B) and (C);

(3) any G&P Incinerator that combusts any hospital, medical, or infectious waste must comply with all existing requirements for hospital, medical, and infectious waste incinerators promulgated under 42 U.S.C. § 7429(a)(1)(C);

(4) any G&P Incinerator that combusts commercial or industrial waste must comply with all existing requirements for commercial and industrial solid waste incinerators promulgated under 42 U.S.C. § 7429(a)(1)(D); and,

(5) any G&P Incinerator that combusts any other category of waste must comply with all existing requirements for other solid waste incinerators (“OSWI”) promulgated under 42 U.S.C. § 7429(a)(1)(E).

(6) any G&P Incinerator that combusts hazardous waste (whether labeled a “thermal desorption unit” (“TDU”) or not) must comply with all existing requirements for hazardous waste incinerators promulgated under Resource Conservation and Recovery “(RCRA)” and the Clean Air Act.

EPA must also make any changes to its regulations under § 129 necessary to ensure that that all G&P Incinerators are subject to its existing standards under § 129(a)(1), including the elimination or amendment of any regulatory language that could even

arguably be construed as excluding or exempting G&P Incinerators from existing incinerator standards and/or the addition of regulatory language to expressly confirm all G&P Incinerators are subject to such standards. In addition, EPA must make any changes necessary to ensure the TDUs combusting hazardous waste are subject to existing regulations for hazardous waste combustors under RCRA and the Clean Air Act, including the elimination or amendment of any regulatory language that could arguably be construed as excluding or exempting hazardous waste-burning TDUs from such regulation and/or the addition of regulatory language to expressly confirm that all hazardous waste-burning TDUs are subject to existing regulations for hazardous waste incinerators.

EPA can make these changes promptly because they do not require the agency to promulgate new emission standards or to undertake many of the more time-consuming tasks in typical rulemakings under § 129. EPA need only confirm, consistent with its longstanding position articulated in the MWC Rule, that G&P Incinerators are incinerators to which EPA's existing incinerator standards apply.

II. HEALTH AND ENVIRONMENTAL HARMS FROM UNREGULATED G&P INCINERATORS.

It is well known that G&P Incinerators emit extremely toxic pollutants, including dioxins, furans, and PAHs, which can cause cancer even in tiny quantities and which persist in the environment and bioaccumulate. EPA itself says in the ANPRM that “[r]egardless of the process category, through application of heat, pyrolysis disintegrates the long hydrocarbon bonds of the incoming feed materials and may generate tars, oils, particulate matter, reduced sulfur and nitrogen compounds, and hazardous air pollutants (HAPs) including polycyclic aromatic hydrocarbons (PAHs).” 86 Fed. Reg. at 50,299-52,300 (emphasis added). Among the wastes that are burned in G&P Incinerators are modern plastics, which contain thousands of chemical additives and impurities, most of which are not publicly disclosed and many of which are toxic. These chemicals include inks, metals, halogens, organics, and multiple polymer types in a single product.³ As shown in the attached fact sheet, NRDC, “Greenwashing of Plastic Incineration” (2021), **Ex. C**, state-level permit data show that G&P Incinerators emit toxic pollutants including lead, cadmium, selenium, 1,2-dichloroethane, chromium, vinyl chloride, barium, styrene, benzene, toluene, mercury, arsenic, dioxins, ethyl benzene, xylenes, naphthalene, acetaldehyde, formaldehyde, hydrochloric acid, methanol, and hexane.

Moreover, to the extent G&P Incinerators produce anything other than pollution, their so-called “product” will merely cause more toxic pollution when it is burned later at another facility. For example, as shown in the attached fact sheet, the main output of a pyrolysis incinerator in Oregon was styrene, a toxic chemical and likely carcinogen⁴ that

³ IPEN, SCP/RAC, UNEP and BRS (2020) Plastic's Toxic Additives and the Circular Economy, **Ex. D** at 55; Roosen M, Mys N, Kusenber M, *et al.* (2020) Detailed Analysis of the Composition of Selected Plastic Packaging Waste Products and Its Implications for Mechanical and Thermochemical Recycling, *Environ Sci Technol.* **Ex. E** at 12; Wiesinger H, Wang Z and Hellweg S (2021) Deep Dive into Plastic Monomers, Additives, and Processing Aids. *Environ. Sci Technol*, American Chemical Society, **Ex. F**.

⁴ The Department of Health and Human Services' National Toxicology Program classifies

the facility then shipped offsite to be burned. **Ex. C.**

G&P Incinerators also generate large quantities of hazardous waste. As shown in the attached fact sheet, just one pyrolysis incinerator generated almost 500,000 pounds of hazardous waste in 2019. **Ex. C.** That waste, which included benzene, lead, and other toxic metals, was shipped to be burned in hazardous waste disposal facilities all over the country—creating yet more health and environmental damage.

The health and environmental impacts from G&P Incinerators fall disproportionately on low income communities and communities of color. As shown in the attached fact sheet, the vast majority of communities in which the listed G&P Incinerators operate are populated disproportionately by people of color and people with low incomes. Populations and Demographic Info for Communities Near G&P Incinerators, **Ex. G.** *See also Ex. C.* Allowing uncontrolled incinerator emissions into disadvantaged communities is inconsistent with the Biden administration’s commitment to environmental justice. Lack of permitting, monitoring and reporting requirements exacerbates the problem by depriving fenceline communities of information and an opportunity to defend themselves.

In the ANPRM, EPA lists some G&P Incinerators with the caveat that its list “may not be exhaustive.” 86 Fed. Reg. at 50,302. Responding to EPA’s request for additional information, Sierra Club asked EPA to collect the letters that its regional offices have provided to the owners and operators individual G&P Incinerators, informing them that they are not subject to incinerator standards. Although these letters (known as “comfort letters”) are already in EPA’s possession and the agency has professed itself interested in learning more about the universe of G&P Incinerators operating or planned in the United States, the agency declined to collect them or provide them to the public. Accordingly, Sierra Club submitted FOIA requests to each of EPA’s regions. Links to EPA’s responses to the FOIA requests are provided in footnote 5, below.⁵ By providing these links,

styrene as “reasonably anticipated to be a human carcinogen.”
https://ntp.niehs.nih.gov/ntp/roc/content/listed_substances_508.pdf

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Region 1: <https://foiaonline.gov/foiaonline/action/public/submissionDetails?trackingNumber=EPA-R1-2021-004872&type=Request>

Region 2: <https://foiaonline.gov/foiaonline/action/public/submissionDetails?trackingNumber=EPA-R2-2021-004873&type=Request>

Region 3: <https://foiaonline.gov/foiaonline/action/public/submissionDetails?trackingNumber=EPA-R3-2022-000714&type=Request>

