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January 24, 2013

BY HAND DELIVERY

US EPA Region 5
Office of the Regional Hearing Clerk
Attention: La Dawn Whitehead
77 W. Jackson Blvd.
Mailcode: E-19J
Chicago, IL 60604-3590

RE: *In re Carbon Injection Systems, et al.*, RCRA 05-2011-0009

Dear Ms. Whitehead:

Attached for filing is an original and copy of Respondents' Joint Initial Post-Hearing Brief with CBI REDACTED for filing in the public record. The original of this document was filed under seal (containing CBI) on November 26, 2012.

Thank you for your assistance.

Very truly yours,

Lawrence W. Falbe

LWF:me

Enclosures

cc: Ms. Jennifer Wolff, Office of the Chief Administrative Law Judge
Catherine Garypie, Esq., U.S. EPA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

In the Matter of:	)	
	)	**Docket No. RCRA-05-2011-0009**
Carbon Injection Systems LLC;	)	
Scott Forster, President;	)	
Eric Lofquist, Vice President	)	
Gate #4 Blast Furnace Main Ave	)	
Warren Township, OH 44483	)	
	)	
EPA ID No. OHR000127910	)	
	)	
Respondents.	)	

RESPONDENTS CARBON INJECTION SYSTEMS LLC, SCOTT FORSTER AND ERIC LOFQUIST'S INITIAL JOINT POST-HEARING BRIEF

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I. INTRODUCTION

This case concerns reasonable and good faith interpretation and compliance with some of the most complex environmental regulations regarding the definitions of solid and hazardous waste, the recycling exclusion that forms a part of the definitions, and the exception to the recycling exclusion for certain materials that are burned for energy recovery. Complainant claims that Respondents violated these regulations, and as a result failed to comply with other RCRA requirements, when it purchased three products for ultimate use as injectants in a blast furnace. The three products were phenol column bottoms produced by JLM Chemicals, and Unitene LE® and Unitene AGR® products produced by International Flavors and Fragrances, Inc. ("IFF").

The evidence presented at the hearing showed that when it began operations in 2005, Respondent Carbon Injection Systems, LLC ("CIS"), along with others, carefully and thoroughly evaluated whether the use of certain injectants in a blast furnace was within the recycling exclusion, and reasonably concluded that it was. However, the evidence also showed that notwithstanding this conclusion, CIS and its brokers sought a determination from Ohio EPA regarding the applicability of the exclusion. Upon learning that Ohio EPA did not agree in December 2005, CIS abided by Ohio EPA's interpretation, opted for compliance certainty, and simply chose to purchase other materials instead. From that time forward, those other materials, including Unitene LE and Unitene AGR, never included a known or suspected hazardous waste.

This contested case raises for the first time the question of whether materials, such as the three products at issue here, are burned for energy recovery when they are used as injectants in a blast furnace to make iron. "Burning for energy recovery" means burning

for the *purpose of obtaining useful heat* energy or burning that provides *substantial useful heat* energy. The evidence adduced at the hearing demonstrates that injectants used in a blast furnace do not provide any substantial or purposeful heat energy, and such use is within the recycling exclusion. This conclusion is dispositive of all issues in this case.

Even if it is determined that the use of injectants in the blast furnace is not within the recycling exclusion, Complainant's characterization of Respondents as having engaged in willful and knowing disregard for RCRA regulations motivated by profit is baseless and cannot support the inappropriately exorbitant penalties Complainant seeks to impose in this case. Respondents acted diligently and in good faith to avoid purchasing hazardous wastes for CIS and, except for a single shipment of material from JLM Chemicals in 2005, were successful. Complainant has not met its burden of proving that Unitene LE and Unitene AGR are solid or hazardous wastes. Nor has Complainant met its burden of proving that Respondents Scott Forster and Eric Lofquist were operators of the CIS facility. Under these circumstances, Complainant also has not met its burden of demonstrating that the exorbitant penalties it seeks are appropriate. For these reasons and other reasons discussed in more detail in this post-hearing brief, Complainant's case should be dismissed in its entirety.

II. JURISDICTIONAL ISSUES

A. The Use of Carbon-Containing Materials In a Blast Furnace for the Production of Iron Is Excluded From RCRA Regulation Because They Are Not Burned For Energy Recovery.

1. Applicable Regulations and Their Interpretation.

Federal and Ohio state regulations provide the following exclusion from the definition of "solid waste" for recycled materials:

(1) Materials are not solid wastes when they can be shown to be recycled by being:

(i) Used or reused as ingredients in an industrial process to make a product, provided the materials are not being reclaimed; or

(ii) Used or reused as effective substitutes for commercial products; or

(iii) Returned to the original process from which they are generated, without first being reclaimed or land disposed. . . .

(2) The following materials are solid wastes, even if the recycling involves use, reuse, or return to the original process (described in paragraphs (e)(1) (i) through (iii) of this section): . . .

(ii) Materials burned for energy recovery, used to produce a fuel, or contained in fuels; . . .

40 C.F.R. § 261.2(e)(1) and (2) and Ohio Admin. Code § 3745-51-02(E)(1) and (2). The term "burned" and the phrase "for energy recovery" are not defined in the regulation.

U.S. EPA described its general intent, and the limits of its jurisdiction over the use of secondary materials as part of normal production processes in its preamble to the final rule.[1] "When secondary materials are used (or in the case of previously used materials, reused) in these ways,[2] . . . they function as raw materials in normal manufacturing operations or as products in normal commercial applications." 50 Fed. Reg. 614, 638. "The Agency accordingly has interpreted its jurisdiction so as to avoid regulating secondary materials recycled in ways that most closely resemble normal production processes. These types of recycling are use of secondary materials as ingredients or as direct commercial substitutes." Id. at 638. Accordingly, U.S. EPA drafted the final regulation to explicitly provide that secondary materials used or reused in these ways are not solid wastes, and then set forth certain exceptions to the exclusion

[1] Hazardous Waste Management System; Definition of Solid Waste, 50 Fed. Reg. 614 (Jan. 4, 1985)(to be codified as 40 CFR parts 260, 261, 264, 265, and 266).

[2] Examples offered by U.S. EPA included the use of chemical industry still bottoms as feedstock, use of air emission control dust as a drinking water fluoridating agent and use of spent pickle liquor as a wastewater conditioner. 50 Fed. Reg. 614, 637.

for circumstances "where the nature of the material or the nature of the recycling activity indicates that RCRA jurisdiction exists[.]" Id. As U.S. EPA further explained, these circumstances include "where the material is used by being incorporated into a fuel, or being burned directly as a fuel." Id.

a. U.S. EPA's Interpretation of the Phrase "Burning for Energy Recovery."

The phrase "burning for energy recovery" in the recycling rule means burning for the *purpose of obtaining useful heat* energy or burning that provides *substantial useful heat* energy. This interpretation is based on the language of the rule, U.S. EPA's explanations in preambles to both the proposed and final solid waste rules and the proposed and final BIF rule, and on U.S. EPA's correspondence on the subject directly relevant to this proceeding.

U.S. EPA explained in part what "burning for energy recovery" meant when it first proposed the recycling exclusion on April 4, 1983.[3] The proposed rule included new definitions of incinerators, boilers and industrial furnaces, and U.S. EPA's discussion of these new definitions readily shows what U.S. EPA meant by the phrase "burning for energy recovery" in the context of describing these new definitions. Incinerators and boilers were defined on the basis of their design: "The key distinction between boilers and incinerators is that boilers achieve heat transfer within the combustion chamber itself, generally by exposing the heat recovery surface to the flame. In contrast, heat transfer does not ordinarily occur in the combustion chamber of an incinerator. Rather,

[3] Hazardous Waste Management System; General; Identification and Listing of Hazardous Waste; Standards Applicable to Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities; Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities; and Standards for the Management of Specific Wastes and Management Standards for Specific Types of Facilities, 48 Fed. Reg. 14472, 14485, n.19 (proposed on April 4, 1983) (to be codified as 40 CFR Parts 260, 261, 264, 265, and 266).

combustion gases are transferred elsewhere in the device, where heat transfer may occur." 48 Fed. Reg. 14472, 14483. The proposed definition of industrial furnaces lists certain other specific types of "flame combustion devices" distinguishable from boilers and incinerators, based on certain criteria. 48 Fed. Reg. 14472, 14483. With respect to the proposed rule, then, the U.S. EPA stated:

> In interpreting this provision, the Agency does not consider materials to be burned as fuels when both material values and energy are recovered from burning a single material, and material recovery is an important part of the recovery operation. For example, furnaces burning secondary materials to recover economically significant amounts of contained chemicals, and that also recover energy from the same materials, are not considered to be burning the materials as fuels.

48 Fed. Reg. 14472, 14485, n.19. In promulgating the rule, the U.S. EPA was focused on preventing potentially harmful low temperature incineration of wastes in residential and municipal boilers under the guise of thermal energy recovery. 48 Fed. Reg. 14472, 14481-14482. Unquestionably, U.S. EPA considered "energy recovery" to mean *thermal* energy recovery.

U.S. EPA further explained what it meant by burning for energy recovery when it issued the final rule on January 4, 1985. "Today's regulations apply to hazardous waste burned for 'energy recovery.' This limitation raises two issues: Distinguishing burning for energy recovery from burning for destruction, and determining how to regulate wastes if they are burned to recover materials." 50 Fed. Reg. 614, 630. Referring back to its tripartite division of controlled flame combustion units into incinerators, boilers and industrial furnaces, and noting that by definition boilers recover energy, U.S. EPA explained:

> A second question is the scope of these regulations when burning involves material recovery. The Agency views these regulations as

applying whenever hazardous wastes are burned in boilers. Boilers, by definition, recover energy. If materials are also recovered, this recovery is ancillary to the purpose of the boiler, and so does not alter the regulatory status of the activity.

Burning for material recovery in industrial furnaces, however, raises different kinds of issues. As discussed above, industrial furnaces are used as integral components of manufacturing processes to recover materials. Thus, regulation under RCRA of actual burning in industrial furnaces could, in some circumstances, represent an intrusion into a normal production process, particularly if the material being recovered is the same material the furnace ordinarily produces. On the other hand, when an industrial furnace is used for material recovery and the secondary material being burned is (a) Not ordinarily associated with the furnace (for example, organic still bottoms), (b) different in composition from materials ordinarily burned in the unit (as when the secondary material contains Appendix VIII hazardous constituents different from, or in concentrations in excess of those in materials ordinarily burned in the furnace, or (c) burned for a purpose ancillary to the chief function of the furnace, we think that RCRA jurisdiction over the burning exists. . . .

When industrial furnaces burn for energy recovery, regulation of the burning would not constitute an impermissible intrusion into the production process because burning for energy recovery is an activity that is not central to the usual function of an industrial furnace. . . . We therefore are asserting RCRA jurisdiction when an industrial furnace burns hazardous secondary materials -- *i.e.* hazardous wastes -- for energy recovery.

The regulations would also apply when an industrial furnace burns that same secondary material for both energy and material recovery. Examples are blast furnaces that burn organic wastes to recover both energy and carbon values. . . . These activities are not so integrally tied to the production nature of the furnace as to raise questions about the Agency's jurisdiction. . . . In taking this view, we thus reconsider and withdraw footnote 19 of the preamble to the proposed rule where we said we would count materials burned in industrial furnaces for both energy and material recovery as being burned for material recovery. For the reasons given above, we think that was a mistaken idea.

50 Fed. Reg. 614, 630-631.

In the same preamble, U.S. EPA also stated that what is meant by the phrase "burning for energy recovery" for purposes of the recycling exclusion is "integrally related to other regulations proposed or being developed by the Agency" (50 Fed. Reg. 614, 629), namely the regulations governing hazardous waste and used oil burned for

energy recovery in boilers and industrial furnaces, codified as 40 C.F.R. Part 266 ("BIF" rule). U.S. EPA issued its proposed BIF rule the following week on January 11, 1985,[4] and promulgated its final BIF rule on November 29, 1985.[5] In its November 29, 1985 preamble to the final BIF rule, U.S. EPA reaffirmed its intent to regulate situations involving both energy recovery and material recovery in industrial furnaces, but also clarified that this did not include situations where energy recovery is merely incidental, or where energy recovery is not significant or purposeful.

> Today's regulations, however, do not apply to hazardous wastes burned in industrial furnaces solely for material recovery. . . . [A]s discussed in the January 4, 1985 preamble to the definition of solid waste and the preamble to the proposed rule in this proceeding, there are certain situations where control of burning for material recovery in industrial furnaces could lead to an impermissible intrusion into the production process and so be beyond EPA's authority under RCRA.

50 Fed. Reg. 49164, 49167. The Agency further explained:

> Certain commenters questioned whether these rules (and by extension RCRA section 3004(q)) would apply when energy recovery from burning hazardous wastes is merely incidental, or when energy recovery is not the principal purpose of burning. *Today's rules apply where the energy recovery is significant or purposeful.*

50 Fed. Reg. 49164, 49167 (emphasis added).

Nowhere in its various preambles did U.S. EPA discuss what it meant by the word "burning" and presumably that word should be given its usual common meaning. Burning generally is defined in terms of fire and heat: "to set on fire or subject to combustion, as in order to produce heat, light or power" or "to cause by fire, heat, etc."

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[4] Hazardous Waste Management System: Standards for the Management of Specific Wastes and Specific Types of Facilities, 50 Fed. Reg. 1684 (proposed on Jan. 11, 1985)(to be codified as 40 CFR Part 266).

[5] Hazardous Waste Management System; Burning of Waste Fuel and Used Oil Fuel in Boilers and Industrial Furnaces, 50 Fed. Reg. 49164, 49167 (Nov. 29, 1985) (to be codified as 40 CFR Parts 261, 264, 265, 266, and 271).

Webster's New World College Dictionary (4th Ed. 2005). Professor Fruehan declined to provide a scientific definition of burning, and indicated that a layperson's understanding of the term should be used. "Burning is not a scientific term. Okay? I'm a scientist, I deal with scientific terms so when you talk about burning, you're talking about what laypeople think about it as opposed to what it really is, okay?" (Tr., Vol. V, pp. 1152-1153). Similarly, Professor Fruehan declined to offer any opinion regarding U.S. EPA's meaning of the word "energy" in the regulations. "I'm not familiar exactly how they're using that term." (Tr., Vol. V, p. 1152). In his direct testimony, however, Professor Fruehan acknowledged that "[w]e normally think about energy as heat energy." (Tr., Vol. V, p. 1117).

These common or ordinary meanings are consistent with U.S. EPA's final explanation of "energy recovery" in its preamble to the final BIF rule. In that discussion, U.S. EPA clearly interpreted "energy recovery" to mean obtaining the heat from a material when it is burned:

> These rules do apply, however, if hazardous wastes . . . are burned in industrial furnaces or boilers *to recover energy (i.e., to provide substantial, useful heat energy)* and for some other recycling purpose, even if energy recovery is not the predominant purpose of the burning. . . . Consequently, these rules apply where hazardous wastes are burned in boilers or industrial furnaces and provide *substantial, useful heat energy*.

50 Fed. Reg. 49164, 49167 (emphasis added).

Furthermore, in the same preamble in the context of its specific discussion of the use of Cadence product in a blast furnace, U.S. EPA reiterated its position that energy means heat energy. "We find that Cadence product is burned partially for energy recovery because the heat energy contributed by the product to the blast furnace is substantial and useful." 50 Fed. Reg. 49164, 49171. At the time, U.S. EPA disagreed

that energy released from injectants was "incidental" and "unavoidable," and instead concluded that injectants in a blast furnace release "substantial, useful heat energy." Id., at 49171. As discussed, infra, U.S. EPA was mistaken in its understanding of the use of injectants in a blast furnace, but its interpretation of energy to mean heat or thermal energy was absolutely clear.

This also was U.S. EPA's view of what was meant by "energy recovery" when it provided Innovative Waste Management with its final determination on the use of K022 Waste in a blast furnace on December 9, 2005:

> You state the only hindrance under the regulations is whether or not the material is burned for energy recovery. The pertinent regulations for this situation is OAC 3745-51-02 (C)(2)(a) and (E)(2)(b) in the Ohio EPA hazardous waste regulations. They say that even if recycling of the solid waste involves use or reuse, but it is burned for energy recovery, used to produce a fuel, or contained in fuels, it remains a solid waste. The common use of the term "fuel" is any material used to produce heat or power by burning. A blast furnace receives some of its *heat energy* from the combustion of the coke that is charged into the furnace, as well as combustion of material injected into the tuyeres. Combustion of the coke provides *heat* needed to melt the iron-bearing material in the furnace, and any substitute for coke is an alternate *heat source* or fuel. Therefore, the use of K022 in the blast furnace as a substitute for coke makes it a fuel.

