communicate with OEPA regarding regulatory status of the waste by the generators and brokers of the waste can likewise be attributed in large part to Forster and Lofquist, as demonstrated in the timeline above. Respondents' attempt to shift responsibility for and knowledge of the inquiries into the regulatory status of the waste at issue from Forster, Lofquist and CIS to GEM and the waste generators and brokers must fail.

VIII. Complainant Is Entitled To the "Beyond BEN" Portion Of Its Penalty Calculation

Respondents are "off the mark" in their claim that U.S. EPA is effectively penalizing them twice by seeking to recover the economic benefits they accrued by delaying or avoiding obtaining and complying with a RCRA permit for their hazardous waste storage and treatment operations, and by seeking to recover the profit that they earned by selling their hazardous waste blend to WCI.[24] First, U.S. EPA properly calculated the economic benefit that accrued to Respondents from the costs that they delayed or avoided incurring by their failure to obtain and maintain a RCRA permit for

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[24] Respondents put their argument this way:

> While the propriety of the Beyond BEN theory has been criticized, Respondents do not need to attack the fundamental legitimacy of the Beyond BEN model for the purposes of this particular case. Rather, to merit a finding that U.S. EPA's claimed Beyond BEN penalty is not justified in this case, it should suffice to simply point out that U.S. EPA's claim both for penalties for non-compliance, which places a present dollar value on the costs of such compliance, had the violator taken the proper course of action under the regulations to begin with, and for alleged illegal profits that were realized by CIS as a result of its non-compliance, is impermissible "double-dipping" that goes far beyond "leveling the playing field," and should not be condoned or accepted.

Respondents' Motion at 72-73.

their hazardous waste storage and treatment Facility.[25] Second, U.S. EPA also properly calculated the economic benefit that accrued to Respondents in the form of the profits that they earned by creating a hazardous waste (by blending hazardous waste with used oil) and then selling that hazardous waste to a facility (the WCI blast furnace) that did not have a RCRA permit to receive and burn that hazardous waste. Recapture of both the economic benefit of the delayed/avoided cost of having and maintaining a hazardous waste storage and treatment permit as calculated using U.S. EPA's BEN model, and the economic benefit of the profit earned by Respondents' sale of an illegal product to a business that did not have a permit to receive and burn that product, is consistent with law, cases interpreting the law, and U.S. EPA policy and guidance.

Section 3008 of RCRA, 42 U.S.C. § 6928, invests the Administrator of EPA with authority to assess a civil penalty for violations of RCRA, and to determine the amount of penalty to assess. Section 3008(a)(3) of RCRA, 42 U.S.C. § 6928(a)(3), states "[a]ny penalty assessed in the order shall not exceed $25,000 per day of noncompliance for each violation."[26] In assessing such a penalty, EPA is required to consider "the seriousness of

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[25] Indeed, in their motion for accelerated decision, the Respondents do not dispute U.S. EPA's calculation of their delayed/avoided costs of compliance. Respondents' Motion at 71-77. Instead, Respondents merely observe in a footnote that they reserve their rights with respect to EPA's calculation. Respondents' Motion at footnote 20.

[26] This amount has been increased to $37,500 per day of violation for violations that occurred on or before January 12, 2009 pursuant to the Civil Monetary Penalty Inflation Adjustment Rule, 73 Fed. Reg. 75340 effective January 12, 2009.

the violation and any good faith efforts to comply with applicable requirements." 42 U.S.C. § 6928(a)(3).

In June 2003, EPA issued the revised "RCRA Penalty Policy" ("the Policy"). CX68 at 17352. The purpose of the Policy is to:

> ensure that RCRA civil penalties are assessed in a fair and consistent manner; that penalties are appropriate for the gravity of the violation committed; that economic incentives for noncompliance with RCRA deter persons from committing RCRA violations; and that compliance is expeditiously achieved and maintained.

CX 68 at 17363. The Policy was created in line with U.S. EPA's "Policy on Civil Penalties, EPA General Enforcement Policy #GM – 21" (the "General Policy"), which establishes a single set of goals for penalty assessment in EPA administrative and judicial enforcement actions, which are: deterrence (which includes the removal of the economic benefit of noncompliance), fair and equitable treatment of the regulated community, and swift resolution of environmental problems. CX66. General Policy at 3. Both the General Policy and the Policy emphasize the importance of capture of the economic benefit of noncompliance, including financial gain or profit (and not just recapture of delayed or avoided costs) Policy at 5, 28-32, 32-33; General Policy at 3-4 and Appendix at 10-11. Finally, U.S. EPA has specific guidance to assist in determining the economic benefits that can accrue beyond avoided and/or delayed costs in U.S. EPA's "Identifying and Calculating Economic Benefit That Goes Beyond Avoided And/Or Delayed Costs" May 25, 2003. CX96. This guidance expressly provides for the recapture of profits earned by the sale of products or services prohibited by law. CX96 at 18559-18560.

The EAB has held that where there is an applicable penalty policy it should be followed, whenever possible, because it ensures that the statutory factors have been taken

into consideration and the penalties are assessed in a fair and consistent manner. *In re: M.A. Bruder and Sons, Inc.*, RCRA (3008) Appeal No. 01-04, 2002 EPA App. LEXIS 12 (July 10, 2002). Further, the EAB has stated that where there is an applicable penalty policy an administrative law judge must have compelling reasons for ignoring that penalty policy when calculating the penalty. *In re: Carroll Oil Company*, RCRA (9006) Appeal No. 01-02, 2002 EPA App. LEXIS 14 (July 31, 2002). The Board will closely scrutinize a penalty decision where the penalty policy has not been followed. *In re: Chem Lab Products, Inc.*, FIFRA Appeal No. 02-01, 2002 EPA App. LEXIS 17 (October 31, 2002).

It is well established that U.S. EPA is entitled to recover the economic benefits that accrue to someone for their non-compliance with RCRA. *In the Matter of: City of Athens, Ohio*, Docket No. RCRA-V-W-14-93, 2001 EPA ALJ LEXIS 144 (April 23, 2001); *In The Matter Of: Goodman Oil Company, et al.*, Docket No. RCRA-10-2000-0113, 2003 EPA ALJ LEXIS 4 (January 30, 2003). These cases stand for the proposition that RCRA provides for the recapture by U.S. EPA of the economic benefits that accrue through non-compliance with that law. Respondents concede this point, because their motion for accelerated decision does not challenge this fundamental matter.

It is also well established that U.S. EPA's calculation of the economic benefit of the delayed/avoided costs of non-compliance with RCRA using the BEN model is appropriate. *In The Matter Of: Goodman Oil Company, et al.*, Docket No. RCRA-10-2000-0113, 2003 EPA ALJ LEXIS 4 (January 30, 2003).

Finally, it is well established that U.S. EPA is entitled to recover the economic benefit that accrues in the form of the profits that are earned through by non-compliance

with law and that are not captured using the BEN model. *In the Matter of: 99 Cents Only Stores*, Docket No. FIFRA-09-2008-0027, 2010 EPA ALJ LEXIS 10, at **31-32 (June 24, 2010)(acknowledging economic benefit in the forms of avoided/delayed costs and illegal profit, but finding the total penalty already captured any economic benefit accruing from the violations); *In The Matter of: Lawrence John Crescio*, III, Docket No. 5-CWA-98-004, 2001 WL 1030898 at 16-17 (E.P.A.) (May 17, 2001) (assigning an economic benefit in the forms of avoided/delayed costs for delayed cost of wetland restoration and illegal profit earned from sale of products farmed on illegally tiled and farmed land); *In The Matter Of: Chempace Corporation*, Docket No. FIFRA-96-017, 1999 WL 362844 (March 25, 1999)(acknowledging economic benefit in the forms of avoided/delayed costs and illegal profit, but finding the total penalty already captured any economic benefit accruing from the violations).

