UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1

In the Matter of: ISP Freetown Fine Chemicals Inc. MAR000009605 Proceeding under Section 3008(a) of the Resource Conservation and Recovery Act, U.S.C. § 6928(a)	Docket No. RCRA-01-2018-0062

RESPONDENT ISP'S MOTION FOR ACCELERATED DECISION

Respondent ISP Freetown Fine Chemicals Inc. ("ISP") submits this Motion for Accelerated Decision ("Motion") pursuant to 40 C.F.R. §§ 22.16 and 22.20.

DATED: June 23, 2021

BEVERIDGE & DIAMOND, P.C.

/s/ Eric L. Klein

Aaron H. Goldberg
(202) 789-6052
agoldberg@bdlaw.com
1900 N Street, NW, Suite 100
Washington, D.C. 20036

Eric L. Klein
(617) 419-2316
eklein@bdlaw.com
155 Federal Street, Suite 1600
Boston, MA 02110

Counsel for Respondent
ISP Freetown Fine Chemicals Inc.

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INTRODUCTION

The question before this Tribunal is whether Region 1 of the U.S. Environmental Protection Agency ("Region 1")[1] may regulate distillate "receiver" tanks at ISP's Assonet, Massachusetts manufacturing facility under the Resource Conservation and Recovery Act ("RCRA"), or whether these "receivers" are part of a "manufacturing process unit" and therefore exempt under 40 C.F.R. § 261.4(c). A "receiver" is a highly specialized type of tank, and one of three core elements in a "distillation" apparatus. Distillation is the separation of components in a liquid mixture, where a heated vessel ("reactor") boils off one or more such components, which then cool in a "condenser" and collect as separated liquid ("distillate") in a receiver. *Infra.* The Tribunal must decide the question of whether a distillate receiver is exempt because RCRA regulations do not define the "manufacturing process unit" exemption, and with the exception of a few isolated examples, EPA rulemakings do not specify what qualifies.

While this question has never been decided, it is not at all a close question. The overwhelming weight of factual evidence and legal authority demonstrates that a distillate receiver, when used in the distillation of a manufactured product, is part of a "manufacturing process unit" and is exempt from RCRA regulation. This brief sets forth and analyzes this evidence and authority. The brief is long – longer than a brief ideally should be – because there are *so many reasons* that a distillate receiver is a manufacturing device. Many of these arguments are dispositive on their own. Collectively, the question is overwhelmingly one-sided.

The Tribunal should grant this Motion because there are no genuine issues of material fact in dispute and ISP is entitled to judgment as a matter of law. 40 C.F.R. § 22.20(a). The Motion, if granted, would dispose of the remainder of this case.

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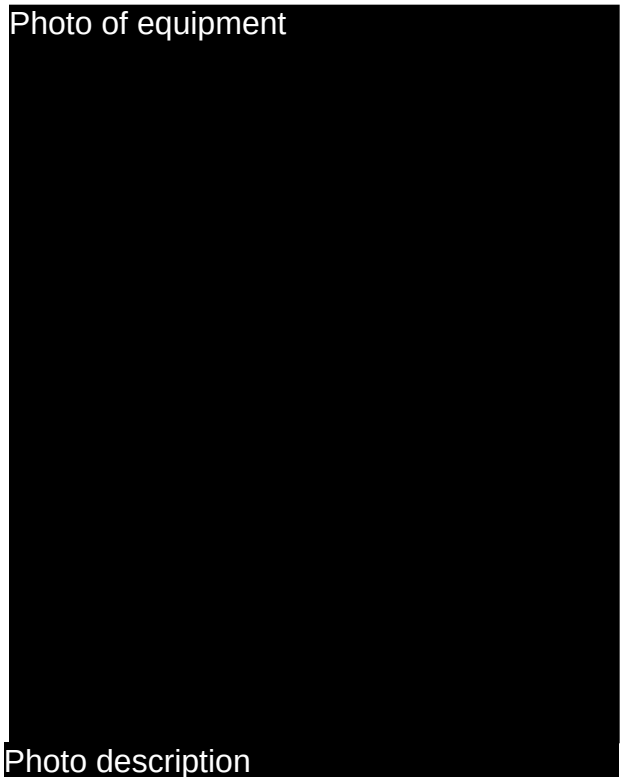
[1] The U.S. Environmental Protection Agency as a nationwide regulator and policymaking entity, as distinct from the party litigant Region 1, is referred to herein as "EPA" or the "agency."

FACTUAL BACKGROUND

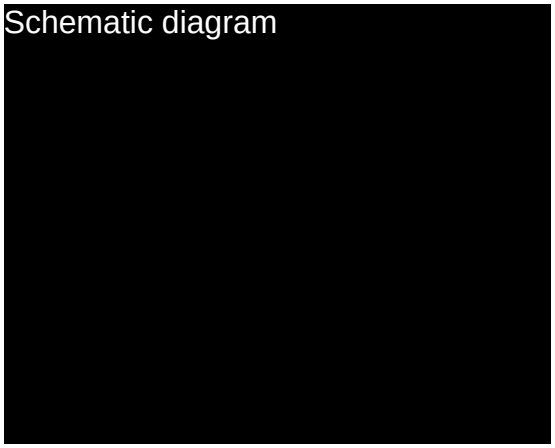
ISP's Assonet facility produces various polymers and other chemical intermediate products, most of which are sold for use in enhancing and improving the performance of personal care and household products such as toothpaste, hair gels, hair sprays, skin creams, and sunscreens. *See* Declaration of Eric Morin ("Morin Decl."), at ¶ 4. The products are produced in discrete batches by first dissolving raw materials in a solvent (*e.g.*, water or an organic solvent, such as alcohol) inside a reactor vessel and then allowing them to chemically react. *Id.* In many of the ISP production processes (and all the production processes at issue in this case), once the reaction is complete, some or all of the organic solvent must be removed from the contents of the reactor in order to produce a final product that meets customer specifications (*e.g.*, so that the ultimate personal care products can be alcohol-free). *Id.*

Distillation at the ISP facility

Removal of the solvent is achieved through a distillation process in which the reactor is heated and/or subjected to reduced pressure, so that the liquid solvent turns into vapor. *Id.* at ¶ 5. The solvent vapor from the reactor rises through a pipe to a dedicated condenser, located above the reactor, that cools the vapor by routing it through narrow tubes surrounded by a liquid coolant, causing most of it to convert back into liquid distillate. *Id.* The distillate is then collected in a dedicated receiver,



mounted slightly lower than the condenser.[2] *Id.* One of the facility's distillation units – reactor, condenser, and receiver – is depicted in Exhibit RX-60 on the preceding page. *Id.* The schematic on the right, Exhibit RX-8, is a simplified representation of the distillation process at ISP. *Id.* The schematic also includes the four types of disposition of receiver contents, discussed *infra*.



In the receiver, additional distillate may form from vapors and mists (*i.e.*, fine liquid droplets suspended in vapors) that carry over from the condenser to the receiver. *Id.* at ¶ 7; Declaration of Joel LeBlanc ("LeBlanc Decl."), at ¶ 19. On rare occasions, liquids (including solvents, raw materials, and/or products) may "bump" out of the reactor and through the condenser without being converted to vapor and condensed; these "bumped" liquids are collected in the receiver for potential return to the reactor for further processing.[3] Morin Decl., at ¶ 7.

During the distillation process, each "trio" of reactor, condenser, and receiver (together with the equipment connecting the components to each other) operates as a single integrated production system sharing a common internal atmosphere that, for safety and quality reasons, must be maintained oxygen-free. *Id.* at ¶ 9. The three components must mutually share this

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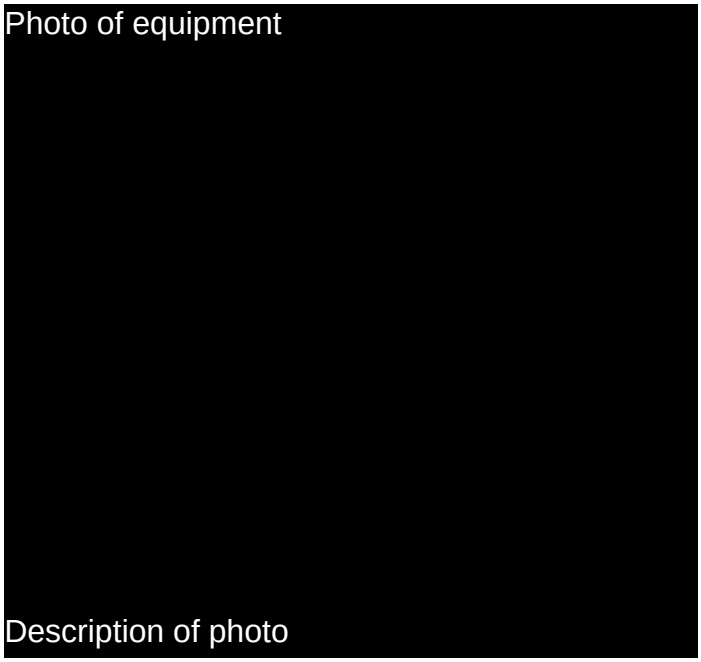
[2] During the production of some products, the condensed vapors are initially routed through pipes back to the reactor in a "reflux" loop, before routing to the receiver. Morin Decl., at ¶ 6. In addition, for the production of certain products that do not require solvent removal (not at issue in this case), the condensed vapors are always returned through pipes to the reactor, without use of the receiver. *Id.*

[3] ISP takes several measures throughout each process batch to minimize the potential for bumping, but bumping can and does occur on occasion. Morin Decl., at ¶ 8. The steps that are taken include closely monitoring and controlling various process parameters (*e.g.*, temperature and pressure), regularly looking through sight glasses positioned at the top of each reactor (and, in three of the four production systems at issue, between the condenser and the receiver) to detect the earliest signs of foaming or bumping, and checking the levels of materials in reactors and receivers for any unexpected changes (*e.g.*, a sudden drop in the reactor level accompanied by a sudden increase in the receiver level, which may be indicative that some materials bumped over). *Id.*

common internal atmosphere so that there is an uninterrupted path for gases and liquids to flow throughout the distillation process, including as pressures are adjusted to facilitate the process.[4] *Id.*; *see also* LeBlanc Decl., at ¶ 14. During most or all of the distillation process, the pressure of the shared internal atmosphere is controlled through the receiver, by opening or closing valves to a vacuum source and/or a nitrogen source. Morin Decl., at ¶ 9. Indeed, in three of the four production systems at issue, the nitrogen and vacuum control valves associated with the receiver are directly connected to a pressure sensor within the reactor so that electronic signals from the reactor sensor can control the receiver valves – and thus the pressure throughout the production system – automatically. *Id.* One of the reactor/receiver pairs that are linked this way is depicted in Exhibit RX-72 on the left.

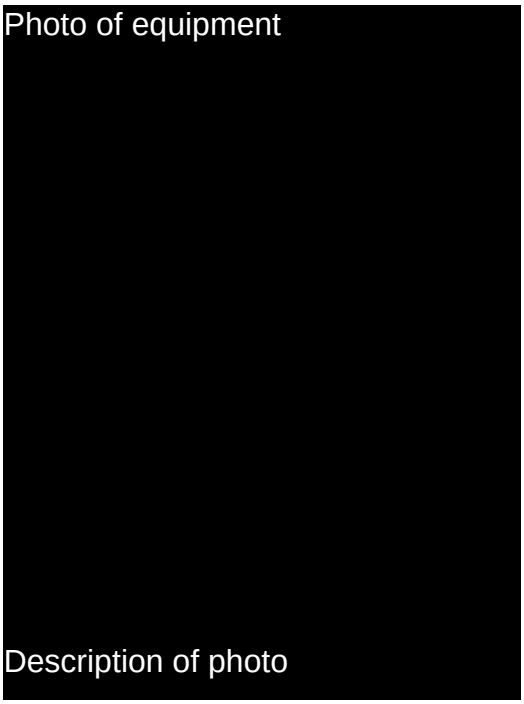


The distillate collected in the receiver during each production process must be removed from the receiver at the end of the production process.[5] *Id.* at ¶ 11. The composition and properties of the distillate vary depending on the product being produced and, in some instances, the stage of the production process during which the distillates are removed. *Id.* The nature of the distillate determines how it is handled on removal. *Id.* Some distillates are solvents that are

[4] Even though the components share a common internal atmosphere, some pressure differentials are inevitable and, as discussed further below, desirable to ensure the proper flow of gases (generally from reactor to condenser to receiver). Morin Decl. at ¶ 10; LeBlanc Decl. at ¶ 16.