Region 4: <https://foiaonline.gov/foiaonline/action/public/submissionDetails?trackingNumber=EPA-R4-2021-004875&type=Request>

Region 5: <https://foiaonline.gov/foiaonline/action/public/submissionDetails?trackingNumber=EPA-R5-2021-004876&type=Request>

Region 6: <https://foiaonline.gov/foiaonline/action/public/submissionDetails?trackingNumber=EPA-R6-2021-004877&type=Request>

Region 7: <https://foiaonline.gov/foiaonline/action/public/submissionDetails?trackingNumber=EPA-R7-2021-004878&type=Request>

Region 8: <https://foiaonline.gov/foiaonline/action/public/submissionDetails?trackingNumber=EPA-R8-2021-004879&type=Request>

Region 9: <https://foiaonline.gov/foiaonline/action/public/submissionDetails?trackingNumber=EPA-R9-2021-004881&type=Request>

commenters submit these FOIA responses to the record, and commenters urge EPA to place electronic versions of each FOIA response in the record. In addition, it has come to commenters' attention that EPA keeps an index of the determinations it has made as to whether individual facilities are or are not subject to incinerator standards. Because this index would be very useful to the public and is clearly relevant to the issues raised in the ANPRM, commenters urge EPA to place it in the record now.

Although the FOIA requests were submitted June 11, 2021, not all the EPA regions provided responses in time for the information to be evaluated and included in these comments, and some of the responses provided are incomplete. However, the responses do include a letter from EPA Region 1 to MSW Power Corporation stating that a G&P Incinerator burning municipal solid waste at a prison in Massachusetts is not subject to incinerator standards (Letter from U.S. EPA Region 1 to MSW Power Corporation (Dec. 4, 2012), **Ex. H**) and a letter from the South Coast Air Quality Management District to Medical Waste Services stating that a G&P Incinerator burning medical waste in California is not subject to incinerator standards (Letter from South Coast Air Quality Management District to Medical Waste Services, "Determination of Non-Applicability under NSPS Subpart Ec – Standards of Performance for New Stationary Sources: Hospital/Medical/Infectious Waste Incinerators," **Ex. I**). The FOIA responses also included comfort letters for some of the G&P Incinerators that are listed in the ANPRM. These are:

- a letter from EPA Region 9 to Sierra Energy stating that a G&P Incinerator burning municipal waste in California is not subject to incinerator standards, Letter from U.S. EPA Region 9 to Sierra Energy, "Applicability of Clean Air Act Other Solid Waste Incinerators Rule, 40 CFR Part 60, Subpart EEEE to FastOx Gasification Biorefinery Pilot Project, Monterey County, CA," **Ex. J**.
- a letter from EPA Region 9 to Aemerge RedPak Services stating that a G&P Incinerator burning medical waste in California is not subject to incinerator standards, Letter from U.S. EPA Region 9 to Aemerge Redpak Services Southern California, LLC, "Request for Reconsideration of Applicability Determination Issued to Aemerge RedPak Services Southern California, LLC" (Oct. 31, 2018), **Ex. K**.
- a letter from EPA's Enforcement Office stating that a G&P Incinerator burning municipal waste in Nevada is not subject to incinerator standards, Letter from U.S. EPA to Hogan and Hartson, LLP, "Request for Applicability Determination under 40 C.F.R. Part 60, Subpart AAAA New Source Performance Standards ("NSPS") for New Small Municipal Waste Combustion Units (Mar. 30, 2010), **Ex. L**.

Region 10:

<https://foiaonline.gov/foiaonline/action/public/submissionDetails?trackingNumber=EPA-R10-2021-004882&type=Request>

III. G&P INCINERATORS ARE INCINERATORS.

A. Applicable Legal Standard.

The text of the Clean Air Act makes entirely clear that Congress intended EPA to regulate all facilities that combust “any” solid waste material under § 129. Section 129(a)(1) mandates regulation of all “solid waste incineration units,” and 129(g)(1) defines “solid waste incineration unit” to mean “a distinct operating unit of any facility which combusts any solid waste material from commercial or industrial establishments or the general public (including single and multiple residences, hotels, and motels).” 42 U.S.C. § 7429(a)(1), (g)(1). Section 129(g)(1) also provides a short and very specific list of 4 types of facilities that combust waste but are not solid waste incinerators, confirming that Congress did not intend to exclude any other waste-combusting facilities from the definition of “solid waste incineration unit” or from regulation as incinerators. 42 U.S.C. § 7429(g)(1).

In repeated decisions, the D.C. Circuit has confirmed the Clean Air Act’s plain meaning. When EPA issued a regulatory definition of incinerator that excluded certain waste-combusting boilers and industrial heaters from meeting its standards for commercial and industrial incinerators under 42 U.S.C. § 7429(a)(1)(C), on the grounds that they “use a process that recovers thermal energy from the combustion for a useful purpose,” the D.C. Circuit held EPA’s definition to be flatly unlawful. *NRDC v. EPA*, 489 F.3d 1250, 1256-1261 (D.C. Cir. 2007). The Court expressly confirmed that when Congress defined solid waste incineration unit to mean “any” facility which combusts “any” solid waste material, 42 U.S.C. § 7429(g)(1), it meant exactly that. Applying the usual meaning of the word “any,” the Court “interpret[ed] section 129 ... to unambiguously include among the incineration units subject to its standards any facility that combusts any commercial or industrial solid waste material at all—subject to the four statutory exceptions identified above.” *Id.* at 1257-1258 (emphasis added). The Court expressly rejected EPA’s contention that it has discretion to decline to regulate waste-combusting facilities under § 129 based on its views about their purpose or to elect to regulate waste-combusting units under § 112 instead of § 129. *Id.* at 1260-1261.

Nine years later, the D.C. Circuit confirmed and expanded on its holding in *NRDC v. U.S. Sugar Corp. v. EPA*, 830 F.3d 579, 643-644 (D.C. Cir. 2016). *U.S. Sugar* addresses the regulations for commercial and industrial incinerators that EPA promulgated following the vacatur of its previous regulations in *NRDC*. Once again, EPA refused to set § 129 standards for certain waste-combusting facilities, “cyclonic burn barrels.” “The EPA protest[ed] that it reasonably chose not to regulate cyclonic burn barrels at this time, given how little information it had on them.” *Id.* at 644. The Court held “this argument misses the point: in light of the unambiguous statutory command to promulgate numeric standards for *all* solid waste incineration units, the EPA had no discretion to avoid regulating any such units—even if its choice to avoid regulating these units would have been otherwise reasonable.” *Id.* The Court made clear that not only does EPA lack any authority to exempt or exclude waste-combusting facilities from § 129 regulation but that EPA’s failure to affirmatively establish regulations for any such facility is a violation of its “nondiscretionary statutory duty” to do so. *Id.* at 643.