Here, Respondents accrued the economic benefit of avoided or delayed costs when they stored and blended hazardous waste with used oil, creating a hazardous waste mixture without obtaining and complying with a RCRA permit.[27] U.S. EPA has

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[27] As discussed in this Response, supra, Unitene LE and Unitene AGR are hazardous wastes (D001, D035, F003 and F005). Respondents concede that the material that Respondents obtained from JLM was K022 hazardous waste. Respondents' Motion at 77. When used oil is mixed with K022 and F005 listed hazardous wastes, the resulting blend is a hazardous waste and subject to regulation as hazardous waste under parts 260 through 266, 268, 270, and 124 of the RCRA implementing regulations, rather than as used oil. *See* 40 C.F.R. § 279.10(b). When used oil is mixed with F003, D001 and D035 characteristic hazardous waste (F003 is listed solely for its ignitability characteristic), the

calculated the amount of the avoided/delayed cost amount for counts 1, 2, 3, 5, 6, 7, and 9 as totaling $131,061.00 and for Count 8 as totaling $51,664.00 using the BEN model (for a total avoided and/or delayed cost economic benefit of $182,725.00). CX170. Respondents further profited when they sold their illegal hazardous waste blend to a facility that burned that hazardous waste blend without a RCRA permit.[28] U.S. EPA has

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resulting blend is also a hazardous waste. See, 40 C.F.R. § 279.10(b)(2). 40 C.F.R. § 261.3(b) provides that a solid waste which is not excluded under 261.3(a)(1) becomes a regulated hazardous waste whenever, inter alia, (1) a solid waste and a listed waste (here, F005 and K022) are mixed, and (2) a solid waste and a waste exhibiting any of the 261 Subpart C characteristics of hazardous waste (here, F003, D001 and D035) are mixed (subject to certain caveats not applicable here). Under 40 C.F.R § 261.3(c), a hazardous waste remains hazardous waste until it meets the criteria of 40 CFR 261.3 (d) – none of which are applicable here.

In short, Respondents' material was a listed waste because it was used oil that was mixed with hazardous waste. *See* CX2 at 1615; CX54; CX9 at EPA6936. The only regulatory "out" for the K022 and F005 waste is if it was delisted under 40 C.F.R. § 260.20 and 22. It was not delisted. Further, some of the Respondents' material was characteristic hazardous waste (F003, D001 and D035), because it was used oil that mixed with characteristic hazardous waste. IFF's Unitene LE begins shipments to CIS. CX9 at 6928. Unitene AGR begins shipments to CIS. CX9 at 6936.

[28] WCI Steel burned the used oil and hazardous waste blend that it purchased from Respondents in WCI Steel's iron-making blast furnace. CX24 at 13130, and CX26 at 15358. WCI's iron-making blast furnace did not have a permit to burn hazardous

calculated the amount of illegal profit for counts 1, 2, 3, 5, 6, 7, and 9 as totaling $212,637. *See* CX170, CX171.

Respondents argue that recoupment of both of these forms economic benefit is "double-dipping" based on a hypothetical. Specifically, if a hypothetical competitor of CIS ("ABC Company" in their example) engaged in the same activity as CIS, but ABC Company was permitted, then assessment against CIS of a penalty only for the avoided/and or delayed cost of obtaining and complying with a RCRA permit would put CIS in the exact same economic position as CIS. Respondents' Motion at 74-76. Respondents, however, leave out one crucial fact. Respondents leave out the fact that they were selling their illegal hazardous waste blend to a facility that was not permitted to

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waste. The WCI notification indicates WCI was only an off-spec used oil burner and not a TSD. CX26 at 15358. Under RCRA, WCI was required to have a permit to burn hazardous waste in its iron-making blast furnace. 40 C.F.R. §266.100(a) provides that the regulations of Subpart H apply to hazardous waste burned or processed in a boiler or industrial furnace irrespective of the purpose of burning or processing, except as provided by paragraphs (b), (c), (d), (g), and (h) of this section (the term "burn" means burning for energy recovery or destruction, or processing for materials recovery or as an ingredient in Subpart H). 40 C.F.R. § 266.102, sets forth permit standards for owners and operators of boilers and industrial furnaces burning hazardous waste and not operating under interim status, and providing that such owners and operators must comply with the requirements of this section and 40 C.F.R. §§270.22 and 270.66, unless exempt under the small quantity burner exemption of 40 C.F.R. §266.108.

receive and burn it.[29] Thus, even if Respondents had been RCRA-permitted to store and

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[29] Respondents cite to *Agency of Natural Resources v. Deso*, 824 A.2d 558, 562 (Vt. 2003) for the proposition that it is wrong to recapture both the delayed and/or avoided costs of RCRA non-compliance, as well as profits earned during the period of non-compliance where the product could have been legally sold if the facility had complied with RCRA. In *Deso*, the appeals court held that the trial court erred in assessing Mr. Deso (a gasoline station operator) a penalty that included an economic benefit component consisting of the delayed and/or avoided cost of compliance in the form of installing and maintaining vapor recovery system, as well as the economic benefit of the profits earned by the sale of gasoline during the period there was no vapor recovery system. U.S. EPA has no real disagreement with Respondents' citation to *Deso*, and their proposition that "[i]n comparing CIS to its hypothetical competitor ABC, a rational business will always choose the least costly approach, all other things being equal. Thus, if ABC had been faced with the decision to pay to comply or to not conduct such operations and not enjoy any profits (which would have cost it $386,151), it would clearly choose the lower-cost approach; in this case, $79,462. . . . As noted by the *Deso* court, in this type of situation, "[u]sing a wrongful profits analysis significantly overinflates the actual economic benefit to the violator; rather than leveling the playing field, it puts him or her at a marked disadvantage." Id.

Deso is inapposite to this matter. In this case, CIS would not have been in compliance merely by obtaining and maintaining a RCRA permit for its hazardous waste storage and treatment operations, because it still would have been selling its product to a facility that was not permitted to receive and burn it. Rather, CIS would still have been

blend hazardous waste, they still would have been profiting illegally by selling their hazardous waste blend to WCI which was not permitted to burn hazardous waste.[30] The

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profiting by its illegal sale of hazardous waste to an unpermitted facility. For that reason recapture of Respondents' delayed and/or avoided cost of obtaining a profit alone does not recover all of Respondents' economic gains. Instead, recapture of Respondents' profit from their illegal sale of its hazardous waste is necessary to ensure that all of their economic benefit of noncompliance is recaptured consistent with law, guidance, and policy.

In this regard it is important to point out that U.S. EPA disagrees with Respondents' contention at footnote 24 that U.S. EPA "EPA itself contends that if CIS has complied in the first place, it could have legally conducted its profitable activities." Respondents' Motion at footnote 26. Assuming CIS had had a RCRA permit to store and blend hazardous waste then it still would have ensured that its hazardous waste blend was only sold to recipient that could legally burn that hazardous waste.

[30] An analogy might be the corner package store selling alcohol. In one scenario the package store is selling alcohol to minors without a liquor license. In this scenario the package store is in violation of the law, because it is (1) selling liquor without a license (2) to minors. In the second scenario the package store has a license to sell liquor, but is still selling liquor to minors. In this scenario the package store is in violation of the law, even though it has a license, because it is still selling liquor to minors.

In the first example, the package store has (1) delayed or avoided the cost of a liquor license and (2) profited from its illegal sales to minors – sales it could not have legally achieved even if it had a license. In this example recoupment of the delayed or

Respondents accrued an illegal profit by virtue of this "other" violation of RCRA. The economic benefit in the form of avoided and delayed costs of RCRA compliance as calculated by BEN does not take into account the fact Respondents profited from their illegal sales of hazardous waste to WCI. Accordingly, U.S. EPA's "beyond BEN" calculation is a proper re-capture of the illegal economic gain that accrued to Respondents.