[5] In some instances, distillate must be removed during the production process, for example if the total amount of distillate produced during the process exceeds the capacity of the receiver, or if the distillate being produced changes materially over the course of the process. Morin Decl. at ¶ 12.

pure enough that they can be drummed up for continued use "as is" as solvents at the facility, and thus are not solid or hazardous wastes.[6] *Id.* Other distillates are only slightly contaminated solvents that can be reclaimed and reused at the facility in a closed-loop process, and thus also are not wastes.[7] *Id.* Certain distillates consist largely of water and are piped to the onsite wastewater treatment plant, such that the units in which they are managed are exempt from hazardous waste regulation.[8] *Id.* And some distillates removed from the receivers are ignitable solvents (or solvents conservatively assumed to be ignitable) that cannot be used further at the facility and are not suitable for management as wastewaters. *Id.* These solvents are generally piped to Tank S-535, the facility's general-purpose hazardous waste accumulation tank.[9] *Id.* As depicted in Exhibit RX-48 on the right, Tank S-535 is much larger than a receiver and is located outdoors, at a significant distance from the production process. *Id.* Materials accumulated as hazardous wastes in Tank S-535 are ultimately shipped offsite for recycling or disposal. *Id.*



[6] *See, e.g.*, Letter from David Bussard, Waste Identification Division, Office of Solid Waste, EPA, to Catherine A. McCord, Manager, Environment and Business Integration, Safety-Kleen (August 21, 1998) (RCRA Online #14281) (Exhibit RX-36) ("when a used solvent is employed for another solvent use, this continued use indicates that the solvent remains a product").

[7] *See, e.g.*, 40 C.F.R. § 261.4(a)(8) (materials that are reclaimed and returned to the original production process in an enclosed system consisting of tanks and pipes are not wastes, subject to limited conditions which are not relevant here); 310 C.M.R. § 30.202(4) (substantially similar).

[8] *See, e.g.*, 40 C.F.R. § 265.1(c)(10) (exemption for wastewater treatment units); 310 C.M.R. § 30.605 (substantially similar).

[9] A small fraction of these materials that cannot be used onsite or managed as wastewaters is drummed up, rather than routed to Tank S-535, and then shipped offsite for recycling or disposal as hazardous waste. Morin Decl. at ¶ 13.

Relevant ISP production processes and associated "batch" records

There are only eight processes at the ISP facility that produce any distillates ultimately handled as hazardous wastes. *Id.* at ¶ 14. These processes are identified in Exhibit RX-7, together with key information for each process, including the name of the product, the reactor and receiver used, and the solvent used and removed during the distillation portion of the production process.[10] *Id.*; LeBlanc Decl. at ¶ 12. In some of these processes, only a portion of the distillates produced are handled as hazardous wastes, and other distillates produced in the same process are handled pursuant to one of the other dispositions mentioned above (*e.g.*, reuse "as is" in subsequent production processes). Morin Decl., at ¶ 14. These eight processes are only a small part of the facility's operations, which are comprised of approximately 115 total processes. *Id.*

For each of these eight processes, ISP has developed a "batch form" that contains instructions, set out in numbered steps, to guide operators through the production process. *Id.* at ¶ 16. This batch form is highly detailed, though it cannot and does not cover everything that an operator must do; nor can it cover every contingency. *Id.* As a result, the operators running production processes at the ISP facility also rely on their training, experience, and judgment, together with assistance from process engineers, as necessary. *Id.* Each time the ISP facility performs a production run, the operators fill in a copy of the relevant batch form with notations about observed process parameters and/or actions taken (together with the operator initials and the time of such observations or actions), and the document with such notations is referred to as a "batch record" or "batch packet." *Id.* A sample batch record for each of the eight production

[10] One of the products at issue (*i.e.*, Ganex WP-660) is produced in two of the production systems, and so accounts for two of the eight processes covered by RX-7. Morin Decl., at ¶ 15.

processes at issue in this case is contained in Exhibits RX-21 through RX-28. Additional information about each batch run may also be recorded elsewhere, such as in the facility's laboratory information management system. *Id.*

Region 1's allegations

As set forth in more detail in the Procedural History section below, much of this case has already been resolved. *See infra.* In its remaining allegations, Region 1 is claiming that four receivers at the ISP facility, including the equipment connecting those receivers to their associated condensers, violate various federal and/or state hazardous waste regulatory requirements.[11] Region 1 has agreed that two other receivers at the ISP facility are not regulated because they do not handle hazardous wastes, *i.e.*, none of the distillates removed from these two receivers are hazardous wastes. Accordingly, Region 1's remaining allegations are based on the fact that a portion of the distillates removed from the four receivers at issue are managed as hazardous wastes subsequent to their removal from the receivers.[12]

Both Region 1 and ISP appear to be in agreement that the ISP reactors and condensers – including equipment between such components, such as pipes and valves – are not subject to RCRA regulation. *See* Rebuttal Prehearing Exch. ("EPA Rebuttal"), at 6 ("manufacturing occurs in [the] reactors and condensers"). Both parties also agree that the equipment *downstream* of the receivers – *e.g.*, pipes and valves that sometimes carry distillate from the four receivers to Tank

[11] A table identifying the four receivers at issue and their associated reactors and condensers is provided in Exhibit RX-6. Morin Decl., at ¶ 17. Piping and instrumentation diagrams ("P&IDs") for all four production systems are provided in Exhibits RX-9 through RX-18. *Id.* Photographs are provided in Exhibits RX-41 to RX-52 and RX-60 to RX-76. *Id.*

[12] During the discovery phase of this case, Region 1 showed significant interest in the quantitative breakdown of how often the four receivers at issue handle material ultimately managed as hazardous waste, as opposed to non-hazardous waste or other material. ISP expects EPA to advance an argument based on these numbers, and if so, ISP will address in responsive briefing why this is irrelevant. In short, when a piece of equipment is part of a "manufacturing process unit," it is exempt from RCRA regulation even if it manages such material 100 percent of the time. The same piece of equipment is obviously no less exempt if it contains such material less frequently.

S-535, the facility-wide hazardous waste accumulation tank – *are* subject to RCRA regulation, even though some of that equipment is also used to carry distillates to other dispositions (*e.g.*, reuse "as is" in other production operations at the facility).

The only issue in dispute is whether the equipment in between – the four receivers and the equipment connecting the receivers to their associated condensers – are subject to RCRA regulation. Region 1 maintains that they are, and has alleged that ISP has not complied with various RCRA requirements applicable to this equipment. ISP does not dispute that the four receivers were not operated pursuant to the RCRA requirements cited by Region 1. But ISP maintains that those receivers are inextricable and integral parts of the distillation system that ISP needs to produce its products. As such, they are parts of "manufacturing process units" that are exempt from regulation, and the remaining claims in this case cannot be sustained. *See* 40 C.F.R. § 261.4(c); 310 C.M.R. § 30.140(1)(f).[13]

[13] Throughout the rest of this motion, ISP cites only to the federal manufacturing process unit exemption at 40 C.F.R. § 261.4(c), rather than to its substantively identical counterpart under the Massachusetts hazardous waste regulations at 310 C.M.R. § 30.140(1)(f). This is for two reasons. First, most of the Region 1 allegations remaining at issue in this case – the remaining portions of Counts Two, Three, Four, and Six– relate to alleged noncompliance with the federal air emission requirements under Subparts BB and CC of 40 C.F.R. Part 265, as referenced by 40 C.F.R. § 262.17(a)(2), to which Massachusetts has no corresponding requirements. These federal requirements are necessarily limited by the federal manufacturing process unit exemption. Second, although one of the remaining Region 1 allegations – Count 1 – relates to alleged noncompliance with state hazardous waste tank standards, it is the federal exemption that is relevant for purposes of EPA enforcement. While the state manufacturing process unit exemption is essentially the same as the federal exemption – and appears to be interpreted the same way – if the state were to interpret the exemption more narrowly, the state hazardous waste program would accordingly be broader in scope than the federal RCRA program in this regard. It is well established that state program elements that are broader in scope than the federal RCRA program are not eligible for authorization by EPA and thus cannot be enforced by the agency. *See* 40 C.F.R. § 271.1(i) ("Where an approved State program has a greater scope of coverage than required by Federal law, the additional coverage is not part of the Federally approved program"); *In re Hardin County, Ohio*, RCRA (3008) Appeal No. 93-1, 5 E.A.B. 189, 202 (1994) (dismissing EPA enforcement because "the size of the regulated community under the [relevant state] rule is larger than the size of the regulated community under... the federal hazardous waste program"). Accordingly, only the federal manufacturing process unit exemption is relevant here. EPA cannot bring state-law-based enforcement actions that would be barred under the federal exemption.

PROCEDURAL HISTORY

Region 1 filed its complaint in this action on September 25, 2018. Region 1 amended its pleading on June 7, 2019, just two business days before the deadline for ISP's response. ISP filed an answer to Region 1's amended complaint on June 25, 2019, along with a motion to dismiss seven of Region 1's nine counts. Region 1 filed a related motion to strike two of ISP's defenses, and briefing on these motions concluded on September 27, 2019.

Following an extended period of settlement negotiations and an alternative dispute resolution process authorized by this Tribunal, the parties filed a fully executed Partial Consent Agreement and Final Order ("Partial CAFO") on October 16, 2020, and simultaneously withdrew the pending motions. Under the terms of the Partial CAFO, Region 1 agreed that several tanks and other equipment alleged to be in violation of various RCRA requirements were not, in fact, subject to the relevant regulations. *See* Partial CAFO, ¶ 11. For certain other tanks and equipment, ISP agreed to limited enhancements of its compliance program and to pay a modest penalty. *Id*., ¶¶ 13, 18.a. ISP completed all of the enhancements as required within 30 days of the effective date of the Partial CAFO, and submitted a report to Region 1 on December 15, 2020, documenting such actions. *See* Exhibits RX-38, RX-39.

The Partial CAFO did not resolve Count One in the Amended Complaint and portions of several others. As noted above, the viability of the remaining allegations in this case depends entirely on whether the ISP facility's distillate receivers are exempt from RCRA regulation as parts of "manufacturing process units." In order to narrow the range of disputed facts related to this issue, and to potentially resolve the dispute, the parties have engaged in many months of extended discussions and negotiations. Despite the good-faith efforts of both sides, these efforts were not successful, and ISP now files this Motion for Accelerated Decision.

STANDARD OF REVIEW

This Tribunal should grant this Motion, rendering an accelerated decision in lieu of a final evidentiary hearing in this case, because there is no genuine issue of material fact in dispute and ISP is entitled to judgment as a matter of law. 40 C.F.R. § 22.20(a).

In interpreting the relevant law in this case, this Tribunal may not defer to the views of Region 1 or the U.S. Environmental Protection Agency more broadly. The principle of *Auer* deference – *i.e.*, deference to an agency's reasonable reading of its own genuinely ambiguous regulation – is not applicable here. *See Auer v. Robbins*, 519 U.S. 452 (1997).

First, as set forth in this brief, the "manufacturing process unit" exemption is not at all ambiguous, and the Tribunal cannot declare it so merely because it does not explicitly address distillate receivers by name. The U.S. Supreme Court has recently clarified that "genuinely ambiguous" means ambiguous "even after a court has resorted to all the standard tools of interpretation" – and "when we use [the] term ['genuinely ambiguous'], we mean it[.]" *Kisor v. Wilkie*, 139 S.Ct. 2400, 2414 (2019); *see also In re U.S. Dept. of the Navy, Naval Air Station Oceana*, Docket No. RCRA-III-9006-062, 2000 WL 1770503, *9 n.2 (Nov. 15, 2000) ("*Oceana*") (Biro, C.A.L.J.) ("the language of a regulation must be ambiguous for a court to defer to an agency's interpretation"). As the Supreme Court said in *Kisor*, "if the law gives an answer – if there is only one reasonable construction of a regulation – then a court has no business deferring to any other reading, no matter how much the agency insists it would make more sense." *Id.* at 2415. "Deference in that circumstance would 'permit the agency, under the guise of interpreting a regulation, to create *de facto* a new regulation.'" *Id.* (citing *Christensen v. Harris County*, 529 U.S. 576, 588 (2000)). "*Auer* does not, and indeed could not, go that far." *Id.* Here, as set forth at length below, the standard tools of interpretation reveal the plain

meaning of "manufacturing process unit" beyond any doubt, and so deference is inappropriate. *Id.* Indeed, this Tribunal has already formulated a test for the manufacturing process unit exemption that produces a clear answer in this case. *See infra*, § I.B.2.

Moreover, courts do not extend *Auer* deference to a mere "'convenient litigating position' or '*post hoc* rationalization advanced' to 'defend past agency action against attack.'" *Kisor*, 139 S.Ct. at 2417-18 (quoting *Christopher v. SmithKline Beecham Corp.*, 567 U.S. 142, 155 (2012) (quoting *Bowen v. Georgetown Univ. Hospital*, 488 U.S. 204, 213 (1988) and *Auer*, 519 U.S. at 462)). Any defense Region 1 now makes in this case to preserve its 2018 enforcement action against ISP is a classic "*post hoc* rationalization" offered to defend the Region's 2018 enforcement action against ISP's attack in this case. *Id.* But *Auer* deference is not owed to "agency interpretations advanced for the first time in legal briefs," as is the case here. *Id.* at 2417 n.6 (citations omitted). This Tribunal agreed in *Oceana*; *see* 2000 WL 1770503, *9 n.2 ("deference is not owed to an interpretation which is presented for the first time in litigation of an enforcement action"). There is no public agency statement, guidance, document, communication, or other public position to which EPA can ask this Tribunal to show deference – *i.e.*, a public agency position addressing the applicability of the "manufacturing process unit" exemption to distillate receivers.