In short, because the Clean Air Act unambiguously requires § 129 standards for any facility that combusts any waste at all, it requires standards for G&P Incinerators if they combust “any” waste “at all.” *U.S. Sugar*, 830 F.3d at 643 (quoting *NRDC*, 489 F.3d at 1257-1258).

B. G&P Incinerators Combust Waste.

EPA has previously described G&P Incinerators as “two chamber incinerators with a starved air primary chamber followed by an afterburner to complete combustion.” 85 Fed. Reg. 54,178, 54,187 (Aug. 31, 2020) (citing 70 Fed. Reg. 74,870, 74,876-74,877 (Dec. 16, 2005)) (emphasis added). As EPA itself has repeatedly recognized they are “incinerators.” *Id.* Further, waste combustion occurs in both chambers.

1. G&P Incinerators Combust Waste In Their First Chamber.

Solid waste is fed into the first chamber of G&P Incinerators either in batches or in a continuous feed. 86 Fed. Reg. at 50,299-50,300. There, at least some of the waste reacts with oxygen and is combusted. *Id.*; Declaration of Ranajit Sahu, Ph.D., **Ex. M**. As explained in the attached declaration from Dr. Ranajit Sahu, Ph.D., “all gasification and pyrolysis of waste necessarily involves the combustion of at least some of the material being gasified or pyrolyzed.” *Id.*

As EPA states, there is some oxygen in the solid wastes being fed into the first chamber. 86 Fed. Reg. at 50,299-300. Further, although EPA states it has no data for continuous mode plants, *id.* at 50,299, any G&P Incinerator that uses a continuous feed will necessarily be open to the outside to some extent, and that will introduce even more oxygen.

EPA admits that in gasification units some of the wastes “react with” oxygen at “high temperatures” in a process that is sometimes “exothermic”—*i.e.*, produces heat. *Id.* at 50,300 & n.10. Indeed, EPA states the process “overall is an exothermic process.” *Id.* The fact that waste materials are reacting with oxygen in exothermic reactions means they are being combusted. **Ex. L**. For example, a company currently seeking a permit to burn sewage sludge without meeting § 129 incinerator standards in an environmental justice community in Newark, New Jersey, states that oxygen will be present in the first chamber of its planned incinerator, and that this oxygen “reacts with the biosolids and releases heat...” Aries Clean Energy, Newark Biochar Production Facility Air Permit Process Description, Doc# NJNE1806-PD-001 (Nov. 30, 2020), **Ex. N** at 10. The company goes on to say that one of the “main gasification reactions” at its facility will be “oxidation,” and it describes this reaction with the familiar chemical formula, “ $C + O_2 \rightarrow CO_2$.” *Id.* In short, one of the “main gasification reactions” at this facility is combustion. *Id.* See **Ex. M**.

EPA does not deny that combustion can also occur when at least some of the waste materials in the first pyrolysis chamber react with oxygen. *Id.* at 50,299. The Federal Remediation Technology Roundtable, of which EPA is a member, has recognized that at least some combustion does occur in pyrolysis units. It states that although “[p]yrolysis is formally defined as chemical decomposition induced in organic materials by heat in the absence of oxygen,” “[i]n practice, it is not possible to achieve a completely oxygen-free atmosphere;

actual pyrolytic systems are operated with less than stoichiometric quantities of oxygen.” Federal Remediation Technologies Roundtable, Pyrolysis Description <https://frtr.gov/matrix2/section4/4-25.html>, Ex. O.

The FRTR’s description of pyrolysis is consistent with Dr. Sahu’s declaration, which explains that “all materials that can be pyrolyzed/gasified contain some oxygen or oxygen compounds.” Ex. M. “Also, if the pyrolysis chamber or container is not perfectly sealed and maintained at greater than atmospheric pressure, external oxygen can be introduced into the pyrolysis process. For both reasons, it is impossible to operate a pyrolysis unit in the absence of all oxygen.” *Id.* “As the temperature of organic material that is to be pyrolyzed/gasified is increased in order to effect the pyrolysis/gasification, the presence of some of the inherent oxygen in the material and/or any externally introduced oxygen will initiate combustion reactions while pyrolysis/gasification is going on. Thus, some combustion is impossible to avoid in pyrolysis/gasification units.” *Id.* (emphasis added).

EPA does not deny that the oxidation of waste materials in these conditions is combustion. Instead, EPA argues that not all of the waste material fed into G&P Incinerators is combusted. EPA states the “oxygen available is less than the stoichiometric ratio (*i.e.*, amount needed for complete combustion of the feed material).” 86 Fed. Reg. at 50,300.

EPA’s claims miss the point. As the Clean Air Act and binding D.C. Circuit make clear, a solid waste incinerator is any facility that combusts “any” waste “at all” unless it falls within one of the four statutory exceptions. 42 U.S.C. § 7429(g)(1); *U.S. Sugar*, 830 F.3d at 643 (quoting *NRDC*, 489 F.3d at 1257-1258). It does not matter whether oxygen is present at a “stoichiometric ratio” or whether combustion of the waste material is “complete” in G&P Incinerators. So long as any waste at all is combusted in them—a point EPA does not and cannot dispute—they are incinerators within the meaning of Clean Air Act § 129.

Indeed, EPA itself underscored that at least some combustion occurs in the first chamber by explaining just last year that the second chamber is used “to complete combustion.” 85 Fed. Reg. at 54,187 (emphasis added). It would make little sense for EPA to say that the second chamber “complete[s]” combustion, *id.*, if no combustion took place in the first chamber.

Further confirming that at least some materials are combusted in G&P Incinerators is their production of “char” and “ash.” 86 Fed. Reg. at 50,299-50,300. As EPA itself has argued successfully in court, the production of char indicates the destruction of organic material. *See U.S. v. Rineco Chemical Industries*, 2009 WL 801608 at *10-11 (E.D. Ark. 2009).

2. G&P Incinerators Combust Waste In Their Second Chamber.

Even if no waste were combusted in the first chamber, combustion occurs in the second chamber where gases from the first chamber are burned. As noted above, EPA has stated the second chamber is used “to complete combustion.” 85 Fed. Reg. at 54,187;

70 Fed. Reg. at 74,876-74,877.

EPA has expressly recognized that the combustion occurring in the second chamber makes G&P Incinerators solid waste incineration units for which § 129 regulation is required. As EPA recognizes in the ANPRM, the agency's § 129 regulations for municipal waste combustors expressly apply to "pyrolysis/combustion units." The reason for this, as EPA explains in the preamble to those regulations, is that "[m]unicipal solid waste combustion includes the direct combustion of MSW or the combustion of MSW gases from pyrolysis or gasification." 60 Fed. Reg. at 65,391 (emphasis added).