For the foregoing reasons, relying on BEN for re-capture of delayed/avoided cost plus capture of the profit from the sale of the illegal profit is not "double counting," and in this case is necessary to "level the playing field."

IX. Complainant Is Entitled To the Multi-Day Portion of Its Penalty Calculation

Respondents assert that EPA should not collect multi-day penalties pursuant to the June 2003 RCRA Civil Penalty Policy ("Policy"). Respondents' Motion at 77-82. Specifically, Respondents allege that there is no evidence that the violation involving the K022 shipment to CIS on November 21, 2005, lasted more than five or six days. If it is determined that Unitene LE and Unitene AGR are not solid wastes (and therefore not hazardous wastes), Respondents argue that EPA is "left with a single occurrence, the receipt of one shipment of K022 listed material". Respondents' Motion at 79 and 81. Respondents are wrong, and multi-day penalties as calculated by EPA are appropriate in

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avoided cost of the liquor license and the illegal profits from the sales to minors "levels the playing field" by recovering the avoided or delayed costs of licensing and the illegal profits that package stores operating legally would not experience. Here, CIS is like the unlicensed package store selling alcohol illegally to minors.

this matter, even if it is determined that Unitene LE and Unitene AGR are not solid wastes (and therefore not hazardous wastes).

Award of multi-day penalties as calculated by EPA is appropriate in this matter, based on Respondents' storage and treatment of both K022 hazardous wastes and the hazardous wastes renamed as Unitene LE and Unitene AGR are both solid wastes and hazardous wastes, and CIS was therefore required to have a permit on at least the number of days which they were accepted, treated, and stored at the CIS facility, which actually totals more than 180 days. CX9 at EPA6928-6947. However, assuming that the K022 shipment is the only shipment at issue, it is appropriate to impose a multi-day penalty for: (1) the date storage and treatment began; (2) the admitted "five or six days" it was stored and treated; and (3) continuing until the Facility was closed according the requirements of RCRA.[31] Respondents ignore that these violations were continuing in nature. See CX68 at EPA17379. Assuming the K022 shipment is the only shipment of concern, Respondents were under a continuing obligation to obtain a permit (Count 1), conduct personnel training (Count 4), comply with the financial assurance regulations (Count 8) and provide the required land disposal restriction notification (Count 10) *even after* the K022 exited the tanks at CIS and were sent to the blast furnace.[32] This is because CIS never performed closure after handling the K022.

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[31] The officers of CIS [redacted], so it is still possible for CIS to conduct the required closure/post-closure and at the Facility (along with the required financial assurance), as is requested in the Complaint at paragraph 99.

[32] A multi-day penalty component was assessed for all counts in the complaint

All hazardous waste management facilities must eventually cease their treatment, storage, or disposal activities. When such operations cease, the owner and operator must close the facility in a way that ensures it will not pose a future threat to human health and the environment. The RCRA closure and post-closure regulations are designed to achieve this goal. 40 C.F.R. Parts 264 and 265, Subpart G. Closure is the period following active management during which a facility no longer accepts hazardous wastes. When an owner or operator of a treatment, storage, and disposal facility ("TSDF") completes treatment, storage, and disposal operations, he or she must apply final covers to landfills and dispose of or decontaminate equipment, structures, and soils. *Id.* Post-closure, which applies only to land disposal facilities and facilities that cannot decontaminate (or "clean close") all equipment, structures, and soils, is normally a 30-year period after closure during which owners and operators conduct monitoring and maintenance activities to preserve the integrity of the disposal system and continue to prevent or control releases of contaminants from the disposal units. *Id.*

The Ohio regulations state that "[o]wners and operators of hazardous waste management units must have permits during the active life (including the closure period) of the unit." OAC § 3745-50-45(A) [40 C.F.R. § 270.1(C)]. The Ohio regulations further define "[a]ctive life of a facility" as: "the initial receipt of hazardous waste at the facility until the director receives certification of final closure." OAC § 3745-50-10(2) [40 C.F.R. § 260.10].

(there are four calculations total since for penalty calculation purposes Counts 2, 3, 5, 6, 7, and 9 were compressed into the Count 1 penalty).

Assuming the K022 shipment is the only shipment of concern, CIS became a treatment, storage, and disposal facility ("TSDF") when it the K022 arrived at the Facility. Closure was never accomplished at the Facility and therefore all of the requirements applicable to the Facility as a TSDF continue (although for purposes of this penalty, EPA assumed a continuing violation only until CIS stopped operating the Facility).

Respondents point to *In re M.A. Bruder* to support their argument that multi-day penalties are not appropriate, assuming the K022 shipment is the only shipment of concern. *In re: M.A. Bruder and Sons, Inc.*, RCRA (3008) Appeal No. 01-04, 2002 EPA App. LEXIS 12 (July 10, 2002). However, Respondents' reliance on this case is misplaced. *In re M.A. Bruder* is decision addressing whether or not a particular violation should be classified as "major" (under EPA's October 1990 RCRA penalty policy, which is very similar to the EPA's June 2003 RCRA Civil Penalty Policy) – *not* whether or not multi-day penalties should accrue. The EAB disagreed with both EPA, which had classified the violation as a "major" deviation from the RCRA regulations, and the Administrative Law Judge, who had disregarded the penalty policy and instead turned to statutory factors. *In re: M.A. Bruder and Sons, Inc.*, RCRA (3008) Appeal No. 01-04, 2002 EPA App. LEXIS at **32-38. The EAB instead found the extent of deviation to be "minor" and then assessed "as both the Region and the ALJ did, a multi-day penalty for day 2 through 180 of the violation". *Id.* at *43.

Respondents emphasize that the arrival of only one load of hazardous waste at the facility was minor and did not mean the facility was "really" a TSDF, and 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 was actually stored at the facility". However, in addition to the imposition of multi-day penalties in *Bruder*, where the EAB found the violation to be a "minor" deviation from the applicable RCRA regulations, it is also helpful to look to *Everwood Treatment*, a case involving the failure to obtain a RCRA permit where the court held that in light of the "relatively small amount of waste" involved in a violation which was "major" under EPA's October 1990 RCRA penalty policy, it was still appropriate to assess multi-day penalty, albeit at the lower end of the penalty range provided in EPA's October 1990 RCRA penalty policy. *In re: Everwood Treatment Company, Inc.*, RCRA (3008) Appeal No. 95-1, 1996 EPA App. LEXIS 12, at *35 (Sept. 27, 1996).

X. Conclusion

In conclusion, pursuant to 40 C.F.R. § 22.20(a), the Presiding Officer may render an accelerated decision in favor or Respondents only "if no genuine issue of material fact exists and [Respondents are] entitled to judgment as a matter of law." The Respondents have failed to make this showing and therefore an accelerated decision cannot be rendered. Complainant respectfully requests that the Presiding Officer deny the Respondents' Motion for Accelerated Decision.

