(1) Role in the Corporation

Forster has always had a significant role in the operation of CIS.
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(2) Percent of Stock Ownership in the Corporation
Forster
· · · · · · · · · · · · · · · · · · ·

(3) Involvement in the Activity at Issue

Forster was intimately involved with the activity at issue here: namely, the storage and
treatment of hazardous waste without a permit.
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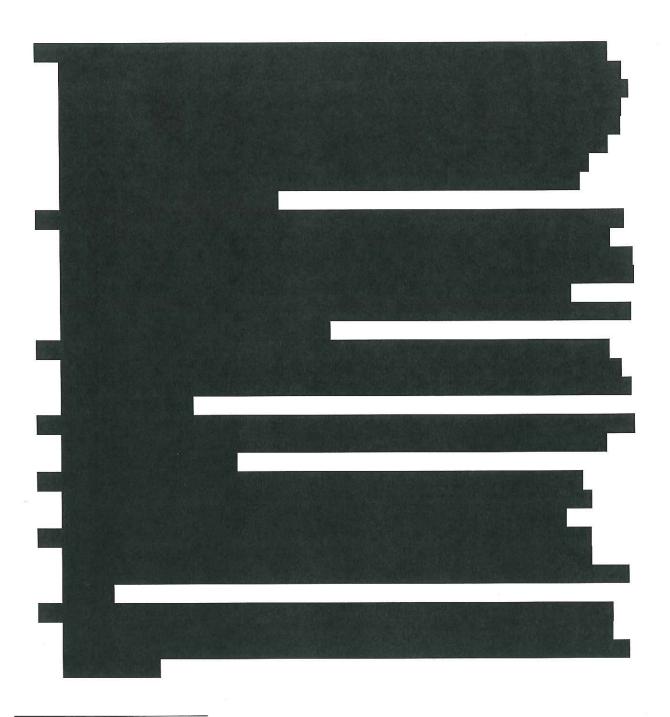
³⁷ See also CX26 at EPA15356-15359 and CX27 at EPA16730-16736.

 $^{^{38}}$ See also CX27 at EPA 16750-57 and EPA16759-16765.

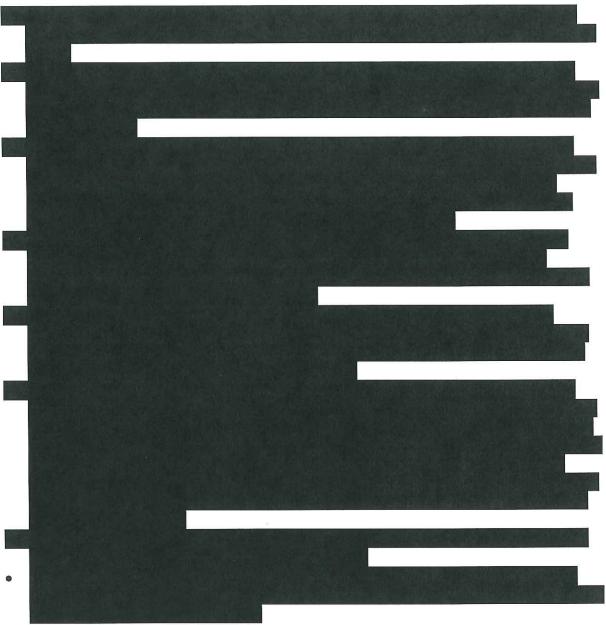
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	(4) Authority i	n Making Financial I	Decisions for the Facility
Forster had authority		cisions for the CIS Fac	
Forster had authority			

The concept of presuming that used oil containing more than 1000 ppm total halogens may be a hazardous waste by virtue of having been mixed with a listed hazardous waste, and that this presumption may be rebutted by showing that it does not contain hazardous waste, is referred to as the "rebuttable presumption." The rebuttable presumption applies to any regulated used oil handler in possession of used oil with a total halogen concentration above 1000 ppm. OAC 3745-279-63 [40 C.F.R. § 279.44].

(5) Involvement and Authority in Decision-making as to the Facility's Operation and Compliance with Laws and Regulations at Issue
Forster was intimately involved in the decision making regarding the Facility's
operations and regulatory compliance. The laws and regulations at issue in this matter are
RCRA and its implementing regulations. Specifically, the question is whether CIS treated and
stored materials which were both a "solid waste" and "hazardous waste" under RCRA before
CIS sent the material to the blast furnace at WCI Steel.



⁴⁰ It should be noted that at the time CIS was operating the Facility, its officers, Forster and Lofquist, were running several other waste businesses, including General Environmental Management LLC ("GEM") and Magnus International Group LLC ("Magnus") and both Forster and Lofquist routinely conducted CIS business with their email accounts at both GEM and Magnus.