Finally, this Tribunal, as "decision makers of the EPA," does not defer to "interpretations of any individual component of EPA." *Oceana*, *id.* (collecting cases); *see also In re Mobil Oil Corp.*, 5 E.A.D. 490, *12 n.30 (EAB 1994) ("Because the [Environmental Appeals] Board serves as the final decisionmaker for the Agency, the concepts of *Chevron* and *Skidmore* deference do not apply to its deliberations."). Region 1's new public interpretation of the "manufacturing process unit" exemption is not entitled to, and cannot receive, deference in this Tribunal.

ARGUMENT

I. DISTILLATE RECEIVERS ARE PART OF "MANUFACTURING PROCESS UNITS" UNDER RCRA TEXT, LOGIC, AND PRECEDENT.

A. "Distillation units" are "manufacturing process units," and a receiver is part of a "distillation unit" as a matter of regulatory text, engineering, and logic.

The issue before the Tribunal is whether RCRA's "manufacturing process unit" exemption applies to the ISP facility's distillate receivers, so the logical starting point is EPA's own explanation of what a "manufacturing process unit" is. While the term is not defined in RCRA regulations, EPA offered examples of manufacturing process units when the agency promulgated the rule establishing the exemption in 1980. One of those examples was a "distillation unit." EPA's own regulations make clear that a "distillation unit" includes distillate receivers like the ones at ISP. Basic engineering principles likewise make clear that a "distillation unit" includes distillate receivers. Notwithstanding the length and complexity of the briefs in this case, this simple point alone is sufficient to end the entire inquiry.

1. According to EPA in the Federal Register, the "manufacturing process unit" exemption explicitly applies to "distillation units."

The parties cannot and will not dispute in this case that "distillation units" are exempt from RCRA regulation under the manufacturing process unit exemption of 40 C.F.R. § 261.4(c).[14] When EPA originally promulgated the manufacturing process unit exemption in 1980, the agency explicitly identified "distillation units" as an example of the type of unit covered by the exemption. *See* 45 Fed. Reg. 72024, 72025 (October 30, 1980) (Attachment 1). As EPA explained in the preamble to that rule:

> EPA did not intend to regulate… manufacturing process units in which hazardous wastes are generated. As represented by the above examples, most of these units are tanks or tank-like units (*e.g.*,

[14] More specifically, "distillation units" that distill *products*, as opposed to units that distill *hazardous wastes* themselves, are exempt as "manufacturing process units." *See also infra*, n.17.

> distillation units) which are designed and operated to hold valuable products or raw materials in storage or transportation or during manufacturing."

Id. (emphasis added).

EPA's parenthetical reference to "distillation units" in the preamble to the rule was not a one-off or otherwise incidental to the definition of a manufacturing process unit. To the contrary, the agency issued a directive in 1995, in response to a question from a member of the regulated community, that reaffirmed the agency's view that "distillation units" are considered "manufacturing process units" and as such are exempt from RCRA. *See* OSWER 9442.1995(01), 1995 WL 911799, *1, RCRA Online No. 11935 (Jan. 26, 1995) (Attachment 2). The questioner asked the most basic question: "How does a generator determine if his/her equipment qualifies as a manufacturing process unit?" *Id.* In response, the agency specifically referenced the rule's preamble language and its example of "distillation units":

> As you have noted, the preamble language at 45 FR 72025, October 30, 1980, describes examples of manufacturing process units. These include "…distillation columns, flotation units, and discharge trays of screens…" The preamble language also describes these units as "tanks, or tank-like units (*e.g.*, distillation units) which are designed to hold valuable products or raw materials in storage or transportation or during manufacturing." (45 FR 72025, October 30, 1980)[.]

Id. Similarly, in 2016, EPA again endorsed the 1980 language identifying distillation units as prime examples of manufacturing process units. *See* B. Johnson Memorandum to RCRA Division Directors, 2017 WL 3082060, RCRA Online No. 14884 (October 3, 2016) (Attachment 3) ("as explained by EPA in the preamble to the interim final rule promulgating the exemption… most of these units are tanks or tank-like units (e.g., distillation units)") (emphasis in original). Thus the agency's official position throughout the 40 years since the "manufacturing process

unit" exemption was promulgated has consistently been that "distillation units" are exempt from RCRA regulation.[15]

This is the starting point for analysis in this case. "Distillation units" are indisputably exempt from RCRA regulation, and if ISP's distillate receivers are part of "distillation units," EPA's remaining claims must be dismissed. As set forth below, ISP's distillation receivers *are* components of "distillation units," by plain EPA regulatory text and by uncontroversial engineering principles set forth in Region 1's own exhibits in this case.

2. Regulatory text makes clear that ISP's distillate receivers are part of "distillation units."

EPA has made clear in multiple ways that distillate receivers are part of "distillation units." The agency has clarified the definition in related rulemaking under RCRA, as well under Clean Air Act regulations that must be read together with RCRA under the *in pari materia* doctrine for construing interrelated legal text.

a. EPA statement in preamble to RCRA Subpart AA/BB rulemaking

First, EPA has explicitly specified in its RCRA rulemaking that a "distillation unit" includes the distillate receiver component of the unit. The agency's clarification on this point is dispositive here. But it is buried deep in EPA administrative law and requires some excavation.

EPA's clarification appeared in a 1990 Federal Register notice adding Subparts AA and BB to 40 C.F.R. Parts 264 and 265, which are the RCRA rules governing owners and operators of "hazardous waste treatment, storage, and disposal facilities." The Subpart AA/BB rulemaking was one of the first issued under RCRA to regulate *air emissions* from RCRA-regulated

[15] EPA's "Revised RCRA Inspection Manual" also reflected this fact, including on one of its inspection checklists the question: "Are restricted wastes treated in RCRA exempt units (e.g., distillation units, wastewater treatment tanks, elementary neutralization, etc.)?" *See* OSWER 9938.02B1993, WL 13150246, *233 (October 1, 1993) (excerpt) (Attachment 4) (emphasis added).

equipment, in conjunction with closely related requirements under the Clean Air Act. Of particular relevance here, Subpart AA governs air emission standards for "process vents" – described in the Federal Register as a "pipe, stack, or other opening through which emissions from a hazardous waste management unit are released to the atmosphere" – on a variety of RCRA-regulated process units, most prominently hazardous waste distillation units. 55 Fed. Reg. 25454, 25461 (June 21, 1990) (Attachment 5) ("process vents are most typically associated with processes related to distillation or other separation operations").

In the preamble to the 1990 rule, EPA explained that the new standard for "process vents" on RCRA-regulated equipment applies "if the vent is part of a hazardous waste distillation [ ] unit."[16] *Id.*, 55 Fed. Reg. 25471. And to explain what is included in such a "distillation unit," EPA clarified: "[T]his includes vents on tanks (e.g., distillate receivers or hot wells)" to the extent the receivers have process vents of their own to vent the distillation unit's emissions. *Id.* (emphasis added).

In short, when a RCRA rulemaking called for EPA to explain the extent of a "distillation unit" under RCRA, the agency made clear in that rulemaking that *a distillate receiver is a part of a "distillation unit."* In this litigation, Region 1's entire case depends on this Tribunal adopting the opposite position – that a distillate receiver is *not* part of a "distillation unit" under the RCRA rules. But Region 1 can offer no authority for this position – there is none – and it contradicts the agency's published, official interpretation in RCRA rulemakings.[17]

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[16] More particularly, EPA's language in the Federal Register refers to five types of "units": "a hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping unit[.]" 55 Fed. Reg. 25471. The noun "unit" here is distributed across all five preceding unit descriptors; the language means "a hazardous waste distillation [unit], fractionation [unit], thin-film evaporation [unit], solvent extraction [unit], or air and steam stripping unit." *Id.* The same list recurs repeatedly in the preamble, usually with the word "operations" in place of "unit" at the end; the context is clear that these terms are descriptors for a type of "unit" or "operation."

[17] Subpart AA governs "process vents" on distillation equipment associated with *hazardous waste* distillation – *i.e.*, the distillation of hazardous waste itself, as an input to distillation, as distinct from the distillation of a *product* that is not itself a hazardous waste, but which may produce distillate that ultimately may be a hazardous waste when

b. Definition of "distillation" in RCRA regulations

EPA regulations also make clear in other ways that a distillate receiver is part of a "distillation unit." Subpart AA, discussed above, also includes a definition of "distillation operation" that subtly but clearly proves that a "distillation unit" includes a distillate receiver.

Specifically, Subpart AA defines a "distillation operation" as

> an operation, either batch or continuous, separating one or more feed stream(s) into two or more exit streams, each exit stream having component concentrations different from those in the feed stream(s). The separation is achieved by the redistribution of the components between the liquid and vapor phase as they approach equilibrium within the distillation unit.

40 C.F.R. § 264.1031. This definition of distillation describes a "separation" and "redistribution" of components "within the distillation unit." Moreover, per this definition, the "separation" and "redistribution" of components "within the distillation unit" is happening *during distillation* – as the system "approach[es] equilibrium" – and so the definition makes clear that these components remain "within the distillation unit" even as the "separation" and "redistribution" are underway. Accordingly, a "distillation unit" must contain distinct chambers, where separated components are redistributed within the unit while distillation occurs. In fact, this is exactly the purpose of a distillate receiver in a distillation unit – to allow "separation" and "redistribution" to occur "within the distillation unit" during the distillation process. LeBlanc

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it is removed from the distillation unit (*e.g.*, the ISP product distillation at issue here). *See, e.g.* 40 C.F.R. § 264.1031 (definition of "process vent"); *see also* 55 Fed. Reg. 25461 (defining "process vent" and describing scope of rule). Accordingly, the particular distillation units, including distillate receivers, that are subject to Subpart AA are not also exempt from RCRA regulation as "manufacturing process units," because Subpart AA "distillation units" are distilling waste, not distilling products as part of a manufacturing process. But this distinction is not relevant for the Tribunal's purposes in this case. EPA's basic explanation in its Subpart AA rulemaking of what a "distillation unit" is – and what components it includes (*e.g.* distillate receivers) – applies to distillation as a concept, and is not dependent on what is being distilled. Moreover, Region 1 will not be able to point to any contradictory authority in RCRA law – no place where the agency has defined "distillation unit" differently. EPA's explanation in the Federal Register that a "distillation unit" includes distillate receivers is controlling here.

Decl., at ¶ 17. By RCRA's own definition of a "distillation operation," distillate receivers *must* be part of "distillation units."[18]

c. Definition of "distillation unit" in the Clean Air Act

Finally, EPA has unambiguously and explicitly defined "distillation unit" to include distillate receivers in a related regulation under the Clean Air Act. Specifically:

> Distillation unit means a device or vessel in which one or more feed streams are separated into two or more exit streams, each exit stream having component concentrations different from those in the feed stream(s). The separation is achieved by the redistribution of the components between the liquid and the vapor phases by vaporization and condensation as they approach equilibrium within the distillation unit. Distillation unit includes the distillate receiver, reboiler, and any associated vacuum pump or steam jet.

40 C.F.R. § 63.101(b) (emphasis added). This is the only definition of "distillation unit" in EPA regulations. EPA promulgated it in 1994, *see* 59 Fed. Red 19402, 19458 (April 22, 1994) (Attachment 6), not long after the agency's 1990 definition of "distillation operation" in RCRA, as discussed above. The two definitions are substantively identical, except that the agency's definition of "distillation unit" overtly clarifies that the "unit" includes the distillate receiver.

This unambiguous definition is yet another dispositive provision in ISP's favor. Though the definition appears in Clean Air Act rather than RCRA regulations, this Tribunal must look to the Clean Air Act definition to help interpret the meaning of "distillation unit" because the term is not formally defined in RCRA regulations (though it is effectively defined in the agency's formal RCRA commentary and implicit in RCRA definitions, as described above), and because the Clean Air Act and RCRA regulations at issue are also so interrelated that "under settled principles of statutory construction, [they] should therefore be construed as if they were one law"

[18] Notably, the definitions in 40 C.F.R. § 264.1031 – including "distillation operation," *see supra*, and "distillate receiver," *see infra* – apply equally to Subparts AA, BB and CC of 40 C.F.R. Part 265. *See* 40 C.F.R. §§ 265.1031, 265.1051, 265.1081. Region 1 has brought claims in this case under both Subparts BB and CC.

under the doctrine of *in pari materia*. *See Erlenbaugh v. United States*, 409 U.S. 239, 243-44 (1972) (citations and quotations omitted); *see also Alabama Educ. Ass'n v. State Super. of Educ.*, 746 F.3d 1135, 1158 (11th Cir. 2014) (*in pari materia* doctrine means that "statutes on the same subject matter should be construed together so as to harmonize them"). *See also In re City of Phoenix, Ariz.*, 9 E.A.D. 515, *11 (EAB 2000) (reading two NPDES regulations *in pari materia* and construing them together).