(CX47; CX13, p. 10112). Similarly, Jeff Mayhugh of Ohio EPA determined, based on the preamble to the November 29, 1985 BIF rule, that a product would be considered to be burned for energy recovery if the material had a significant BTU value. In the case of K022 wasted, Jeff Mayhugh noted that "K022 has a *heating* value of 15,000 BTU per pound." (CX13, p. EPA10176)(emphasis added).

In its post-hearing brief, Complainant also points to the heating value, or BTU value, of a material as an indication that when burned, it results in "energy recovery," citing an otherwise inapplicable rule intended to curb sham recycling by prohibiting the

burning of low-BTU material without a permit.[6] For reasons discussed infra in section A.3.b., Complainant's use of BTU values to automatically answer the question of whether a material is burned for energy recovery is not supported by the plain language in the recycling exclusion. It is, however, consistent with U.S. EPA's interpretation of energy to mean heat or thermal energy for purposes of defining the phrase "energy recovery."

Based on both the language of the regulations, and U.S. EPA's explanations in its preambles to the proposed and final solid waste and BIF rules, and in its correspondence on the subject directly relevant to this proceeding, the phrase "burning for energy recovery" means burning for the *purpose of obtaining useful heat* energy or burning that provides *substantial useful heat* energy. Accordingly, here it must be determined whether injectants used in a blast furnace are used for the purpose of obtaining their useful heat energy or in fact provide substantial useful heat energy.

2. Applicability of the Regulations to Injectants Used in a Blast Furnace to Make Iron.

Complainant and Respondent agree that, pursuant to 40 C.F.R. § 261.2(e), if the injectants sold by CIS to the former WCI steel mill were not burned for energy recovery, the recycling exclusion would apply and no RCRA violation would have occurred. More specifically, as the Presiding Officer has correctly noted, if the injectants sold by CIS to WCI were not "combusted for *heat* energy in the blast furnace," or were "incorporated as

[6] Complainant acknowledges that this is a rule of thumb and not a rule of law that is directly applicable to the determination of whether a material is a solid waste. See Complainant's Initial Post-hearing Brief, pp. 53-54. However, it illustrates U.S. EPA's consistent interpretation of the phrase "burning for energy recovery" to mean obtaining the heat, or thermal energy from a material that is burned.

ingredients in an industrial process into the metallic iron produced by WCI" (May 18, 2012 Order on Motions for Accelerated Decision, p. 28 (hereafter "Order")(emphasis added)) the recycling exclusion, OAC § 3745-55-02(E) [40 C.F.R. § 261.2(e)], is applicable and no RCRA violation occurred. Respondents have the burden of proving that the exclusion applies, by a preponderance of the evidence. A determination that injectants do not provide substantial or purposeful thermal heat energy to the process is dispositive of this case in its entirety.

a. The Injectants Were "Incorporated as Ingredients in an Industrial Process into the Metallic Iron Produced by WCI."

The oil injectants were used as ingredients in an industrial process to produce iron and, eventually, steel, because they were in part incorporated into the metallic iron produced in the blast furnace. To the extent of such use, the injectants were not burned for energy recovery.

Respondents presented the testimony of Frederick Rorick, an expert on iron making with extensive experience in the operation of blast furnaces, including direct experience with the former WCI blast furnace in Warren, Ohio. When asked if he had an opinion regarding whether the carbon from hydrocarbon oil injectants ends up in the hot metal, Mr. Rorick responded that "[t]he answer to that is undeniably, absolutely categorically yes, indisputably." (Tr., Vol. X, p. 2408). Mr. Rorick testified that only a fraction of oil injectants, introduced at the rates used by the former WCI blast furnace, could be combusted in the three to five-thousands of a second (.003-.005 sec.) it takes to move through the raceway of a blast furnace. (Tr., Vol. X, pp. 2498-2499). The

remainder of the injectants[7] exit the raceway into the zones of the blast furnace. Mr. Rorick demonstrated this with video evidence that showed a stream of injectants entering and exiting the raceway of a blast furnace. (Tr., Vol. X, pp. 2426-2429, RX117, RX119). Mr. Rorick also described his own observations of soot from oil injectants in the hearth of the blast furnace, tracer studies that have been performed, and the authoritative work of Dr. Robert Nightengale and Dr. Veena Sahajwalla regarding the existence of carbon from injectants in the deadman zone and the hearth of the blast furnace. (Tr., Vol. X, pp. 2407-2408; 2421-2423; 2432-2436). There, the carbon from the injectants is "ultimately and preferentially dissolved in the iron", which contains four to five percent carbon. (Tr. Vol. X, p. 2406).

U.S. EPA's expert, Professor Richard J. Fruehan, agreed that iron produced in a blast furnace will contain four to five percent carbon. (Tr., Vol. V, p. 1068). In addition, although Professor Fruehan originally claimed in his written report that oil injectants are completely combusted in the raceway of the blast furnace, and thus could not contribute to the carbon in the iron being produced, during his testimony he backed away from his original opinion and acknowledged that oil injectants would not all be completely combusted, depending on their rate of injection, and that some would remain as soot. (Tr., Vol. V, pp. 1092-1093, 1143). Professor Fruehan's opinion that very little of the carbon in the iron produced in the blast furnace comes from injectants was based on his erroneous assumption that the rate of injection would be limited to 50 kilograms per ton

[7] Mr. Rorick explained that how much, in terms of percentages, of the injectants end up being unreacted as soot which will become part of the iron, depends largely on the rate of injection and how effectively the blast furnace is being operated. It can be as much as 70 percent, or as little as 10 or 15 percent with super low injection rates (Tr., Vol. X, pp. 2411-2413), but that the former WCI blast furnace operated with high injection rates. (Tr., Vol. X, p. 2497).

of hot metal. (Tr., Vol. V, p. 1093). The evidence showed, however, that the rate of injection at the former WCI blast furnace was significantly higher than this amount, and the type of lance used at the former WCI blast furnace in fact increased the likelihood that injectants would exit the raceway without being combusted. (RX114, p. 02105; Tr., Vol. X, pp. 2441, 2487).

All of the experts agreed that carbon necessarily and inevitably is a component of the hot liquid metal produced by a blast furnace. The carbon content lowers the melting point of the iron which permits it to flow when the blast furnace is tapped. (Tr., Vol. V, pp. 1094, 1168; Tr., Vol. X, p. 2504). Complainant argues that carbon should not be considered an ingredient of iron because iron is eventually used to make steel, and in the process of making steel in a basic oxygen furnace, most of the carbon is removed. This argument has no merit.[8] The recycling exclusion refers to materials used or reused as ingredients in an "industrial process," not ingredients in a final product. A substance is an ingredient in an industrial process if it is an ingredient in an intermediary product that is produced as a feedstock for use in the overall production process. In any event, not all iron is used to make steel, and not all steel has no carbon content. Indeed, Mr. Rorick, who has personal knowledge regarding the former WCI steel plant, testified that the steel produced there was a particularly high carbon content steel. (Tr., Vol. X, p. 2503).

[8] This argument also is contrary to both Professor Fruehan's testimony that "the main purpose of a blast furnace is to convert iron ore, which is for the present purposes primarily Fe2O3 into liquid iron." (Tr., Vol. V, p. 1072). It also is contrary to U.S. EPA's prior understanding of the purpose of the blast furnace as articulated in its preamble to the final BIF rule: "Iron blast furnaces are used to smelt iron ores to produce crude iron (pig iron) suitable for steelmaking." 50 Fed. Reg. 49172. Mr. Rorick agreed. (Tr., Vol. X, p. 2442).

b. The Injectants Were Used to Supply Reducing Gases, Necessary Ingredients in the Industrial Process To Produce Iron.

More significantly and purposefully, the oil injectants are used as ingredients in an industrial process to produce iron, and eventually steel, because they are used as a source of reducing gases for the reduction of iron ore to liquid iron. Reducing gases are necessary for the reduction of iron ore to liquid iron in the blast furnace.

Dr. Poveromo explained that coke plays three different distinct roles in the functioning of the blast furnace: (1) to provide the physical structure inside the blast furnace that enables the upward flow of gases and the downward flow of liquid iron; (2) to provide thermal heat energy necessary for chemical reactions to occur; and (3) to provide chemicals for the chemical reaction of iron ore to liquid iron. (Tr., Vol. XI, pp. 2537-2542; see also February 9, 2006, Report of David H. Wakelin, Ph.D.,[9] CX13, pp. 10113-10115). This chemical reaction is referred to as "reduction," and the chemicals, which are used in gaseous form, are referred to as reductants. When injectants are used in a blast furnace, they replace some of the coke that would otherwise be used to supply the chemicals, or the reductants. They do not serve to replace any of the coke that is used to supply thermal heat energy, and they do not serve to replace any of the coke that is used to supply the physical structure.[10]

Dr. Poveromo testified that liquid hydrocarbons are injected into the blast furnace to supply materials, which he called chemical reactants or chemical additives. "They simply provide a chemical additive to the blast furnace replacing a portion of the

[9] David H. Wakelin was recognized by Professor Fruehan as another individual knowledgeable in the field of iron making. (Tr., Vol. V, pp. 1172-1173).

[10] As explained above, some of the injectants do not form reducing gases and this unreacted portion forms soot that contributes to the carbon content of the molten metal iron. This is another chemical role of coke, which injectants can replace, not a thermal energy role.

chemical role of coke." (Tr., Vol. XI, pp. 2557-2558). When asked whether the purpose of the injectants was obtain heat energy, Dr. Poveromo testified "No. No. It's really for a material, a chemical reactant." (Tr., Vol. XI, p. 2554).

Professor Fruehan agreed that injectants provide chemicals used for reduction: "they're hydrocarbon carriers used for reduction, that's the chemical reaction. That's true. Okay?" (Tr. Vol. V, p. 1112).

c. Injectants Supply No Significant or Purposeful Heat Energy to the Blast Furnace.

The thermal energy needed to fuel the chemical reactions in a blast furnace comes from only two sources -- the hot blast air that is forced into the blast furnace and creates the area called the raceway, and the combustion of coke in that raceway.[11] (Tr., Vol. XI, p. 2542). The introduction of injectants into the raceway along with the hot blast air does not change this basic fact. That is because the injectants do not descend from the top of the blast furnace and are not preheated. (Tr., Vol. XI, p. 2541). As a result, any heat that theoretically would be generated from their partial combustion in the raceway is more than offset by the amount of heat energy required to bring them up to raceway temperatures. The additional heat energy required to increase the temperature of the injectants comes from the increased combustion of coke achieved by the addition of oxygen to the hot blast air. (Tr., Vol. V, p. 1097; Vol. XI, pp. 2544-2545, 2547). The injectants replace some of the coke that generates reducing gasses, but they do not replace any portion of the coke that is used to provide thermal energy to the blast furnace.

[11] The experts agreed that the only place where combustion takes place in the blast furnace is in the raceway because this is the only place where there is any free oxygen. Free oxygen is necessary for burning to occur. (Tr. Vol. XI, p. 2550; Tr., Vol. V, p. 1159).

Accordingly, injectants do not contribute any substantial or purposeful thermal energy to the blast furnace.

In support of these facts, Dr. Poveromo provided heat balance calculations for the raceway of a blast furnace that were developed from actual research undertaken by U.S. Steel, taking into account the reactions of injectants in the raceway and then calculating how much additional heat energy is needed to bring the injectants up to raceway temperature. (Tr., Vol. XI, pp. 2552-2553). If more injectants are added, it requires more compensating heat energy from another source to make up for the overall endothermic reaction of the injectants.

Dr. Poveromo testified that liquid hydrocarbons are not injected into the blast furnace for the purpose of obtaining heat energy:

> Q: Given the explanation that you've given us and based on your experience, do you have an opinion regarding whether liquid hydrocarbons are injected into the blast furnace for the purpose of obtaining heat energy?
> A. No. No. It's really for a material, a chemical reactant.
> Q. When injectants are used in the blast furnace, are they used for their thermal energy?
> A. No.
> Q. If oil injectants are used in the blast furnace as a substitute or a replacement for coke, what is their purpose?
> A. Their purpose is basically to fulfill some of the chemical role of coke. They can['t][12] fulfill all three roles of coke but at least that chemical role they can make a big dent in the amount of coke that's needed for its chemical role. . . .
> Q. But even if we just limit the question to that raceway zone, do injectants produce heat and thermal energy in that zone?
> A. On a net basis, no, no.

(Tr., Vol. XI, pp. 2554-2555). When asked if he agreed with Professor Fruehan that on balance, the injectants contribute heat energy to the reactions in the blast furnace, Dr.

[12] See, Parties' Motion to Conform Transcript and August 15, 2012 Order on Motion to Conform Transcript granting the motion with modifications.

Poveromo testified "Oh, the whole purpose of this presentation is to really show that on a net basis they do not. They simply provide a chemical additive to the blast furnace replacing a portion of the chemical role of coke." (Tr., Vol. XI, pp. 2557-2558).

Professor Fruehan actually agreed with Dr. Poveromo without directly admitting as much. For example, in the context of a question regarding the oxygen enrichment that might be used to generate the additional coke combustion necessary to offset the cooling effect of the injectants, Professor Fruehan's testimony agreed with Dr. Poveromo on this point:

> *Because these injectants are going in at room temperature and the heat that's given off by their initial oxidation is not enough to get them back up to the flame temperature* but you're heating a lot of - - if you inject only air, you're heating up a lot of nitrogen but that's just absorbing the heat whereas if you have oxygen, you don't have to heat up that nitrogen.

(Tr., Vol. V, p. 1159)(emphasis added.) Professor Fruehan subsequently declined to testify in rebuttal after listening to Dr. Poveromo's testimony.

Professor Fruehan also conceded the validity of Rudolf Jeschar and Gerrit Dombrowski's energy balance calculations[13] which demonstrated mathematically that less than a third of the *total* enthalpy of the blast furnace (not just injectants) is used for heat, or thermal, energy. "I have no objection to the mathematics and to this energy material balance." (Tr., Vol. V, p. 1117). Rather, Professor Fruehan argued that for purposes of determining whether injectants are burned for energy recovery, the chemical energy value of the materials should be considered in addition to their heat energy value.

> What I have an objection to is the circled 67.29 where he says 67 percent of the enthalpy is for reactions and it is interpreted to mean that it's not energy required. It is still energy that is required in the process and it's

[13] RX96, Summary Evaluation and Assessment of Carbon and Hydrocarbon Raw Materials for Iron Ore Reduction, Rudolf Jeschar and Gerrit Dombrowski.

> provided by the carbon and I tried to explain how that comes about, so it's the interpretation that this 67 percent is not energy as we normally think about it.
>
> We normally think about energy as heat energy. It goes beyond heat energy. There's the chemical energy, so that 67 percent should not be singled out.

(Tr., Vol. V, pp. 1117-1118).

Professor Fruehan based his opinion that injectants supply energy to the blast furnace, without differentiating heat or thermal energy, on overall energy consumption calculations such as the one used by U.S. EPA in its November 29, 1985 preamble to the final BIF rule. Such generic calculations, however, are insufficient to answer the question of whether injectants used in a blast furnace contribute significant thermal or heat energy to the process because they do not distinguish between heat or thermal energy and other types of energy. As Professor Fruehan described these generic calculations, none of which Complainant introduced into evidence and none of which are in the record, the total energy potential of all inputs into the blast furnace are taken into account without any attempt to quantify which contribute any specific measure of heat or chemicals to the process.

> [W]henever they try to quantify the amount of energy that they consume in a blast furnace, they take all of the carbon that they use and calculate the energy that would be released if that carbon is turned into CO2. . . .They total those up and that's the energy they assign to that blast furnace or that series of blast furnaces and that's where they get this number of 15, 16 gigajoules. . . . It doesn't matter if the carbon comes in with the coke. It doesn't matter if the carbon comes in with the injectants. . . . Whatever carbon or hydrogen comes in is considered to be energy input into that blast furnace.

(Tr., Vol. V, pp. 1069-1070). Professor Fruehan clarified that his own calculation that he wrote out at the hearing and these generic published calculations include what he

referred to as "chemical energy" and do not reflect the amount of heat energy contributed by any particular material input:

> That is what I mean by chemical energy. That's what AISI, International Iron & Steel Institute, and Department of Energy, that's why they say all of the carbon is converted to CO2 when I am computing the amount of energy that a blast furnace consumes and they say this is the amount of energy that's available.

Tr., Vol. V, p. 1100).[14] Again, Professor Fruehan and Dr. Poveromo appear to agree. Dr. Poveromo also explained that these energy balances are "somewhat simplistic in looking at an overall energy balance without breaking down the individual materials and what their roles are in each process and you really have to do that for each process and each material to precisely be able to say how they're being used and why they're being used." (Tr., Vol. XI, p. 2557).