- CX13 at EPA10175 is an email exchange between Forster and waste broker T. Charpia (IWM) wherein Forster indicates that CIS is paying for the expert IWM is hiring to help make the argument to that materials being fed to a blast furnace are non-hazardous (similar to Cadence): "...he needs to bill you and you can bill us, we need to have some kind of Purchase Order for him though and a limit like \$3500 to start or something."
- CX13 at EPA10366-7 is an email exchange between Forster and waste broker T. Charpia (IWM) wherein Forster implies that he is orchestrating a 3-prong approach to get EPA to accept shipments of material into CIS as non-hazardous: "working hard on the epa thing bud, hang tough...we are going at them from 3 angles now, they have to act soon."
- CX21 at EPA 12792-12795 is an November 30, 2007, email from Lofquist (Magnus) to Osieki (Neville) with Forster (Magnus) cc'd. Email has an EPA guidance document attached and discusses used oil and solid waste.

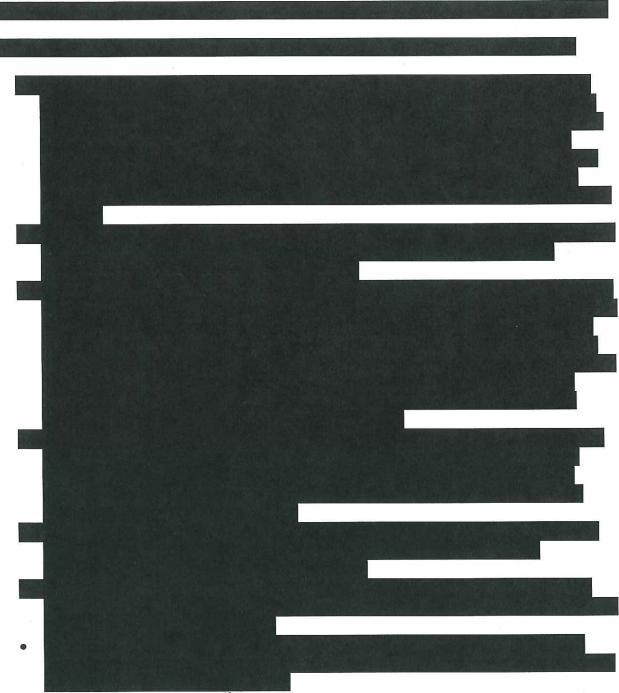
- CX 21 at EPA12808 is a facsimile transmitting a June 3, 2005, letter from S. Forster (GEM) to J. Habazin at Neville Chemical Company (a potential supplier of waste material to CIS) approving an "acceptable carbon replacement"
 - (6) Documents Submitted to EPA Identifying the Individual as Facility Operator and Not Just Corporate Representative

Forster was an operator of the Facility, and not just a corporate representative. In an Information Request Response from CIS to EPA, In addition, there are dozens of emails between Foster and waste broker IWM regarding the acceptability of materials at the CIS facility - including analytical acceptability, pricing and shipping. See CX13. Lofquist was a RCRA "Operator" c) As noted above, Lofquist exercised active and pervasive control over facility operations, and is therefore liable as an operator under RCRA. This is clear when one examines individual factors listed in In the Matter of Southern Timber Products, 1992 EPA App. LEXIS at **23-35. **(1) Role in the Corporation** Lofquist has been Vice President of CIS since August 2004. See

(2)	Percent of Stock Ownership in the Corporation
Lofquist	
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(3)	Involvement in the Activity at Issue
Lofquist was involved in daily	activity related to the shipment of IFF's hazardous waste
to CIS.	
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BURNELL STREET	

⁴¹ See also CX27 at EPA16770.

(4) Authority in Making Financial Decisions for the Facility
Lofquist had authority for financial decisions at CIS. See
(5) Involvement and Authority in Decision-making as to the Facility's Operation and Compliance with Laws and Regulations at Issue
Lofquist was intimately involved with the decision making regarding the Facility's
operations and regulatory compliance. As noted above, the laws and regulations at issue in this
matter are RCRA and its implementing regulations. Specifically, the question is whether CIS
treated and stored materials which were both a "solid waste" and "hazardous waste" under
RCRA before CIS sent the material to the blast furnace at WCI Steel.