In pari materia is a canon of construction based on the fact that a legislative or regulatory body "generally uses a particular word with a consistent meaning in a given context," *Erlenbaugh*, 409 U.S. at 243-44, such that a definition in one statute or regulation should be given force in a related statute or regulation. Courts must construe regulations and statutes *in pari materia* "whenever possible," *Marlowe v. Bottarelli*, 938 F.2d 807, 813 (7th Cir. 1991), including by construing the definition of key terms by reference to more specific definitions in other, related provisions. *See, e.g.*, *United States v. Fillman*, 162 F.3d 1055, 1057 (10th Cir. 1998) (construing definition of "indictment" in federal firearms statute to include "information," to harmonize with definition of "indictment" under federal explosives statute).

Two regulations should be read *in pari materia* when they "relate to the same person or thing, or to the same class of persons or things, or have the same purpose or object." *See, e.g.*, *Matter of Robison*, 665 F.2d 166, 171 (7th Cir. 1981) (quoting 2A Sands, Sutherland Statutory Construction, § 51.03 (4th Ed. 1973)); *Hallenbeck v. Penn Mut. Life Ins. Co.*, 323 F.2d 566, 571 (4th Cir. 1963); *see also Alabama Educ. Ass'n*, 746 F.3d at 1158 ("same purpose or object"). In particular, where – as here – "one statute [or regulation] deals with a subject in general terms, and another deals with a part of the same subject in a more detailed way, the two should be harmonized if possible" under the doctrine of *in pari materia*, "but if there is any conflict, the

latter [more specific statute] will prevail, regardless of whether it was passed prior to the general statute, unless it appears that the legislature intended to make the general act controlling." *In re Guardianship of Penn*, 15 F.3d 292, 294 (3d Cir. 1994) (quoting *Creque v. Luis*, 803 F.2d 92, 94 (3d Cir. 1986) (quoting 2A Sutherland Statutory Construction § 51.05 (4th ed. 1984))).

This Tribunal must construe a "distillation unit" under RCRA regulations to be consistent with the explicit, more-specific definition of the term in the agency's Clean Air Act regulations, because the relevant parts of the two regulatory schemes govern the same subject for the same purpose. Specifically, to the extent that both statutes govern equipment such as distillation units, their overarching purpose is to regulate environmental emissions and leaks from such equipment. These regulatory regimes overlap directly: Both the RCRA and Clean Air Act regulations at issue impose specific controls on air emissions from the exact same equipment, including in some cases distillation units. The term "distillation unit" is defined in a Clean Air Act regulation setting forth National Emission Standards for Hazardous Air Pollutants ("NESHAP") for chemical manufacturers, 40 C.F.R. Part 63, Subpart F. At the same time, most of the RCRA violations alleged in this case were brought under the Subpart BB-CC RCRA regulations discussed above that likewise govern air emissions from the exact same types of equipment.

Indeed, in promulgating its RCRA air emissions standards, EPA explicitly borrowed standards from the Clean Air Act, and when commenters objected, the agency defended its approach by pointing out that equipment such as distillation units at RCRA facilities is directly comparable to similar equipment found at facilities governed by Clean Air Act standards:

> Because hazardous waste management units such as distillation units [governed by RCRA emissions standards] have the same sources of fugitive organic emissions (such as pumps and valves) and handle the same chemicals as do chemical manufacturing plants and petroleum refineries [governed by Clean Air Act emissions standards], it is reasonable to expect similar performance and

> efficiency of the technology for controlling organic emissions [under RCRA] at hazardous waste management units. The EPA has no reason to believe that the [Clean Air Act] equipment standards would not be applicable to TSDF [under RCRA].

55 Fed. Reg. 25471 (promulgating Subparts AA and BB). In fact, this is just a specific example of a broader relationship between the two laws: The RCRA statute itself explicitly directs that EPA "shall integrate all provisions of [RCRA] for purposes of administration and enforcement and shall avoid duplication, to the maximum extent practicable, with the appropriate provisions of the Clean Air Act." 42 U.S.C. § 6905(b). Indeed RCRA originated as an amendment to the Clean Air Act.[19]

The RCRA and Clean Air Act regulations are even self-referential – some of the RCRA regulations that Region 1 has alleged were violated here, under Subparts BB and CC of 40 C.F.R. Part 265, explicitly cross-reference, and defer to, parallel requirements under Clean Air Act regulations, including the regulation in 40 C.F.R. Part 63 that defines "distillation unit." *See* 40 C.F.R. § 265.1080(b)(7) (providing that a hazardous waste management unit is exempt from Subpart CC where "the owner or operator certifies [it] is equipped with and operating air emission controls in accordance with the requirements of an applicable Clean Air Act regulation codified under 40 CFR part 60, part 61, or part 63"); *see also, e.g.*, 40 C.F.R. §§ 264.1063(b)(1), 264.1080(b)(7), 265.1064(m) (explicit RCRA cross-references to Clean Air Act rules).[20] One regulation would not explicitly defer to another unless they were for the "same purpose" and

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[19] *See* Pub. L. 89-272 (October 20, 1965), Title II (Solid Waste Disposal Act); 130 Cong. Rec. S13815 (October 5, 1984) (statement of Sen. Randolph) ("the original Solid Waste Disposal Act [later amended by RCRA] was enacted... as a short amendment to Clean Air Act amendments").

[20] When EPA updated the Subpart BB standards in 1996 to reflect then-recent changes to the NESHAP regulations, the agency stated that "[t]hese revisions are consistent with the integration provisions of RCRA Section 1006(b) which require that RCRA standards be consistent and not duplicative of Clean Air Act Standards and are a part of the EPA's overall approach of allowing Clean Air Act standards to be used in lieu of control requirements under RCRA TSDF air rules." 61 Fed. Reg. 59932, 59937 (November 25, 1996) (Attachment 7).

intended to be read *in pari materia*. *See, e.g.*, *Estate of Leder v. C.I.R.*, 893 F.2d 237, 241 (10th Cir. 1989) ("Section 2035(d)(2) specifically cross references section 2042. The only inference we can draw from this express cross reference is that Congress, in enacting subsection (d), meant to construe sections 2035(d)(2) and 2042 *in pari materia*.") (emphasis in original).

In short, EPA cannot promulgate a highly specific definition in a Clean Air Act regulation governing air emissions from chemical manufacturing equipment, and then claim in this litigation that under parallel and interrelated RCRA regulations – regulations that were to some degree borrowed directly from the Clean Air Act – the precise opposite of that definition is true. If a "[d]istillation unit includes the distillate receiver" under Clean Air Act regulations, 40 C.F.R. § 63.101(b), then a distillation unit must also include a distillate receiver under closely intertwined RCRA regulations. Though EPA's contradiction is impermissible even at an abstract level, the issue is not merely abstract: Many chemical manufacturers are explicitly governed by both the Clean Air Act NESHAP regulations cited above *and* the RCRA rules on air emissions at issue here. Under EPA's contradictory view, these manufacturers use "distillation units" that both include, and simultaneously exclude, their associated distillate receivers, with legal outcomes presumably dependent on which EPA inspector appears on a given day. The Sixth Circuit described a similarly contradictory EPA position in harsh terms:

> [I]f the EPA's interpretation of section 114, permitting private contractors to be "authorized representatives" is followed, it would lead to the anomalous result that the EPA could use private contractors to make inspections under the Clean Air Act, but not to make inspections under the Clean Water Act, even though the wording of the statutes is identical. Such a result makes no sense, and we decline to introduce such a blatant contradiction into the law.

United States v. Stauffer Chemical Co., 684 F.2d 1174, 1187-88 (6th Cir. 1982) (holding that the Clean Water Act and the Clean Air Act are *in pari materia*, and construing Clean Air Act term to harmonize it with Clean Water Act definition). Region 1 is advocating for a similar "blatant

contradiction" here, and the Tribunal should not allow it.[21]

The agency has defined the term "distillation unit" only once in its regulations, and it is bound by that definition when it regulates the technical equipment it defined.

3. A "distillation unit" includes distillate receivers as a matter of engineering and basic logic.

The textual evidence discussed above – EPA's clarification about the scope of a "distillation unit" in the RCRA Subpart AA "process vent" rulemaking; the definition of "distillation operation" in the same rule; the agency's explicit definition of "distillation unit" in the NESHAP regulations – is strong legal authority, but it is also something more. These legal provisions also reflect certain underlying engineering and logical principles governing distillation. In other words, while the law controls this case as it always does, it is also important for the Tribunal to recognize that *the law says what it says for a reason* – specifically, that a distillate receiver is, in fact, an integral and inextricable part of a "distillation unit" – and that the law in this instance could not logically say otherwise. This point is developed at length in Section II below with respect to ISP's particular receivers. But it is also addressed here in brief, because basic engineering logic also supports the legal conclusion that a "distillation unit" *must* include a distillate receiver, thereby bringing receivers within the scope of a term ("distillation unit") that EPA itself has characterized as an example of a "manufacturing process unit."

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[21] This Tribunal considered a superficially related question in *In re General Motors Automotive-North America*, No. RCRA-05-2004-0001, 2006 WL 3406333, *33-34 (March 30, 2006), *rev'd*, 14 E.A.D. 1 (EAB 2008). There, the respondent argued that the definition of "paint shop" in the NESHAP regulations should govern the scope of the "manufacturing process unit" exemption under RCRA, and the Tribunal disagreed. But the term "paint shop" was not actually at issue in EPA's enforcement action in that case. The respondent was instead arguing, in effect, that the Clean Air Act's jurisdiction should be applied in a RCRA enforcement, and that position was rightfully rejected. Here, by contrast, the term "distillation unit" is itself likely dispositive in this case due to its role in the key RCRA rulemaking. The issue in this case is therefore not the relative jurisdictions of the Clean Air Act and RCRA – which need not be the same under the doctrine of *in pari materia* – but the definition of a key term *in this case*, and whether EPA may disregard its own regulatory definition of the identical term in a closely related regulation and instead apply a directly inconsistent meaning here. The doctrine of *in pari materia* holds that this sort of "blatant contradiction" in the agency's use of identical terminology in closely related regulations is impermissible. *See supra.* Accordingly *In re General Motors* is inapplicable on this point.

These engineering principles are apparent in one of Region 1's own exhibits in this case. Region 1's Exhibit CX-26 is "Distillation," Section 13 from Perry's Chemical Engineers' Handbook, a leading treatise on chemical engineering. *See* M.F. Doherty, Z.T. Fidkowski, M.F. Malone, and R. Taylor, *Perry's Chemical Engineers' Handbook* (8th Ed. 2008) ("Perry's"). LeBlanc Decl., at ¶ 6. The treatise makes clear that receiver tanks are one of the three irreducible components of batch distillation, which is the type in use at the ISP facility: "The simplest form of batch distillation consists of a heated vessel (pot or boiler), a condenser, and one or more receiving tanks." CX-26, at 111 (emphasis added).[22] Essentially identical language appears in EPA's own technical guidance for RCRA rules on air emission standards from process vents and equipment leaks, *i.e.*, Subparts AA-BB discussed above: "The simplest form of distillation is a batch operation that consists of a heated vessel (called the pot), a condenser, and one or more distillate receiving tanks." *See* EPA-450-3-89-021 (July 1990), at 5-4 (Attachment 8) (emphasis added).

A slightly more complex form of distillation, batch distillation "with rectification," is depicted in Perry's, CX-26, at Fig. 13-119 (p. 113), reproduced to the right. Perry's describes this configuration as "by far the most common configuration of equipment." *Id.*, at 117. The distillate receiver is included on the right side of the diagram, with the other components of the distillation unit. Similarly, a schematic from EPA's technical guidance on Subparts AA-BB highlights the distinction between a distillate receiver and a storage tank:

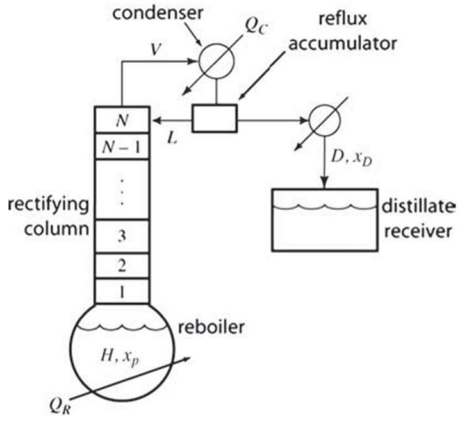

FIG. 13-119 Schematic of a batch rectifier.

[22] As discussed *supra*, the heated vessels in the distillation units at the ISP facility are where the primary chemical reactions occur, and thus are referred to as "reactors," rather than pots or boilers.

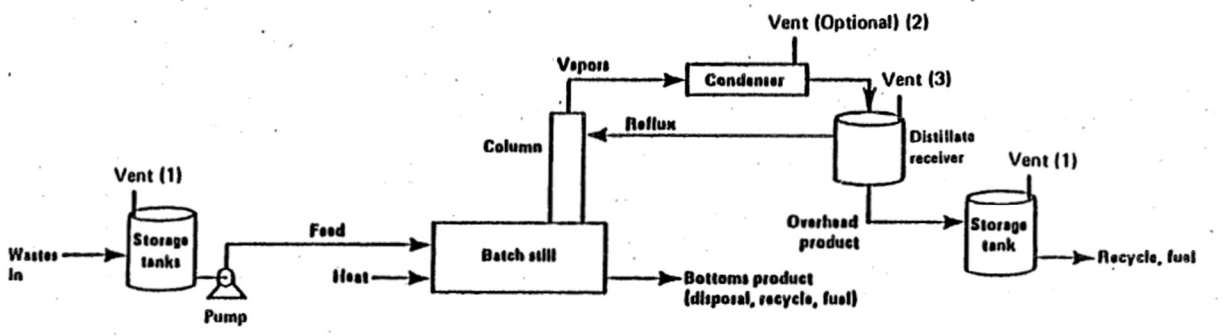

Figure 5-1. Schematic diagram of batch distillation with fractionating column.