EPA successfully made the same point in the *Rineco Chemical* case. Rejecting the defendant's claim that its facility did not burn waste, the court held that "vapor/inerts" from the first chamber were burned in the second chamber. 2009 WL 801608 at *10-11.

3. G&P Incinerators Are Integral Systems That Burn Waste.

As noted above, the Clean Air Act defines an incinerator as "a distinct operating unit of any facility which combusts any solid waste material." 42 U.S.C. § 7429(g)(1) (emphasis added). G&P Incinerators are integral parts of "facilit[ies]" that combust waste. Whether the combustion happens in the first chamber, the second chamber, or both chambers (as is actually the case), there can be no dispute that some of the waste that is fed into these incinerators is combusted. **Ex. M.** As EPA is well aware, the volume of solid waste that is fed into G&P incinerators is less than the volume of solid waste and any so-called "product" they create. This demonstrates that at least some of the waste that is fed into G&P Incinerators is combusted.

EPA successfully made this same point—that burning waste in thermal treatment devices is still burning waste—in the *Rineco Chemical* case. There, the court cited EPA's conclusion that:

materials being burned in incinerators or other thermal treatment devices, other than boilers and industrial furnaces, are considered to be "abandoned by being burned or incinerated" under § 261.2(a)(1)(ii), whether or not energy or material recovery also occurs.... In our view, any such burning (other than in boilers and industrial furnaces) is waste destruction subject to regulation either under Subpart O of Part 264 or Subpart O and P of Part 265. If energy or material recovery occurs, it is ancillary to the purpose of the unit-to destroy wastes by means of thermal treatment-and so does not alter the regulatory status of the device or the activity.

2009 WL 801608 at *10 (quoting 48 Fed. Reg. 14,472, 14,484 (Apr. 4, 1983)).⁶

⁶ As noted above, the Clean Air Act makes clear that any operating unit that combusts any solid waste, including a boiler or an industrial furnace, is a solid waste incineration unit. 42 U.S.C. § 7429(g)(1); *NRDC*, 489 F.3d at 1257-1261.

The court went on to point out:

The United States notes that ... between 2003 and 2005, of the approximately 18.7 million lbs. of waste fed into the [Thermal Metal Wash Recycling Unit (“TMW”)] annually, more than 2.6 million lbs. or at least 13.9% was unaccounted for, *i.e.* disposed of, burned, or incinerated in the treatment process, and that during the same period approximately 2 million lbs. or 10.7% of the output from the TMW was vapor/inerts, which are vented to the [thermal oxidation unit (“TOU”)] where they are destroyed through burning and incineration. The United States notes as well that the presence of more than 4.4 million lbs. or at least 23.5% char indicates that the destruction of organic materials takes place in the TMW.

2009 WL 801608 at *10. The court concluded

In any case, it is undisputed that vapor from the TMW is vented to the TOU where it is destroyed through burning and incineration. Thus, a portion of inputs to the TMW are volatilized by the high temperature, vented to the TOU, and destroyed through burning and incineration. In addition, the presence of substantial char shows that the destruction of organic materials takes place in the TMW.

Id. at *11.

The same is true for G&P Incinerators generally. EPA does not and cannot deny that some of the waste that is fed into them is combusted. Indeed, EPA itself has acknowledged the integral nature of G&P Incinerators by explaining they are “two chamber incinerators” in which the second chamber is used “to complete combustion.” 85 Fed. Reg. at 54,187 (emphasis added). EPA’s statement confirms not only that combustion happens in both chambers but that both chambers are part of a single “incinerator” that combusts waste. As Dr. Sahu’s declaration explains, “it is futile to artificially ‘separate’ these processes into idealized forms where only one of these processes can occur to the exclusion of the other(s). Thus, in a practical incinerator, including one designed to first pyrolyze/gasify substances, followed by the subsequent combustion of the gaseous products, some combustion is inevitable in the first or pyrolysis chamber. It is impossible to separate such multi-component devices and call them separate names. They are collectively as a whole an incinerator. They work together to combust the substances in the waste that is fed into them.” **Ex. M.**

4. EPA Has Recognized that Individual G&P Incinerators Are Incinerators.

Although EPA and some states have contributed to the proliferation of G&P Incinerators and the health harms they cause by issuing determinations (known as “comfort letters”) that individual G&P Incinerators are not subject to incinerator standards, EPA also has recognized that some individual G&P Incinerators are incinerators.

In New Mexico, for example, Monarch Waste Technologies sought a determination from EPA that a pyrolysis incinerator it intended to build and use to burn medical waste was not an incinerator. EPA rejected the request. Letter from U.S. EPA Region 6 to Monarch Waste Technologies, LLC, “Applicability Determination – Emission Guidelines

and Compliance Times for Hospital/Medical/Infectious Waste Incinerators (HMIWI) (40 C.F.R. Part 60, Subpart Ce) and New Source Performance Standards (NSPS) for HMIWI for Which Construction is Commenced After June 20, 1996 (40 C.F.R. Part 60, Subpart Ec) – Pyrolysis Unit to be Constructed and Operated on the Nambe Pueblo near Santa Fe, New Mexico” (July 7, 2017), **Ex. P**.

Although EPA’s regulations for HMIWI exclude “pyrolysis units,” which they define to mean “the endothermic gasification of hospital waste and/or medical/infectious waste using external energy,” 80 Fed. Reg. at 50,300; 40 C.F.R. § 60.51c, EPA explained that Monarch’s pyrolysis incinerator did not qualify for this exclusion because:

Based upon the technical design and process operation details submitted and reviewed, the gas stream generated in one process unit of the Pyromed 550 System is immediately and continuously routed to the next process unit, and the operation of the prior unit is integral to the operation of the subsequent unit. Therefore, emissions derived from processing the HMIW are not emitted to the atmosphere until the gases have passed through all process units comprising the Pyromed 550 System. One of the process units is endothermic (i.e., the Pyro Tube), while the other units are exothermic (e.g., the Char Vessel and the Oxidizer). Therefore, because the Pyromed 550 System is not "endothermic" throughout the overall operation, we do not believe that the Pyromed 550 System meets the exclusion for "any pyrolysis unit" as "pyrolysis" is defined in the HMIWI NSPS.

Ex. P at 4. The agency went on to explain that, in its second chamber, the proposed pyrolysis unit burned medical waste that had been “gasified” in its first chamber, that gasified medical waste is still medical waste, and that the entire facility—considering both its primary and secondary chambers together—was a medical waste incinerator. *Id.*

EPA provided a similar explanation for finding that a proposed pyrolysis unit in South Carolina was a HMIWI. It found that combustion would take place in all three chambers individually and that the facility as a whole was an incinerator. Letter from U.S. EPA to eCycling International, LLC (Dec. 22, 2015), **Ex. Q**.