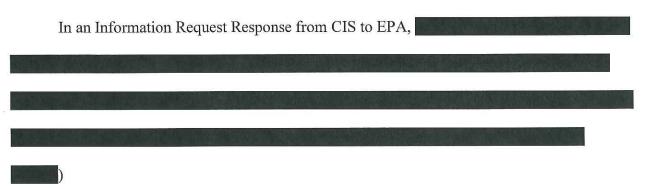


• CX21 at EPA 12706-12776⁴² is an exchange of emails from August 2007 to November 2008 between Z. Osiecki (Neville) and E. Lofquist (Magnus), initially, followed by exchanges with S. Forster (GEM). Discussions center on whether material generated by Neville for shipment to the Lofquist/Forster GEM facility and then on to the CIS facility for sale to the steel mill for use in the blast furnace are exempt from the definition of solid waste. Describes a discussion with Lofquist and K. Eiber (counsel for Respondents), and states that: (1) Lofquist will either distill and blend the Neville

 $^{^{\}rm 42}$ See also CX21, EPA12778-12787 and EPA12789-90.

material prior to blending with other materials and then use as a "fuel injectant" or use it directly as a "fuel injectant"; (2) K. Eiber recommends "Do not attempt to argue coproduct; (3) Lofquist stated "In the [iron] manufacturing process, [steel mills] need material with high levels of carbon in the first phase only after this phase do you need the heat input from the material" at EPA 12730-31. References a technical discussion lead by Lofquist regarding Cadence 312 and use of high carbon material in blast furnaces at EPA12754-55. CX21 at EPA 12708 references "Eric's [Lofquist's] position that Neville's material should fit the [solid waste] exemption.")

- CX21 at EPA 12788 is an email from Z. Osiecki (Neville) to E. Lofquist (Magnus) regarding an old spec sheet from GEM which Neville expects to use as a guide for the specs for its "recovered oil product."
- CX21 at EPA12791 is an email from Z. Osiecki (Neville) to Lofquist (Magnus) providing a suggested agenda for a meeting to be held on March 27, 2008.
- CX21 at EPA 12796-97 is a series of emails between Lofquist (GEM) and Osiecki (Neville) regarding a solid waste exclusion, failure of OEPA to give Lofquist approval, and Cadence 312.
- CX21 at EPA12798 is an email exchange between Lofquist (GEM) and Osiecki (Neville) wherein Lofquist provides comments on a draft letter from Osiecki.
- CX21 at EPA12803-12806 is an email from Osiecki (Neville) to Lofquist (GEM) regarding a draft letter from Neville Chemical to OEPA and requests formal concurrence from OEPA that a material recovered by Neville and shipped to GEM "for use by GEM as an ingredient in the production of a liquid carbon source catalyst comes within the definition of solid waste exclusion at Ohio Admin. Code § 3745-51-02(E)(1)(a).
 - (6) Documents Submitted to EPA Identifying the Individual as Facility Operator and Not Just Corporate Representative



In conclusion, as demonstrated above, there is no genuine issue of material fact that both Forster and Lofquist exercised active and pervasive control over facility operations, and are therefore liable as operators under RCRA. In fact, they were intimately involved in repeated attempts to convince U.S. EPA and OEPA to declare that the hazardous waste CIS was selling to

a steel mill for energy recovery in a blast furnace was not in fact regulated by RCRA (even well before the JLM and IFF shipments) – which is at the very root of the RCRA violations in this matter. Significantly, these attempts were *unsuccessful* and Forster and Lofquist *knew that the attempts were unsuccessful*. Both U.S. EPA and OEPA maintained *each and every time* that the hazardous waste <u>was regulated</u>. However, this did not stop Forster and Lofquist, who continued their activity.⁴³

B. Respondents Violated Numerous Other RCRA Subtitle C Requirements at the CIS Facility

The Complaint alleges not just that the Respondents are liable for storage and treatment of hazardous waste without a permit (Count 1), but also that they are liable for a number of other violations flowing from Count 1:

- Count 2: Respondents failed to hold a public meeting;
- Count 3: the Respondents did not develop and follow a sufficient written waste analysis plan;
- Count 4: Respondents' facility personnel training and recordkeeping was insufficient;
- Count 5: Respondents failed to meet RCRA preparedness and prevention requirements;
- Count 6: Respondents accepted hazardous waste without an accompanying manifest and failed to prepare and submit an unmanifested waste report;
- Count 7: Respondents failed to have an adequate written closure plan;
- Count 8: Respondents failed to have and maintain a detailed written estimate of closure costs and Respondents failed to comply with applicable financial assurance requirements;
- Count 9: Respondents failed to obtain and keep on file at the facility a written hazardous waste tank assessment; and

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• Count 10: Respondents failed to determine and provide land disposal notification and certification pursuant to the applicable land disposal requirements

The Respondents have admitted many of these violations and are unable to refute the evidence with regard to other violations.