Finally, Professor Fruehan suggested that the heat value of the top gas that exits the blast furnace should be considered as providing heat energy. The generation of top gasses is inevitable and not purposeful, and in any event is not affected by the use of injectants. Mr. Rorick testified that the use of injectants does not add to the volume of top gas, which is a function of the amount of hot blast air that is used. In fact, because injectants have hydrogen, which is more effective in the furnace, "you need a little bit less so there is a small decrease but you're down in the percent numbers so in the overall scheme of things one can practically same its the same." (Tr., Vol. X, p. 2447; see Tr., Vol. X, pp. 2443-2447). Nor does the use of injectants change the composition of the top gas. (Tr., Vol. X, pp. 2447-2448). Mr. Rorick further testified that the blast furnace

[14] The purpose for which these "political organizations" publish such calculations was never stated, but apparently, unlike with respect to the paper published by Mssrs. Jeschar and Dombrowski, their purpose was immaterial to Professor Fruehan. (Tr., Vol. V, pp. 1119-1122, 1195-1197; Tr., Vol. X, p. 2491).

operators do not generate top gas on purpose, and that their generation is inevitable. (Tr., Vol. XI, p. 2578). Professor Fruehan did not refute Mr. Rorick on these points and, although Mr. Rorick and Professor Fruehan both described a range of possible uses for top gas, Complainant offered no evidence as to how top gases generated at the former WCI blast furnace were utilized, if at all.

In the end, rather than rebut Dr. Poveromo, an expert with whom Professor Fruehan himself has consulted on matters related to iron making (Tr., Vol. V, pp. 1150-1151; see also Tr., Vol. V, pp. 1194-1195), Complainant now argues, for the first time, that the "chemical energy" of the reducing gases supplied by the injectants brings their use within the exception for "burning for energy recovery" in the recycling exclusion. However, saying that injectants are used for chemical energy is just another way of saying they are used for their material value, and expressions of the total enthalpy of a blast furnace do not provide any indication of the actual thermal heat energy supplied by any input to the blast furnace. In the end, Complainant's new approach to the meaning of "energy recovery," which is the only approach that might be supported by Professor Fruehan's misdirected expert opinions, has no support in the regulations as U.S. EPA has consistently interpreted them up to this point.

d. Complainant's Additional Arguments Are Without Merit.

Complainant advances several additional arguments in an attempt to bolster its assertion that injectants are burned for "energy recovery" in a blast furnace. The points Complainant makes either are immaterial, too circular to shed any light on the issue, or merely serve to further illustrate why Complainant's novel approach to the meaning of "energy recovery" is without merit.

Complainant's arguments regarding consistency with Ms. Margaret Guerriero's December 9, 2005 letter to Mr. Ernie Willis (Complainant's Initial Post-hearing Brief, pp. 52-53) can be summed up in four words: "because we say so." However, it does serve to illustrate further U.S. EPA's continued interpretation, in 2005 when Respondents were actively seeking U.S. EPA's guidance on the subject, of burning for "energy recovery" to mean burning for "heat energy," and that U.S. EPA still mistakenly believed that the use of injectants provides "heat needed to melt the iron-bearing material in the furnace." (CX47; CX13, p. 10112).

Complainant also continues to insist that because Respondents and others in industry refer to injectants as "fuels," *a fortiori* they must have been used in the blast furnace for "energy recovery." Complainant's view of the import of the use or mis-use of the word fuel in a variety of contexts found no support in even its own expert's opinions: "whether we call it a fuel, whether we call it injectant, whether we call it a reductant and to my mind it doesn't matter what we call it" (Tr., Vol. V, p. 1110; see also p. 1148).

Both Mr. Rorick and Dr. Poveromo explained the historic roots of the "fuels" terminology, why it in fact is inaccurate, and why industry is moving away from it. "In the past decade people particularly on the European side have said you really should talk more properly about reductant use or injection of reductants rather than fuels." (Tr., Vol. XI, pp. 2532-2537). Dr. Poveromo further explained industry's current thinking that actually it is important not to refer to injectants as fuels because a blast furnace operator, thinking injectants were a fuel, may tend to react inappropriately in certain operational situations. (Tr., Vol. XI, pp. 2534-2536).

It is, of course, entirely possible that the industry's own use of terminology such as fuel is one factor that led U.S. EPA to mistakenly classify blast furnaces as "flame combustion devices" back in 1983. However, as all three experts emphasized, a blast furnace is more accurately characterized as a reaction vessel, and calling injectants fuels, and simply saying that coke and injectants are burned or combusted, doesn't make it so. Today, blast furnace scientists and engineers no longer accept the idea, once commonly held, that the blast furnace is a combustion process. The outdated concept of the blast furnace as a combustion process, which resulted in the common use of words like "fuel" and "burning" when describing the process, no longer is considered accurate or appropriate. (Tr., Vol. X, pp. 2366-2368, 2438; Tr., Vol. XI, pp. 2532-2537).

Finally, Complainant argues that even if it is determined that injectants are used as an ingredient (carbon) in the production of iron,[15] the recycling exclusion nonetheless applied if they *also* provide energy, citing to its discussion of the final rule on the definition of solid waste, 50 Fed. Reg. 614. Respondents challenge Complainant's interpretation of the recycling exclusion to apply only to the use of materials *solely* for material recovery, and in fact, as discussed elsewhere in this memorandum, U.S. EPA subsequently reiterated that such an interpretation would lead to an impermissible intrusion into the production process to regulate situations where energy recovery is merely incidental, or where energy recovery is not "significant or purposeful." 50 Fed.

15 [redacted]

Reg. 49164, 49167. In any event, this argument is wholly circular and does not address the primary issue presented here, which is whether the injectants supply "significant or purposeful" heat energy to the blast furnace.

3. The Presiding Officer Need Not Defer to Any of the Interpretations of the "Burning for Energy Recovery" Exception to the Recycling Exclusion Now Advanced by U.S. EPA.

Although it is well established that an agency's interpretation of its own rules is entitled to substantial deference, this principle does not require that agency interpretations always be given controlling effect. Udall v. Tallman, 380 U.S. 1, 16 S. Ct. 792 (1965); General Carbon Co. v. Occupational Safety & Health Review Com'n., 860 F.2d 479, 483 (D.C. Cir. 1988). Certainly, the language of the preamble to a regulation is not controlling over the plain language of the regulation itself. Entergy Services, Inc. v. F.E.R.C., 375 F.3d 1204, 1209 (D.C. Cir. 2004). Where an agency's interpretation is inconsistent with the regulation and its own previous construction, such deference is not appropriate. Norfolk Southern Ry. Co. v. Shanklin, 529 U.S. 344, 356, 120 S. Ct. 1467 (2000). Deference also is not warranted when to defer to the agency's position would be to permit the agency under the guise of interpreting the regulation to create *de facto* a new regulation. Christensen v. Harris Cty., 529 U.S. 576, 588, 120 S. Ct. 1655 (2000). Furthermore, an agency's interpretation that is not based on the agency's expertise or superior understanding of an issue is not entitled to deference. Donovan v. A. Amorello & Sons, Inc., 761 F.2d 61, 63-64 (1st Cir. 1985); Long Island Care at Home, Ltd. v. Coke, 551 U.S. 158, 127 S. Ct. 2339 (2007).

a. Complainant's Interpretation is Inconsistent With U.S. EPA's Previously Articulated Interpretations.

Deference to Complainant's interpretation of the recycling exclusion which it advances for the first time in its post-hearing brief, is not required because U.S. EPA has not been consistent in its interpretation of the rule. As discussed above, U.S. EPA has previously interpreted "energy recovery" to mean the recovery of "thermal" or "heat" energy from a material when it is burned or combusted. This interpretation was expressed by U.S. EPA in its preambles to the proposed and final rules regarding the definition of solid waste directly at issue here, as well as in its preambles to the proposed and final BIF rule, which was promulgated at the same time. This interpretation was, and is, consistent with the agency's expressed interest in protecting against the risk of environmental dispersal of hazardous waste constituents and products of incomplete combustion. 48 Fed. Reg. 14472, 14482; see also, 40 Fed. Reg. 1684, 1686 ("The major risk attributable to burning waste fuels is from exposure to emissions[.]" The "chemical energy" of a material that is exchanged during a chemical reaction such as the reducing reactions that take place in a blast furnace has never been included within the meaning of energy recovery previously articulated by U.S. EPA. This is appropriate and logical, because such chemical reactions do not generate "products of complete combustion" and thus, from the standpoint of environmental protection, are of no interest to U.S. EPA. And, although U.S. EPA considered the use of Cadence product as an injectant in a blast furnace in connection with promulgating the final BIF rule, it did so based on a mistaken understanding that the injectant was burned to provide heat energy. 50 Fed. Reg. 49164, 49172. The evidence presented at the hearing overwhelmingly demonstrated that U.S.

EPA simply got its blast furnace facts wrong and its discussion of the use of Cadence product should no longer be considered useful or appropriate as guidance.

Moreover, U.S. EPA has taken multiple inconsistent positions regarding the applicability of the recycling rule where recovery of material values is involved. In its original guidance, U.S. EPA stated that "the Agency does not consider materials to be burned as fuels when both material values and energy are recovered[.]" 48 Fed. Reg. 14472, 14485, n.19. It later "withdrew" footnote 19, yet in subsequent guidance letters, U.S. EPA confirmed its original interpretation, agreeing that the recycling exclusion applied to wastes used in an electric arc furnace and in a steel manufacturing "melting process." (CX2, pp. 2837-2838) Furthermore, in its preamble to the final BIF rule, U.S. EPA suggested that it was reserving its position on the issue, choosing to leave open how it intended to interpret its rules with respect to high BTU materials. 50 Fed. Reg. 49164, 49167. The inconsistencies in U.S. EPA's positions do not require nor permit that deference be afforded the now entirely new position Complainant urges in this proceeding.

b. Complainant's Interpretation is Not Supported by the Plain Language of the Rule.

U.S. EPA's interpretation of the recycling exclusion is contrary to the plain language of the rule for at least three reasons. First, as discussed above, "burning" is commonly understood to refer to combustion in the presence of oxygen for the purpose of obtaining heat or light or power. Burning is not commonly understood to mean the utilization of material values in a chemical reaction.

Second, even if it is concluded that the injectants serve a dual purpose, U.S. EPA's interpretation is unreasonable because it reads into the rule the word "solely"

which is not in the rule and which fundamentally changes the meaning of the rule. U.S. EPA's interpretation of the terms "burning" for "energy recovery" with the word 'solely" read in, in the context of the blast furnace, creates an entirely new rule that impermissibly intrudes into the production process. U.S. EPA's attempt to promulgate new rules by issuing guidance must be rejected.

Third, although nowhere in the recycling exclusion is "energy recovery" defined, and although the recycling exclusion does not incorporate or refer to any other rule that defines energy recovery in terms of the BTU value of a material, U.S. EPA claims that the burning of material with a BTU value of more than 5,000/lb. is, automatically, burning for energy recovery. Again, U.S. EPA's attempt to promulgate new rules by issuing guidance must be rejected.

c. Complainant's Interpretation is Based on Matters Beyond U.S. EPA's Expertise.

U.S. EPA in various preambles and in its presentation of expert testimony at the hearing in this matter demonstrates that its mixed interpretations are based on subject matters that are well outside the Agency's own expertise, and in fact are outdated. Modern day blast furnace science demonstrates that the basic energy balances U.S. EPA relied upon are simplistic and have been replaced in industry use by more precise calculations, that the iron-making industry has moved beyond outdated "combustion" theories and the use of "fuels" terminology, and that when the actual production processes are examined in light of current blast furnace research and technology, the use of injectants is understood to be for their chemical values as reductants, that their reaction in the raceway is endothermic, and that they provide no net heat energy, certainly no substantial or purposeful heat energy, to the blast furnace. U.S. EPA's regulatory

interpretations, based on its obviously flawed understanding of the iron-making process, a process with which it has no expertise of its own, are not entitled to deference.

For these reasons, U.S. EPA's interpretation of "burning for energy recovery" to encompass the use of injectants in a blast furnace is entitled to no deference. Instead, it should be determined that the use of injectants in a blast furnace is not "burning for energy recovery" pursuant to 40 C.F.R. § 261.2(e)(2), such that the exclusion in 40 C.F.R. § 261.2(e)(1) applies to exclude from the definition of waste, and from RCRA regulation, the injectants purchased and stored by CIS at its facility prior to their use by the steel mill to produce iron in its blast furnace.

B. Neither Unitene LE nor Unitene AGR are Solid or Hazardous Wastes.

In the event that Complainant persuades the Presiding Officer that the use of the Unitene products in the former WCI blast furnace constitutes "burning for energy recovery," Complainant still must meet its burden of proof, by a preponderance of the evidence, to show that the Unitene products constitute first, solid wastes, and going further, hazardous wastes, when used in this manner. (May 18, 2012 Order on Motions for Accelerated Decisions, p. 27)("This is a critical jurisdictional element that must be established before any liability can attach."); see also In re General Motors Automotive - North America, No. RCRA (3008) Appeal No. 06-02, Remand Order (EAB June 20, 2008). As explained below, the evidence introduced into the record by Complainant at hearing, including both documents and testimony, was insufficient to meet this burden.

1. Any Doubt as to the Sufficiency of the Evidence Regarding the Nature of the IFF Unitene Materials Must Be Construed Against Complainant, Who Has the Burden of Proof.

As a preliminary issue, it cannot be over-emphasized that the complexity surrounding the development, production and chemical make-up of the IFF Unitene materials, and the many uncertainties, speculation and differences of opinion among the experts, all present a high hurdle for Complainant to overcome in order to satisfy its burden of proof.[16] In order to meet this burden, Complainant was required to introduce evidence that proved, by a preponderance of the evidence, that the Unitenes were solid and hazardous wastes. One thing that was made abundantly clear through the course of the hearing was that the development of the Unitene products was a complex process; one which was closely guarded by IFF and was not something to which outsiders -- including its customers, such as CIS -- generally were privy.

Complainant made the strategic decision to prosecute CIS by essentially putting IFF, the producer of Unitene, on trial *in abstentia*, initially relying only on the two responses from information requests that it received from IFF (which, though admissible, are hearsay). Complainant stuck doggedly to its initial conclusion that the Unitene materials purchased by Respondents were *listed* hazardous wastes, even when that preliminary assessment was challenged as more evidence was developed in the case through the efforts of Respondents. (Tr., Vol. IV, pp. 903-905). When confronted by the many ambiguities and questions regarding IFF's responses to information requests, Complainant had the ability to issue further requests or otherwise attempt to clarify those

[16] Complainant does not dispute that it alone bears the burden of proof to show that the Unitene materials meet the regulatory definitions of solid and hazardous wastes. (Complainant's Initial Post-Hearing Brief, p. 8).

responses through IFF. Not only did Complainant fail to do so, Complainant vigorously resisted Respondents' attempts to obtain additional information from IFF, including but not limited to Complainant's insistence that deposing the IFF witnesses was unnecessary and irrelevant. Complainant's course of conduct in this matter evidences a clear desire to avoid at all costs developing additional evidence that could contradict its skewed interpretation of the IFF responses, and thereby undermine its already-weak enforcement case against CIS.

For example, neither of Complainant's experts, Mr. Beedle nor Mr. Clark, bothered to review in detail or credit the detailed explanations from IFF's attorneys as to why U.S. EPA's assumptions and conclusions regarding its interpretation of the IFF information request responses, and the regulatory status of the Unitene materials, was incorrect. (Tr., Vol. IV pp. 817-822; Tr., Vol. VII, 1587-1589; CX56, CX57, CX58, CX60). Neither expert did any firsthand investigation, such as inspecting the IFF facility and observing the IFF production process, or even testing the material at issue. (Tr., Vol. IV, pp. 833-835; 875-876; Tr., Vol. VII, pp. 1576-1577). Neither expert spoke to or questioned anyone from IFF, or any related witnesses, such as materials broker Richard Murray. (Tr., Vol. IV pp. 819-822; 827) Even as to the IFF witnesses who were deposed at the behest of Respondents, Complainant's experts did not participate in their depositions. Even once they reviewed the IFF witness testimony, both Mr. Beedle and Mr. Clark, cherry-picked what testimony they thought helpful but then contended that other unhelpful testimony from the *same* witnesses was not credible, or simply ignored it

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[redacted] On cross examination, however, in many instances, both witnesses admitted that they did not have sufficient knowledge to back up their opinions, were uncertain about their conclusions, or otherwise lacked important facts to support the Complainant's case. (see Tr., Vol. VII, pp. 1494-1495; 1497; 1498; 1519-1520; 1595).