See Attachment 8, EPA-450-3-89-021, at 5-5, Fig. 5-1.

These EPA sources are reflecting a simple and foundational principle of engineering: Batch distillation, the type in use at ISP, *physically requires* a receiver. LeBlanc Decl., at ¶ 18. It *cannot be done* without a receiver. *Id.* Such distillation can no more occur without a receiver than see-sawing can occur without a central fulcrum; it is a basic engineering constraint. *Id.* This point is explained in greater technical detail in Section II. For now, however, the key point is this: EPA definitions of "distillation units" in RCRA and Clean Air Act regulations, and its definition of "distillation operation" in RCRA, are a reflection of simple engineering reality.

One more critical point follows. This subsection is attempting to demonstrate that the term "distillation unit" – an explicit example of a "manufacturing process unit" in the agency's official RCRA commentary – must include, and does include, distillate receivers. The ultimate evidence of this fact is that because distillation physically requires receivers, a process "unit" that does not include receivers – whatever else it might be – is not a "distillation unit," *because it is not capable of distillation*. Anything that may be called a "distillation unit" must be capable of distillation. Even according to EPA's own evidence and guidance documents, there are *three* necessary components for distillation, not two, and so a "unit" with only the first two

components, a heated vessel and a condenser, is not a "distillation" unit. *Anything called a "distillation unit" includes receivers by definition*. Accordingly, because a "distillation unit" is exempt from RCRA regulation, distillate receivers are also exempt from RCRA regulation.

B. Distillate receivers are part of a "manufacturing process unit" as the concept is defined in RCRA text and precedent.

Even if distillate receivers are not considered a component of a "distillation unit," they are nevertheless part of a "manufacturing process unit" under RCRA text and precedent.

1. RCRA does not regulate the production process.

In considering whether RCRA regulates the distillate receivers at issue in this case, the Tribunal must start with the recognition that RCRA is a statute of notably limited scope.

As a foundational matter, RCRA does not grant EPA authority to regulate the generation of hazardous waste, nor the manufacturing or production processes that generate it. Rather, RCRA's regulation of hazardous waste generators is focused primarily on tracking and controlling wastes after they have been generated. *See* RCRA § 3002, 42 U.S.C. § 6922 (1977) (requiring EPA regulation of hazardous waste generators relating to, *inter alia*, recordkeeping, labeling practices, manifest systems, reports, and containers). Congress made its intent clear at the time RCRA was enacted that the statute was not intended to reach the production process: "Rather than place restrictions on the generation of hazardous waste, which in many instances would amount to interference with the productive process itself, the [U.S. House] Committee [on Interstate and Foreign Commerce] has limited the responsibility of the generator for hazardous waste to one of providing information." H.R. Rep. 94-1491(I), at *26, 1976 U.S.C.C.A.N. 6238, 6264 (Sept. 9, 1976). Likewise, "[t]he bill does not establish any Federal regulatory authority with respect to requirements in the manufacturing process." *Id.* at *36.

According to EPA on its website, RCRA was enacted to "control hazardous waste from cradle to grave." *See* U.S. EPA, "Summary of the Resource Conservation and Recovery Act," available at https://bit.ly/3bLYEol (last visited June 16, 2021). This is notable for what it does not say: that RCRA regulates the manufacturing processes themselves that generate such waste. This is also clear in the statute itself, where the code section on "objectives and national policy" says that RCRA's purpose includes merely "encouraging" policies that minimize the generation of hazardous waste, as opposed to the enforceable purpose of "requiring" that hazardous waste be properly managed once generated. See 42 U.S.C. §§ 6902(a)(5)-(6).

EPA has acknowledged this limitation. For instance, in a rulemaking regarding a regulation allowing hazardous waste generators to accumulate waste onsite for 90 days without becoming subject to certain RCRA obligations, EPA explained: "By allowing short-term accumulation without a permit, the regulation reflects the congressional intent that the RCRA program not interfere with the manufacturing process." 45 Fed. Reg. 76624 (Nov. 19, 1980) (Attachment 9); *see also* 51 Fed. Reg. 25487 (July 14, 1986) (same) (Attachment 10).

This is also the root of the "manufacturing process unit" exemption in 40 C.F.R. § 261.4(c), the regulatory provision at the heart of this case. As EPA explained in promulgating that rule, the agency "did not intend to regulate product and raw material storage tanks, transport vehicles and vessels or manufacturing process units in which hazardous wastes are generated." 45 Fed. Reg. 72025. "Because of their design and operation, these units are capable of holding, and are typically operated to hold, the hazardous wastes which are generated in them, until the wastes are purposefully removed." *Id.*

Region 1's attempt to regulate ISP's distillate receivers is definitively outside its RCRA authority. The distillation of products at ISP is a core manufacturing process, and the facility's

distillate receivers are a basic part of that process, as Region 1's own evidence recognizes; *see supra*. By attempting to regulate the receivers before the distillate is "purposefully removed," Region 1 is reaching past its authority into the heart of ISP's manufacturing process. The following section explains this Tribunal's precedent regarding the "manufacturing process unit" exemption and how this precedent demonstrates Region 1's overreach.

2. This Tribunal has established a test for the "manufacturing process unit" exemption that clearly exempts ISP's receivers from regulation.

This Tribunal has addressed the "manufacturing process unit" exemption in two key cases: *In re General Motors Automotive-North America*, RCRA-05-2004-0001, 2006 WL 3406333 (March 30, 2006) ("*General Motors*"), and *In the Matter of Chem-Solv, Inc.*, RCRA-03-2011-0068, 2014 WL 2593697 (June 5, 2014) ("*Chem-Solv*").[23] While the "manufacturing process unit" exemption is not defined in RCRA regulations, *General Motors* and *Chem-Solv* establish a test for the exemption under which ISP's receivers are easily exempt.

That test, in short, is that the manufacturing process unit exemption applies where the "integral parts" of a "production system" are used to "create a product" – but the exemption does not apply downstream of production, where wastes have become a "waste disposal problem." *See General Motors*, 2006 WL 3406333, at *32-33. Both *General Motors* and *Chem-Solv* addressed the latter circumstance: The two respective facilities were essentially just cleaning up after the production process, but the respondents tried to argue that the cleanup was part of "manufacturing." Both were unsuccessful, because neither respondent could show that the process at issue was integral to a production system creating a product, as distinct from cleanup.

[23] Both *General Motors* and *Chem-Solv* were appealed to the Environmental Appeals Board. The opinion in *Chem-Solv* was affirmed, 16 E.A.D. 594 (EAB 2015), and the opinion in *General Motors* was affirmed in part and reversed in part, 14 E.A.D. 1 (EAB 2008). In both cases, the Environmental Appeals Board did not directly disturb the holdings discussed here. The affirmance in *Chem-Solv* did not discuss the standard for applying the manufacturing process unit exemption, while the remand in *General Motors* asked this Tribunal to reconsider whether GM was "managing waste" in the system at issue. 2008 WL 8820680, at *62.

Specifically, in *General Motors*, the Tribunal held that the mechanical system that paints vehicles is an integral part of a production system, creating a product, and is exempt from RCRA, but that the downstream system for handling residues from cleaning the paint applicators afterwards is not. 2006 WL 3406333 at *32-34. At the GM factories at issue, vehicle paint applicators, including robotic spray guns, were frequently cleaned after vehicle painting by spraying the paint applicators and their associated manifolds and piping inside and out with specialized solvents. *Id.* at *6-8. The used "purge" solvents were then piped away from the newly-cleaned paint applicators into "pots," then again to "purge mixture" storage tanks. *Id.* at *8-10. GM argued in this Tribunal that this post-painting system for handling the used purge solvents was part of a "manufacturing process unit" at its facilities.

The Tribunal disagreed, and determined that the boundaries of the "manufacturing process unit" *include* vehicle painting itself but *exclude* the handling of the used purge solvent that cleaned the paint applicators. *Id.* at *32. According to the Tribunal, "[i]t is undisputed that painting automobiles is an integral part of the manufacturing process." *Id.* (emphasis added). It is part of a "production system" that "create[s] a product" – painted vehicles – in contrast to the downstream used solvent management system, which does not. *Id.* ("In contrast to a production system, such as where the applicators/ manifold equipment is used to paint vehicles, the downstream purge mixture system does not produce a product."). The "purge mixture," laden with cleaning solvents and paint waste removed from the applicators, was part of the facilities' "waste disposal problem," along with the system used to remove this cleaning waste from the painting area and store it for disposal. *Id.*

Chem-Solv, decided eight years later, was an application of the *General Motors* test, albeit to circumstances in which the outcome was not a close call. In *Chem-Solv*, the respondent

argued that a liquid waste pit at its facility was a "manufacturing process unit." 2014 WL 2593697, at *47. The so-called "Pit" was a 1,900-gallon subsurface tank – but with an "open top, like a swimming pool," in this Tribunal's description, *id.* at *14 – into which the respondent regularly flushed acids, caustics, as well as "residue, dirt, and organic debris" including "pollen, mulch, insects [and] grass clippings." *Id.* at *14-15. The Pit, while covered with a "shed roof," *id.*, was outdoors, and was effectively a liquid trash dump for acids and organic waste. The respondent nevertheless argued that the Pit was a "manufacturing process unit" because small amounts of liquid from the Pit were used to spray off dirt and other residues from polyethylene drums containing the respondent's product before the drums were shipped to customers. *Id.* at *14-15, *47, *72-73. Spraying off the drums was "manufacturing," according to the respondent, because it was done pursuant to an "organized plan and with division of labor." *Id.*, *76.

This Tribunal made quick work of this argument. "[T]he act of cleaning dirty drums" is not manufacturing, and "Respondents' focus on the 'organized plan' and 'division of labor' for washing off some dusty barrels" ignored that the washing began and ended with fully manufactured drums, and that nothing was, in fact, manufactured in the process. *Id.* The Tribunal actually doubted that liquid from the Pit was used to spray off drums at all, but concluded that spraying off drums was not "manufacturing" even if it happened. *Id.* at *75-76. The Pit was obviously not an "integral part" of a "production system" that was "creating a product."[24] *General Motors*, 2006 WL 3406333, at *32-33.

[24] An important basis for Region 1's position in this case appears to be dicta in *Chem-Solv* in which this Tribunal noted that "[n]o intentional physical or chemical change would occur in the Pit as part of the alleged manufacturing process, distinguishing the Pit from the examples of MPUs in the preamble." *Id.* at 76. ISP will address this argument in detail in responsive briefing. In short, Region 1 is reading this language far too narrowly. If applied literally as the test of whether equipment is part of a "manufacturing process unit," this language would also have excluded the vehicle paint spray guns in *General Motors*, which also were not themselves, internally, the locus of "intentional physical or chemical change" when spraying paint. Yet these sprayers were exempt as part of a manufacturing process unit, because painting automobiles – broadly construed – is an "integral part of the manufacturing process" and the sprayers were part of that "production system." *Id.* at 32. The same is clearly true

These two cases offer a clear test for exemption as a "manufacturing process unit" under RCRA, and ISP's distillate receivers fall squarely on the exempt side. The receivers *are*, in fact, an "integral part" of a "production system" that is "creating a product" at the ISP facility. As discussed in detail in Section II below, the production system at ISP requires the distillation of the facility's product as a key production step, and the receivers are integral to that distillation. Not only do the receivers control various aspects of the process, but the distillation *physically could not occur* without the receivers. LeBlanc Decl., at ¶ 18. EPA's own evidence and guidance make clear that distillate receivers are one of the three irreducible components of batch distillation, *see supra*, and this is particularly true at ISP. As explained below, ISP's receivers are highly complex pieces of equipment under a common atmosphere with the other components in the distillation units, used to monitor and control various aspects of distillation operations. *See infra* at § II. The receivers are not downstream of the manufacturing process, as in *General Motors*; they are an inextricable part of the system that is making the product in the first place. ISP's receivers are therefore analogous to the paint applicators at the GM plant, not the used cleaning solvent management system. And they are certainly not akin to the open-air liquid waste pit in *Chem-Solv*, used (if at all) only for "washing off some dusty barrels." *Supra.* ISP's receivers are *manufacturing products*, and are exempt from RCRA. *See generally infra*, at § II.

3. ISP's receivers are part of a "manufacturing process unit" as the term is understood across a range of legal authorities.