1. Respondents Failed To Hold the Required Public Meeting

Respondents failed to hold a public meeting before submitting a RCRA permit application for the Facility. Pursuant to OAC § 3745-50-40(A)(2)(a) [40 C.F.R. § 124.31(b)] prior to the submittal of a complete application for a hazardous waste facility installation and operation permit, the applicant must hold at least one meeting in the township or municipal corporation in which the facility is proposed to be located, whichever is geographically closer to the proposed location of the facility. The meeting must be open to the public and must be held to inform the community of the proposed hazardous waste management activities and to solicit questions from the community concerning the activities. The applicant must provide to the director evidence of the meeting and document community questions concerning the proposed activities.

In an information request to Respondent CIS, EPA asked if CIS had obtained an Ohio hazardous waste facility installation and operation permit. CX4 at EPA6039. The request asked CIS to provide all information regard public meetings related to the permit application and issuance. *Id*.

All available evidence indicates that Respondents failed to hold the required public meeting.

2. Respondents Did Not Develop and Follow A Sufficient Written Waste Analysis Plan

Pursuant to OAC § 3745-54-13(B) [40 C.F.R. § 264.13(b)], the owner or operator of a hazardous waste treatment, storage or disposal facility must develop and follow a written waste analysis plan which describes the procedures to be implemented in order to comply with paragraph (A) of this rule. He must keep this plan at the facility. At a minimum, the plan must specify: (1) the parameters for which each hazardous waste will be analyzed and the rationale for the selection of these parameters; (2) the test methods which will be used to test for these parameters; (3) the sampling method which will be used to obtain a representative sample of the waste to be analyzed; (4) the frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up to date; (5) for off-site facilities, the waste analyses that hazardous waste generators have agreed to supply; and (6) the methods which will be used to meet the additional waste analysis requirements for specific waste management methods of OAC § 3745-270-07.

In addition, pursuant to OAC § 3745-54-13(C) [40 C.F.R. § 264.13(c)] the waste analysis plan must also specify the procedures which will be used to inspect and, if necessary, analyze each movement of hazardous waste received at the facility to ensure that it matches the identity of the waste designated on the accompanying manifest or shipping paper. The plan must describe the procedures which will be used to determine the identity of each movement of waste managed at the facility.

In an information request to Respondent CIS, EPA asked CIS to provide copies of any written waste analysis plan developed and followed by CIS. CX4 at EPA6040.

The evidence shows that
Respondents did not develop and follow a sufficient written waste analysis plan.
3. Respondents Failed to Provide the Required Personnel Training and Keep the Required Records
OAC § 3745-54-16(A)(1) [40 C.F.R. § 264.16(a)(1)] requires facility personnel to
successfully complete a program of classroom instruction or on-the-job training that teaches
them to perform their duties in a way that ensures the facility's compliance with the requirements
of the standards for owners and operators of hazardous waste, treatment, storage and disposal
facilities. In addition, OAC § 3745-54-16(D) [40 C.F.R. § 264.16(d)] requires facilities to
maintain documents and records related to this training.
In an information request to Respondent CIS, EPA asked CIS to provide: a description of
classroom instructions and materials provided to students; a description of on-the-job training
and materials provided to students; the names/titles/date trained of all who successfully
completed a program of classroom or on-the-job training at CIS, and copies of records associated
with that training. CX4 at EPA6039.

The evidence is clear:

Respondents failed to provide the required personnel training and keep the required records.

4. Respondents Failed To Meet RCRA Preparedness and Prevention Requirements

OAC § 3745-54-37(A) [40 C.F.R. § 264.37(a)] requires hazardous waste, treatment, storage and disposal facilities to attempt to make: (1) arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to and roads inside the facility, and possible evacuation routes; (2) where more than one police and fire department may respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department and agreements with any others to provide support to the primary emergency authority; (3) arrangements with Ohio EPA emergency response teams, emergency response contractors, and equipment suppliers; and (4) arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

In an information request to Respondent CIS, EPA asked CIS to provide information regarding any CIS attempts to: familiarize various first responders with the CIS facility; designate a primary emergency authority and make agreements regarding supporting the primary emergency authority, as required; make arrangements with OEPA, and make arrangements to familiarize local hospitals with the properties of hazardous waste at the CIS facility. CX4 at EPA6040.

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	Respondents		
clearly failed to comply with the RCRA preparedness and prevention requirements.			