EPA Region 10 rejected a request by Green Power, Inc. for a determination that a facility that gasified municipal waste and then burned it in a turbine to generate electricity was not an incinerator. EPA explained that gasified municipal solid waste burned in the turbine is still municipal solid waste and that a unit burning such waste is necessarily an incinerator. Letter from U.S. EPA Region 10 to State of Washington Department of Ecology, “Applicability of 40 C.F.R. § 60 Subpart AAAA to the Green Power, Inc., Facility in Pasco, Washington (Sept. 7, 2010), **Ex. R**.

The agency’s rationales for these decisions were sound, and they apply equally to other G&P Incinerators. G&P Incinerators are not a series of separate independent facilities that can be viewed as something other than an incinerator. Rather they are integral systems in which solid waste is directly and continuously routed from one part of the process to the next and where that waste is combusted in one or more stages.

C. EPA Has Provided No Reason To Abandon Its Previous Conclusion That G&P Incinerators Are Incinerators.

As noted above, EPA concluded in its first regulations for incinerators under Clean Air Act § 129 that G&P Incinerators are incinerators. In its 1995 rule for MWC, EPA stated “[m]unicipal solid waste combustion includes the direct combustion of MSW or the combustion of MSW gases from pyrolysis or gasification.” 60 Fed. Reg. at 65,391. EPA has never retracted that finding, let alone provided a reasoned basis for doing so.

1. EPA’s HMIWI Regulations.

EPA states that its HMIWI regulations do not apply to “pyrolysis units,” and define pyrolysis to mean “the endothermic gasification of hospital waste and/or medical/infectious waste using external energy.” 80 Fed. Reg. at 50,300; 40 C.F.R. § 60.51c. Nowhere in its HMIWI regulations, however, does EPA conclude that pyrolysis incinerators (let alone gasification incinerators, which they do not mention) are not incinerators. Rather, they merely exclude pyrolysis units from regulation as HMIWI without saying one way or another whether they are incinerators within the meaning of the Clean Air Act. And, where EPA discusses the exclusion in the ANPRM, it states “[p]yrolysis technology is different from conventional incineration.” 86 Fed. Reg. at 50,300 (quoting 62 Fed. Reg. 48,348, 48,358 (Sept. 15, 1997)) (emphasis added). Similarly, EPA states “[A]lthough conventional combustion does not occur during pyrolysis treatment, there are some emissions from the pyrolysis process.” *Id.* (emphasis added). EPA’s statement that pyrolysis does not involve “conventional combustion” and is not “conventional incineration” does not mean or even suggest that it does not involve combustion at all or that is not incineration. To the contrary, it strongly indicates that pyrolysis is a type of “incineration” and, as shown above, the Clean Air Act unambiguously requires § 129 regulation for all incinerators—*i.e.*, any facility that combusts any solid waste at all except the four types of facility it expressly excludes. EPA’s HMIWI regulations do not articulate a finding that pyrolysis incinerators (let alone gasification incinerators) are not incinerators; they merely exclude pyrolysis incinerators that burn hospital, medical, and infectious waste from regulation as HMIWI.

EPA also states that, in its HMIWI rule, it “noted difficulties with attempting to modify the HMIWI regulations to apply to pyrolysis units; asserted that sufficient information was not available ‘to develop a separate and uniform regulation for pyrolysis;’ and noted that ‘EPA may consider these devices in future regulatory development’ 86 Fed. Reg. at 50,300 (quoting 62 Fed. Reg. at 48,359). Such alleged “difficulties” do not excuse EPA from meeting its nondiscretionary statutory duty to ensure that all HMIWI, including pyrolysis incinerators, are subject to § 129 standards. *See U.S. Sugar*, 830 F.3d at 643-644. Further, EPA has no discretion to set “separate” standards for incinerators that combust hospital, medical, and infectious waste. Section 129 unambiguously requires one set of emission limits for all new HMIWI and another for all existing HMIWI. 42 U.S.C. § 7429(a)(1)-(2). Unlike § 112, § 129 does not authorize EPA to set “separate” limits for different “classes, types, and sizes of sources within a category or subcategory,” 42 U.S.C. § 7412(d)(1), and Congress’s decision not to provide this authority in § 129 must be respected. In any event, there is no need for “separate” limits for G&P Incinerators; if they emit pollution at levels below the existing limits then compliance should be easy for them and, if they emit pollution at levels above the existing limits, they need to reduce that

pollution.

2. EPA's CISWI Regulations.

EPA states “there is no definition of ‘pyrolysis/combustion units’ in the NSPS and EG for CISWI units and SSI units, and no definition of gasification units in any of the NSPS and EG discussed in this section.” 86 Fed. Reg. at 50,300. That statement scarcely shows that G&P Incinerators are not subject to the CISWI regulations or reflects a finding by EPA that G&P Incinerators are not incinerators. As shown above, the Clean Air Act makes plain that G&P Incinerators are incinerators, and EPA recognized as much in the first incinerator regulations it issued, for MWC. Thus, EPA lacks authority to exclude G&P Incinerators from its regulations for incinerators burning commercial and industrial solid waste. Further, even if EPA had such authority—which it does not—merely not mentioning G&P incinerators in its CISWI regulations would not suffice to exclude G&P Incinerators from those regulations; rather, EPA it would need to expressly exclude them.

Any G&P Incinerators that are burning commercial or industrial waste without obtaining a permit and meeting all requirements applicable to CISWI are operating unlawfully and are subject to enforcement actions. To the extent EPA has suggested to any such incinerator operators that they are not in violation of the Clean Air Act—*e.g.*, by issuing them comfort letters—EPA must promptly correct its mistake and withdraw any such suggestion. To the extent EPA is aware of any G&P Incinerators that are burning commercial or industrial waste without obtaining a permit and meeting all requirements applicable to CISWI, EPA should promptly commence enforcement action.

Lastly, if EPA believes there is any confusion brought about by its failure to state affirmatively in the CISWI regulations that G&P Incinerators burning commercial or industrial solid waste are subject to the CISWI regulations, EPA should act promptly to clarify that such incinerators are CISWI and must meet all requirements applicable to CISWI.