CONTAINS CONFIDENTIAL INFORMATION-SUBJECT TO PROTECTIVE ORDER

Respectfully Submitted,

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4/2/12
Date

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CONTAINS CONFIDENTIAL INFORMATION-SUBJECT TO PROTECTIVE ORDER

CERTIFICATE OF SERVICE

In the Matter of Carbon Injection Systems LLC, Scott Forster, and Eric Lofquist
Docket No. RCRA-05-2011-0009

I certify that the foregoing "Complainant's Response to Respondents' Motion for Accelerated Decision", dated April 2, 2012, was sent this day in the following manner to the addressees listed below:

Original and one copy hand-delivered to:

Regional Hearing Clerk
U.S. EPA, Region 5
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Chicago, Illinois 60604

Copy via overnight mail to:

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Presiding Judge:

The Honorable Susan L. Biro, Chief Administrative Law Judge
U.S. EPA Office of the Hearing Clerk
1099 14th St. NW
Suite 350, Franklin Court
Washington, DC 20005

4-2-12
Date

Charles Rodriguez, Student Aide

ATTACHMENT A - Clark First Supplemental Declaration

[REDACTED]

ATTACHMENT B - Clark Declaration

[REDACTED]

ATTACHMENT C - Fruehan Supplemental Declaration

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY

BEFORE THE ADMINISTRATOR

In the Matter of:	)	
	)	
Carbon Injection Systems LLC,	)	
Scott Forster,	)	**Docket No. RCRA-05-2011-0009**
and Eric Lofquist,	)	
	)	
	)	
Respondents.	)	
	)	

SUPPLEMENTAL DECLARATION OF RICHARD J. FRUEHAN

I, RICHARD J. FRUEHAN, declare and state as follows:

INTRODUCTION

1. On September 1, 2011, I was asked to work on a RCRA enforcement case against the Respondents in the above-captioned action. This Declaration supports the Complainant's Response to Respondents' Motion For Accelerated Decision.

QUALIFICATIONS

2. I hold the U.S. Steel-endowed Chair in the Department of Material Science and Engineering in the College of Engineering at Carnegie Mellon University (Pittsburgh, Pennsylvania). I am the founder and also the Co-Director of the Center for Iron and Steelmaking Research and the Associate Editor of *Metallurgical and Materials Transactions*. I have been employed at Carnegie Mellon University since January 1981. I am a Past President of the Iron and Steel Society and a Member of the National Academy of Engineering.
3. The statements in this declaration are based on my personal knowledge; on my experience as a Professor of Metallurgy and Materials Science for over thirty

years; on my experience as a consultant for various steel companies and government entities for over forty years; on knowledge I have gained from reviewing certain documents provided to me by the U.S. Environmental Protection Agency ("EPA") and listed in Attachment A to this Declaration; and on knowledge I have gained during discussions with representatives of EPA.

4. My education includes a Bachelor of Science Degree in Metallurgical Engineering from the University of Pennsylvania in 1963, a Ph.D in Metallurgical Engineering from the University of Pennsylvania in 1966, and Post Doctorial Studies at the University of London 1966 – 1967.

5. As a Professor of Metallurgy and Materials Science, my responsibilities include Research on Iron and Steelmaking and teaching thermodynamics, kinetics of reaction, and energy use in metals production at a graduate and undergraduate level.

6. As Co-Director of the Center for Iron and Steelmaking Research my responsibilities include soliciting industrial members, administrating center activities for approximately 18 companies, proposing research on iron and steelmaking topics, and supervising research.

7. As the Associate Editor of *Metallurgical and Materials Transactions* my responsibilities include having papers reviewed and determining if the paper should be accepted and what revisions are necessary.

8. My experience as a consultant for various steel companies and government entities includes, but is not limited to being involved in about 35 legal cases, giving testimony or depositions in about 20 cases, testifying to the U.S. Congress,

the International Trade Commission, and preparing numerous expert reports.

9. In addition, I have written numerous papers on the blast furnace and other iron-making technologies and was the Editor of Making Shaping and Treating Steel, AIST. Pittsburgh, PA, 2000.

ANALYSIS

10. I have reviewed the "Technical Report on Blast Furnace Issues in the Matter of Carbon Injection Systems LLC, et al. Docket No. RCRA-05-2011-09" written by Frederick C. Rorick ("Rorick"), as well as relevant parts of "Respondents Carbon Injection Systems LLC, Scott Forster and Eric Lofquist's Motion for Accelerated Decision."

11. I agree with much of Mr. Rorick's description of blast furnace operations. On several points, however, I disagree with his characterizations.

12. As described in my original declaration, at the tuyere level of most blast furnaces, oil, natural gas, or powdered coal (all of which are forms of hydrocarbon) is injected along with oxygen enriched air into the bottom of the blast furnace through the tuyeres as an energy source to replace some of the coke used in iron production. The choice of injectant used depends on their relative cost and other considerations.

13. Oil is sometimes one of the hydrocarbon materials, or the only material, injected in the bottom of the furnace to replace some of the coke. When the oil is injected at the tuyere level it is immediately combusted to produce or recover heat energy and chemical energy. The combustion of the hydrocarbons creates heat energy, which replaces the heat energy of the displaced coke. The combustion of the

hydrocarbons also provide chemical energy in the form of reducing gases, which are necessary for the chemical reactions that convert iron oxide into iron.

14. Heat energy is needed inside the blast furnace to heat the reactants and to supply the heat energy necessary for the reactions.

15. Heat is supplied to the blast furnace in three ways: by combustion of coke; combustion of injectants; and the heat in the air blast.

16. Two of these three heat inputs are derived from injectants (including the heat in the air blast) at the tuyere level. This heat energy is quantifiable as will be shown in paragraph 18, below.

17. In addition, the combustion of the oil injectants provides chemical energy in the form of carbon monoxide (CO) and hydrogen (H_2), which act as reducing gases by striping the oxygen from iron ore (Fe_2O_3) and from FeO to create pure iron (Fe). This chemical energy is quantifiable, as shown in paragraph 18.

18. The above can be explained with a simple example. Assume 1 kilomole of carbon or 12 kilograms of carbon, is contained in material injected into the blast furnace. Initially the carbon is oxidized to CO releasing 114 Mj (million joules) of heat energy by the reaction $C + \frac{1}{2} O_2 = CO$. As the CO rises in the furnace, it releases chemical energy by stripping oxygen form the iron oxide forming CO_2. If all the CO is converted to CO_2 281 Mj of chemical energy is available. Based on the mass balance supplied by the Respondents about 55% of the CO is converted to CO_2. Therefore, by forming the CO approximately 155 Mj of energy is used in converting Fe_2O_3 to FeO and FeO to Fe. Finally, the off-gas which contains the remaining CO (45%) is burned outside the furnace to produce heat

for other purposes releasing 126 Mj of heat.

This simple example illustrates the first law of thermodynamics, namely energy is conserved. Whenever carbon (C) is converted to CO_2 a total of 395 Mj of energy is available which can be heat or chemical energy.

19. In evaluating the energy consumption of a blast furnace the universal accepted manner is to calculate the total energy by converting all of the carbon to CO_2 and all of the hydrogen to H_2O with oxygen. Therefore, all of the carbon and all of the hydrogen is considered to release energy in the process.

20. The injected material, by producing reducing gases, also supplies energy because it lowers the amount of energy required to remove oxygen from the Fe_2O_3 and FeO.

21. In sum, the oil injected at the tuyere level serves the purpose of being the fuel that provides the heat to raise hot blast temperatures to optimum levels and also serves the purpose of ensuring that appropriate furnace gas composition conducive to iron ore reduction is maintained. The combustion of the oil produces the reducing gases. The carbon in the injected oil does not enter the iron. The carbon in the liquid iron comes from the coke that was introduced at the top of the blast furnace column. The carbon in the oil is essentially completely combusted to CO and H_2 and is an energy source. The oil injected at the tuyere level cannot serve as a source of carbon incorporated into the iron in the iron making process, because it is combusted almost instantly upon injection at the tuyere level. Similarly, the reducing gases CO and H_2 function in the furnace reactions only, and are not ingredients that are added to the iron. In this regard, I disagree with Mr. Rorick's

statement that "70% of the energy supplied by the coke and hydrocarbon is converted into energy that is chemically bonded to the hot metal." Rorick at 3. The idea that in the iron making process energy is "chemically bonded" to the hot metal (Rorick at 3, 13, 14) is not consistent with fundamental thermodynamics.