5. Respondents Accepted Hazardous Waste without an Accompanying Manifest and Failed To Prepare and Submit an Unmanifested Waste Report

OAC §3745-54-76 [40 C.F.R. § 264.76] requires that if a facility accepts for treatment, storage, or disposal any hazardous waste from an off-site source without an accompanying manifest, then the owner or operator must prepare and submit an unmanifested waste report in the form of a letter to the director of the OEPA in the case of the federal regulations, the Regional Administrator of U.S. EPA) within fifteen days after receiving the waste.

In an information request to Respondent CIS, EPA asked CIS to provide information regarding unmanifested waste reports. CX4 at EPA6040.

The evidence shows that Respondents accepted hazardous waste without an accompanying manifest and also failed to prepare and submit an unmanifested waste report, as required by the applicable regulations.

6. Respondents Failed To Have an Adequate Written Closure Plan

Pursuant to OAC §§ 3745-55-10 through 3745-55-20 [40 C.F.R. §§ 264.110-120], the

owner and operator of a hazardous waste management unit is required to have a written closure

plan that identifies the steps necessary to perform partial or final closure of the facility at any point during its active life.

In an information request to Respondent CIS, EPA asked CIS to provide copies of any written closure plans that identify the steps necessary to perform partial or final closure of the CIS facility at any point in its active life. CX4 at EPA6041.

Respondents therefore failed to have an adequate written closure plan.

7. Respondents Failed To Have and Maintain a Detailed Written
Estimate of Closure Costs and Respondents Failed To Comply With
Applicable Financial Assurance Requirements

Pursuant to OAC § 3745-55-40 [40 C.F.R. § 264.140], the owner and/or operator of a hazardous waste management facility is required to have and maintain a detailed written estimate, in current dollars of the cost of closing hazardous waste management units in accordance with the applicable provisions of OAC § 3745-55-42 [40 C.F.R. § 264.142]. In addition, the owner and/or operator of a hazardous waste management unit is required to comply with the financial assurance provisions of OAC § 3745-55-43 [40 C.F.R. § 264.143].

In an information request to Respondent CIS, EPA asked CIS to provide copies of any written estimates of the cost of closing hazardous waste management units at the CIS facility.

CX4 at EPA6041.

The evidence therefore shows that

respondents failed to have and maintain a detailed written estimate of closure costs and respondents failed to comply with applicable financial assurance requirements.

8. Respondents Failed To Obtain and Keep on File at the Facility a Written Hazardous Waste Tank Assessment

Pursuant to OAC § 3745-55-92 [40 C.F.R. § 264.192], the owner and/or operator of a hazardous waste management facility is required to obtain and keep on file at the facility a written assessment reviewed and certified by a qualified Professional Engineer attesting that the tank system was adequately designed and that the tank system had sufficient structural strength and compatibility with the waste(s) to be stored or treated, to ensure that it would not collapse, rupture, or fail. In addition, this assessment should have considered, at a minimum, the following information: (1) design standard(s) according to which tank(s) and/or the ancillary equipment were constructed; and (2) hazardous characteristics of the waste(s) that were to be handled; (3) existing corrosion protection measures; (4) documented age of the tank system; and (5) results of a leak test, internal inspection, or other tank integrity examination.

In an information request to Respondent CIS, EPA asked CIS to provide copies of any such assessment. CX4 at EPA6040-41.

The evidence shows that Respondents failed to obtain and keep on file at the facility

a written hazardous waste tank assessment, in accordance with the applicable regulations.

9. Respondents Failed To Determine and Provide Land Disposal Notification and Certification Pursuant To the Applicable Land Disposal Requirements

Pursuant to OAC § 3745-270-07(B)(5) [40 C.F.R. § 268.7(b)(5)] if a treatment facility's waste will be further managed at a different treatment, storage, or disposal facility, the treatment, storage, or disposal facility sending the waste off-site must comply with the notice and certification requirements applicable to generators. Pursuant to OAC § 3745-270-07(A)(1) [40 C.F.R. § 268.7(a)(1)] a generator of a hazardous waste must determine if the waste has to be treated before it can be land disposed. This is done by determining if the hazardous waste meets the treatment standards of OAC §§ 3745-270-40, 3745-270-45, or 3745-270-49 [40 C.F.R. §§ 268.45, 26845 or 268.49]. Pursuant to OAC § 3745-270-07(A)(2-4) [40 C.F.R. § 268.7(a)(2-4)] with the initial shipment of waste to each treatment or storage facility, the generator must send a one-time written notice to each treatment or storage facility receiving the waste, and place a copy in the generator's files.

In this case, the material was sent from the CIS facility off-site to be treated, stored, or disposed of in the WCI Steel blast furnace.