While Complainant may have been able to survive a motion for accelerated decision despite the lack of clarity surrounding the confusing and self-contradictory responses provided by IFF, Complainant ran the risk that the limited information it presented would be insufficient to meet its burden of proof subsequent to the hearing. That ended up being precisely what happened. Complainant's decision to try IFF *in abstentia,* on limited and incomplete information, simply backfired, and Complainant should not now be rewarded for its flawed strategy, which has left it unable to meet its burden of proof as to the Unitene materials.

2. Unitene LE and Unitene AGR Are Products or Co-Products, Not Solid (and Therefore Not Hazardous) Wastes.

In order to prove its case against Respondents, Complainant has the burden of proving, by a preponderance of the evidence, that Unitene AGR and Unitene LE each are a "solid waste" as that term is defined at OAC § 3745-50-10 (A)(107) [40 C.F.R. § 261.2]. (May 18, 2012, Order on Motions for Accelerated Decisions, p. 27). Complainant has the further burden to prove that, if Unitene AGR and Unitene LE are solid wastes, then they also are hazardous wastes as that term is defined at OAC § 3745-50-10 (A)(48) [40 C.F.R. § 261.3]. Products or "co-products" are not regulated under RCRA because they are not wastes, having not been discarded. Complainant has asserted that the Unitene materials are a regulatory by-product being burned to recover thermal

energy (or, alternatively, a commercial chemical product being burned for thermal energy recovery, and thus solid waste).[17] Complainant has the burden to prove at least one of these assertions is correct.

The basic nature of the Unitene products, which are terpene derivatives, has been presented in the course of the Parties' briefing on their respective Motions for Accelerated Decision, their Pre-Hearing Briefs, and the evidence introduced over many days at the hearing (see especially RX130, Written Testimony of Dr. Bruce M. Sass; Depositions of Thomas Guido (CX161), David Shepherd (CX162) and Donald Du Rivage (CX164), and associated hearing testimony (Tr., Vol. XII, pp. 2585-2695)). Rather than recite the overall history and nature of these materials, Respondents will summarize only the major facts and issues pertinent to the question of whether the Unitene materials meet the regulatory definition of a "by-product," which Complainant must prove to win its case.

A product or co-product is not a waste and is not subject to RCRA regulation. However, "by-products" can be viewed as a "recycled," and thus "discarded," material and therefore sometimes are regulated as a solid waste, depending largely on their end use. "By-products" are defined under the RCRA regulations as:

> a material that is not one of the primary products of a production process and is not solely or separately produced by the production process. Examples are process residues such as slags or distillation column bottoms. The term does not include a co-product that is produced for the general public's use and is ordinarily used in the form it is produced by the process.

[17] Complainant now argues for the first time that Unitene AGR is a "sludge" because it was identified by IFF as D001 and D035 waste when it was discarded. (Complainant's Initial Post-Hearing Brief, p. 39). As explained infra, the Unitene materials were not listed wastes.

OAC § 3745-51-01(C)(3) [40 C.F.R. § 261.1 (c)(3)]. The preamble[18] to the definition further explains that it encompasses "those residual materials resulting from industrial, commercial, mining and agricultural operations that are not primary products, are not produced separately, and are not fit for a desired end use without substantial further processing." That same preamble also later states that "by-products are materials, generally of a residual character, that are not produced intentionally or separately, and that are unfit for end use without substantial processing." Id. at 625.

While "co-products" are not explicitly defined under the regulations, the preamble does provide some further guidance as to what would be considered a co-product: co-products are "materials produced intentionally, and which in their existing state are ordinarily used as commodities in trade by the general public." Id. at 625. Significantly, the preamble to the regulations specifically acknowledges that there are situations where "a number of co-products are being produced." Id.

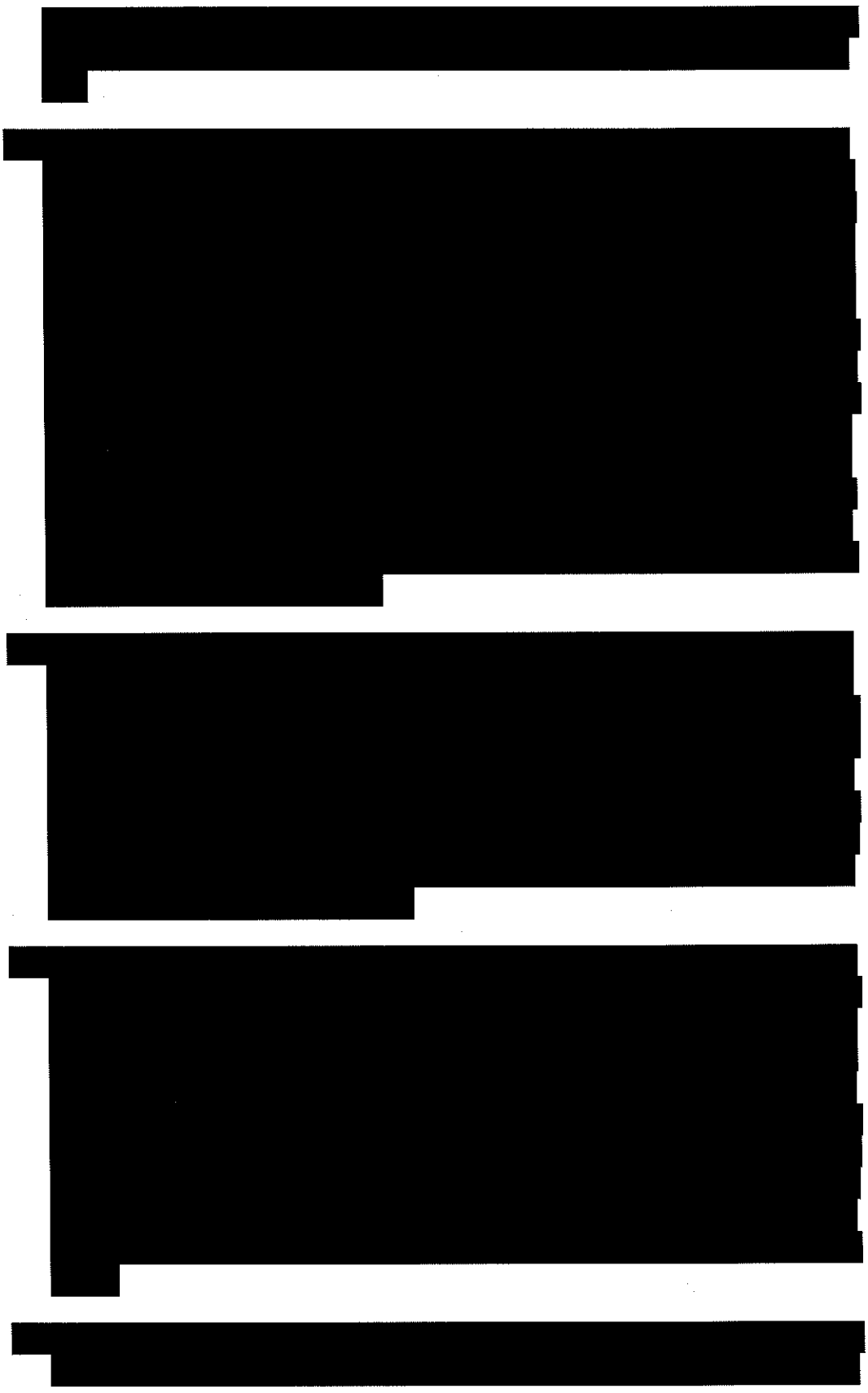
Thus, these factors are the ones by which a material must be judged as to its nature as a product/co-product or by-product. As was noted in Respondents' Motion for Accelerated Decision, few specific examples of either co-products or by-products are given in either the regulations themselves or in the preambles. (see Respondents' Joint Motion for Partial Accelerated Decision, p. 39). Examples of co-products given are sulfuric acid produced from smelters' metallurgical acid plants; metals produced in tandem with smelting operations (e.g., lead recovery from primary copper smelting); and kerosene/asphalt/pitch produced from petroleum refining. Id. Examples of by-products are distillation column bottoms, reactor cleanout materials, slags and drosses. Id.

[18] Hazardous Waste Management System; Definition of Solid Waste, 50 Fed. Reg. 614-01, at 618 (proposed January 4, 1985)(to be codified as 40 CFR Parts 260, 261, 264, 265, and 266).

Whether a particular material should be properly identified as a "co-product" or a "by-product" is a case-by-case determination. Indeed, U.S. EPA has recognized that this determination involves the consideration of many factors, and that some materials do not "fit neatly into any single category." (RX36, June 2, 1993 Letter from U.S. EPA to John C. Chambers concerning the status of disulfide oil used in the production of sulfuric acid as a co-product). As the evidence showed at hearing, and as discussed further below, the Unitene materials are much more akin to products or co-products than the types of materials typically considered by-products that merit regulation under RCRA.

a. The Evidence From IFF's Witnesses and Documents, as Well as Other Independent Sources, Supports Unitene's Status as a Useful Product.

The record is replete with evidence from the party in the best position to explain the nature of Unitene (which is, of course, IFF), that Unitene is a product or co-product, and not a waste of any kind (unless it is being thrown away). As the evidence introduced at the hearing and in the IFF depositions showed, on balance, the Unitene materials are much closer to the regulatory definition of products or co-products, than by-products:



All of this is evidence of IFF's intent to develop Unitene as a product. The testimony of the IFF witnesses was that the Unitene products were consistently handled as valuable commodities, with the utmost concern for their product integrity, and were not produced or handled as a waste. This concern and treatment was carried through by CIS, which, having paid competitive prices to obtain the material,[19] also handled this material as a valuable product.

[19] Complainant makes much of how IFF priced Unitene, asserting that Unitene could not be a product because IFF "lost" money on it. (Complainant's Post-Hearing Brief, at 23-24). Not only, however, is the scant evidence presented at hearing on the pricing issue woefully inadequate to establish the pricing of Unitene through the duration of the purchases by CIS at issue in this case, whether IFF "lost" money on Unitene is purely a matter of semantics,

b. IFF's Intent to Create Unitene as a Product is Not Negated By Its Use of Previously Discarded Materials to Create Such a Product.

As noted above, the evidence presented at hearing shows that IFF discussed Unitene specifications with customers, costed the potential product, tested the marketplace to determine if the products were viable, provided customers with MSDSs and Certificates of Analysis for the Unitene products, engaged its sales force to sell the product, and made modifications at its plant in order to store the new Unitene AGR product. All of this is evidence of IFF's "intent" to produce these products.

In response, Complainant faults IFF for utilizing materials of a type that it had *previously* discarded as raw materials to create the Unitene products. Clearly, there is a strong public policy under RCRA to encourage industrial manufacturers to do just that, as evidenced by the Georgia Department of Natural Resources required reporting for waste minimization practices. (E.g., CX185; CX186; CX187). Perhaps more important, however, is the fundamental issue of whether it is permissible under RCRA for a company such as IFF to take material streams that it was *already* producing and use them as feedstock to produce new useful products, even though *at one time* it had no practical use for them. (see 50 Fed. Reg 614, 633 (distinguishing recovery of materials from the end-product of a process (as in metal recovery from secondary materials) from secondary materials "used as ingredients to make new products without distinct components of the materials being recovered as end-products. The former situation is reclamation; the latter

[redacted] Thus, CIS was unaware of IFF's internal cost considerations and such issues had no bearing on CIS's understanding of Unitene as a useful product, as opposed to a waste material.

is a type of direct use that is usually not considered to constitute waste management."); Id. at 637-38 (secondary materials used to make new products were not solid wastes and outside RCRA jurisdiction).

The evidence presented at trial illustrates the deliberate efforts IFF undertook to develop Unitene as a product from materials that it used to discard along with its organic waste stream.[20] [redacted] This action would have been completely unnecessary if Unitene AGR was simply the same combination of various organic wastes from the Augusta plant with a fancy label, as Complainant suggests. Mr. Clark admitted that from IFF's perspective, [redacted] Significantly, as explained at hearing, [redacted] Even Mr. Beedle admitted that the fact that these materials were previously disposed of as waste under certain waste codes, did not answer the question of whether new material that was not discarded by virtue of being incorporated into a new product and not thrown away, would be a waste. (Tr., Vol. IV, pp. 778-779).

[redacted]

Simply put, RCRA does not preclude a company from making a product out of any *type* of material that it once discarded as a waste. Mr. Clark offered no explanation or justification for his assertion that every new product developed by a company from its existing stock of raw material is illegitimate if it did not require a 'major capital investment' to do so, and his opinion simply has no support or basis in the regulations. In fact, Mr. Clark admitted that nowhere in the regulations is there a requirement that there must be significant capital investment or even process changes in order for a material to become a co-product. (Tr., Vol. VII, pp. 1578-1579). To accept Complainant's position would mean that regardless of how manufacturing processes and markets evolve, materials left unused by existing production processes can never be used, but must forever be deemed by-products, and thus, wastes.

c. Analogous Examples from U.S. EPA Determination Letters and Expert Testimony Support The Presumption that the Unitene Materials Are Products.

Because the issue of whether a particular material should be properly identified as a "co-product" or a "by-product" is a case-by-case determination, and so few specific examples are given in the regulations or preambles to the regulations, prior determinations by U.S. EPA as to the nature of other prospective products are relevant and instructive. While requesting an *a priori* by-product/co-product determination from U.S. EPA before selling or handling a product is by no means legally required under RCRA, where concerned parties have requested such guidance from U.S. EPA, the Agency's responses provide guidance that offers relevant insight into the viewpoint of the regulating entity.

As discussed in detail in Respondents' Motion for Accelerated Decision briefing, several guidance letters issued by U.S. EPA over the years illustrate how U.S. EPA has examined these types of facts to make the co-product/by-product determination. Of these, several are closely analogous to the present case and help explain why the IFF Unitene material qualifies as a co-product, and not a by-product. (see RX34, July 9, 1992 letter from U.S. EPA to Mr. John C. Chambers (U.S. EPA determining that a coal tar distillate marketed for fuel use by Koppers Industries, Inc. was a co-product, and not a by-product); RX35, letter dated February 19, 2002, from U.S. EPA to Ohio EPA (U.S. EPA determined that a purge monomer generated from NOVA Chemicals' polystyrene manufacturing process was a co-product and not a by-product); RX36, Letter to Mr. John C. Chambers from U.S. EPA, dated June 2, 1993 (U.S. EPA determined that disulfide oil was, on balance, a co-product); RX37, January 31, 1995 letter from U.S. EPA to Bruce Gelber of the U.S. Dept. of Justice (U.S. EPA found that a product named LX-830, which was created from a reaction of petroleum and/or coal tar naptha feedstocks used in a resin production process, was a co-product under the regulations, even though it was not the "principle product of the process."); RX111 letter dated June 25, 1987, from U.S. EPA to Mitchell Martin of Preservation Products, Inc. (U.S. EPA determined that the concentrated hydrochloric acid manufactured from hydrogen chloride gas "which is a co-product of pentachlorophenol manufacture" was a co-product)). Notably, Complainant's expert Mr. Clark did not review any of these guidance letters in evaluating the facts and developing his opinions in this case (Tr., Vol. VII, p. 1487), and these guidance documents otherwise have been studiously ignored or dismissed by Complainant.

Thus, as set forth in the cited guidance letters, all of which are in evidence in this case, the Presiding Officer can determine whether, on balance, the Unitene materials resemble co-products or by-products, based in part on the prior positions taken by U.S. EPA in other cases. Respondents respectfully suggest that, overall, the Agency has not set a high bar for finding that materials meet the criteria for products as opposed to by-products, and these letters should be found persuasive by the Presiding Officer.

In addition to the guidance letters, other analogies to other co-products are also helpful. For example, Respondents' terpene expert, Dr. Sass, testified that the Unitene materials at issue in this case are quite analogous to the several differing co-products produced by distillation of petroleum, as specifically noted in the preamble. (RX130, Written Testimony of Dr. Bruce Sass, pp. 15-17). While Complainant's expert, Mr. Clark, attempted to refute this contention, Mr. Clark's suggestion that the analogy was unfounded simply because petroleum distillation is generally a more complex process, falls far short of the mark. (Tr., Vol. VII, pp. 1478-1480).

In sum, considering the wide variety of materials that have been considered and determined by U.S. EPA to be co-products, many of which are analogous to Unitene and, based on the undisputed facts in this case, Unitene qualifies as a co-product, not a by-product. As such, it is not a solid waste, and therefore not a hazardous waste.

d. Dewatering Unitene Does Not Constitute "Substantial Processing."

As noted above, one of the factors for evaluating whether a material is a product/co-product or a by-product is whether the material is fit for end use without "substantial processing." 50 Fed. Reg. 614 at 625. "Substantial processing" is not defined in any of the RCRA regulations, or even in the preambles. In a sign of

desperation, Complainant asserts that the fact that some Unitene required dewatering during the unloading process at the CIS facility constitutes "substantial processing." (Complainant's Post-Hearing Brief, at 19-20). Once again, Complainant grossly overreaches in an attempt to capture Unitene under RCRA jurisdiction.