That ISP's distillate receivers are part of a "manufacturing process unit" is also reflected elsewhere in law. In particular, it is clear from a variety of legal authorities that a "manufacturing process unit" that meets the *General Motors* test can include a *collection* of

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of the distillate receivers in this case. By contrast, in *Chem-Solv*, the basis for this Tribunal's decision was its conclusion that "washing off some dusty barrels" was not "manufacturing." This was the core reason that the Pit was not exempt, and this is why *Chem-Solv* is distinguishable both from *General Motors* and from the instant case.

equipment – a process *system*, not necessarily only a single tank or vessel. *See General Motors*, at *32 ("In contrast to a production system, such as where the applicators/manifold equipment is used to paint vehicles, the downstream purge mixture system does not produce a product.") (emphasis added); *see also id.*, *46 (quoting EPA guidance letter characterizing the "manufacturing process unit" exemption as applicable to "production system[s]"). Every related definition below makes clear that the concept of a "manufacturing process unit" is broad enough that it must include the receiver component of a distillation process unit.

a. 40 C.F.R. § 261.4(c)

First, in the regulation itself, the "manufacturing process unit" exemption is contained within a list of comparable exemptions, all of which are clearly *systems*, not individual pieces of equipment. *See, e.g.*, *Beecham v. United States*, 511 U.S. 368, 371 (1994) ("That several items in a list share an attribute counsels in favor of interpreting the other items as possessing that attribute as well."). Specifically, a "manufacturing process unit" is listed with "a product or raw material transport vehicle or vessel" (vessel meaning watercraft; *see* 40 C.F.R. § 260.10) and "a product or raw material pipeline"; *see* 40 C.F.R. § 261.4(c). A "vehicle," a "vessel," and a "pipeline" are all complex systems including many individual parts, and a "manufacturing process unit" can be too.[25]

Even the category in the Section 261.4(c) exemption list that superficially sounds like a single piece of equipment – a "product or raw material storage tank" – actually refers to a system, not a singular hardware component. EPA has long acknowledged that where a tank is

[25] For example, a pipeline includes "line pipe, valves, and other appurtenances connected to line pipe, pumping units, fabricated assemblies associated with pumping units, metering and delivery stations and fabricated assemblies therein, and breakout tanks." 49 C.F.R. § 195.2 (definition of "pipeline" under the U.S. Department of Transportation ("DOT") rules for pipelines carrying hazardous liquids); *see also* 45 Fed. Reg. 80,286 (December 4, 1980) (adding pipelines to § 261.4(c) just a few weeks after the original provision and with the same effective date, and explicitly referring to the DOT pipeline rules in 49 C.F.R. Part 195) (Attachment 14).

exempt from RCRA regulation, the tank's associated ancillary equipment – piping, valves, pumps, vents, monitoring equipment, etc. – is also exempt. *See, e.g.*, RCRA Online No. 13126 (RCRA standards "[d]o not apply to ancillary equipment that is associated with non-regulated units, e.g.[,] exempted tanks") (Attachment 11); *see also* 53 Fed. Reg. 34079, 34080 (September 2, 1988) (Attachment 12) (clarifying that "[t]he only... equipment intended to be covered under the revised [hazardous waste tank system] standards... was ancillary equipment that is associated with a regulated hazardous waste storage or treatment tank") (emphasis added). Accordingly, the Section 261.4(c) exemption for "product and raw material storage tanks" applies not only to the tanks, but to their associated ancillary equipment. The exemption – like all the Section 261.4(c) exemptions – is for equipment *systems*.

The consistent use of the word "unit" in Section 261.4(c) likewise makes clear that a "unit" – including a manufacturing process "unit" – includes a broad system of equipment, not just an individual hardware component. Specifically, Section 261.4(c) repeatedly refers to every exempt category in the list as a type of "unit": The exemption applies until the hazardous waste exits the "unit" in which it was generated, or unless the waste remains in the "unit" more than 90 days after the "unit" ceases to be operated for manufacturing or for storage/transportation of product or raw materials. *Id.* In other words, Section 261.4(c) uses the word "unit" to reference and include a "storage tank," a "transport vehicle or vessel," and a "pipeline," as well as a "manufacturing process unit," so the word must have a broad enough meaning to encompass all of these complex and multifaceted systems of equipment. *See, e.g.*, *Ratzlaf v. United States*, 510 U.S. 135, 143 (1994) ("A term appearing in several places in a statutory text is generally read the same way each time it appears."). Accordingly, a "manufacturing process unit" necessarily

includes a collective system of equipment used for manufacturing, just as "vessel" and "vehicle" units are collective systems of equipment used for transporting products or raw materials.

Finally, and crucially, EPA has explicitly held that these exemptions are applied broadly to include the entire systems of equipment referenced in Section 261.4(c), not just individual components of those systems. Specifically, the agency has clarified that the "transport vessel" exemption in Section 261.4(c) means that the *entire vessel* is exempt from RCRA regulation, even the parts of the vessel that do not individually contain products or raw materials. *See, e.g.*, OSWER 9441.1986(65), 1986 WL 352168, RCRA Online No. 12727 (Sept. 3, 1986) (exemption covers "the whole vessel rather than any particular tank or unit within the vessel" and thus extends to both "waste generated aboard vessels in... product or raw material cargo tanks" and "engine room wastes") (Attachment 13). Under this holding, all parts of the collection of equipment comprising a *manufacturing process unit* are exempt under Section 261.4(c) in the same way that all parts of a *transport vessel unit* are exempt, regardless of the particular use of individual components in these systems. Region 1 cannot pick and choose individual hardware components to regulate within a unit that is exempt on a collective level. Especially in the case of the manufacturing process unit exemption, that would amount to interference with the production process itself, in direct contravention of congressional intent. *See supra.*

b. Preamble to the original 40 C.F.R. § 261.4(c) rulemaking

When EPA published the rule containing the exemptions for various units including vessels, vehicles, pipelines, and manufacturing process units, the agency's preamble included guidance that helps to clarify that distillate receivers are part of manufacturing process units. As set forth above, the preamble cites "distillation units" as an example of a manufacturing process unit, and "distillation units" include distillate receivers. But there is also a second useful example in the preamble: "discharge trays of screens." 45 Fed. Reg. 72025 ("Other examples

occur in a great many manufacturing processes, where hazardous wastes are generated in process units, such as distillation columns, flotation units, and discharge trays of screens").

"Screening" in manufacturing means filtering or separating material by allowing components smaller than a certain particle size to pass through a screen while other components cannot. LeBlanc Decl., at ¶ 20. A "discharge tray" in a screening unit is a receptacle into which screened or filtered material that has passed through the screen is collected for discharge. *Id.* Per EPA's preamble, this "discharge tray" is part of a manufacturing process unit, such that any undesired components (*i.e.*, wastes) collected in the tray are exempt from regulation until they are removed from the tray. 45 Fed. Reg. 72025; *see also supra*, OSWER 9442.1995(01).

Region 1's position in this case appears to be that ISP's receivers are no more than storage tanks, and are therefore not exempt as part of "manufacturing process units." As set forth in detail in Section II below, this characterization is profoundly mistaken; ISP's receivers are integral to a production process that physically cannot occur without them, and the receivers play a variety of sophisticated operational roles in production that are not interchangeable with mere storage tanks. *Infra*, § II. But even if this Tribunal agrees with Region 1 that the receivers are no more than passive receptacles for distillate – including, sometimes, hazardous waste – that has been distilled out of ISP's products, *the receivers are still exempt*. Even in that formulation, the receivers would be substantially identical in nature to the "discharge trays of screens" that initially receive the wastes that have been screened or filtered out in a screening process during manufacturing. Even if all a piece of equipment does is to directly "receive" the waste product of a separation process in the midst of manufacturing – whether that separation is in the nature of screening or distillation – it is a "manufacturing process unit" under EPA's own explicit example in the preamble to 40 C.F.R. § 261.4(c).

c. Other RCRA regulations and guidance

EPA guidance on RCRA exemptions makes clear that the term "unit" includes systems. For example, EPA in 2016 considered the application of the manufacturing process unit exemption to "filter canisters which may be disconnected from an associated manufacturing process," and concluded that the canisters *are* part of a manufacturing process unit while connected to the process, but not after disconnection; in other words, the *system* that exists when a filter canister is connected to a manufacturing process is a manufacturing process "unit." *See* Attachment 3, B. Johnson memorandum (explaining that "filter canisters... are not, by themselves, manufacturing process units") (emphasis added). Similarly, with respect to the RCRA exemptions for "wastewater treatment units" and "elementary neutralization units" (both added to the rules at essentially the same time as the manufacturing process unit exemption), EPA clarified as far back as 1986 that "[e]lementary neutralization units may consist of a series of tanks, just as wastewater treatment [unit]s may involve a series of connected tanks." *See* RX-35 (emphasis added); *see also* 40 C.F.R. §§ 264.1(g)(6), 265.1(c)(10), 270.1(c)(2)(v) (exemptions for wastewater treatment units and elementary neutralization units); *see also* 45 Fed. Reg. 76074 (November 17, 1980) (promulgating these exemptions) (Attachment 15).

d. Other environmental regulations

While "manufacturing process unit" is not defined in RCRA, similar terms are defined in Clean Air Act regulations that must be read *in pari materia* with RCRA, as explained above, and these definitions echo this Tribunal's broad definition in *General Motors* and the agency's expansive uses of the word "unit" as discussed in the preceding paragraphs. Notably, the same NESHAP regulation that defines "distillation unit" to explicitly include distillate receivers, as discussed above, also defines a "chemical manufacturing process unit" to mean "the equipment

assembled and connected by pipes or ducts to process raw materials and to manufacture an intended product," including:

> air oxidation reactors and their associated product separators and recovery devices; reactors and their associated product separators and recovery devices; distillation units and their associated distillate receivers and recovery devices; associated unit operations; associated recovery devices; and any feed, intermediate and product storage vessels, product transfer racks, and connected ducts and piping… pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, instrumentation systems, and control devices or systems.

40 C.F.R. § 63.101(b) (emphasis added). A "polyether polyol manufacturing process unit" is defined the same way, also including "distillation units and their associated distillate receivers." 40 C.F.R. § 63.1423(b). Other types of "manufacturing process units," while not involving distillation, are defined in similarly broad terms. For instance, a "pharmaceutical manufacturing process unit" includes "any associated storage tanks," as well as "components such as pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, and instrumentation systems that are used in the manufacturing of a pharmaceutical product." 40 C.F.R. § 63.1251. A "semiconductor manufacturing process unit" includes, *inter alia*, "the equipment assembled and connected by ductwork or hard-piping including furnaces and associated unit operations; associated wet and dry work benches; associated recovery devices; [and] feed, intermediate, and product storage tanks[.]" 40 C.F.R. § 63.7182. These definitions must be read *in pari materia* with RCRA, and they all fundamentally echo the *General Motors* test: a "manufacturing process unit" includes the integral parts of the production process, defined broadly, used to create a product.

e. The meaning of "process unit"

The breadth of a "manufacturing process unit" is also visible in the broad sense of "process unit" as EPA uses that component term elsewhere. "Process unit" is defined repeatedly in Clean Air Act regulations, and these definitions are likewise all variations on the definition this Tribunal used for "manufacturing process unit" in *General Motors*. The most common definition for "process unit" in EPA regulations is a version of "equipment assembled and connected by pipes or ducts to process raw materials and to manufacture an intended product." *E.g.*, 40 C.F.R. § 63.1001.[26] Likewise, a federal court examined the definition of "process unit" in *United States v. Amoco Oil Co.*, 64 F. Supp. 2d 801, 804-05 (N.D. Ind. 1999) and arrived at roughly the same definition; the court noted that a "unit" is defined as "a piece or complex of apparatus serving to perform one particular function," and that a "process" is "a particular method or system used in a manufacturing... or other technical operation." *Id.* (citing Webster's Third New Int. Dict. (Unabridged) (1971) at 1808, 2500). The court also rejected the contention that a "process unit" must be a single thermal reactor and its associated catalytic reactors, concluding that an "apparatus" is "a collection or set of materials, instruments, appliances, or machinery designed for particular use," not merely "singular items." *Id.* at 806 (citing Webster's at 102) (emphasis added). Notably, the word "unit" itself is defined in Perry's – Region 1's own exhibit on distillation – as a multi-element system. CX-26, at 58 ("A *unit* is defined as a combination of elements and may or may not constitute the entire process."); *see also id.* (characterizing single pieces of equipment, including condensers, as "elements").