22. In this regard I would like to point out that the "Summary Evaluation and Assessment of Carbon and Hydrocarbon Raw Materials for Iron Reduction" written by Jeschar and Dombrowski and relied on by Rorick in forming his opinion in this matter, was written with goal of avoiding the classification of carbon and hydrocarbon used in the production of iron as carbon and hydrocarbon subject to the European Union's carbon tax. In short, to ensure that iron produced in the European Union remained internationally competitive, the carbon and hydrocarbon's used in iron production needed to be classified in a way that avoided taxes that would increase the cost of production.

23. Understanding the context of Jeschar and Dombrowski's "Summary Evaluation and Assessment of Carbon and Hydrocarbon Raw Materials for Iron Reduction" also suggests that it is wrong to reject the "Cadence" discussion published by the United States Environmental Protection Agency at 50 Federal Register 49164.

24. Injection materials such as oil, tar, pulverized coal and natural gas are listed as fuels by all of the major steelmaking organizations such as the American Iron and Steel Institute (AISI), the International Iron and Steel Institute IISI), the American Iron and Steel Technology (AIST) and all major reference books on the subject.

25. I also disagree with Mr. Rorick's conclusion that iron cannot be produced simply by heating iron oxide and without using reducing gases produced through carbon

combustion. Rorick at 8. In fact, if iron oxide is brought to a high enough temperature, then oxygen would disassociate from the iron oxide and would produce iron (and not just "hot pieces of iron ore" or "hot liquid iron oxide") without the help of reducing gases. Iron can also be produced from iron ore without CO and hydrogen using other elements, for example, aluminum.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing is true and correct.

Executed on: March 29, 2012 By: Richard J. Fruehan

Richard J. Fruehan

ATTACHMENT A

Documents provided to Richard J. Fruehan by the U.S. Environmental Protection Agency

1. CX40 - 5/13/11 Complaint in CIS et al.

2. CX41 - 7/15/11 Answer in CIS et al.

1. RX45 - C.V. of Frederick C. Rorick, Jr.

2. RX46 – PowerPoint Presentation: Coke and Injectants in the Blast Furnace, Are they Chemical Raw Materials or Fuels, from a Scientific and Technicological Point of View?

3. RX47 – PowerPoint Presentation: What is a Blast Furnace?

4. RX52 – CV of Joseph J. Poveromo

5. RX96 – Article: Summary Evaluations and Assessment of Carbon and Hydrocarbon Raw Materials for Iron Ore Reduction

6. RX97 – Article: Blast Furnace Fuel Injection Trends

7. RX 98 – PowerPoint Presentation: Fuel Injection in the Blast Furnace

8. 40 C.F.R. § 261.2 (Definition of Solid Waste)

9. Information published in the Federal Register when EPA amended its existing definition of solid waste in 40 C.F.R. §261.2. 50 FR 614 (January 4, 1985).

10. Information published in the Federal Register when EPA began regulation of hazardous waste and used oil burned for energy recovery in boilers and industrial furnaces. 50 FR 49164 (November 29, 1985)

11. CX86 "How a Blast Furnace Works" by the American Iron and Steel Institute.

12. "Respondents Carbon Injection Systems LLC, Scott Forster and Eric Lofquist's Motion for Accelerated Decision"

13. "Technical Report on Blast Furnace Issues in the Matter of Carbon Injection Systems LLC, et al. Docket No. RCRA-05-2011-09" written by Frederick C. Rorick

ATTACHMENT D - November 1986 Monthly Summary

9441.1986(87)

RCRA/SUPERFUND HOTLINE MONTHLY SUMMARY

NOVEMBER 86

1. Hazardous Waste Fuel in Incinerators

In general, according to 40 CFR 261.2(c)(2), off-specification commercial chemical products listed under 40 CFR 261.33 are hazardous wastes when burned for energy recovery. One exception to this rule is if the commercial chemical product is itself a fuel or normally a component of fuel (§261.2(c)(2)(ii)). For example, benzene, listed as U019, is normally a component of gasoline, and may be burned for energy recovery without being considered a hazardous waste (see 50 FR 49168, footnote 8 and 50 FR 629, footnote 16). Would off-specification product benzene, therefore, be an acceptable start-up fuel for use in an incinerator if it is not regulated as a hazardous waste?

No, the off-specification benzene would not be acceptable as a start-up fuel in an incinerator because in that situation it is a hazardous waste. by the definitions in 40 CFR 260.10, industrial furnaces and boilers burn materials for energy recovery. The primary purpose of an incinerator, however, is to burn for destruction (see 50 FR 625). Therefore, hazardous materials burned in incinerators are always considered to be hazardous wastes per 40 CFR 261.2(b)(2), EPA holds that burning in an incinerator cannot constitute burning for energy recovery. Additional policy on the nature of incinerators and use of wastes as auxiliary fuels appears in a memorandum from Karen Walker to Michael Sanderson (Region VII) dated June 27, 1986. Therefore, an off-specification product listed under 40 CFR 261.33 that is burned in an incinerator is regulated as a hazardous waste even if it is used as a start-up fuel. 40 CFR 264.345(c) and 265.345 state that hazardous wastes must not be fed to an incinerator during start-up or shut-down unless the incinerator is operating within steady-state conditions or conditions specified in the permit. Therefore, it would not be possible to use hazardous waste as a start-up fuel. Non-hazardous wastes or virgin fossil fuels are normally used instead.

Source: Bob Holloway (202) 382-7938
Research: Jennifer Brock

ATTACHMENT E – 2/6/96 Letter

9441.1995(04)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

February 6, 1995

Mr. John W. Osborne
Manager of Safety and Environmental Quality
United Beechcraft, Inc.
P.O. Box 2966
Wichita, Kansas 67201-2966

Dear Mr. Osborne:

Thank you for your letter dated October 18, 1994, requesting an interpretation regarding the regulatory status of residual aviation fuels that are burned for energy recovery.

As you correctly note in your letter, off-specification fuels, including gasoline, jet fuel, kerosene, diesel, etc. that exhibit a hazardous characteristic and are burned for energy recovery are excluded from regulation under RCRA as commercial chemical products. The RCRA regulations provide that commercial chemical products are not solid wastes when used as fuels (i.e., burned for energy recovery) if that is their intended purpose (40 CFR 261.2(c)(2)(ii)).

According to your letter, there are a number of different ways in which the residual aviation fuels are generated by your company (e.g., during maintenance of the aircraft, as a result of spills, etc.). You ask whether the manner in which the residual fuels are generated is a factor in determining whether they meet the definition of off-specification commercial chemical products under RCRA. The answer, in most cases, is no. The manner in which the fuels become off-specification is not generally a factor in determining how they are regulated. One exception is when the fuels have been mixed with or contaminated by non-fuel listed or characteristic hazardous wastes. In that case, the off-specification fuel would be regulated as a hazardous waste under RCRA even when burned for energy recovery.

There are also a number of potential uses for the off-specification aviation fuels that you generate, all of which involve burning for energy recovery,

according to your letter. The residual aviation fuel may be upgraded to specification by blending it with other types of fuel (e.g., gasoline, diesel, etc.) and then used to fuel aircraft or it may be used to power boilers and industrial furnaces. Your question is whether these uses would be considered "use within the intended purpose" as defined by RCRA. The answer is yes. As long as the residual fuels are being legitimately burned for energy recovery, they would be considered as being used for their intended purpose. EPA does not distinguish between different types of burning for energy recovery for purposes of determining the regulatory status of residual fuels under §261.2(c)(2)(ii).