The evidence adduced at hearing shows that while the CIS facility could remove excess water from incoming shipments of Unitene (Tr., Vol. IX, pp. 2200-01), there was no evidence that any specific one of the Unitene shipments required excess water to be removed:

> Q. Can you tell me a little bit about the Unitene LE and the Unitene AGR?
> [***]
> A. It's great stuff. Good material.
> Q. And what do you mean by great stuff and good material?
> A. It was thin, easy to heat, clean and the BTUs were always below spec.
> Q. And these were the types of materials that are ideal for the blast furnace?
> A. Yes.
> Q. Did CIS ever treat or process the Unitene materials?
> A. No.
> (Tr., Vol. IX, pp. 2206-07).

Complainant introduced no evidence to the contrary. Even if CIS did dewater some of the Unitene shipments, and this procedure could somehow be deemed "processing," it is clear that these activities cannot be in any way said to be "substantial." Complainant's attempt to fit such a square peg into a round hole belies the weakness of its case in this respect, and its argument that Unitene is a by-product for this reason should be rejected.

e. The Opinions of Complainant's Expert Mr. Clark Are Largely Not Credible.

Complainant's expert witness Mr. Clark is not a chemist and has no specific experience working with terpenes. (Tr., Vol. VII, p. 1489; CX169 (Resume of David Clark)). His opinions regarding Unitene are largely not supported by the facts and consist of unproven assertions and assumptions, as noted below. This "evidence" is insufficient to meet Complainant's burden of proof.

i. Neither Unitene LE nor Unitene AGR is a "Distillation Column Bottom."

Given that "distillation column bottoms" are specifically referenced in the by-product definition, it was no surprise that in Complainant's Motion for Accelerated Decision briefing, and in the testimony presented at hearing by its expert Mr. Clark, Complainant tried to establish that both of the Unitene materials were "distillation column bottoms" and therefore squarely met the definition of "by-product." Because there exists no regulatory definition of "distillation column bottoms," however, Complainant relied heavily on the testimony of its expert, Mr. Clark, to assert that the Unitene products both fit into this category. Mr. Clark' testimony in this regard was not credible.

First, Mr. Clark could not deny that in his first declaration in support of Complainant's Motion for Partial Accelerated Decision as to Liability, he did not mention distillation column bottoms at all, and made no attempt to tie the Unitene materials into the regulatory definition of by-product on this basis. (Tr., Vol. VII, p. 1541). Rather, Mr. Clark initially relied on his "malformed isomer" theory, which he later abandoned in favor of his new theory, which was first presented in Complainant's

Response to Respondents' Motion for Accelerated Decision. (Tr., Vol. VII, pp. 1563-1565). When confronted with the discrepancy over such a fundamental theory being absent from his first Declaration, if in fact such a point was so obvious and indisputable, Mr. Clark could offer no colorable explanation. (Tr., Vol. VII, pp. 1543-1545). This alone should cause the Presiding Officer to assess Mr. Clark's testimony with extreme skepticism.

Second, and more importantly, Complainant's contention that the "bottom fraction" or "heaviest fraction" from IFF's distillation columns meet the regulatory concept of "distillation column bottoms" simply has no credible support. Complainant's argument in this regard is based solely on the testimony of Mr. Clark, who cited no authority, regulatory definitions, guidance, trade publications, journals, treatises or specific examples to support his opinion. Mr. Clark's statement is mere *ipse dixit* ("because I said so").

The terms "still bottoms" and "distillation column bottoms" are not defined in the RCRA regulations, but they are used often with respect to solvent recovery operations, in which "still bottoms" clearly contain the intrinsically waste-like sludge that is removed from spent solvents in order to reclaim useful material. 40 C.F.R. § 261.31. References to "distillation bottoms" similarly suggest residual, waste-like material. 40 C.F.R. § 261.32. (see also 50 Fed. Reg. 614 at 630 (contrasting co-products from petroleum refining such as kerosene, pitch or fuel oil with residual materials such as tank bottoms (K052 waste)). While Mr. Clark pointed to some references to Unitene as "bottoms" by IFF plant employees, such casual shop-talk was not intended to have regulatory significance, and is insufficient to prove that either Unitene LE or Unitene AGR are

residual "distillation column bottoms." (Tr., Vol. VII, pp. 1406-1407). Rather, the testimony from IFF personnel and the supporting facts in the record -- as Mr. Clark admits -- indicate that Unitene was a clear liquid and did not contain sludges or residues of any kind. (Tr., Vol. VII, p. 1546; CX161 (Guido Deposition), p. 024867, 024872, 024949-024950; CX162 (Shepherd Deposition), p. 025295-025996, 025307; see also Tr., Vol. IX, pp. 2205-2206). There is simply no evidence in the record that suggests that Unitene consists of or is produced from "still bottoms."

Moreover, Mr. Clark's application of his "bottoms" theory to the Unitene production process is completely subjective and selective as to which part of which Unitene production sub-process he chose to highlight to prove his point. For example, Mr. Clark opined [redacted]

[redacted]

Mr. Clark's theory also leads to illogical conclusions when applied to other common chemical manufacturing processes. As explained by Dr. Sass, Unitene is no more a still bottom than heavy fuel oil is a still bottom resulting from the distillation of petroleum, or molasses is a still bottom resulting from the refining of cane sugar. (RX130, pp. 17-19). Neither heavy fuel oil nor molasses is volatilized in their respective production processes and both would be considered "bottoms" under Mr. Clark's definition, but both substances are universally acknowledged as products, not by-products or wastes. Mr. Clark admits that the bottom of a crude oil column is quite viscous and almost tar-like as opposed to, for example, Unitene LE which is a clear liquid. (Tr., Vol. VII, pp. 1403-1403). In sum, Mr. Clark admitted that none of the Unitene materials resemble materials commonly referred to as "still bottoms." (Tr., Vol. VII, pp. 1546-1547).

Simply put, Mr. Clark's "still bottom" theory is one of convenience and semantics, not science, and should be rejected by the Court.

ii. Mr. Clark Failed to Prove that Unitene Contains MEK, Ethylbenzene, or Other Significant Contaminants.

Complainant, primarily through its witness Mr. Clark, tried but failed to prove by a preponderance of the evidence that contaminants such as Methyl Ethyl Ketone (MEK), ethylbenzene, or other contaminants of concern (such as those listed in 40 CFR 261 Appendix VIII), were contained in Unitene. Mr. Clark admitted that he had seen no documents that were provided by IFF to CIS -- or indeed any other documents -- that

indicated the presence of such contaminants in Unitene. (Tr., Vol. VII, pp. 1516-1518). At most, Mr. Clark speculated that, based on the deposition testimony of certain IFF witnesses, under certain circumstances such contaminants could have been introduced. (Tr., Vol. VII, pp. 1462-1465). [redacted] [21] As explained by the IFF witnesses, Mr. Clark also misinterpreted the supposed reference to MEK in Unitene from the Georgia documents according to the IFF witness testimony (Tr., Vol. XII, pp. 2640-2650, 2663-2665), which Clark never addressed in a rebuttal.

[redacted]

iii. Mr. Clark Changed His Definition of "Residue" at Hearing.

In yet another example of Mr. Clark's shifting opinions, Mr. Clark attempted to refute Respondents' assertion that the Unitene materials are not "residual" in character because they contain no solid or semi-solid material as would a typical sludge or still bottom. In essence, he suggested a new definition of "residue" that does not actually require any "residue" to be present in the material:

> Because Unitene is generated by means of a relatively simply [sic] distillation, in which is it is the heaviest fraction, Unitene includes organic compounds with a range of molecular weights. Accordingly, the heaviest constituents of the column, which would normally form a solid residue, are dissolved by the chemicals having a lower molecular weight. For this reason, no solid or semi-solid residues are visible in Unitene as it would be visible in crude oil distillation bottoms. However, Unitene constitutes a residual column bottom nonetheless.

(Complainant's Response to Respondents' Motion for Accelerated Decision, p. 19, n. 11)(internal citations omitted).

Mr. Clark's theory seemed to be that, if you boiled down Unitene (or, for that matter, just about anything else with dissolved solids in it), you would be left with some type of solid "residue," and therefore Unitene qualified as such as "residue," even if the liquid had not actually been reduced to solid. (Tr., Vol. VII, p. 1554). Dr. Sass, however, aptly refuted Mr. Clark's "dissolved residue" theory:

> The Unitenes are mixtures of molecules with a range of molecular weights and vapor pressures. Mr. Clark is expected to argue that while they are not solid, certain components within the mixture would be solids if they were isolated from the mixture and rendered in their pure forms. This statement is equivalent to recognizing that gasoline is a complex mixture of hydrocarbons wherein certain hydrocarbon components would be solids at room temperature if they were present in their pure forms. For example, naphthalene, an ingredient in moth balls and a solid at room temperature, is a component of gasoline and most other petroleum fuels. However, naphthalene and many other polycyclic aromatic hydrocarbons (PAHs) that are solids at room temperature are present in liquid fuels because of

> solvency by lower molecular weight molecules in the fuel mixture. Similarly, terpene mixtures may contain citronellol, for example, along with other monocyclic terpenoids and terpenes. *** [N]either naphthalene in gasoline nor citronellol in terpenes will ever spontaneously separate from their mixtures and become solids, either in a car's gasoline tank, or in a barrel of Unitene. Even if that could happen (which would defy the laws of thermodynamics), the result in the case of terpenes would be a pleasant smelling, insect-repelling, edible wax-like solid. It would not be anything akin to sludge-like material containing heavy metals, reactives, or spent solvents, as described in the RCRA waste codes.

(RX130, pp. 21-22). Unitene is no more a residue because it contains "dissolved solids" than saltwater is a residue because it contains dissolved salt. Thus, Mr. Clark's suggestion that "dissolved" solids contained in Unitene give Unitene a "residual character" was nonsensical, and did not prove that the Unitene materials are solid wastes.

At hearing, Mr. Clark then came up with a new definition of "residue" to mean simply "that which is left behind." (Tr., Vol. VII, p. 1401). Essentially, this is his "distillation bottom" argument redressed. Similar to that argument, Mr. Clark asserted at hearing that whatever the bottom distillation fraction might be in a particular column, that material would be "residual." This argument suffers from the same fundamental defect as Clark's distillation column bottom argument, in that the bottom fraction that becomes the desired Iso-Precyclomone would be, at one stage in the process, a "residue," and thus, a by-product, under Mr. Clark's nonsensical definition. (see Tr., Vol. XII, pp. 2679-2680, testimony of David Shepherd disputing that Unitene LE could be considered a "residue."). Such a scientifically inconsistent opinion, grounded in semantics instead of facts, cannot be utilized by Complainant to meet its burden of proof.

3. Unitene is Not a Discarded Commercial Chemical Product.

Complainant's fall-back position is that even if the Unitene products are not regulatory by-products, they are commercial chemical products that are not being used for their original intended use. The issue here is whether the Unitene products were used for their original intended purpose. 40 C.F.R. § 261.33.

The evidence presented at hearing proved conclusively that the Unitene products were produced by IFF and sold as a product for industrial use. [redacted] IFF developed the product with this particular use in mind, even if IFF also contemplated that other customers would use Unitene for a different use, such as a natural solvent. Thus, even if Complainant's interpretation of 40 C.F.R. § 261.33 is correct, because IFF understood from the beginning that WCI intended to use Unitene as a carbon replacement, that use is a legitimate, "normal" use of Unitene, and does not equate Unitene to a recycled waste.

The products were new, *unspent* material when sold, were not wastes, and had not been discarded. If Complainant were determined to have sweeping jurisdiction over the production and sale of the Unitene products, such that Complainant could dictate to producers and consumers what is the "normal" use of their products, this would amount

to an impermissible intrusion into the production process and commerce well beyond Complainant's authority under RCRA.

4. Even if the Unitenes Are Deemed to Be Solid Wastes, Only Unitene LE is a Characteristically Hazardous Waste.

Even if the Presiding Officer determines that the Unitenes were solid wastes under one of Complainant's strained applications of the RCRA regulations to the facts of this case, only Unitene LE, not Unitene AGR, exhibited a hazardous characteristic, namely, ignitability. Once again, it is Complainant's burden to prove that a solid waste is a listed or characteristic hazardous waste to implicate the hazardous waste regulations under 40 CFR 261.2. Given that Complainant never tested the Unitene materials firsthand, the only information regarding the alleged hazardous nature of the Unitenes was what was provided by IFF.

Respondents do not dispute that the evidence in the record shows that [redacted] On the other hand, however, [redacted] Complainant's reliance on waste codes associated with the organic waste stream that was produced by the IFF Augusta Facility, or even spare Unitene AGR itself when it was disposed of during a startup period for the product, is also of no avail[redacted]

[redacted] One might quibble about whether this was a good industrial practice (although Mr. Beedle actually lauded it as a suitably cautious approach to waste management, Tr., Vol. IV, pp. 946-48), but miscoding this material (along with, apparently, every other industrial waste stream from the plant) as hazardous waste does not prove that Unitene was a hazardous waste any more than coding it as a non-waste would prove that it is a non-waste. (Tr., Vol. IV, pp. 783-87, 849-51). As explained above, there is no evidence to suggest that Unitene AGR contained MEK resulting from spent solvent use (D035), was ignitable (D001), or otherwise contained or was produced using spent solvents (F003, F005). IFF witnesses more than adequately explained these apparent issues, leaving Complainant once again with no credible evidence to meet its burden of proof. Thus, at most, Unitene LE, but not Unitene AGR, should be deemed hazardous waste.

5. Alternatively, The Use of Unitene LE And Unitene AGR For Energy Recovery Is Excluded From RCRA Regulation Because They Are Fuels.

As was extensively addressed in the briefing on Respondents' Joint Motion for Accelerated Decision, Respondents maintain that an alternative approach to analyzing the regulatory implications of using the products at issue in this case as injectants in a blast furnace is to consider them as fuels. If the materials are fuels, they can be legitimately recycled by being burned for energy recovery because burning for energy recovery would be their normal use. 40 C.F.R. § 261.2(c)(2)(ii). Respondents have consistently pointed out through the course of this case that Complainant, having argued vigorously that the injectants are "fuels," cannot argue in the next breath that these same injectants are not "fuels," when that definition no longer fits Complainant's desired regulatory outcome.

At hearing, Respondents presented the testimony of Dr. Sass, who was qualified as a terpene expert, and who testified that the Unitene materials could easily be characterized as fuels, not only due to their high carbon content, but because they were derived from turpentine, which had previously been designated as a fuel by U.S. EPA. (See generally, Tr., Vol. VIII, pp. 1598-1714; RX130, pp. 13-14).[22] In addition, Respondent placed into evidence various U.S. EPA guidance letters and offered several regulatory preambles for judicial notice that discuss how substances that resemble fuels, such as turpentine, even if not off-specification or "benchmark" fuels themselves, can be deemed fuels and can be burned for energy recovery without running afoul of RCRA. (See RX87; RX90-94; 63 Fed. Reg. 33782 (June 19, 1988), "Hazardous Waste

[22] The classification of the Unitene products as terpene derivatives cannot be seriously disputed. While Complainant at hearing tried to establish that the Certificates of Analysis showed that the Unitene products contained only a small percentage of specifically-identified terpenes (such as linalool), this contention relied on a misreading of the Certificates of Analysis by Complainant's witnesses (both non-chemists) as aptly explained by Dr. Sass, Respondents' expert analytical chemist. (Tr., Vol. VII, pp. 1614-1623).

Combustors" a/k/a the 'Comparable Fuels' rule (noting that turpentine qualified as a traditional fuel, even if it was not a "benchmark" fuel)). As previously noted by Respondents, these sources support the proposition that Unitene does not have to meet the criteria for either off-specification fuel or benchmark fuel in order to qualify as a fuel for the purpose of 40 C.F.R. § 261.2. (See Tr., Vol. IV, p. 755 (Mr. Beedle acknowledging that there are benchmark fuels and then other fuels that could qualify under the Comparable Fuel Rule on a case-by-case basis); pp. 769-770 (Mr. Beedle acknowledging historical use of turpentine as a fuel)).