CX29 at EPA16814-16815 (EPA Inspection Report describing the Facility); CX46 at EPA17145 (printout from CIS website including description of the Facility). However, there is no evidence that CIS: (1) determined if the waste had to be treated before it could be land disposed or (2) sent a one-time written notice to WCI Steel, and placed a copy in the CIS files.

Instead, CIS has repeatedly stated that it never shipped hazardous waste. The evidence shows that Respondents failed to determine

and provide land disposal notification and certification pursuant to the applicable land disposal requirements.

C. There is a Lack of Evidence to Support Respondents' Affirmative Defenses

This Court ruled on Complainant's Motion to Strike Affirmative Defenses on February 14, 2012, as follows:

- First Affirmative Defense: relevant to penalty determination only
- Second Affirmative Defense: stricken
- Third, Fourth and Fifth Affirmative Defenses: consolidated into a single selective enforcement defense.
- Sixth Affirmative Defense: stricken as to Forster and Lofquist
- Seventh Affirmative Defense: relevant to penalty determination only

Because this Motion addresses liability only, it only addresses the consolidated selective enforcement defense. ⁴⁴ The Respondents have the ultimate burden of proof for affirmative defenses. *In the Matter of 99 Cents Only Stores*, Docket No. FIFRA-9-2008-027, 2008 EPA ALJ LEXIS 45, at *5 (June 2, 2008). For EPA to prevail on a motion of accelerated decision where there is an affirmative defense as to which a respondent ultimately bears such burdens, EPA initially must show that there is an absence of evidence in the record for the affirmative defense. *Id.* EPA can make such a showing for Respondents' selective enforcement affirmative defense.

There is no evidence in the record to show that EPA's claims are barred by the doctrine of selective enforcement. EPA is allowed broad prosecutorial discretion. *Wayte v. United States* 470 U.S. 598, 607 (1985). "[S]o long as the prosecutor has probable cause to believe that the accused committed an offense defined by statute, the decision whether or not to prosecute, and

⁴⁴ This Court did not rule on the sixth affirmative defense as to CIS in its February 14, 2012 Order, but that defense is only relevant to a penalty determination, not a liability determination.

what charge to file or bring before a grand jury, generally rests entirely in his discretion." *Bordenkircher v. Hayes*, 434 U.S. 357, 364 (1978). However, this discretion is limited by constitutional constraints. *Wayte*, 470 U.S. at 608. To establish a prima facia case under the doctrine of selective enforcement, Respondents must demonstrate that (1) they have been singled out while other similarly situated violators were untouched, and (2) that EPA selected them for prosecution invidiously or in bad faith, specifically upon impermissible consideration of race religion, or the desire to prevent the exercise of their constitutional right. *United States v. Production Plated Plastics*, 742 F.Supp. 956, 962 (W.D. Mich. 1990), *opinion adopted by* 955 F. 2d 45 (6th Cir. 1990), *cert denied*, 506 U.S. 820 (1992).

In this case, Respondents failed to satisfy the first prong of the selective enforcement doctrine because Respondents have not been singled out while other similarly situated violators were untouched. EPA has initiated an enforcement action against each entity that has failed to comply with RCRA regulations associated with the wastes at issue in this case: CIS, Forster, Lofquist, JLM (EPA obtained a default judgement), IFF (EPA issued a Notice of Violation) and WCI Steel (EPA issued information requests). By simply investigating potential violations and filing a civil administrative complaint for civil penalties in some cases, EPA has treated Respondents no differently than any other entity that is discovered violating RCRA regulations.

Respondents also failed to satisfy the second prong of the doctrine of selective enforcement, because the record fails to explain how EPA has inhibited Respondents' exercise of their constitutional rights. Moreover, Respondents have failed to even identify those constitutional rights of which EPA has allegedly sought to deprive them. Because Respondents' failed to satisfy either prong of the test, there is a lack of evidence to support this defense in the record.

VI. CONCLUSION

There is no genuine issue of material fact as to the applicable regulations in this matter or Respondents' liability because documentation shows that the material at issue was a hazardous waste and Respondents have admitted that they stored and treated hazardous wastes at the Facility without a RCRA permit, along with the other violations for which they are cited in the Complaint. Complainant respectfully requests the Presiding Officer grant it's Motion for Partial Accelerated Decision as to Liability and enter an order: finding that the Respondents are liable for operating a hazardous waste storage and treatment facility without a RCRA permit, along with the other violations for which they are cited in the Complaint

Respectfully Submitted,

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ATTACHMENT A - Clark Declaration [REDACTED]

ATTACHMENT B - Fruehan Declaration

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

BEFORE THE ADMINISTRATOR

In the Matter of:)		
Carbon Injection Systems LLC,	5		
Scott Forster,)	Docket No. RCRA-05-2011-000	9
and Eric Lofquist,)		
*)		
Respondents.)		
)		

DECLARATION OF RICHARD J. FRUEHAN

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

INTRODUCTION

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 Motion For Partial Accelerated Decision As To Liability.