It is important to note that EPA Regions and States authorized to implement the hazardous waste program make determinations regarding the requirements that apply to specific materials and facilities. Some States have programs more stringent than the Federal hazardous waste program. I hope this letter addresses your concerns. If you have additional questions, please call Becky Daiss of my staff at (202) 260-8718.

Sincerely,

Michael J. Petruska, Chief
Regulatory Development Branch

Attachment

United Beechcraft, Inc.
P.O. Box 2966
Witchita, KS 67201-2966

October 18, 1994

Mr. David Bussard, Director
Characterization and Assessment Division
EPA
401 M St. S.W.
Washington, D.C. 20406

Dear Mr. Bussard:

We would like to obtain an interpretation of the status of our residual/waste stream of aviation gasoline and jet fuel.

In a letter (copy attached) from Mr. Devereaux Barnes to Mr. Joe Haak a similar situation is discussed and interpreted. We want to be sure of any extension of the interpretation to our particular situation so that we remain in compliance with the regulations.

To put the interpretation request in context, our company is comprised of 17 on-airport facilities that provide a variety of services to the aviation community. As a result of the services and due to the stringent fuel quality specifications that must be adhered to in order to ensure safety of flight, a residual fuel is generated.

There are generally four situations that may generate this residual fuel as the following describes.

1. In the process of quality control of the fuel, we sump small quantities of fuel at various points in the storage-to-aircraft fueling system. The result is a residual fuel that has some water from condensation, rust particles and so on.

2. At times in the maintenance of the airplanes, fuel lines or tanks are required to be emptied in order to accomplish the

needed repair task. If the fuel can not be returned to the aircraft it came from, it is collected as a residual fuel.

3. In the process of receiving, storing and transferring of fuels or in the maintenance of the fuel system or aircraft refuelers small drippages result in the generation of residual fuel.

4. And the last case would be where we have had a leak or spillage and have used clean-up material to absorb the fuel.

We make note of two statements in the letter previously referenced. The first "a commercial chemical product is not a solid waste if it itself is a fuel" ... "it is implicit in the rules that the same reasoning applies to commercial chemical products that are not listed". Secondly, in the following paragraph "Although the reclaimed commercial chemical product is burned for energy recovery it is not a solid waste because this was its intended purpose".

While the McDonnel Douglas off-spec fuel would be used to produce apparently more aviation fuel our residual fuel would not be used for that specific purpose. However, it would be used for fuel, i.e. energy recovery. How broadly defined is "fuel" within the context of "intended purpose"? Aviation fuel only for aviation related purposes?

We have found our residual fuel could be used in three different ways as a fuel.

1. Our residual fuel is not up to aviation fuel specifications, but it is acceptable when blended with other types of fuel, e.g. automotive, diesel, etc., and it is used within the context of that fuel's intended purpose.

2. It could be used in kilns, boilers, generators as a fuel to power this equipment's use in a production process of some kind.

3. The fuel soaked clean-up material has enough Btu value to be used as a fuel to run kilns, boilers, etc.

Does how the residual fuel end up being used as a fuel make a difference in the interpretation of "intended purpose"?

It would be a fair statement to make that if 100 percent pure aviation fuel were delivered instead of the residual fuel, the pure product would not be handled substantially different by the fuel user - it is just fuel to them.

We would make a follow-on assumption the receiving process or facility would not need to have a Part B RCRA permit, provided the Agency saw our residual fuel as being used for its intended purpose.

It may be helpful to summarize our questions after having interwoven our specific situation with questions and issues.

1. How does your Agency's interpretation of "fuel" and "intended purpose" view our residual fuel?

2. Does the interpretation change based on how the residual fuel was derived based on the four general situations?

3. Does the interpretation change depending on how the residual fuel is used as a fuel in the end process?

4. Assuming your interpretation is that our residual fuel is a "fuel" and not a hazardous waste, then it would not be necessary for it to be handled and accumulated at our sites as a hazardous waste or dispose at a RCRA permitted site. Is that assumption correct?

Hopefully, this has given you all the pertinent information to the issues. If something has been overlooked please feel free to write or call me at (316) 676-7657. We do appreciate your attention as we are concerned about conducting our business in the proper manner.

John W. Osborne
Manager of Safety and Environmental Quality
United Beechcraft, Inc.

JWO:vlb

Attachment

ATTACHMENT F -7/11/94 Letter

9441.1994(18)

United States Environmental Protection Agency
Washington, D.C. 20460
Office of Solid Waste and Emergency Response

Mr. Dale L. Gable
Environmental Inspector
Office of Waste Management
Department of Commerce, Labor & Environmental Resources
Division of Environment Protection
1356 Hanford Street
Charleston, West Virginia 25301-1401

Dear Mr. Gable:

Thank you for your letter of April 20, 1994, requesting clarification of how the Resource Conservation and Recovery Act (RCRA) regulations apply to off-specification fuels that are being burned for energy recovery.

Your letter cites a July 31, 1989 letter from EPA which states that the exclusion from RCRA for commercial chemical products that are used for their originally intended purpose (40 CFR 261.2(c)(2)(ii)), applies not only to commercial chemical products that are specifically listed in §261.33 but also to commercial chemical products that exhibit a hazardous characteristic. You ask whether this document reflects current EPA policy. The answer is yes. The interpretation of the §261.2(c)(2)(ii) exclusion provided in the letter you cite is merely a reiteration of the Agency's position as initially clarified in the preamble to the April 11, 1986 technical correction notice to the January 4, 1985 Definition of Solid Waste final rule. In the preamble to the technical correction notice, EPA clarified that "Although we do not directly address non-listed commercial chemical products in the rules, their status would be the same as those that are listed in §261.33 -- That is, they are not considered solid wastes when recycled except when they are recycled in ways that differ from their normal manner of use." (50 FR at 14219)

You also ask whether, under this interpretation of the §261.2(c)(2)(ii) exclusion, off-specification fuels, including gasoline, jet fuel, kerosene, diesel, etc., that exhibit a hazardous characteristic and are burned for energy recovery would

considered as commercial chemical products. Again, the answer is yes. Again, the answer is yes. First, as discussed above, these materials would be considered non-listed commercial chemical products. Second, commercial chemical products are not solid wastes when used as fuels (i.e., burned for energy recovery) if that is their intended purpose. Thus, for example, off-specification jet fuel is not a solid waste if used as a fuel.

Finally, you express concern about the effect that this policy may have on the clean-up of spills of gasoline and other fuels. According to your letter, under West Virginia State requirements, clean-up standards for commercial chemical product spills are more stringent than those for characteristic hazardous wastes. EPA does not make a similar distinction in its approach to spill remediation. EPA's overall approach to the clean-up of environmental contamination is set forth in the July 27, 1990 Proposed Rule on Corrective Action for Solid Waste Management Units at Hazardous Waste Management Facilities. In essence, EPA believes that different clean-up levels will be appropriate in different situations and are best established on a site-specific basis. In response to your concern, then, spills of commercial chemical product fuels may have to be cleaned-up to lower levels than do spills of characteristic hazardous waste as a result of State requirements, but not as a matter of Federal policy.

I hope this letter addresses your concerns. If you have additional questions pertaining to the definition of solid waste, please call Becky Daiss at (202) 260-8718 or Mitch Kidwell at (202) 260-8551. Questions regarding EPA's approach to corrective action under RCRA should be directed to Dave Fagan at (703) 308-8620.

Sincerely,

David Bussard
Director
Characterization and Assessment Division

Attachment

DEPARTMENT OF COMMERCE, LABOR & ENVIRONMENTAL RESOURCES
DIVISION OF ENVIRONMENTAL PROTECTION
1356 Hansford Street
Charleston, WV 25301-1401

April 20, 1994

Sylvia K. Lowrance, Director
Office of Solid Waste 05300
U.S. Environmental Protection Agency
Waterside Mall
401 M Street, S.W.
Washington, D.C. 20460

Dear Ms. Lowrance:

This letter is to request a clarification of an earlier United States Environmental Protection Agency (EPA) policy document from Mr. Devereaux Barnes, Director of the U.S. EPA Characterization and Assessment Division in Washington, D.C. concerning off-specification jet fuel. See the document as an attachment to this letter.