Finally, Complainant's suggestion that Unitene could have perhaps qualified as a comparative fuel, if only IFF had submitted the proper paperwork, similarly misses the mark. Based on the facts in the record, one of the most important factors in determining whether Unitene could have been qualified as a comparable fuel is whether any contaminants, such as Appendix VIII contaminants, are present in Unitene in excess of typical fossil fuels. They are not. (See 63 Fed. Reg. 33782 at 33783 ("Given that a comparable fuel would have legitimate energy value and the same hazardous constituents in comparable concentrations to those in fossil fuel...classifying such material as a fuel product and not as a waste promotes RCRA's resource recovery goals without creating any risk greater than that posed by the commonly used commercial fuels."); see also 50 Fed. Reg. 614 at 629 (explaining that primary impetus for regulating burning of secondary materials is to avoid combustion of materials containing high concentrations of Appendix VIII constituents and which are "significantly different" in composition from fossil fuels.); RX37 (LX-830 material containing no hazardous constituents posed no greater danger than combusting traditional fossil fuels)). The evidence in the record does

not suggest that burning Unitene is any different, or less desirable, than burning any traditional fossil fuels. The evidence supports just the opposite. [redacted]

In conclusion, it should be noted that Complainant has gone to great lengths at every turn to characterize Unitene as a "fuel" in this case -- right up until the point in the regulatory analysis where that characterization would lead to the conclusion that burning it in a blast furnace did not violate RCRA after all. If Unitene is to be treated as a fuel under one subset of the regulations, it should be treated as a fuel under 40 C.F.R. § 261.2 (c)(2)(ii), which would then exclude it from the definition of solid waste.

III. AFFIRMATIVE DEFENSE: FAIR NOTICE DOCTRINE

The fair notice doctrine precludes liability for CIS's receipt of the single shipment of phenol column bottoms from JLM Chemicals on November 21, 2005. This is because, up until December 20, 2005, Respondents reasonably, and in good faith, interpreted the recycling exclusion to apply to the injection of high carbon-containing materials into the blast furnace, and they believed that Ohio EPA likely would concur with that interpretation. Not only did the plain language of the regulations support Respondents' interpretation, but both the Louisiana Department of Environmental Quality and the Ohio EPA had provided some preliminary indications of their concurrence. The limited regulatory guidance materials that were accessible at the time, including the discussion of Cadence product found in the Federal Register, were equivocal, inherently contradictory,

or arguably inapplicable. Respondents have the burden of proof with respect to this defense.[23]

Due process requires that parties receive fair notice before being deprived of property. See Mullane v. Central Hanover Bank & Trust Co., 339 U.S. 306, 314, 70 S. Ct. 652, 657, (1950). The due process clause thus "prevents . . . deference from validating the application of a regulation that fails to give fair warning of the conduct it prohibits or requires." Gates & Fox Co. v. OSHA, 790 F.2d 154, 156 (D.C. Cir.1986). In the absence of notice—for example, where the regulation is not sufficiently clear to warn a party about what is expected of it—an agency may not deprive a party of property by imposing civil or criminal liability. "The fair notice concept has been recognized in the civil administrative context, and is now thoroughly incorporated into administrative law." United States v. Southern Indiana Gas and Electric Co., 245 F. Supp.2d 994, 1010 (S.D. Ind. 2003).

The test for the fair notice doctrine has been stated as:

> If, by reviewing the regulations and other public statements issued by the agency, a regulated party acting in good faith would be able to identify, with "ascertainable certainty," the standards with which the agency expects parties to conform, then the agency has fairly notified a petitioner of the agency's interpretation.

General Electric Co. v. U.S. EPA, 53 F.3d 1324, 1329 (D.C. Cir 1995). Four principle factors should be taken into account: 1) the text of the regulations; 2) the regulations as a whole; 3) the regulatory history or agency interpretive guidance; and 4) Respondents' inquiries into the meaning of the regulation. These factors must be viewed from the

[23] Complainant misleadingly suggests that Respondents waived their fair notice defense. (Complainant's Initial Post-hearing Brief, p. 123, n. 46). Respondents have not waived their defense, as the Presiding Officer already explained to Complainant's counsel at the hearing. (Tr., Vol. VIII, pp. 622-628).

perspective of the regulated party, not the agency. General Electric Co. v. U.S. EPA, 53 F.3d 1324, 1329 (D.C. Cir 1995); United States v. Southern Indiana Gas and Electric Co., 245 F. Supp.2d 994, 1010 (S.D. Ind. 2003); United States v. Hoechst Celanese Corp., 128 F.3d 216, 224-230 (4th Cir. 1997).

Thus, in Satellite Broadcasting Co. v. FCC, 824 F.2d 1 (D.C. Cir. 1987), the FCC dismissed Satellite's application for a microwave radio station because it was filed in the wrong location, according to the FCC's interpretation of its regulations. But, the specific regulation governing the filing of the application was silent regarding the appropriate location to file, and other regulations offered "baffling and inconsistent" advice. Id. at 2. Assuming "arguendo" that the FCC's interpretation was permissible, the court nonetheless ruled that the FCC should not have dismissed Satellite's application: "[T]he Commission through its regulatory power cannot, in effect, punish a member of the regulated class for reasonably interpreting Commission rules. . . . The agency's interpretation is entitled to deference, but if it wishes to use that interpretation to cut off a party's right, it must give full notice of its interpretation." Id. at 4.

In General Electric Co., 53 F.3d 1324 , the D.C. Circuit found that the U.S. EPA did not give fair warning of its interpretation of the regulations because the regulations and other policy statements were unclear and subject to disagreement within the agency. 53 F.3d at 1333-34. In General Electric, the court considered factors including that the agency's interpretation strayed from the common understanding of words used in the regulation, and that on their face, the regulation did not prohibit the conduct at issue.

In Rollins Environmental Services, Inc. v. U.S. EPA, 937 F.2d 649, 651 (D.C. Cir. 1991), as in this case, the U.S. EPA accused the petitioner of failing properly to

incinerate a solvent that it had used to rinse out containers that had once contained PCBs. The relevant rule stated that "[t]he solvent may be reused for decontamination until it contains 50 ppm PCB. The solvent shall then be disposed of as a PCB in accordance with § 761.60(a)." Id. (citation omitted). Rollins reused the solvent several times, but it never reached a concentration of 50 ppm PCBs, and so Rollins disposed of the solvent in a way that was not TSCA-approved. The D.C. Circuit held that U.S. EPA's interpretation of the regulations was permissible, but it found that the language of the regulation was ambiguous and that both U.S. EPA's and Rollins' interpretations were reasonable. The court noted that "significant disagreement" existed among U.S. EPA's various offices regarding the proper interpretation of the rule. Id. at 653. Based on this, the court concluded that the ambiguity of the regulation justified rescinding the fine.[24]

In this case, application of the fair notice doctrine requires that Respondents be found not liable with respect to CIS's receipt of the single first shipment of phenol column bottoms from JLM Chemicals, Inc. on November 21, 2005. As the evidence shows, the approval form for the JLM shipment was issued on November 8, 2005. (CX7 p. EPA6835). The single JLM shipment was received approximately two weeks later on November 21, 2005. (CX1 p. EPA1615). Mr. Bentfeld testified that once the approval letter for the material is issued, the sales personnel are no longer involved with scheduling the shipment and would have no idea when a material would be arriving at the

[24] The court rescinded the fine under TSCA's mitigation provision, which required the U.S. EPA to take into account the "extent, and gravity of the violation ... the degree of culpability, and such other matters as justice may require" in setting the amount of the penalty. Rollins, at 654. Dissenting in part, Judge Edwards concluded that Rollins had adequately raised the "fair notice" issue and that the regulation clearly did not provide fair notice. He would have vacated the violation altogether, thereby precluding U.S. EPA from using the violation as a basis for increasing fines against the company in later liability proceedings. Id., pp. 654–657 & n. 2.

CIS facility. (Tr. Vol. X, pp. 2303-2305). Respondents did not know when the JLM material was scheduled for shipment; however on November 21, 2005, when the shipment did arrive, Respondents were still operating under the good faith belief that the recycling exclusion would apply to the injection of high carbon-containing materials into the blast furnace. It was not until December 20, 2005, that Mr. Forster became aware of Ohio EPA's final decision, one month after the single JLM shipment was received.

In 2005, Respondents interpreted the recycling exclusion, in good faith, to permit the use of certain clean carbon-containing materials in a blast furnace as a substitute for coke notwithstanding that they otherwise would be hazardous wastes. As discussed, supra in Section II.A.3.b., the rule, on its face, speaks to the purpose for which materials are burned, and does not contain the word "solely" that U.S. EPA now claims should be read into the rule. U.S. EPA's guidance on the issue was inconsistent. See CX2 and CX7.

In 2005, the Louisiana Department of Environmental Quality ("LaDEQ"), in connection with Respondents' efforts to obtain agency concurrence that the use of injectants in the blast furnace was within the recycling exclusion, provided LaDEQ's interpretation that the exclusion could apply. Indeed, Troy Charpia testified that Chuck Handrich of the LaDEQ not only authorized a shipment of K022 waste for the purpose of testing it for use in the blast furnace, but thought the data regarding the material's beneficial reuse as a carbon source was "impressive," and that "it would be a great reuse of the material." (Tr., Vol. VIII, pp. 1790-1795, CX2, pp. 2806-2608). In offering guidance on how the exclusion would apply, Mr. Handrich in an e-mail communication dated June 10, 2005, stated that "[t]he easiest way out for demonstrating use of K022

waste as feedstock is to show that some carbon from the K022 will be consumed to become carbon in the steel. This way the K022 is a carbon feedstock for steel manufacturing." (Tr., Vol. VIII, pp. 1793-1795, CX13, p. 10159).[25] Both Mr. Charpia and Mr. Willis understood Mr. Handrich of the LaDEQ to have articulated the LaDEQ's position that the recycling exclusion applied to the use of injectants in the blast furnace if they supplied carbon content for the metal being produced. (Tr., Vol. VIII, pp. 1793-1795, 1843, 1874).

Greg Orr, the Ohio EPA representative assigned to the General Environmental Management LLC ("GEM") facility in Cleveland, had a similar positive view of the applicability of the exclusion. In 2005, Mr. Orr advised Mr. Lofquist that he was "very much in favor" of the beneficial reuse of various hazardous wastes as carbon feedstocks for the blast furnace pursuant to the recycling exclusion, that he "thought that it made perfect sense," and that he thought that Ohio EPA's central office would concur in that view. (Tr., Vol. VIII, pp. 2003-2005). Mr. Orr even took into account the U.S. EPA discussion regarding Cadence product in its preamble to the final BIF rule, focusing as U.S. EPA did on the issue of the potential for "toxics along for the ride," and was still of the view that the recycling exclusion was applicable. (Tr., Vol VIII, p. 2006).

In light of this combination of circumstances at the end of November 2005 Respondents cannot be said to have fair notice of the agencies interpretation of the rule or that their reading of the rule was incorrect. Indeed, the fact that Respondents and others repeatedly sought concurrence from the Ohio EPA demonstrates that Respondents were

[25] Mr. Handrich also noted that if the injectants were used to create a *flame and add heat* to the process, the blast furnace could be considered an industrial furnace that was using "*recovered heat*" such that the exclusion would not apply. (CX13, p. EPA-10159) (emphasis added).

proceeding on the basis of an honest and good faith reading of the rule. When both U.S. EPA and Ohio EPA equivocated by referring the inquiries to the other agency, the answer became even less clear. When, in late December 2005, Respondents received Ohio EPA's determination, which was specific to the WCI manufacturing process and the materials under consideration, Respondents abided by Ohio EPA's determination and CIS did not thereafter purchase any of the materials under consideration.[26] Finally, for some time in early 2006, Respondents urged U.S. EPA to concur in the interpretation that Respondents seek to have adopted here. However, after April 2006, Respondents did not pursue these efforts further.

Complainant cites to no record evidence to the contrary and in fact did not introduce any evidence to rebut Respondent's evidence of lack of fair notice. Accordingly, Respondents met their burden of proving that, until the December 2005 determination, they did not have fair notice of Ohio EPA's interpretation of the recycling exclusion. With respect to the single November 2005 shipment from JLM Chemicals, Respondents cannot be punished for pursuing a reasonable interpretation of the regulation prior to receiving Ohio EPA's differing statement of its position. Satellite Broadcasting Co., 824 F.2d at 2-3; General Electric Co., 53 F.3d 1324.

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[26] U.S. EPA's insinuation that Respondents somehow circumvented the regulation after December 2005 by redirecting K wastes through GEM is not supported by any evidence and should be disregarded. Ohio EPA and U.S. EPA both acknowledged in writing that GEM properly accepted K-wastes at its Cleveland facility for processing and sold hazardous waste derived fuel to other customers. (Tr., Vol. III, pp. 699-708; Tr., Vol. VIII, pp. 1917-1921; CX97, CX98; CX105; RX6). Complainant has not identified any shipments of alleged hazardous wastes from GEM to CIS, although Complainant in fact introduced into evidence information regarding each and every shipment of material between the three companies. (See, CX12, pp. EPA865-2000; CX3, pp. EPA3193-6036; CX5, pp. EPA6382-6640; CX19, pp. EPA12208-12351). There have been no charges brought against GEM or Respondents based on any such alleged shipments, and such alleged shipments cannot form the basis for any finding of liability or penalty in this case.

IV. INDIVIDUAL LIABILITY

In order for Respondents Scott Forster and Eric Lofquist to be found individually liable in this case, Complainant must prove, by a preponderance of the evidence, that they were operators of CIS's Warren, Ohio, facility. Complainant must establish Mr. Forster and Mr. Lofquist exercised pervasive control over the operation at CIS; however, all Complainant has been able to point to are singular activities that do not add up to establish a universe of pervasive control.

Fundamentally, a corporate officer who is not an owner or operator cannot be deemed liable for a violation of a rule that applies only to owners and operators. In the Matter of Southern Timber Products, Inc., 3 E.A.D. 880, 888, 1992 WL 82626 (E.P.A. Feb. 28, 1992)("Southern Timber-II").[27] An operator is one who exercises active and pervasive control of the overall operations of a facility, which depends on an evaluation of the universe of operational duties as set forth in Southern Timber-II, not just a litany of separate or isolated instances where an individual exercised control. Complainant greatly exaggerates the paltry evidence introduced at the hearing of the Southern Timber-II factors that it argues supports a finding of individual liability, while conveniently ignoring the overwhelming evidence to the contrary.

[redacted] All this shows is that Mr. Forster and Mr. Lofquist were high-level officers of the company. Their roles as President and Vice

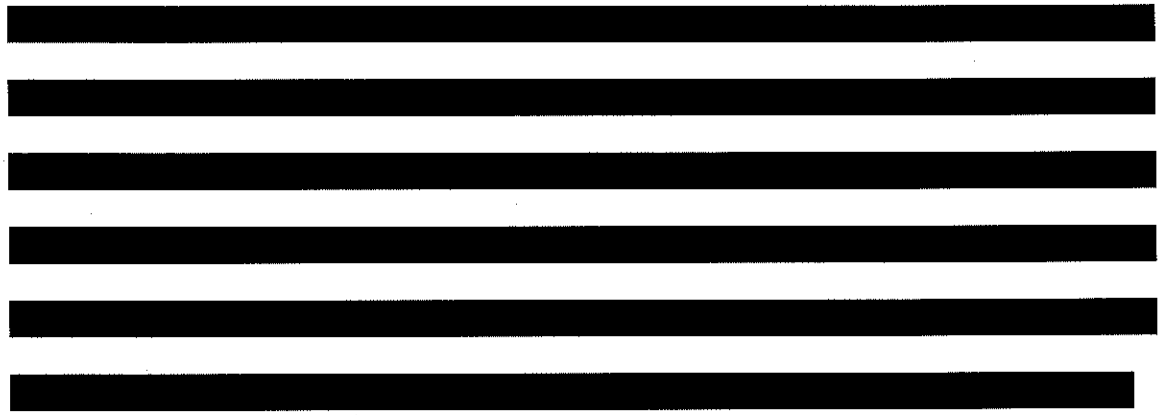
[27] Complainant does not allege that Mr. Forster and Mr. Lofquist are liable for the alleged RCRA violations as owners of CIS.

President, respectively, also explain why Mr. Forster and Mr. Lofquist executed certain documents, such as permit applications, checks, and the supply agreement with WCI, prior to commencement of operations at the facility. These documents were executed as part of start-up and at a time prior to the hiring of employees for CIS. (Tr., Vol. XI p. 2230). All of the documents were signed by Mr. Forster as President or Mr. Lofquist as Vice President, corporate officers of CIS, not operators. (Tr., Vol. IX, pp. 2229-2231).

Finding liability based on an individual's role as a corporate officer was rejected by the EAB in Southern Timber-II and should not be considered suitable evidence here for finding Mr. Forster or Mr. Lofquist individually liable. In Southern Timber II, as in this case, U.S. EPA attempted to rely on an outdated internal agency Memorandum from K. Stein and B. Diamond to J. Barker and D. Guinyard (Dec. 12, 1990) (the "Stein/Diamond Memo") intended to establish the agency's general policy of pursuing corporate officers for individual liability "where the officer takes on the role of the operator." The EAB rejected U.S. EPA's reliance on the Stein/Diamond Memo. Id. at 902. The EAB found particularly unsettling the notion that a corporate officer, while exercising no other responsibility at a facility, could arrive at a facially reasonable but ultimately incorrect reading of a RCRA rule, and thereby authorize conduct later determined to be a violation. Id. at 900-902. U.S. EPA's continued reliance on the Stein/Diamond Memo in this case should be rejected as well. The activities performed by Mr. Forster and Mr. Lofquist, as corporate officers, do not support a finding of pervasive control of the overall operations of CIS.