3. EPA's OSWI Proposal.

EPA states that, although “[t]he current rules for OSWI unit define ‘municipal waste combustion unit’ to include ‘pyrolysis/combustion units,’” EPA recently “proposed to remove them from the definition of municipal waste combustion unit. 86 Fed. Reg. at 50,300 (quoting 85 Fed. Reg. at 54,187). For the reasons given above and in the attached comments on that proposal (which are incorporated herein by reference), the proposed change would be both flatly unlawful and arbitrary for several reasons. *See* OSWI Comments, **Ex. A**. Moreover, in 2016, EPA sought and obtained a voluntary remand of its existing OSWI standards, allegedly to bring them into compliance with three decisions issued by the D.C. Circuit, including *NRDC*. EPA's Unopposed Motion for Voluntary Remand, *Sierra Club v. EPA*, No. 06-1066 (D.C. Cir. Jan. 29, 2016), **Ex. S**. As explained above, *NRDC* holds that the Clean Air Act unambiguously requires § 129 standards for “any” facility that combusts “any” solid waste material “at all.” 489 F.3d at 1257-1261; *see also U.S. Sugar*, 830 F.3d at 643-644 (same). Far from bringing its OSWI standards into compliance with *NRDC* and the remand order in *Sierra Club v. EPA*, D.C. Cir. No. 06-1066, EPA's proposal would have flouted both by exempting G&P Incinerators even

though they combust solid waste.

EPA states that, in the OSWI proposal, it stated “that the term ‘pyrolysis/combustion units’ is not defined in the current [OSWI] regulation and there is no similar specific reference to such units in the institutional waste incineration unit definition.” 86 Fed. Reg. at 50,300. In fact, the reference to “pyrolysis/combustion” units in the OSWI regulations mirrors the identical language in EPA’s regulations for MWC. *See id.* (quoting 40 C.F.R. 60.51a; 40 C.F.R. 60.1465). When EPA promulgated its MWC regulations, it explained that “[m]unicipal solid waste combustion includes the direct combustion of MSW or the combustion of MSW gases from pyrolysis or gasification.” 60 Fed. Reg. at 65391. That explanation made clear that no definition of “pyrolysis/combustion unit” was necessary because any facility that combusts MSW is an incinerator, whether it combusts the wastes directly or in a two-chamber pyrolysis or gasification process.

That EPA’s CISWI rule does not refer to pyrolysis units hardly lends support to EPA’s proposal to exclude them from regulation in the OSWI rule. As shown above, EPA’s decision not to exclude G&P Incinerators from its CISWI regulations merely confirms G&P Incinerators are subject to these regulations. To the extent there are G&P Incinerators that are burning commercial or industrial waste without complying with EPA’s CISWI regulations, it is EPA’s job to clarify that they must comply with the CISWI regulations and, where necessary, bring enforcement actions to ensure compliance.

The ANPRM notes that the OSWI proposal claims that “unlike combustion, the pyrolysis process is endothermic and does not require the addition of oxygen (*i.e.*, the partial pressure of oxygen during a pyrolysis process is maintained close to zero)” and that “[b]ased on this understanding, the Agency recognizes that the pyrolysis process, by itself, is not combustion.” 86 Fed. Reg. at 50,300-50,301 (quoting 85 Fed. Reg. at 54,187). Those claims are addressed above and in the attached comments on the OSWI rule. **Ex. A.** A few points, however, bear emphasis.

First, EPA itself states in the ANPRM that, in gasification units, waste materials “react[]” with oxygen in reactions that are sometimes “exothermic” and that the process creates “char.” 86 Fed. Reg. at 50,300. Further, EPA does not deny that oxygen is present in pyrolysis units as well. Instead, EPA hedges by claiming there is “little to no” oxygen present, 86 Fed. Reg. 50,299 (emphasis added) or that the partial pressure of oxygen is “close to zero,” *id.* at 50,301 (quoting 85 Fed. Reg. at 54,187). It is well known that, in reality, there is some oxygen in G&P Incinerators and that, as a result, some oxidation occurs. For example, the Federal Remediation Technology Roundtable—of which EPA is a member—has recognized that although “[p]yrolysis is formally defined as chemical decomposition induced in organic materials by heat in the absence of oxygen[,] [i]n practice, it is not possible to achieve a completely oxygen-free atmosphere; actual pyrolytic systems are operated with less than stoichiometric quantities of oxygen.” **Ex. O** (emphasis added). *See also Ex. M.* Because there is some oxygen present in pyrolysis units, which operate at temperatures that exceed the ignition temperatures of the wastes they burn, producing “char” and “ash,” 86 Fed. Reg. at 50,299, these units—like gasification units—are combusting at least some of the waste that is fed into them.

Second, the OSWI proposal’s attempt to deregulate the combustion of solid waste in G&P Incinerators by segmenting the incineration process between the first and second chambers and pretending that neither of the segments is combustion ignores the larger reality that EPA has recognized both in its final MWC rule, in multiple rulings on individual incinerators, *see supra*, and in the *Rineco Chemical* case. G&P Incinerators are incinerators because, viewed as a whole facility, they combust waste. *See Ex. M*. That is also why EPA recognized in the OSWI proposal itself that G&P Incinerators are “two chamber incinerators” in which the second chamber is used “to complete combustion.” 85 Fed. Reg. at 54,187 (emphasis added).

Third, the OSWI proposal states that the waste gases from the first chamber are not contained gases and, therefore, not solid waste when they are burned in the second chamber. 85 Fed. Reg. at 54,187. Because G&P Incinerators are integral two-chamber or multi-chamber “incinerators,” *id.*, what matters is whether the material being fed into them is solid waste, not whether the process of burning them has one stage or two, or more. Because the material being fed into G&P incinerators is undisputedly waste, the claim in the OSWI proposal that the gasified wastes burned in the second chamber are no longer solid wastes is irrelevant. *See Ex. M*.

Fourth, the OSWI proposal misreads “contained gaseous material,” 42 U.S.C. § 6903(27), to mean only gaseous material contained in a “portable” container that has, itself, been thrown into an incinerator. 85 Fed. Reg. at 54,187. The text of RCRA defines solid waste to mean “contained gaseous material,” not just gaseous material that is contained in a portable container that is itself being incinerated. It is well established that, in the absence of a statutory definition, statutory terms must be given their ordinary meaning and that EPA cannot narrow the meaning of statutory terms to suit its policy preferences. *See, e.g., Niz-Chavez v. Garland*, 141 S.Ct. 1474, 1480 (2021). The proposed definition of contained gaseous material in the OSWI proposal would exclude waste gases that fall within the plain and ordinary meaning of “contained gaseous material,” such as waste gases contained in a non-portable storage tank, a pipeline, an incinerator, or any other non-portable device or structure that contains gases. Thus, that interpretation would deprive this statutory term of its ordinary meaning and impermissibly narrow it. Moreover, nothing in the OSWI proposal remotely explains the interpretation it advances or how that interpretation is consistent with the statutory text and Congressional intent. Accordingly, the OSWI proposal is unlawful, unreasonable, and arbitrary.