For the sake of discussion, I am assuming that Mr. Barnes intended his decision to include any off-specification fuels including gasoline, jet fuel, kerosene, diesel, etc. that may exhibit a characteristic of hazardous waste and are destined to be burned for energy recovery.

The principle argument that Mr. Barnes uses as a basis for his decision is that fuels are commercial chemical products and are, therefore, not solid wastes when burned for energy recovery, as excluded under 40 CFR 261.2(c)(2) (ii), which states specifically: "commercial chemical products listed in 40 CFR 261.33 are not solid wastes if they are themselves fuels". Mr. Barnes states that "Although the regulatory language found at 261.2(c)(2)(ii), which states that in such cases a commercial chemical product is not a solid waste if it itself is a fuel, only addresses commercial chemical products listed in Section 261.33, it is implicit in the rules that the same reasoning applies to commercial chemical products that are not listed". He goes on to cite an April 11, 1986

Federal Register notice
(50 FR at 14219) as a clarifying discussion of this matter.

It would appear, as set forth in 40 CFR, Part 261, that in order to meet the exclusion of 261.2(c)(2)(ii), the materials must first be listed in 261.33. The phrase commercial chemical product or manufacturing chemical intermediate having the generic name listed in..." refers to a chemical substance which is manufactured or formulated for commercial or manufacturing use which consists of the commercially pure grade of the chemical, any technical grades of the chemical that are produced or marketed, and all formulations in which the chemical is the sole active ingredient. The commercial chemical products, manufacturing chemical intermediates and off-specification commercial chemical referred to in 261.33 are listed specifically as U or P wastes under that Part.

Let us use gasoline or off-specification gasoline as the example for this discussion, since the State of West Virginia has been experiencing significant difficulties in regulating the proper use and management of gasoline wastes. Gasoline is a mixture of volatile hydrocarbons suitable for use in a spark ignited internal combustion engine and having an octane rating of at least 60. The major components of gasoline are branched-chain paraffins, cycloparaffins and aromatics. Since gasoline is not listed specifically as a commercial chemical product or a manufacturing chemical intermediate under 261.33, it does not appear to be subject to the regulatory exclusion of 261.2(c)(2)(ii). Gasoline does contain various concentrations of chemicals which are listed in 261.33, specifically benzene, toluene and xylene. However, these chemicals are not in commercially pure grades or technical grades and none of these chemicals are the sole active ingredients of gasoline.

Off specification gasoline, contaminated gasoline and gasoline contaminated water destined to be burned for energy recovery are all currently being handled as exempted materials by industry in West Virginia, due to the existence of the aforementioned EPA guidance document. Mishandling of these materials is an ever increasing problem due to the lack of regulatory authority under the exclusion. The storage, transportation, record keeping and other requirements of RCRA normally prevent such problems from occurring.

Would not the exclusion for commercial chemical products listed in 261.33 apply only to the actual listed materials that are used as fuels? Chemicals such as methanol, toluene, xylene, hydrazine, methyl hydrazine and 1,1 dimethylhydrazine are specific examples of chemical substances which are frequently used as fuels. These commercially pure or technical grade chemicals would appear to meet the exclusion if they are to be burned for energy recovery and have not been "used or spent".

Is there any case law which would support the Devereaux Barnes document? Does this document reflect current U.S. EPA policy? Since cleanup standards for commercial chemical products are generally more stringent than the cleanup standards for characteristic hazardous wastes, would spills of gasoline or other fuels which meet the Barnes document definition of a commercial chemical product have to be cleaned up to those more stringent background conditions? The designation of any compounds which are fuels as commercial chemical products presents the State with many problems for the current and the future use and disposal of those materials."

Please feel free to contact at the West Virginia Division of Environmental Protection field office in Parkersburg, West Virginia at (304) 420-4635 if you require any further information.

Sincerely,

Dale L. Gable
Environmental Inspector
Compliance Monitoring and Enforcement
Office of Waste Management

ATTACHMENT G - 3/19/86 Letter

9441.1986(22)

MAR 19 1986

Ms. Joan Keenan
91 Harvard Avenue
Rockville, N.Y. 11570

Dear Ms. Keenan:

This is in response to your letter dated February 21, 1986. In your letter, you requested a declaratory ruling and advisory opinion on a number of questions concerning the regulatory status of a gasoline/waster mixture and a fuel oil/water mixture that is recycled. Our response to these questions are as follows:

First State of Facts

1. Where the separated gasoline is being legitimately recycled for use as a fuel, does EPA consider the gasoline and water mixture a hazardous waste under the Resource Conservation and Recovery Act (RCRA) and its attendant regulations?

   No. The gasoline/water mixture is considered a mixture which contains a commercial chemical product (CCP). CCPs that are reclaimed are not considered "solid wastes" i.e., it's not "discarded" because it's normally a fuel and not being abandoned). Since hazardous waste is a subset of solid waste, this mixture is not defined as a hazardous waste (i.e., it must be a solid waste before it can be a hazardous waste).

2. Does the Agency consider the unused (virgin) gasoline a solid waste under RCRA and its attendant regulations?

   No. See explanation to previous question.

3. Does the Agency consider the unused gasoline an industrial commercial waste under RCRA and its attendant regulations?

   No. Since gasoline is typically burned as a fuel, we would not consider it a waste when recycled in the manner described in your letter.

4. Has the gasoline "resulted from" an industrial or commercial process to justify a determination of the virgin product as a waste?

Additional information is needed before we can respond to this question. Please contact Matthew A. Straus at (202) 475-8551.

5. Does the Agency require that ABC Company obtain any permits or other letters of authorization of any kind from the Agency?

   No. Since the gasoline/water mixture is not a solid and hazardous waste, this mixture is not subject to the Federal regulations under RCRA. This mixture may still be subject to State law and to the transportation rules promulgated by the Department of transportation.

6. If the virgin gasoline is incinerated to recovery energy, does the Agency consider it to be a waste?

   No. Since gasoline is typically burned as a fuel, it is not considered a waste when burned to recover energy under Federal regulation (see 40 CFR 261.33).

Second State of Facts

1. Where the separated oil is being legitimately recycled for use as a fuel, does the Agency consider the oil and water mixture a hazardous waste under RCRA?

   No. The fuel oil/water mixture is considered a mixture which contains a CCP. CCPs that are reclaimed are not considered "solid wastes" (i.e., it's not "discarded" because it's normally a fuel and not being abandoned). Since hazardous waste is a subset of solid waste, the mixture is not defined as a hazardous waste.

2. Does the Agency consider the unused (virgin) oil a solid waste under RCRA?

   No. See explanation to previous question.

3. Does the Agency consider the unused oil an industrial-commercial waste under RCRA?

   No. Since fuel oil is typically burned as fuel, we would not consider it a waste when recycled in the manner described in your letter.

4. Has the oil "resulted from" an industrial or commercial process as that term is used in §27-03030 of the New York Environmental Conservation Law?

Since you are requesting for an interpretation of State law, you should contact the New York Department of Environmental Conservation for an answer to this question.

5. Does the Agency require that ABC Company obtain any permits or other letters of authorization of any kind from the Department?

   No. Since the fuel oil/water mixture is not a solid and hazardous waste, this mixture is not subject to Federal regulation under RCRA. This mixture may still be subject to State law and to the transportation rules promulgated by the Department of Transportation.