Much of Complainant's evidence that Mr. Forster and Mr. Lofquist both managed and directed operations specifically having to do with the management of hazardous

waste and made significant decisions with regard to the facility's compliance with RCRA is based on the agency's failure to draw any distinction between GEM and CIS. Complainant fails to appreciate that [redacted]



All of Mr. Forster and Mr. Lofquist's purchasing activities for CIS were done in their capacity as employees of GEM because GEM was the contracted purchasing agent for CIS. The litany of correspondence Complainant relies on to demonstrate Mr. Forster and Mr. Lofquist's involvement in determining whether materials to be shipped to CIS were solid hazardous wastes under RCRA and its implementing regulations demonstrate this. Although these communications clearly demonstrate the efforts expended by all parties to comply, in good faith, with RCRA regulations, they are not evidence of Mr. Forster or Mr. Lofquist's overall involvement in the operational duties of CIS. Their involvement in this regulatory issue of importance to their companies was appropriate both as part of their sales function at GEM and from the standpoint of their roles as high level corporate officers at CIS with ultimate responsibilities for their companies, but it does not translate into active and pervasive involvement in the overall operations of the CIS facility. Complainant's view that the activities undertaken by Mr. Forster and Mr. Lofquist were undertaken in any other capacity is unsupported by the record.

With respect to the other actions Complainant alleges establish that Mr. Forster and Mr. Lofquist were operators of CIS, they also were typical functions for a high-level corporate officer of a company. For example, Mr. Forster signed some regulatory

documents on behalf of CIS, as its corporate representative, before the facility began operating and after its operations ceased. He did not sign any reports while there was a plant manager at CIS. (Tr., Vol. IX, p. 2260; see CIS 2005 Used Oil Activity Report, signed by John Dzugan, CX2, p. 3187). Despite U.S. EPA's statement otherwise, there are NO documents submitted to U.S. EPA identifying either Mr. Forster or Mr. Lofquist as a facility operator. [redacted] These few papers are insufficient to establish pervasive control of the operations at CIS. [redacted]

Complainant's evidence does not outweigh the evidence to that Mr. Forster and Mr. Lofquist did not exercise active and pervasive control of the overall operational duties of CIS. Complainant's evidence does not refute that John Dzugan was the plant manager with day-to-day operational control of CIS; that Mr. Dzugan was designated as the person in charge of regulatory submittals; that Mr. Duzgan was responsible for hiring

employees, performing employee reviews and determining salaries and raise; that Mr. Dzugan was responsible for scheduling shipments from customers; that Mr. Lofquist and Mr. Forster rarely were present at the facility and had no offices at the facility; and that others were as involved in approving purchasing materials for CIS. (Tr., Vol. VIII, pp.1989-1991; Tr., Vol. IX, pp. 2256, 2259, 2275, 2260, 2261; Tr., Vol. X, pp. 2304-2305). Mr. Forster and Mr. Lofquist had no control over the operations of the facility. It was Mr. Dzugan and his employees that were responsible for handling the materials that arrived at CIS, providing the materials to WCI, and conducting facility maintenance. (Tr., Vol. IX, pp. 2266, 2275-2276). As Mr. Dzugan testified, he was the first point of contact for WCI should there be issues with the material CIS was providing to the blast furnace. Mr. Forster, despite Complainant's baseless allegations, only became involved as a result of his role as company President, addressing financial concerns WCI had. (Tr., Vol. IX, pp. 2272-2273). Mr. Forster and Mr. Lofquist exercised no control over how materials were handled at CIS or how they were sent to WCI. These two individuals never participated in the daily operation of CIS. (Tr., Vol. VIII p. 1986; Vol. IX p. 2233).

Complainant introduced no additional evidence at the hearing to show that Mr. Lofquist and Mr. Foster were operators, relying solely on its same flawed interpretation of documents as in its motion for accelerated decision, which was denied. Although Complainant represented that several witnesses would testify regarding Mr. Lofquist and Mr. Forster's operation of CIS, they did not do so. In fact, to the contrary, Mr. Charpia, Mr. Willis and Mr. Osiecki expressly denied any knowledge regarding Mr. Lofquist or Mr. Forster's operation of the CIS facility despite Complainant's representation that they would testify on the subject. (Tr., Vol. VIII, pp. 1801-1802, 1862-1863, 1951).

A careful scrutiny of the record demonstrates that while both Mr. Forster and Mr. Lofquist were responsible company officials, neither was an operator of the CIS facility. Complainant grossly overstates its case for individual liability and still comes up short of the facts that would be necessary to find Mr. Forster and Mr. Lofquist liable as individual operators by a preponderance of the evidence for the violations alleged in this case. A finding on individual liability under these circumstances is exactly the result that the EAB found so troubling in Southern Timber II.

V. PENALTY

As explained above, Respondents expect that Complainant will fail to prove its liability case against Respondents on all counts, such that no civil penalty is warranted. Even if Respondents, or some of them, are found liable, however, the extreme monetary penalty sought by Complainant is grossly inappropriate, and a nominal penalty is all that should be assessed.

A. Complaint Fails to Satisfy its Burden of Proof as to the Appropriateness of the Penalty

It is undisputed that it is Complainant that bears the burden of proof on the appropriateness of the penalty issue. In re John A. Capozzi d/b/a Capozzi Custom Cabinets, 11 E.A.D. 10, 2003 WL 1787938 (EAB 2003); In re New Waterbury Ltd., 5 E.A.D. 529, 537 (EAB 1994). At the hearing, Complainant presented a demand for a civil penalty in the amount of $1,579,173, which was comprised of a gravity-based penalty of $1,183,811 and an economic-based penalty of $395,362 (as well as a request

for a compliance order for RCRA closure of the CIS facility).[28] Complainant's enforcement expert, Michael Beedle, presented his calculation of both penalties, applying the RCRA Civil Penalty Policy (the "Policy"), and asserted that the evidence presented by Complainant satisfied its burden of proof as to the appropriateness of the claimed penalty. As explained below, Complainant failed to carry this burden, and Respondents respectfully submit that the alternative framework discussed below, which applies the statutory penalty factors applicable under RCRA, should be utilized instead of the Policy to determine a fair and appropriate penalty.

B. Even if Liability Is Found As To Some or All Respondents, Only a Nominal Gravity-Based Penalty Is Appropriate.

1. The RCRA Civil Penalty Policy Should Not Be Followed in this Case Because It Does Not Provide for a Fair Penalty.

As well-established by the Environmental Appeals Board, and as acknowledged by the Presiding Officer at hearing, the Policy is not binding on the Presiding Officer, given that the Policy does not have the force of law. (Tr., Vol. IV, p. 940). The Consolidated Rules of Procedure and the Board's decisions make clear that the Presiding Officer has significant discretion to assess a penalty other than that calculated pursuant to a particular penalty policy. See, e.g., In re Employers Ins. Of Wausau, 6 E.A.D. 735 (EAB 1997); see also Policy, at 11, fn. 13 ("[EPA] counsel should not suggest that the court is bound to follow the Policy in assessing a civil penalty.") "An ALJ's discretion in assessing a penalty is in no way curtailed by the Penalty Policy so long as [s]he considers

[28] Complainant filed its Complaint in this action with an initial demand for a civil penalty in the total amount of $1,915,148. This penalty included several different components, including a claim for wrongful profits. Despite vigorously defending this claim in the course of the parties extensive briefing on their respective Motions for Accelerated Decision, the wrongful profits claim was abandoned by Complainant shortly before the hearing in this matter.

it and adequately explains [her] reasons for departing from it." In re A.Y. McDonald Industries, Inc., 2 E.A.D. 402 (EAB 1987); see also In re U.S. Army, Fort Wainwright Central Heating and Power Plant, 11 E.A.D. 126, 2003 WL 21500416 (EAB 2003)("The ALJ's decision must contain a reasoned analysis of the basis for the penalty assessment, but the ALJ is free to depart from the penalty policy so long as she adequately explains her rationale.")

Although the Presiding Officer may depart from the RCRA Penalty Policy, she may not depart from the statutory penalty criteria. 40 CFR § 22.27(b); Employers of Wausau, 6 E.A.D. at 758-9. Section 3008(a)(3) of RCRA provides only two statutory penalty factors:

> In assessing such a penalty, the Administrator shall take into account the seriousness of the violation and any good faith efforts to comply with the applicable requirements.

42 U.S.C. § 6928(a)(3). Thus, the critical (and indeed the only) factors to be considered under the statutory framework are 1) the seriousness of the violation; and 2) good faith efforts to comply.

Complainant's entire case depends on a hyper-technical reading of the convoluted hazardous waste regulations and rigid adherence to the concept of strict liability. Now, at the penalty stage of the case, Complainant's myopic focus on RCRA's strict liability scheme reveals the weakness of the remainder of Complainant's case, as there is absolutely no evidence of knowing or willful violations by Respondents; indeed, as explained above, the evidence in the record points to a company that meticulously investigated the permissible parameters of waste usage (declining to purchase K022 waste and receiving only one shipment of JLM material inadvertently), or acted in

reliance on manufacturers' representations that other materials it utilized (such as the IFF Unitene materials) were useful products and not wastes.[29] Nor is there any evidence of actual harm, or even the potential for substantial harm, to human health or the environment, as a results of Respondents' activities that are at issue in this case.

As explained further below, the RCRA Penalty Policy framework is ill-fitted to determining a fair and just penalty in this specific case, primarily because the Policy's narrow framework overweights the factor of potential harm to the environment, even where such harm is exceedingly remote or minor (as is the case here), and also significantly underweights the factor of "good faith" on the part of the Respondents.

2. Statutory Penalty Factor #1: Seriousness of the Violation.

The measure of "seriousness" of the violation is a question of the harm or potential harm that actually resulted from the RCRA violations, whether such harm is to humans, the environment, or the RCRA program itself. As explained below, Complainant proved no significant harm of any kind at hearing.

First, based on Complainant's Penalty Narrative, and as stated by counsel for Complainant at hearing (and acknowledged by the Presiding Officer) (Tr., Vol. IV, p. 886-887) there are *no* allegations (let alone evidence) of *actual* harm caused to human health or the environmental in this case. Lacking any evidence of actual harm to human

[29] Notwithstanding Mr. Beedle's contention that CIS should be held to a "super precautious standard" (Tr. Vol. IV, pp. 943-944), not even Complainant seriously alleges that RCRA imposes an absolute obligation to vet the origin of purchased materials further when a customer is acting in good faith reliance that a product is as represented; that is, a non-waste, useful material not subject to any use restrictions unless indentified as such. (See Tr., Vol. VII, 1647-49). To do so would throw industrial commerce into chaos as a customer would have to engage in meticulous due diligence to ascertain the pedigree of every raw material it purchased to avoid inadvertently running afoul of RCRA, despite the representations of the seller.

health or the environment,[30] Complainant is reduced to arguing that the mere *potential* for harm made this an egregious case, worthy of a seven-figure penalty. Complainant's fears are unfounded and at most, support a nominal penalty.

For example, Complainant alleged that workers at CIS might been harmed due to their unwitting exposure to "toxic" hazardous waste.[31] (CX198 p. 026817). As noted above, Complainant failed to prove that any of the IFF materials were in any way "toxic" (i.e., Complainant failed to prove that Unitene contained MEK, ethylbenzene, or other listed hazardous wastes). Unitene LE was hazardous, if at all, because it met only the "ignitability" characteristic. In addition, because the materials in question here were handled as products, CIS workers had available to them far more information about the nature of the materials, and any hazards associated with their handling, than they would have had available if the materials were handled as wastes. Such information included detailed chemical, handling, disposal and first aid information on MSDSs, chemical content information on Certificates of Analysis, and product shipping descriptions and hazard information on Bills of Lading. (Tr., Vol. IX, pp. 2105-2106, 2112, 2123, 2196)(; See also CX9 p. 7165-7173 (MSDS for Unitene LE); CX9 p. 7171-7181 (MSDS for Unitene AGR); CX9 p. 6949-7164 (Unitene Bills of Lading); RX99 p. 01719-01985)). Waste shipments are not typically accompanied by such detailed information. (Tr., Vol.

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[30] Complainant may have intended to press a theory that one instance of drums of "cleanup debris" present when Mr. Beedle inspected the CIS facility on August 27, 2008, was evidence of a spill of toxic hazardous waste, but Complainant failed to tie up any allegation that these drums contained material from a spill of Unitene or the JLM material -- which materials are the sole materials alleged to have constituted hazardous waste in this case.

[31] Perhaps presaging the lack of concrete evidence that would be presented by Complainant at trial, Complainant's Penalty Narrative (CX198) is replete with vague and suggestive language such as "most likely," "may have been," "potentially," and "inevitable," but Complainant failed to connect up any real and material threat or possibility of harm to back up its vague and speculative allegations.

IX, pp. 2127-2128). Employees were trained and well aware of the precautions needed to handle material with low flash points, such as Unitene LE. (See Tr., Vol. IX, pp. 2208-2009); RX72 CIS 01212-01234 (CIS Contingency Plan)). Thus, the potential risk for CIS workers to be "unknowingly" exposed to hazards was actually minimized, and Complainant's assertion that the potential for harm to workers or others was increased here is entirely specious.

Similarly, Complaint reasserted several times that the CIS and WCI facilities were both adjacent to the Mahoning River, but Complainant introduced no evidence showing any specific pathway for spills or releases to enter the river, aside from the general proximity of the facilities. No evidence was introduced regarding how the local topography, intervening structures, roadways, (wholly intact) secondary containment, spill response measures, or other important factors made it likely or even possible that a release would impact the river. (Tr., Vol. IX, pp. 2193-2194; RX114, pp. CIS 2134-2135). Without such evidence, Complainant's assertion that CIS's operations posed grave potential harm are simply unsupported.

Another example is the allegation that residents living near the area of the WCI facility (as well as CIS and WCI workers and visitors) "may have been exposed to hazardous air emissions" which, presumably, would not have occurred had the blast furnace been equipped with "associated air control and monitoring devices designed or operated for burning toxic hazardous waste." This too is a fallacious allegation, which was not borne out by the testimony introduced at hearing. First of all, the blast furnace is a closed system which does not result in uncontrolled emissions. (Tr., Vol. X, p. 2405). Second, steel mills typically have air emissions control equipment and are permitted.

(Tr., Vol. X, pp. 2405, 2477-2478). Complainant could have introduced evidence of such in the case of the former WCI plant, but chooses to pretend that such facts do not exist, which is misleading. (Tr., Vol. III, pp. 665-669). Furthermore, as explained by Mr. Rorick, even if the Unitene materials had contained "toxic" constituents, such as MEK or ethylbenzene, all such constituents would have completely disassociated in the blast furnace and could not have been present in the "top gas." (Tr., Vol. X, pp. 2444-2455; Tr., Vol. XI, pp. 2564-2568; RX47, Slide 4; RX131; RX132; RX133; RX134). Complainant's expert did not refute these facts.

Complainant's claim of grievous harm to the RCRA program itself as a result of Respondents' actions also rings hollow. Complainant offered no evidence, and indeed never attempted to explain, how the RCRA program was "damaged," or more importantly, how the objective of deterrence would be accomplished by punishing CIS, since Complainant never identified anything Respondents could have or should have done differently to avoid this entire set of circumstances. Respondents were aware of the RCRA program. Respondents correctly identified the potentially applicable regulation and actively sought guidance from Ohio EPA and U.S. EPA. Upon receiving Ohio EPA's determination, they acted in conformance with it as far as they knew. It is uncontroverted that CIS's receipt of the single load of JLM material was an unfortunate circumstance of timing, the authority having been issued when respondents reasonably believed the recycling exclusion would apply which was months before the shipment was scheduled through dispatch. See supra I.C. As explained in detail above, the IFF Unitene material was not disclosed as hazardous waste to CIS, and Complainant's expert Mr. Clark admitted that CIS should have been able to reasonably rely on the fact that IFF

represented the Unitene materials to be useful products, not wastes, with no undisclosed hazardous constituents. (Tr. Vol. VII, pp. 1506-1507; 1510-1513; 1518-1519.) There was no evidence that CIS received any shipment of a known hazardous waste in deliberate contravention of the RCRA program, as was originally suggested by Complainant.