The use of the term "process" in RCRA regulations is consistent with these principles. For example, as discussed above, RCRA's rulemaking governing air emissions from "process

[26] *See also, e.g.*, 40 C.F.R. §§ 51.165, 51.166, 52.21, 60.480, 60.480a, 60.481, 60.481a, 60.561, 60.590, 60.590a, 60.591, 60.591a, 60.611, 60.661, 60.701, 60.5430, 60.5430a, 61.241, 63.191, 63.341, 63.641, 63.1001, 63.1020, 63.1101, 63.1312, 63.1423, 63.12005, 65.2, 98.6.

vents" in Subpart AA explicitly defines "distillation units" to include distillate receivers. *See supra*, § I.A.2.a. "Process vents" are so named because they are vents on "process" units, and in promulgating Subpart AA, EPA made clear that vents on distillate receivers are "process" vents – *i.e.*, that receivers are part of the distillation "process." 55 Fed. Reg. 25472 ("'Process vent' is defined to mean 'any open-ended pipe or stack that is vented to the atmosphere either directly, through a vacuum-producing system, or through a tank (e.g., distillate receiver…)'") (emphasis added). EPA also clarifies in the rule that a distillate receiver is subject to the "process vent" requirements while equipment outside the process unit, such as a downstream holding tank, is not. *See id.* at 25462 (distinguishing vents on receivers subject to rule from vents on downstream intermediate holding tanks not subject to rule). Moreover, the same rule defines "distillate receiver" as "a container or tank used to receive and collect liquid material (condensed) from the overhead condenser of a distillation unit and from which the condensed liquid is pumped to larger storage tanks or other process units." 40 C.F.R. § 264.1031 (emphasis added). Condensed liquid can be said to be pumped from a receiver to "other" process units because the receiver is part of its own process unit. And because that process is part of *manufacturing* at the ISP facility, each distillate receiver is part a "manufacturing process unit."

II. ISP'S DISTILLATION RECEIVERS ARE INEXTRICABLE AND INTEGRAL PARTS OF THE COMPANY'S MANUFACTURING PROCESSES.

A. The receivers are an inextricable part of the ISP manufacturing process.

The receivers at issue in this case are an essential and vital part of the ISP manufacturing process. Indeed, without the receivers, the facility could not produce most of its products at all.

As discussed above, in each of the eight processes at issue, ISP first transforms raw materials by means of a chemical reaction and then removes solvent from the resulting material by distillation, so that the product is able to meet applicable specifications. Morin Decl., at ¶ 18;

For safety and quality reasons, the facility performs both the reactions and the distillations under an atmosphere that is essentially oxygen-free and therefore inert. *Id.*; LeBlanc Decl., at ¶ 14. This is common, and is done to prevent fire hazards, reactions that could materially degrade raw materials or products, and other production interferences. *Id.* (both). In order to achieve such an atmosphere, air from the ambient atmosphere (which contains oxygen) must be prevented from entering the reaction/distillation system. *Id.* Stated another way, while the system must allow the internal movement of gases and vapors, and the escape of vapors in some circumstances, the system must be closed to the intrusion of air from the outside environment. *Id.*

Because the distillation portion of the manufacturing process entails solvent vapors passing from the reactor to the condenser, these two components must be open to each other throughout the distillation and must share a common, connected, inert internal atmosphere.[27] Morin Decl., at ¶ 19; LeBlanc Decl., at ¶ 15. As the solvent vapors are condensed back into liquid form, the resulting liquid must also have a place to collect within the closed system. *Id.* (both). The reactor cannot serve as that collection point, because that would undermine the whole purpose of removing solvents from the contents of the reactor.[28] *Id.* Likewise, the ISP condenser cannot serve as the collection point for liquids because – as is usually the case with condensers – the ISP condenser is not designed to hold liquids and has little or no capacity to do so.[29] *Id.*

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[27] This common internal atmosphere is not necessarily uniform in temperature, pressure, or composition during the distillation process, but a common atmosphere is defined by the space in which its contents are free (and not free) to move, not by uniform atmospheric conditions. This is why, for example, weather conditions vary across the Earth's atmosphere even though it is a single common atmosphere. LeBlanc Decl., at ¶ 16.

[28] Liquids are sometimes returned or "refluxed" to the reactor for a part of the production process, *e.g.* to manage the temperature in the reactor, but only under specific and controlled conditions. Morin Decl., at ¶ 20.

[29] The ISP condensers use a common "tube-in-shell" design, in which vapors entering from the reactors are cooled and condensed by routing them through narrow tubes that are surrounded by a liquid coolant inside the outer shell of the condenser. Morin Decl., at ¶ 21; *see also* RX-77 to RX-81 (engineering drawings of the condensers in the four production units at issue). The condensers do not have a reservoir for holding liquids, and the narrow tubes

Accordingly, there must be some other reservoir within the closed system. Morin Decl., at ¶ 22; LeBlanc Decl., at ¶ 17. The receiver is that reservoir, and in order for the condensed liquids (and uncondensed vapors) to get there, the receiver must share the same common internal atmosphere with the reactor and condenser. *Id.* (both). Without the receiver as part of the system to continuously "clear" the condenser of liquids, the condenser would quickly and inevitably cease functioning (*e.g.*, because it would start to fill with liquid, be unable to admit and condense more vapors, and/or overflow back into the reactor). *Id.* For this reason, a receiver under common atmosphere with the entire distillation unit is necessary, as a matter of engineering, to the operation of the condenser. *Id.* ISP's receivers are thus required for distillation to occur at all. *Id.* They are inextricable from the distillation process. *Id.*

Accordingly, ISP's manufacturing process could not occur without the receivers. Morin Decl., at ¶ 23; LeBlanc Decl., at ¶ 18. This is not a question of production speed, efficiency, or compliance with environmental law. *Id.* (both). The manufacturing process at ISP, as at every facility that relies on standard batch distillation, *physically, elementally requires* receivers as a component of the distillation unit. *Id.* As a matter of engineering, a receiver is necessary to the function of a distillation unit in the same way that a central fulcrum is necessary to the function of a see-saw. LeBlanc Decl., at ¶ 18. The system will not work without it. *Id.*

B. The receivers are deeply integrated into ISP's manufacturing process, serving a variety of critical operational functions.

The receivers also perform a variety of critical manufacturing functions in the production process at ISP beyond the core, inextricable distillation function described *supra*. These operations are integral to the manufacturing process at ISP. Collectively, these operational

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were not designed and do not have the capacity to hold liquids. Rather, the distillates formed in the narrow tubes immediately flow by gravity out of the condensers as the distillates are formed. Morin Decl., at ¶ 21.

functions overwhelmingly belie Region 1's central argument that ISP's receivers are mere passive storage tanks. The receivers are sophisticated pieces of hardware, thoroughly interconnected with the broader manufacturing process at ISP by both hardware and software. They control and monitor various system parameters; they continuously exchange signals with other parts of the process system, including components like the reactor that Region 1 agrees is part of the manufacturing process. From a "flow chart" perspective, they are not at the end of (or outside) the production cycle, but in the middle of it, in a variety of ways; the receivers share the condensing work of the condenser and help to charge raw materials in the reactor. They are as thoroughly integrated into a manufacturing process as it is possible for equipment to be.

It is, quite simply, extraordinary that Region 1 contends that this sophisticated equipment is regulable because it is the equivalent of the open-air liquid trash pit in *Chem-Solv*.

1. The receivers provide essential distillation system pressure control.

During each of the eight production processes at issue, the receiver serves as a central element in controlling the pressure of the entire production system, including the reactor, condenser, and receiver. Morin Decl., at ¶ 24. Controlling the pressure throughout the system is essential to minimize the potential for "bumping" (discussed further below) and to ensure steady and continued solvent removal, since decreasing solvent concentrations in the reactor as the distillation proceeds require lower pressures (or increasing temperatures) to enable continued boiling and solvent removal. LeBlanc Decl., at ¶ 21. Because vapors in the distillation system must generally flow in the direction of reactor to condenser to receiver, the system typically requires a slightly lower pressure in the receiver to establish this direction for vapor flow, and so the receiver itself is used to control system pressure. *Id.*

ISP generally makes adjustments to distillation system pressure by opening and closing valves that connect the receiver to a vacuum source and a nitrogen tank ("receiver valves").

Morin Decl., at ¶ 24. *See also* RX-11; RX-13; RX-15; RX-18. Indeed, in three of the four production systems at issue, the nitrogen and vacuum control valves associated with the receiver are directly connected to a pressure sensor within the reactor so that electrical signals from the reactor sensor can control the receiver valves – and thus the pressure throughout the production system – automatically, without human intervention (other than the establishment of reactor pressure set-points by the operators).[30] Morin Decl., at ¶ 24; *see also* RX-11; RX-12; RX-13; RX-14; RX-15. In these ways, the receiver and reactor are closely intertwined during the production process, with pressure readings from the reactor controlling the receiver valves, and those valves controlling the pressure in the reactor, condenser, and connecting pipes.[31]

2. The receivers are a vital tool for tracking the progress of the production process and making essential production decisions.

During all eight of the manufacturing processes at issue in this case, the receivers are necessary for ISP facility personnel to track the progress of the distillation and to make key production decisions. Morin Decl., at ¶ 26. The tracking is achieved through continuous and precise monitoring of the volume of liquid inside each receiver using radar, in most cases together with periodic recording of the measured volumes in the log for each batch (*e.g.*, every hour). *Id*; *see also* RX-9; RX-11; RX-13; RX-18; RX-21, at 21, 23, 27, 28; RX-22, at 35, 38; RX-23, at 19-20; RX-24, at 25, 28, 31; RX-26, at 19, 20, 22, 29; RX-28, at 33-34.

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[30] Although there are no such electrical connections in the fourth production system, the receiver valves in that system are similarly adjusted – manually by system operators – based on readings from the reactor pressure sensor (as well as other factors). Morin Decl., at ¶ 24.

[31] At certain stages of some of the production processes, the pressure within the production systems may also be adjusted in other ways. Morin Decl., at ¶ 25. For example, in three of the processes, the initial reaction is conducted at significantly elevated pressure in the reactor, while it is valved off from the condenser and receiver. *Id.*; *see also* RX-21, Step 28; RX-22, Step 48; RX-24, Step 31. When the reaction is complete and the operator is ready to start removing solvent, there is a brief transitional stage during which the valve between the reactor and condenser must be opened slowly to ensure that the vapors leaving the reactor do not completely "blow through" the condenser without being converted to liquid distillate. *Id.*; *see also, e.g.,* RX-21, Step 28 ("slowly open the liquid takeoff [valve] to the receiver …. If the [valve] is open too much, the vapor from the reactor will blow by the condenser"). However, once this brief period is over, and the pressures have had a chance to equilibrate, the pressure throughout the system is controlled through the receiver, as discussed above. *Id.*

Such monitoring and recording of the liquid levels in the receivers is used to make a variety of essential production decisions. Morin Decl., at ¶ 26. For example, in all eight processes at issue, the receiver levels are used to determine when certain steps in the manufacturing process are complete and the next step of the manufacturing process should be started. *Id.*; *see also, e.g.*, RX-21, Step 29; RX-22, Step 52; RX-23, Step 20; RX-24, Step 31; RX-25, Steps 62-63; RX-26, Steps 23, 25, and 41; RX-27, Steps 62-63; RX-28, Step 42.

In two of the manufacturing processes at issue, the receiver levels are used to determine when a certain small amount of "initial distillate" with impurities has been collected, such that the rest of the solvent distillate can be assumed (based on process chemistry, verified by testing) to be pure enough for direct reuse "as-is" – *i.e.*, instead of waste – in subsequent batches. Morin Decl., at ¶ 27; *see also* RX-21, Step 29, 30-35; RX-24, Steps 31-39.

In some of the other processes at issue in this case, after a certain amount of distillate is collected in the receiver, it is kept there pending sampling and analysis of the product in the reactor, and if the product does not meet relevant specifications, a calculation is commonly performed to determine a specific amount of additional distillate to be collected. Morin Decl., at ¶ 28. In these cases, as the distillation is continued, the measured volume of liquid in the receiver is used to determine when the calculated amounts of additional distillate have been collected, such that it can be expected that the product in the reactor has achieved relevant specifications. *Id.*; *see also, e.g.*, RX-22, Steps 54, 55; RX-26, Step 44; RX-28, Step 51. In addition, in all of the production processes at issue, monitoring of the volume in the receiver provides an additional way to determine if/when "bumping" (discussed below) has occurred, since a sudden, unexpected increase in the volume of liquids in the receiver would indicate that material likely bumped over from the reactor to the receiver. Morin Decl., at ¶ 28.

If the distillates were not collected in the receivers and instead were sent directly to the facility-wide hazardous waste accumulation tank (S-535) as they are being produced, there would be no way to achieve any of these purposes by monitoring the volume of liquid in that tank. Morin Decl., at ¶ 29. S-535 receives wastes from throughout the facility, including from all four receivers used in the production processes at issue here and from a variety of other facility operations. *Id.* At any time, S-535 may be receiving wastes from multiple sources, such that the volume of liquid in the tank provides no useful information about any individual source. *Id.* In contrast, the volume of liquid in each receiver is a direct reflection of what is happening in a specific batch, given that each receiver is dedicated to a single reactor and cleaned out between batches. *Id.* Accordingly, the receivers play an important role in tracking the progress of each batch and making critical production decisions. *Id.*

3. The receivers allow materials that "bump" out of the reactors without being properly distilled to be returned to the reactor for reprocessing.