6. If the virgin oil is incinerated to energy recovery, does the Department consider it to be a waste?

   No. Since virgin fuel oil is typically burned as a fuel, it is not considered a waste when burned to recover energy under Federal regulation (see 40 CFR 261.33).

Please feel free to contact Mr. Matthew A. Straus is you have any further questions.

Sincerely,

Original Document signed

Marcia E. Williams
Director
Office of Solid Waste

ATTACHMENT H - 3/8/86 Letter

9441.1986(19)

OFF-SPECIFICATION JET FUEL BURNED AS KEROSENE FUEL

MAR 8 1986

Mr. Richard Weaver
Aero Sport, Inc.
St. Augustine Airport
P.O. Drawer 1989
St. Augustine, Florida 32085

Dear Mr. Weaver:

Thank you for your letter of February 10, 1986, concerning the regulatory classification of off-specification jet fuel when it is burned as kerosene. Under the Environmental Protection Agency's (EPA) rules (40 CFR §261.2(c)(2)(ii)), an off-specification commercial chemical product is not a solid waste as long as it is used for its original purpose. In this case the product, jet fuel, although not used to propel jets, is still being used as a fuel and, therefore, is neither a solid waste nor a hazardous waste.

Sincerely,

Marcia E. Williams
Director
Office of Solid Waste (WH-562)

ATTACHMENT I - 12/23/86 Letter

9441.1986(95)

BURNING CHARACTERISTIC OFF-SPECIFICATION PETROLEUM PRODUCTS FOR ENERGY RECOVERY

DEC 23 1986

Mr. Francis L. Corden
Technical Consultant
Enviropact of Tampa Bay
Environmental Consulting and Analysis
11181 43 Street North
Clearwater, Florida 33520

Dear Mr. Corden:

This is in response to your November 6, 1986, letter requesting confirmation that waste petroleum products with a flash point below 100 F that are burned for energy recovery are not solid (or hazardous) wastes.

As Mike Petruska has indicated to you, off-specification or contaminated commercial chemical products that are burned for energy recovery are not solid wastes (and, thus, not hazardous wastes) if they are themselves fuel. For commercial chemical products listed in §261.33, the rules state explicitly that they are not wastes if they are themselves fuels and if the off-specification or contaminated product is burned for energy recovery. See 40 CFR 261.2(c)(2)(ii). The same principle applies to off-specification commercial products that exhibit one of the hazardous wastes characteristics (see the April 11, 1985, Federal Register, p. 14219, col. 1).

You mention that your client will mix the waste petroleum products with used oil prior to marketing to incinerators for use as a fuel. You should be aware that under RCRA regulations, materials are burned for energy recovery in either boilers or industrial furnaces. See 40 CFR 260.10 for definitions. Materials burned in incinerators are considered to be burned for destruction rather than energy recovery (see the January 4, 1985, Federal Register, p. 627, col. 3). Incinerators are defined in §260.10 as any enclosed device using controlled flame combustion that neither meets the definition of a boiler nor is designated as an industrial furnace. Thus, if your fuel mix is burned in an

incinerator, it would not be burned for energy recovery and would be subject to regulation as a hazardous waste assuming the fuel still has a flash point lower than 140 F (the characteristic of an ignitable hazardous waste). The hazardous waste transportation and storage standards would apply.
If, however, by mixing the waste petroleum products with used oil, the mixture no longer exhibits a characteristic of hazardous waste (e.g., the flash point is higher than 140 F), the fuel mix would no longer be subject to regulation as hazardous waste. Nonetheless, the waste petroleum products would be regulated as hazardous waste prior to such treatment to make them nonhazardous.

Finally, if, in fact, your client markets the fuel mix to boilers or industrial furnaces for energy recovery and if the fuel mix has a flash point below 100 F, the fuel would be regulated as off-specification used oil fuel under the November 29, 1985, rule. In this situation, you would be subject to regulation as a marketer of off-specification used oil fuel and would have to comply with the notification and recordkeeping requirements of that rule. further, the off-specification used oil fuel could not be burned in nonindustrial boilers (e.g., residential, commercial, or institutional boilers).

I hope this addresses your concerns. If you have other questions, please contact Bob Holloway at (202) 382-7917.

Sincerely,

Original Document signed

Marcia E. Williams
Director
Office of Solid Waste

ATTACHMENT J - 7/31/89 Letter

9441.1989(39)

OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE

JUL 31 1989

Joe Haake
Hazardous Waste Coordinator
Dept. 441C, Mail Code 0801800
McDonnell Douglas
P.O. Box 516
Saint Louis, Missouri 63166-0516

Dear Mr. Haake:

This responds to your May 9, 1989 request for a regulatory interpretation regarding the "recycling" of unused off-specification jet fuels into new jet fuel. You state in your letter that waste fuel is not spent material because it has never been used, resulting instead from the overflow during fueling and from fuel drained from tanks/lines following testing. However, because of the stringent military fuel specifications, it cannot be used as jet fuel without reclamation or reprocessing.

Although you currently manage the off-spec fuel as a hazardous waste (D001), you intend to sell the fuel to a refining company as a feedstock to produce jet fuel. You therefore believe that as an ingredient in an industrial process, the off-spec fuel would not be solid waste. However, as I understand from your letter, the Missouri Department of Natural Resources (MDNR) believes that as a material used to produce a fuel, the off-spec fuel would remain a solid waste.

EPA Headquarters does not agree with either interpretation. In particular, we believe that the "recycling" activity described in your letter is not "use as an ingredient in an industrial process." Although the off-spec fuel may go through a manufacturing process, the activity is hear characterized as reclamation (i.e., the jet fuel that does not meet the purity specifications is reprocessed into jet fuel meeting the required purity specifications).

Also, MDNR's regulatory interpretation, as stated in your letter, differs from the Federal interpretation. While MDNR states that because the material being used to produce a fuel (i.e., burning for energy recovery) it remains a solid waste, the Agency considers the material's original intended purpose when commercial chemical products are involved. Under the existing regulations, commercial chemical products (or off-spec commercial chemical products) that are reclaimed are not solid waste even if the material is used to produce fuel if that is the materials intended purpose. Thus, this off-spec jet fuel, if used to produce jet fuel, is not a solid waste (i.e., an

off-spec fuel is being reclaimed to be used as a fuel -- its intended purpose). Although the regulatory language found at

40 CFR 261.2(c)(2)(ii), which states that in such cases a commercial chemical product is not a solid waste if it itself is a fuel, only addresses commercial chemical products listed in section 261.33, it is implicit in the rules that the same reasoning applies to commercial chemical products that are not listed. A clarifying discussion of this is found in the April 11, 1986 Federal Register notice (50 FR at 14219), the technical correction notice to the January 4, 1985 Definition of Solid Waste final rule (50 FR 614).

The Agency's interpretation is that you are reclaiming an off-specification commercial chemical product (which would otherwise be a hazardous waste because it exhibits a characteristic of a hazardous waste) for its intended purpose and, therefore, is not a solid waste. Although the reclaimed commercial chemical product is burned for energy recovery, it is not a solid waste because this was its intended purpose.

The State of Missouri is authorized to implement the hazardous waste program under RCRA and may promulgate State regulations or make regulatory interpretations. You must also comply with MDNR's regulations.

Should you have further questions of a more general nature, you may contact the RCRA Hotline at 1-800-424-9346, or Mitch Kidwell, of my staff, at (202) 475-8551. For questions of a more site-specific nature, you should contact the Missouri Department of Natural Resources and the EPA Region VII office.

Sincerely,

Original Document signed

Devereaux Barnes
Director
Characterization and
Assessment Division

cc: Kenneth J. Davis
Missouri Department of Natural Resources
Lynn Harrington, Chief
Permits Branch
Region VII