Complainant also alleges that CIS harmed the RCRA program given that CIS failed to warn WCI Steel of the proper Land Disposal Restrictions (LDR) for hazardous wastes -- but, at least as to the Unitene, CIS was as much of a "victim" as WCI was. Complainant cannot explain how CIS should be faulted for failure to warn WCI of LDR restrictions, handling precautions or any other requirements or warnings, when CIS itself did not possess that information -- thanks to IFF's alleged failure to provide it. Complainant's failure to seriously pursue and assert wrongdoing on the part of IFF, the generator of the material and clearly the most knowledgeable party involved, completely erodes Complainant's credibility in its assertion that CIS's actions caused serious harm to the RCRA program.

[redacted] This allegation lacks credibility when Complainant's reluctance to pursue the actual producer of the so-called hazardous waste, IFF, is considered. Complainant has barely pursued IFF -- and it appeared that Complainant in fact had no inclination to do so -- until it realized how incongruous it appeared that Complainant would so vigorously pursue an unknowing recipient of the Unitene materials, and not attempt to go after IFF. Complainant never told IFF to stop selling the Unitene material,

or even restrict its allowable uses. (Tr. Vol. IV, pp. 865-867). Complainant turned a blind eye to all of IFF's explanations and never requested any additional information to clarify its understanding of the complex Unitene production processes and history. (Tr. Vol. IV, pp. 826-828). Since the September 12, 2011 NOV to IFF, there had been no follow-up action, no complaint, nothing, as of the time of the hearing. (Tr. Vol. IV, pp. 831-836). [redacted]

[redacted] This allegation is baseless. Complainant never informed Respondents until long after the CIS facility ceased operations that it considered the IFF products to be at issue in this case. (Tr., Vol. IV, p. 806). The Notices of Violation and Intent to File sent to Respondents never mentioned Unitene, or IFF. (CX30; CX 35; CX36; CX37). Even with respect to the JLM material, the first notice that CIS received regarding the alleged violations was February 8, 2008 (CX30). Respondents provided a detailed response to EPA, and heard nothing more until EPA sent its Notice of Intent to File on August 10, 2010 to CIS -- more than two years after the 2008 inspection. To suggest that CIS should be severely punished for its failure to promptly take appropriate action to remedy EPA's alleged violations simply ignores that facts, and exhibits once more EPA's egregious overreach in this case.

Finally, it is worth noting that Complainant's enforcement officer Mr. Beedle admitted that a under a different end-use scenario (for example, if WCI had happened to use the Unitene materials as a solvent and not for alleged "burning" of the materials), these materials would not be under RCRA jurisdiction. (Tr., Vol. IV, pp. 843-844). In such a scenario, the very same materials would be handled in the same manner, at the same CIS facility, by the same personnel. While the RCRA program may make a regulatory distinction as to the 'status' of these materials depending on the final use of the material, from a practical non-regulatory 'harm' perspective, Complainant's shrill cries of serious potential harm fall completely flat, and should be heavily, if not completely, discounted.

In sum, the evidence introduced at hearing clearly shows that despite Complainant's unsupported hyperbole, the potential for serious harm in this case is minimal. Complainant's Penalty Narrative relies on vague and unsupported suggestions and allegations of harm, which were proved at hearing to be untrue or, at best, inflated to immense proportions. This statutory factor therefore augers for a minimal civil penalty due to the lack of proven serious harm -- even potential harm -- to human health and the environment, or the RCRA program itself.[32]

3. Statutory Penalty Factor #2: Good Faith Efforts to Comply.

The second statutory penalty factor under RCRA is "good faith efforts to comply" with the relevant regulations. CIS conducted its business activities and handling the two

[32] To the extent that the Presiding Officer determines to nevertheless apply the Policy in determining a fair and appropriate penalty, it is clear that Complainant's proposed analysis and resulting penalty calculation must be rejected and completely revised, given the lack of evidence to support Complainant's contentions of "major" harm to the RCRA program and human health and the environment.

materials at issue here, the JLM material, and the IFF Unitene products, with good faith in all aspects of its activities. [redacted] It quickly became evident at the hearing, however, that there was no evidence of any "willfulness" or intent to deceive anyone -- generator, regulator or customer. As explained above, Respondents and the brokers they were working with actively sought the input of the regulators, Ohio EPA and U.S. EPA, explaining exactly how those materials were intended to be used. As to the Unitene products, the generator, IFF, also knew the intended use for which its products were being purchased. (See, e.g., [redacted] Tr., Vol. IX, pp. 2101-2112). This is clearly relevant to the evaluation of "good faith." (Tr., Vol. IV, p. 940). Although counsel for Complainant backed away from these allegations at hearing with the excuse that EPA had not assessed any monetary penalty or used it as a basis for a multiplier for any portion of the penalty,[33] it is significant that EPA's primary case narrative, from pre-filing communications, though the complaint, and up to the hearing itself, was clearly not supported by the evidence. (Tr., Vol. IV, pp. 886-887).

[33] RCRA does not provide for the use of prior history as a penalty determination factor. *See* 42 U.S.C. § 6928. Nonetheless, Complainant does propose an adjustment for history of noncompliance. This adjustment factor can be appropriate where evidence of prior non-compliance is used to show that a respondent was on notice of a particular applicable regulatory requirement. Complainant's evidence of prior non-compliance is irrelevant to the issues in this case, however, for several reasons. First, Respondents have never claimed that they were unaware of the requirements of RCRA in general, or the existence of the recycling exclusion. Respondents and the brokers they were working with actively consulted both Ohio EPA and U.S. EPA regarding the meaning of the exclusion. This is not a disputed issue. Second, none of the handful of prior notices of violations, the State of Ohio complaint or the prior federal action are neither similar or serve to establish a pattern of non-compliance. In many cases, they were withdrawn or dismissed. More importantly, none dealt with the applicability of the recycling exclusion to the use of injectants in a blast furnace. Third, none of the prior notices related to CIS's operations or its facility. Under these circumstances, Complainant's evidence of prior non-compliance does not support any upward adjustment in penalty.

Respondents will not repeat *seriatim* the facts in evidence discussed above in relation to the course of CIS's dealings with the JLM and IFF materials, and which illustrate CIS's good faith attempts to comply with the regulations. However, in addition to the evidence noted above, it should be emphasized that Respondents purchased the Unitene products through a broker, neither IFF nor the broker considered Unitene to be a waste, and at the time of purchase, Respondents were never provided any information that would have suggested that these products were wastes, or even "recycled materials," as Complainant now claims. At no time while the CIS facility was still operating were Respondents even aware that anyone, including Complainant, considered these materials to be wastes. Respondents' access to information after-the-fact regarding the development and production of IFF's Unitene products was initially limited to the selective information obtained by Complainant as a result of its enforcement-related information gathering activities. As to the JLM materials, it should be emphasized that CIS was in fact investigating the regulatory status of such materials supplied by other companies, and the one delivery of the JLM materials was scheduled and received in the normal course through the dispatcher before Ohio EPA advised its position. Moreover, CIS never took delivery of any of the waste materials that it was investigating once CIS received Ohio EPA's determination, and CIS in fact simply abandoned its hoped-for use of such materials. (Tr., Vol. VIII, pp. 2008-2010, 2021).

Another aspect of Respondents' good faith is the overwhelming evidence that CIS simply had no motive to engage in activity that would violate RCRA. First, it is telling that Complainant dropped the its "illegal profits" a/k/a "Beyond BEN" penalty demand because it realized that there was no evidence that (contrary to what Complainant

originally alleged in its Penalty Narrative), that CIS was buying hazardous waste, mixing it with "legal" fuels, and gaining a financial benefit from the illegal sale of hazardous waste fuel. Complainant realized that there was simply no evidence, either from a pricing standpoint, or otherwise, that CIS was systemically and intentionally trying to profit from illegal activities. As pointed out by Eric Lofquist in his testimony, CIS could easily have contracted to obtain and sell hazardous fuels from suppliers far closer to Warren, Ohio, than Augusta, Georgia. (Tr., Vol. VIII, pp. 2021-2023). Richard Murray, the broker who supplied CIS with material including Unitene, testified that he could have supplied CIS with alternative material if for whatever reason Unitene had been determined to be unsuitable (for example, if CIS had determined that it -- and WCI -- would had to undergo RCRA permitting in order to use such material). (Tr., Vol. IX, pp. 2133). Furthermore, out of all the of material handled by CIS over the lifetime of the company, Complainant suggests that only 2% of the approximately 60 million of gallons of material were illegally handled. (Tr., Vol. VIII pp. 2021-2023). Clearly, this is not the profile of a company that willfully and engaged in the sale of hazardous waste materials knowing it was illegal, and hoping to profit materially from such activity, as contended by Complainant. (See CX198, p. 026821; Complainant's Pre-Hearing Brief, p. 2 (Respondents "gambled" with human health, seeking to hit a "jackpot.")).

At the end of the day, therefore, the most Complainant can assert is a technical violation of the regulation, through no or little fault of Respondents, which is deserving of only a nominal penalty, for the reasons set forth above.

4. A Proposed Gravity-Based Penalty of $5,000 for the JLM Material, and/or a Maximum of $18,900 for the IFF Unitene Materials, is Reasonable and Appropriate

Presuming, once more, that the Presiding Officer finds liability against some or all of the Respondents, for some of all of the materials at issue, and that a gravity-based penalty is appropriate, the Presiding Officer must determine a fair penalty that meets the goals under RCRA of punishing illegal action, and deterring future illegal action by the respondent or others. In this case, where the evidence at hearing proved absolutely no *mens rea* to intentionally violate RCRA, and Complainant itself could provide no suggestion as to what actions CIS could or should have taken in this respect that it did not (again, noting that both of Complainant's experts agreed that CIS had a right to rely on the MSDSs and other information provided by IFF asserting that Unitene was a non-waste), the RCRA Penalty Policy is ill-suited to calculate a fair penalty, and a nominal penalty is all that should be assessed.

Respondents respectfully suggest that a gravity-based penalty of $5,000 for the single shipment of JLM material is certainly sufficient to meet RCRA's goals of punishment, and specific and general deterrence, under these circumstances. For example, Complainant seeks a multi-day penalty against Respondents for the single shipment from JLM. This single occurrence does not give rise to the type of continuing or persistent violation that would support the imposition of multi-day penalties beyond the time the material actually was stored at the facility. Complainant characterizes CIS as an unpermitted treatment, storage and disposal ("TSD") facility from the date the JLM

shipment was received until it ceased operations.[34] The case law does not support such overreaching. At most, CIS temporarily stored the single shipment from JLM to CIS for "less than 12 hours." (Tr., Vol. IX, p. 2203). This does not make the CIS facility a TSD facility that should have been permitted under RCRA. See In re M.A. Bruder and Sons, Inc., RCRA (3008) Appeal No. 01-04, Final Decision (EAD July 10, 1992). (The EAB found that U.S. EPA greatly overstated the character of a violation when it argued that the violation was the facility's failure to obtain a TSD permit, rather than its failure to install a pressure relief valve, which would have exempted it from the permit requirement.) Should there be any penalty for the JLM shipment, it should be reduced to reflect the fact that the JLM material was only at the CIS facility for 12 hours before being transferred to WCI, not for the 180-day period Complainant is seeking through multi-day penalties.

In addition, given the lack of willful illegal intent and no evidence of serious harm or potential harm, a penalty of $100 per truckload of Unitene, for a total of $18,900, is similarly sufficient and appropriate under the specific circumstances of this case. In the event that the Presiding Officer finds liability only for one type of Unitene and not both for the reasons discussed above, then the penalty should further reflect only the truckloads of the specific material that is determined to be hazardous (40 shipments of Unitene LE and 149 shipments of Unitene AGR).

[34] Complainant relies on the term "blending" to support its assertion that treatment took place at the CIS facility; however, blending—in terms of treatment—was never intended when the materials were unloaded into the tanks at CIS.

C. Even if Liability Is Found As To Some or All Respondents, Only a Nominal Economic-Based Penalty Is Appropriate.

Complainant's economic benefit penalty demand consists of: 1) permit operating costs avoided by CIS (Count 1) in the amount of $123,599; 2) permit operating costs delayed (Count 1) of $7,462; and financial assurance costs avoided (Count 8) of $51,664, for a total economic benefit demand of $182,725. Recovery for so-called "economic benefit" is not provided under the statutory penalty criteria under RCRA Section 3008. Nevertheless, courts have recognized economic benefit as a relevant consideration in determining penalties under RCRA. Capozzi, 11 E.A.D. 10, 2003 WL 1787938 (EAB 2003). Should the Presiding Officer find some or all of the Respondents liable under RCRA, for some or all of the materials at issue in this case, and further decide that determination of a fair and appropriate penalty should consider some aspect of economic benefit, Respondents contend that at most, a nominal economic benefit penalty is appropriate.

1. At Most, Only a Nominal Economic Benefit Should Apply When Respondents Had Alternative Sources of Non-Hazardous Material Readily Available.

The meat of Complainant's economic benefit argument is that Respondents unfairly enjoyed the use of funds that rightly, Complainant argues, should have been spent on costs such as permitting and financial assurance in order to properly operate a RCRA facility. Thus, Complainant argues, Respondents gained an economic benefit that should be disgorged in the form of a penalty. Despite RCRA's strict liability scheme, the flaw in Complainant's position is that there was simply no evidence presented at hearing, in documents or in testimony, that Respondents intended to improperly profit by

intentional non-compliance, that is, avoidance of such permitting costs. While under RCRA, lack of such intent might not be enough to exculpate Respondents by itself, the evidence at hearing showed clearly that CIS had alternative sources of material readily available, such that if Respondents had realized that any of the materials at issue in this case were indeed hazardous wastes, Respondents would simply have chosen different materials and still not incurred any costs for permitting and compliance. Unlike many RCRA cases where Complainant seeks a penalty due to the failure of the respondent to obtain required permits, this is not a case where the facility would have been able to operate without a RCRA permit. In this case, as explained above, and as the evidence clearly illustrated at hearing, Respondents did not have to choose between handling hazardous materials, or being unable to operate. The miniscule percentage of the materials at issue compared with the total volume of materials handled by the CIS facility over the lifetime of its operation, and the testimony of Mr. Murray, prove that the CIS facility need not have used "controversial" materials if there had been any reasonable doubt about their regulatory status. Thus, it is unfair and inappropriate to assess an economic penalty against CIS to represent the cost of permitting and RCRA compliance that it did not need.[35] CIS would simply have chosen other non-waste materials. In this case, there is no economic reason to punish CIS, and no economic penalty, or at best, a nominal one, should be assessed.

[35] Moreover, Complaint's own evidence showed that respondents already voluntarily incurred certain costs of closure which cannot fairly be included in any penalty component based on avoided costs.

2. Complainant's Penalty Calculation Was Inherently Unreliable and Unsupported.

In the event that the Presiding Officer determines that an economic benefit penalty should nevertheless be asserted, Respondents contend that no more than a nominal penalty should be assessed due to the unreliable and unsupported nature of Complainant's "BEN" penalty calculation and testimony. At hearing, Complainant's BEN calculation was presented by Michael Beedle, over Respondents' objection to Mr. Beedle's competency to perform such a calculation. Mr. Beedle engaged in calculating BEN penalties only a few times before the present case. (Tr., Vol. I, p. 73). Mr. Beedle's BEN training was modest, at best, and his inexperience and unfamiliarity with such calculations was evident on cross-examination. (Tr., Vol. IV, pp. 69-70, 525). Among other failings, Mr. Beedle did not completely understand important concepts such as the Weighted Average Cost of Capital; nor was he able to explain his choice of one of many inflation indices, that is, PCI or "plant cost index," and explain why he felt that particular index to be appropriate in a circumstance where Complainant did not claim that any plant capital costs were avoided. (Tr., Vol. I, pp. 73-74, 77-79).

Moreover, Mr. Beedle admitted making mistakes in his operation of the BEN computer model. (Tr., Vol. IV, p. 968) He reran calculations several times, and consequently Complainant was forced to revise its overall penalty demand more than once, due to acknowledged errors in excess of at least $50,000. (Tr., Vol. IV, pp. 967, 972, 975-976). Despite Mr. Beedle's claim that such calculations undergo several layers of review at U.S. EPA, these errors apparently snuck through, calling into question the entire reliability of Complainant's penalty analysis. (Tr., Vol. IV, p. 968).

Complainant has the burden of proof to justify its penalty calculation; an intrinsic part of this burden is to provide calculations that are error-free and a fair representation of the economic value of the alleged non-compliance. Complainant's BEN calculations meet neither of these criteria, and thus should be disregarded and discounted completely, or a best, reduced to a nominal penalty amount by the Presiding Officer.

VI. CONCLUSION

For all of the foregoing reasons, Respondents should be found not liable for the alleged RCRA violations.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I, Lawrence W. Falbe, an attorney, hereby certify that the foregoing Respondents' Initial Joint Post-hearing Brief was sent on January 24, 2013, in the manner indicated, to the following:

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