During all eight of the manufacturing processes at issue in this case, the receivers play an important role throughout the entirety of distillation as a place for materials that unexpectedly "bump" out of the reactor, without being properly distilled, to collect for potential return to the reactor for reprocessing. Morin Decl., at ¶ 30. Bumping is an issue in virtually all distillation processes, and results when materials in the distillation pot or reactor (*e.g.*, raw materials, products, and solvents) foam up and/or create large bubbles in a way that forces some of the materials out of the reactor and through the condenser, without being converted to vapor and condensed (as happens when the distillation is proceeding normally). LeBlanc Decl., at ¶ 22; *see also* Perry's, CX-26, at 111 (noting that during batch distillation, "[t]he rate of vaporization is sometimes limited to prevent 'bumping' the charge and to avoid overloading the condenser"). "Bumping" is not unlike the phenomenon that causes shaken soda bottles to overflow when

opened. LeBlanc Decl., at ¶ 22. Like overflowing soda, "bumping" in distillation units is something to be avoided where possible, and ISP takes a number of measures – mostly successfully – to watch for and minimize the potential for bumping. Morin Decl., at ¶ 30; LeBlanc Decl., at ¶ 22; *see also, e.g.*, RX-21, Steps 28, 30, 31, 44, 49; RX-22, Steps 48, 51, 63; RX-24, Steps 31, 34, 49); RX-28, Step 38. Still, it happens occasionally.[32] Morin Decl., at ¶ 30.

If the receivers were not there to collect the bumped materials, and such materials were instead routed to the facility-wide hazardous waste accumulation tank (S-535), reprocessing of the materials – which would be mixed in S-535 with much larger volumes of various other wastes generated throughout the facility – would be far more difficult and likely infeasible. *Id.* at ¶ 32. In this way, the receivers are vital to the manufacturing process, providing a practical way for any bumped materials to be reprocessed rather than wasted. *Id.* Indeed, none of the materials collected in the receivers can properly be viewed as having left the manufacturing process – or classified as solid or hazardous wastes – until the receivers are emptied to S-535, since there is always the possibility up to that point that they may be returned to the reactor for reprocessing.[33]

4. The receivers produce additional distillate from vapors/mists that fail to form distillate in the condensers.

During all eight of the manufacturing processes at issue in this case, the receivers act to a degree like condensers, which Region 1 concedes are parts of their respective manufacturing

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[32] *See, e.g.*, RX-30, at 22 (referring at the top to a Tally Sheet for details on an event that took place during distillation on January 3 or 4, 2019); RX-31 (Tally Sheet) (stating that "While pulling vac[uum], about 3,600 liters were [bumped] to [receiver] S-526… Per [a process engineer], we sent [the contents of S-]526 back to reactor D501 and began heating and pulling vac[uum] again"). Morin Decl., at ¶ 31. Although this bumping incident did not involve any of the eight manufacturing processes at issue here, such bumping can happen in those eight processes too. *Id.* Records reflecting bumping are very difficult to find because ISP's entire set of historical batch records is extremely voluminous and cannot be searched electronically; bumping records are a needle in a haystack. *Id.*

[33] Only materials that are discarded can be considered wastes, and materials that are saved in the middle of an ongoing production process for potential further processing are not discarded. *See Am. Mining Cong. v. EPA*, 824 F.2d 1177, 1193 (D.C. Cir. 1987) ("Congress clearly and unambiguously expressed its intent that 'solid waste' (and therefore EPA's regulatory authority [under RCRA]) be limited to materials that are 'discarded' by virtue of being disposed of, abandoned, or thrown away."); *Ass'n of Batt. Recyclers v. EPA*, 208 F.3d 1047, 1053 (D.C. Cir. 2000) ("To say that when something is saved it is thrown away is an extraordinary distortion of the English language.").

process units. *See* EPA Rebuttal, at 6 ("manufacturing occurs in… [the] condensers"). According to Region 1, the condenser is the place where "the vast majority of the used solvent distillate [is] condensed … into liquid form." *Id*. at 8 (emphasis added). Of course, "vast majority" is not "all," and so the parties appear to agree that some additional liquid distillate condenses and forms in the receivers. In particular, some vapors and fine liquid droplets suspended in the vapor (*i.e.*, mist) can be expected to exit the condenser and then to condense or coalesce into additional distillate within the receiver – for example, because the vapors and suspended droplets slow when they leave the narrow confines of the condenser tubes and downstream pipes and enter the larger volume of the receiver. LeBlanc Decl., at ¶ 19.

Region 1 attempts to dismiss this phenomenon as being "without consequence." *See* EPA Rebuttal, at 8. But Region 1 cannot have it both ways. If – as Region 1 itself states – the formation of distillate in the condensers is "manufacturing," the formation of distillate in the receivers, even if minimal, must also be manufacturing. Region 1's primary argument in this case is that no "manufacturing" – defined narrowly as physical or chemical changes – occurs in ISP's reactors. As explained in the first section of this brief, this characterization of the law and the applicable test is entirely wrong. But if it were right, Region 1 would be bound by it, and *even under this definition, manufacturing does occur* in ISP's receivers. The "manufacturing process unit" exemption has no *de minimis* carve-out; even a modest amount of manufacturing is still manufacturing, and Region 1 does not dispute that some condensation occurs in the receivers. Significantly, such formation of distillate is not something that happens in the facility-wide hazardous waste tank (S-535), but rather is limited to the receivers, because of their interconnectedness with the reactor and condenser.[34] LeBlanc Decl., at ¶ 19.

[34] Region 1 also clouds the picture by noting "[i]t is common in waste tanks… that a small portion of the waste is in a constant state of fluctuation, with vapor condensing to liquid… as well as liquid volatilizing into gas."

5. The receivers transfer certain raw materials into reactors for use in the manufacturing process.

In some of the manufacturing processes at issue in this case, the receivers play an important role in transferring liquid raw materials into the reactors for processing (*i.e.* "charging" the reactor). Morin Decl., at ¶ 33. In these cases, the facility uses "residual vacuum" – vacuum that remains after the vacuum source is disconnected – within the receiver, as well as in the reactor and condenser, to help draw or suck into the reactor some of the liquid raw materials necessary to manufacture ISP's products. *Id.*; *see also* RX-21, Steps 10-13; RX-24, Steps 9-11. If the residual vacuum in the receiver were not used in addition to the vacuum in the reactor and condenser, there would be substantially less vacuum volume, which would limit the amount of raw materials that could be transferred into the reactor, and/or require reopening the system to the vacuum source in the middle of the transfer, causing loss of volatile raw materials. *Id.*

While residual vacuum in the receivers is not used to help charge the reactors in some manufacturing processes at issue in this case (*e.g.*, due to the nature or volume of the relevant raw materials), the fact that two of the four receivers at issue are sometimes used for charging – and the fact that all four receivers are generally available for this purpose – underscores how the receivers are integral parts of the ISP manufacturing process. *Id.*

6. The receivers have unique design and operational characteristics required for the production process.

To perform the functions described above, ISP's receivers are designed and operated specifically for performance in a production capacity, not as mere storage tanks.

Each of the four receivers at issue is dedicated for use with one reactor (and its associated condenser), and each receiver is hard-piped to that reactor through the condenser. Morin Decl.,

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See EPA Rebuttal, at 8. But this phenomenon involving the materials *within* a tank is separate and distinct from the formation of *additional* liquids from vapors and/or mists that are carried over from the condensers *into* the receivers.

at ¶ 34; *see also* RX-6 (summarizing connected components in each production system at issue); RX-9 to RX-18 (P&IDs showing the components and connections). Moreover, because vacuum pressure is used to remove solvents during at least a portion of all eight processes at issue in this case, and because the entirety of each production system has a common internal atmosphere during these times, each receiver, and the equipment connecting it to its associated condenser, must be designed, constructed, and maintained to withstand the same "full" vacuum pressure as the rest of the production system (*e.g.*, the reactor). Morin Decl., at ¶ 34; *see also* RX-9; RX-11; RX-12; RX-13; RX-14; RX-15; RX-16; RX-18.[35] In addition, because the receivers may briefly be exposed to elevated pressures from the reactors at the start of some solvent distillations, *see supra*, n.31, the receivers – like the reactors – are designed to withstand significant pressures above the ambient pressure of one atmosphere (14.7 psi). Morin Decl., at ¶ 34; *see also* RX-11; RX-13; RX-15; RX-18. As discussed above, there is further physical connection between three of the four receivers at issue and their associated reactors, since the receiver valves on these tanks are electronically linked to a sensor in the reactor, enabling an automatic feedback loop in which the receiver valves are opened and closed to control the pressure in the reactor (and the rest of the production system) based on signals from the reactor sensor. In all of these ways, the receivers are physically incorporated as part of the ISP production systems.

Furthermore, the receivers are used solely for production. Morin Decl., at ¶ 35. The receivers are used to hold liquids only during the production batches, which frequently last less than 24 hours and never last more than a few days – precisely the type of timeframe that EPA envisioned when it promulgated the MPU exemption. *Id.*; *see also* RX-7; *see also* 45 Fed. Reg. 72024, 72025 (October 30, 1980) ("hazardous wastes reside in these [exempt] process units for

[35] In the exhibits, the "FV" notation indicates rating for "full vacuum." Morin Decl., at ¶ 34.

some period of time – sometimes … hours or days"). Moreover, under the facility's "clean as you go" philosophy, at the conclusion of each batch, the facility moves quickly to remove all materials from the production systems (including distillates from the receivers) and then to clean the systems (including the receivers) in order to make the production systems available to produce other products as expeditiously as possible, without unnecessary and uneconomic downtime.[36] Morin Decl., at ¶ 35. Whenever a receiver must be taken out of service (*e.g.*, for temporary maintenance), the associated reactor and condenser must also generally be taken out of service, because they cannot operate without the receiver.[37] *Id.*

These design and operational characteristics of the receivers at issue are in stark contrast to those for tanks that merely serve to accumulate or store hazardous wastes, such as ISP's Tank S-535. *Id.* at ¶ 37. There would rarely, if ever, be a reason for a tank accumulating or storing hazardous wastes outside a manufacturing process unit to operate under full vacuum or significantly elevated pressures, and thus no reason for the facility to invest the substantial financial and other resources necessary to design, construct, and operate such a tank so that it would be capable of doing so.[38] *Id.*; *see also* LeBlanc Decl., at ¶ 23. Similarly, it would make no sense to empty and clean out a hazardous waste storage tank after each brief production interval; the very purpose of such a tank is to collect wastes over a period of time (up to 90 days, in the case of an accumulation tank at a large quantity generator site, such as the ISP facility) so that the wastes can be shipped offsite in an efficient way to a suitable treatment, storage, or

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[36] Cleaning the receivers after each batch is especially important to protect against contamination of the distillate produced in the next batch, which as noted above may sometimes be valuable raw materials for other production processes at the facility (as generated or after closed-loop reclamation). Morin Decl., at ¶ 35.

[37] The condenser and reactor sometimes operate independently of the receiver to produce a limited range of products that do not require solvent distillation. In such cases no distillate (hazardous or non-hazardous) would be produced or collected, and thus the hazardous waste rules would obviously not be implicated. Morin Decl., at ¶ 36.

[38] Subjecting a hazardous waste accumulation tank to constant vacuum pressure would result in substantial waste volatilization, which could strain vacuum pumps and air pollution control equipment. LeBlanc Decl., at ¶ 23.

disposal facility.[39] *Id.* (both). Moreover, even when the contents of a storage tank are ultimately removed for transport, there is generally no need to perform a thorough tank cleaning, because the tank will not be used to hold raw materials or products, and contamination of subsequent wastes is not a concern. *Id.* Furthermore, when a hazardous waste storage tank has to be taken out of service for maintenance or other reasons, there is generally no reason to stop production; the process is not dependent on the storage tank, and any wastes generated while such a tank is unavailable could be placed into drums or a temporary tank without interfering with manufacturing operations. *Id.*

ISP has always acknowledged that Tank S-535 (*i.e.*, the tank that accumulates hazardous wastes that are removed from the receivers and other processes at the facility) is a regulated hazardous waste tank and has operated it accordingly. Morin Decl., at ¶ 38. But the receivers at the facility are fundamentally different. *See, e.g.*, 55 Fed. Reg. 25462 (concluding that a receiver that *initially* collects distillates within a distillation unit and a "holding tank <u>following</u> the distillate receiver" may be regulated differently under RCRA) (emphasis added). As discussed above, they function – and are designed and operated – as manufacturing process units. And, for these reasons, they are exempt from regulation.

CONCLUSION

The "manufacturing process unit" exemption in 40 C.F.R. § 261.4(c) exempts the distillate receivers at ISP's Assonet, Massachusetts facility from RCRA regulation, and this Tribunal should grant ISP's Motion for Accelerated Decision. Because the only claims remaining in this case relate to ISP's receivers, this disposition will fully resolve the case.

[39] *See also* 40 C.F.R. § 262.17 (conditional exemption for large quantity generators accumulating hazardous wastes for up to 90 days).

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Respectfully submitted,

BEVERIDGE & DIAMOND, P.C.

/s/ Eric L. Klein

Aaron H. Goldberg
(202) 789-6052
agoldberg@bdlaw.com
1900 N Street, NW, Suite 100
Washington, D.C. 20036

Eric L. Klein
(617) 419-2316
eklein@bdlaw.com
155 Federal Street, Suite 1600
Boston, MA 02110

Counsel for Respondent
ISP Freetown Fine Chemicals Inc.