D. Thermal Desorption Units Combust Hazardous Wastes.

Among the facilities EPA has identified in Table 3 of the ANPRM as using gasification and pyrolysis are several that burn hazardous wastes or hazardous wastes that have been improperly excluded from RCRA requirements in “thermal desorption units.”⁷ It

⁷ Thermaldyne (Port Allen, LA); TDX/US Ecology (Robstown, TX); Tradebe (East Chicago, IL); Clean Harbors (San Leon, TX), Chemical Waste Management (Arlington, OR). 86 Fed. Reg. at 50,302, tbl.3. Thermaldyne is misusing an exclusion from the definition of solid waste to burn hazardous wastes or so-called “hazardous secondary materials” in its TDU. Letter from CK Associates to Louisiana Department of Environmental Quality, “Variance Request for Verified Reclamation Facility,

is unclear why these facilities are listed as EPA does not discuss hazardous wastes anywhere else in the notice. In any event, like G&P Incinerators, TDUs engage in combustion, and EPA must clarify that any TDUs that burn hazardous wastes like the ones listed in Table 3 are subject to requirements for hazardous waste combustors under RCRA and the Clean Air Act, 40 part 63, subpart EEE.

EPA and industry have long recognized that TDUs involve combustion. A 2012 Consent Agreement entered between EPA and one of the companies listed in Table 3, TD*X Associates, explains that TDUs contain combustion chambers where gases are burned using controlled flame combustion. Consent Agreement and Final Order, *In the Matter of: US Ecology Texas, Inc. and TD*X Associates LP*, Docket Nos. RCRA-06-2012-0936 and RCRA-06-2012-0937, **Ex. Y**. The Agreement states that a “TDU uses heat from an indirect heated rotary dryer to separate the organic constituents from hazardous waste feed material. A nitrogen carrier gas is used to transfer the vapor phase organic constituents to a gas treatment system. The oil is recovered by condensing vapor phase organic constituents in the gas treatment system. A portion of the TDU’s recirculating nitrogen carrier gas, along with non-condensable gases, is vented, filtered, and then injected into the combustion chamber of the TDU, where it is burned.” **Ex. Y** at ¶ 44. “The separation of the organic constituents from the hazardous waste in the TDU’s indirectly heated rotary dryer constitutes thermal processing (thermal treatment) as that term is defined in” 40 C.F.R. § 260.10. *Id.* at ¶ 45. The “burning of gases in the TDU’s combustion chamber constitutes thermal processing (thermal treatment) as that term is defined in” 40 C.F.R. § 260.10, and the “combustion chamber of the TDU is an enclosed device that uses controlled flame combustion.” *Id.* at ¶¶ 56-57. Accordingly, the Consent Agreement required TD*X to obtain a RCRA permit that incorporates relevant requirements, including specifically the Clean Air Act hazardous waste combustors rules at 40 C.F.R. Part 63, subpart EEE.

In 2016, EPA clarified its position that TDUs receiving hazardous wastes are engaged in combustion and thus subject to relevant hazardous waste burning requirements:

If the vent gas is combusted in the combustion chamber of the TDU, then a permit under 40 C.F.R. Part 264, Subpart O is required, because the TDU would meet the definition of incinerator in 40 C.F.R. 260.10 (an enclosed device that uses controlled flame combustion). If, on the other hand, the vent gas is vented to and combusted in a thermal oxidizing unit (TOU), the permitting authority may be able

Thermaldyne, LLC – West Baton Rouge Parish, Agency Interest No. 198467” (June 21, 2018), **Ex. T**. Chemical Waste Management in Arlington, OR has sought a similar exclusion. *See* TDX Associates LP Fact Sheet re. Chemical Waste Management Northwest Hazardous Waste Permit ORD 089452353, **Ex. U**. TDX/US Ecology and Clean Harbors, and Tradebe also burn hazardous wastes in their TDUs. *See* Clean Harbors Materials Processing Services for Refineries Brochure, **Ex. V** (*available at* <https://www.cleanharbors.com/sites/g/files/bdczcs356/files/pdffdocuments/Materials%20Processing%20Services%20for%20Refineries%20Brochure%20-%20884865.pdf>); US Ecology, “US Ecology’s TDU Now Serves More Customers with Subpart X Permit” (Jan. 1, 2017), **Ex. W** (*available at* <https://www.usecology.com/article/us-ecologys-tdu-now-serves-more-customers-subpart-x-permit>); Tradebe, SDS | Solid Distillation System, **Ex. X** (*available at* <https://www.tradebeusa.com/product/sds-solids-distillation-system>).

to permit the entire unit (TDU and TOU) as a miscellaneous unit under 40 C.F.R. Part 264, Subpart X. A RCRA permit would be required even if the facility is operating as a RCRA exempt recycling activity under 40 C.F.R. 261.6(a)(3)(iv)(C). If the permitting authority decides to issue a 40 C.F.R. Part 264, Subpart X permit, the permitting authority is required to include in the permit requirements from 40 CFR Part 264, Subparts I through O, AA, BB, and CC, 40 C.F.R. Part 270, 40 C.F.R. Part 63 Subpart EEE, and 40 C.F.R. Part 146 that are appropriate for the miscellaneous unit being permitted as required in 40 C.F.R. § 264.601.

Letter from EPA Region 6 to Fritz, Byrne, Head & Fitzpatrick, PLLC (May 2, 2016), **Ex. Z**. See also *Rineco Chemical Industries*, 2009 WL 801608 (rejecting claims that facility did not burn hazardous wastes where vapor/inerts vented to a thermal oxidation unit are destroyed through burning and incineration).

Facilities that operate TDUs have also described TDUs as units that “combust[] all of the vent gases in an associated thermal oxidizer.” Letter TD*X Associates to Louisiana Department of Environmental Quality, “AI Number 198467, Activity Number PER20170003, Public Comments and Hearing Request” (July 30, 2018), **Ex. AA**. They have themselves emphasized the importance of applying the hazardous waste combustors rules to the TDUs, noting that “typical compounds present in the hazardous wastes handled by TDUs include mercury, cadmium, arsenic and lead. Facilities not subject to RCRA Subpart X and MACT EEE emission limits can result in far higher toxic emissions. For example, mercury emissions could be 7,000 times higher.” **Ex. U**.

CONCLUSION

Commenters urge EPA to confirm, consistent with its own precedent and with the plain meaning of the Clean Air Act and binding D.C. Circuit precedent, that:

(1) G&P Incinerators combust waste material and are therefore solid waste incinerators for which § 129 regulation is unambiguously required by the Clean Air Act;

(2) any G&P Incinerator that combusts any municipal waste must comply with all existing requirements for municipal waste combustors promulgated under 42 U.S.C. § 7429(a)(1)(B) and (C);

(3) any G&P Incinerator that combusts any hospital, medical, or infectious waste must comply with all existing requirements for hospital, medical, and infectious waste incinerators promulgated under 42 U.S.C. § 7429(a)(1)(C);

(4) any G&P Incinerator that combusts commercial or industrial waste must comply with all existing requirements for commercial and industrial solid waste incinerators promulgated under 42 U.S.C. § 7429(a)(1)(D); and,

(5) any G&P Incinerator that combusts any other category of waste must comply with all existing requirements for other solid waste incinerators (“OSWI”) promulgated under 42 U.S.C. § 7429(a)(1)(E).