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

General Description of a Blast Furnace

- 10. The purpose of a blast furnace is to convert iron ore into liquid iron.
- 11. Attachment B to this declaration is "Diagram 1" which is a simple diagram of the blast furnace process.
- 12. To begin the process, raw materials, primarily coke, limestone, and iron ore (Fe₂O₃), are weighed according to a certain recipe and loaded onto a conveyor belt (Attachment B at 1, 2, and 3).
- 13. The conveyor belt carries the raw materials to the top of the blast furnace where they are then fed into the blast furnace and form layers of coke, iron ore and fluxes (Attachment B at 4, 5, and 6).
- 14. In the blast furnace a series of reactions occur to produce iron and a by-product called slag as well as off gas from the furnace. Energy is necessary to raise the temperature of the materials and for the heat required by the chemical reactions which convert the Fe₂0₃ to Fe.
- 15. At 16, 17, and 18 of Attachment B, pulverized coal is fed into a system, which injects it into the blast furnace with air enriched with oxygen. The combusting of the injected pulverized coal provides energy and reducing gases. The reducing gases reduce or supply the energy required to convert ore to iron. The pulverized coal is initially combusted to CO₂ and some H₂O which reacts with the coke to

- form CO and H₂. The pulverized coal injected into the blast furnace at the tuyere level can be replaced by oil, tar, natural gas or any combination of these.
- 16. Coke is used to supply energy, reducing gases, support the materials or burden in the furnace, and a small amount of carbon from the coke, 10%, goes into solution in the metal.
- 17. Because the furnace operates near 1500 degrees C, and because the iron contains 4% to 5% carbon (which lowers the melting point of the iron), the iron is tapped out of the furnace in a liquid state.
- 18. The off gas from the furnace is sent to a gas cleaning system for removing dust before burning part of the off gas in the stoves (a.k.a. heater regenerators)

 Attachment B at 12 and 19. Excess reducing gases (CO and H₂) contained in the off gas are combusted outside of the furnace to supply the energy to preheat air that is injected into the furnace through the tuyeres.

REACTIONS WITHIN THE BLAST FURNACE

- 19. Attachment C to this declaration is "Diagram 2", which is a simple diagram of the interior of a blast furnace.
- 20. There are several chemical reactions which occur inside a blast furnace, which can be described by zones within a column (Attachment C at 8).
- 21. After materials (primarily coke, limestone, and iron ore) are loaded at the top of the blast furnace (Attachment C at 6), they enter a preheating zone (Attachment C at 5).
- 22. The materials then descend into the ferric oxide zone (Attachment B at 4) where the Fe₂O₃ is converted to FeO by CO and H₂. Fe₃O₄ forms during the process as

an intermediate state.

$$Fe_2O_3 + CO \rightarrow 2 FeO + CO_2$$

 $Fe_2O_3 + H_2 \rightarrow 2 FeO + H_2O$

23. The materials then descend into the ferrous reduction zone (Attachment C at 4) where CO and H₂ reduce FeO to produce iron (Indirect Reduction).

$$FeO + CO \rightarrow Fe + CO_2$$

$$FeO + H_2 \rightarrow Fe + H_2O$$

The remainder of FeO reacts with solid carbon to produce iron (Direct Reduction).

$$FeO + C \rightarrow Fe + CO$$

Both the Indirect Reduction and the Direct Reduction take place simultaneously in the reduction zone and both produce iron.

24. The materials then fall to the base of the blast furnace, where they are injected with hot air at the tuyere level (Attachment C at 1). The resulting materials are separated into slag (Attachment C at 9) and iron (Attachment C at 10). Throughout the process, the off gases are removed at the top of the blast furnace (Attachment C at 11).