(6) any G&P Incinerator that combusts hazardous waste (whether labeled a “thermal desorption unit” or not) must comply with all existing requirements for hazardous waste incinerators promulgated under RCRA and the Clean Air Act.

Commenters urge EPA to make any changes to its regulations under § 129 necessary to ensure that that all G&P Incinerators are subject to its existing standards under § 129(a)(1), including the elimination or amendment of any regulatory language that could arguably be construed as excluding or exempting G&P Incinerators from existing incinerator standards and/or the addition of regulatory language to expressly confirm all G&P Incinerators are subject to such standards. In addition, commenters urge EPA to make any changes necessary to ensure that all G&P Incinerators that combust hazardous waste (including TDUs) are subject to its regulations under RCRA and the Clean Air Act for hazardous waste combustors under RCRA and the Clean Air Act, including the elimination or amendment of any regulatory language that could arguably be construed as excluding or exempting hazardous waste-burning G&P Incinerators from such regulation and/or the addition of regulatory language to expressly confirm that all hazardous waste-burning G&P Incinerators are subject to existing regulations for hazardous waste incinerators.

Thank you for your time and consideration of these comments. For additional information or to discuss these comments, please contact the below individuals and groups.

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EXHIBIT LIST

- A. Comments of Earthjustice re Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Other Solid Waste Incineration Units; Review (Oct. 16, 2020)
- B. Steve Toloken, ExxonMobil plans ‘large-scale’ advanced recycling plant, plasticnews.com (Oct. 11, 2021)
- C. NRDC, “Greenwashing of Plastic Incineration” (2021)
- D. IPEN, SCP/RAC, UNEP and BRS (2020) Plastic’s Toxic Additives and the Circular Economy
- E. Roosen M, Mys N, Kusenberg M, *et al.* (2020) Detailed Analysis of the Composition of Selected Plastic Packaging Waste Products and Its Implications for Mechanical and Thermochemical Recycling, *Environ Sci Technol.*
- F. Wiesinger H, Wang Z and Hellweg S (2021) Deep Dive into Plastic Monomers, Additives, and Processing Aids. *Environ. Sci Technol*, American Chemical Society
- G. Population and Demographic Info for Communities Near G&P Incinerators
- H. Letter from U.S. EPA Region 1 to MSW Power Corporation (Dec. 4, 2012)
- I. Letter from South Coast Air Quality Management District to Medical Waste Services, “Determination of Non-Applicability under NSPS Subpart Ec – Standards of Performance for New Stationary Sources: Hospital/Medical/Infectious Waste Incinerators”
- J. Letter from U.S. EPA Region 9 to Sierra Energy, “Applicability of Clean Air Act Other Solid Waste Incinerators Rule, 40 CFR Part 60, Subpart EEEE to FastOx Gasification Biorefinery Pilot Project, Monterey County, CA”
- K. Letter from U.S. EPA Region 9 to Aamerge Redpak Services Southern California, LLC, “Request for Reconsideration of Applicability Determination Issued to Aemerge RedPak Services Southern California, LLC” (Oct. 31, 2018)
- L. Letter from U.S. EPA to Hogan and Hartson, LLP, “Request for Applicability Determination under 40 C.F.R. Part 60, Subpart AAAA New Source Performance Standards (“NSPS”) for New Small Municipal Waste Combustion Units (Mar. 30, 2010)
- M. Declaration of Ranajit Sahu, Ph.D

- N. Aries Clean Energy, Newark Biochar Production Facility Air Permit Process Description, Doc# NJNE1806-PD-001 (Nov. 30, 2020)
- O. Federal Remediation Technologies Roundtable, Pyrolysis Description, <https://frtr.gov/matrix2/section4/4-25.html>
- P. Letter from U.S. EPA Region 6 to Monarch Waste Technologies, LLC, “Applicability Determination – Emission Guidelines and Compliance Times for Hospital/Medical/Infectious Waste Incinerators (HMIWI) (40 C.F.R. Part 60, Subpart Ce) and New Source Performance Standards (NSPS) for HMIWI for Which Construction is Commenced After June 20, 1996 (40 C.F.R. Part 60, Subpart Ec) – Pyrolysis Unit to be Constructed and Operated on the Nambe Pueblo near Santa Fe, New Mexico” (July 7, 2017)
- Q. Letter from U.S. EPA to eCycling International, LLC (Dec. 22, 2015)
- R. Letter from U.S. EPA Region 10 to State of Washington Department of Ecology, “Applicability of 40 C.F.R. § 60 Subpart AAAA to the Green Power, Inc., Facility in Pasco, Washington (Sept. 7, 2010)
- S. EPA’s Unopposed Motion for Voluntary Remand, *Sierra Club v. EPA*, No. 06-1066 (D.C. Cir. Jan. 29, 2016)
- T. Letter from CK Associates to Louisiana Department of Environmental Quality, “Variance Request for Verified Reclamation Facility, Thermaldyne, LLC – West Baton Rouge Parish, Agency Interest No. 198467” (June 21, 2018)
- U. TDX Associates LP Fact Sheet re. Chemical Waste Management Northwest Hazardous Waste Permit ORD 089452353
- V. Clean Harbors Materials Processing Services for Refineries Brochure, *available at* <https://www.cleanharbors.com/sites/g/files/bdczcs356/files/pdfdocuments/Materials%20Processing%20Services%20for%20Refineries%20Brochure%20-%2020884865.pdf>
- W. US Ecology, “US Ecology’s TDU Now Serves More Customers with Subpart X Permit” (Jan. 1, 2017), *available at* <https://www.usecology.com/article/us-ecologys-tdu-now-serves-more-customers-subpart-x-permit>
- X. Tradebe, SDS | Solid Distillation System, *available at* <https://www.tradebeusa.com/product/sds-solids-distillation-system>
- Y. Consent Agreement and Final Order, *In the Matter of: US Ecology Texas, Inc. and TD*X Associates LP*, Docket Nos. RCRA-06-2012-0936 and RCRA-06-2012-0937 (Oct. 4, 2012)
- Z. Letter from EPA Region 6 to Fritz, Byrne, Head & Fitzpatrick, PLLC (May 2, 2016)

AA. Letter TD*X Associates to Louisiana Department of Environmental Quality, “AI Number 198467, Activity Number PER20170003, Public Comments and Hearing Request” (July 30, 2018)