HOT AIR INJECTION AT THE TUYERE LEVEL

- 25. At the tuyere level of most blast furnaces, oil, natural gas, or powdered coal is injected along with oxygen enriched air into the bottom of the blast furnace through the tuyeres as an energy source. The choice of injectant used depends on their relative cost and other considerations.
- 26. These additional materials essentially serve two functions. First, they create

- energy, which replaces the energy of the displaced coke. Second, they provide reducing gases, which are necessary to produce the iron.
- 27. Oil is sometimes one of the materials, or the only material, injected in the bottom of the furnace to replace some of the coke. When oil containing hydrocarbons are injected at the tuyere level, they are immediately combusted. This combustion creates heat energy, which helps fuel the reduction of iron ore.
- 28. In addition, the combustion of the oil injectants provides carbon monoxide (CO) and hydrogen (H₂), which act as reducing gases by striping the oxygen from iron ore (Fe₂O₃ in the equations at paragraph 22, above) and from FeO to create pure iron (Fe in the equations above) (paragraphs 22 and 23).
- 29. The injected material, by producing reducing gases, also supplies energy because it lowers the amount of energy required to remove oxygen from the Fe₂O₃ and FeO.
- 30. In sum, the fuel oil injected at the tuyere level serves the purpose of being a fuel that raises 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 fuel oil produces the reducing gases CO and H₂ that act as ingredients to the furnace reactions and not the iron. The carbon in the injected fuel oil does not enter the iron. The carbon in the liquid iron produced comes from the coke. The carbon in the fuel oil is essentially completely combusted to CO and H₂ and is an energy source. The fuel 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.

31. 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.

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

Executed on: March 8,2012

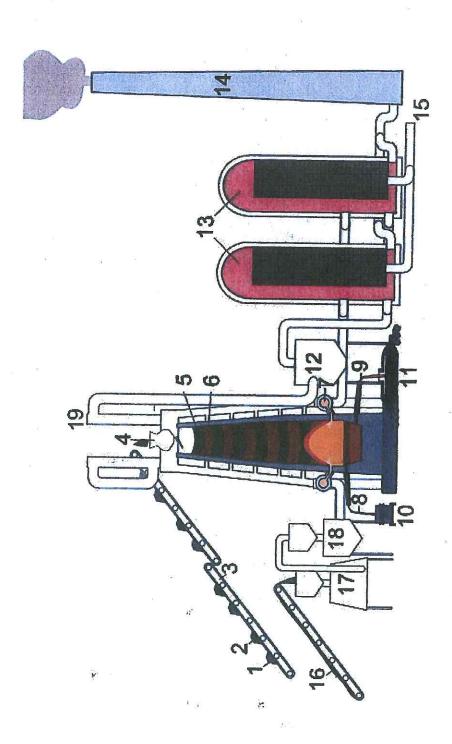
By:

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.

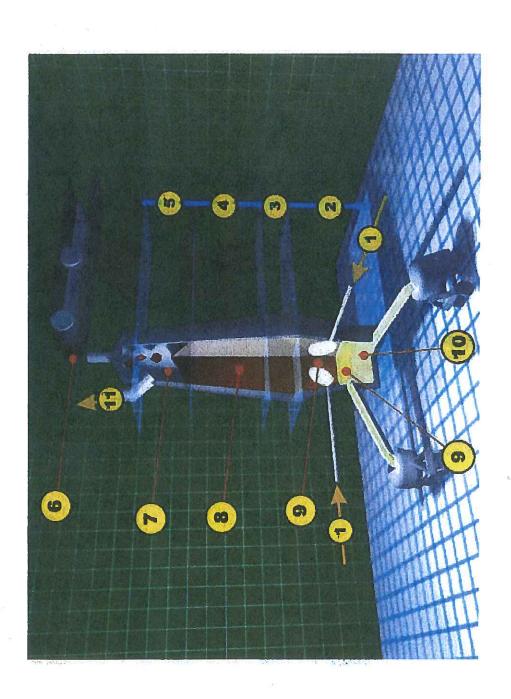
ATTACHMENT B



Blast furnace - Diagram 1

- 1 iron ore + limestone
- 2 coke
- 3 conveyor belt
- 4 feeding opening, with a valve that prevents direct contact with the internal parts of the furnace and outdoor air
- 5 layer of coke
- 6 layers of iron ore, limestone
- 7 tuyeres containing hot air which encircle and inject hot air into the furnace
- 8 slag
- 9 liquid pig iron
- 10 mixers
- 11 tap for pig iron
- 12 dust cyclon
- 13 air heaters (a.k.a regenerators, Cowper stoves)
- 14 exhaust outlet
- 15 feed air for air heaters (a.k.a regenerators, Cowper stoves)
- 16 powdered coal
- 17 coke oven
- 18 coke bin
- 19 pipes for blast furnace gas

ATTACHMENT C



Blast furnace – Diagram 2

- 1 hot blast from air heaters (a.k.a regenerators, Cowper stoves) at tuyere level
- 2 melting zone
- 3 reduction zone of ferrous oxide
- 4 reduction zone of ferric oxide
- 5 pre-heating zone
- 6 feed of ore, limestone and coke
- 7 exhaust gases
- 8 column of ore, coke and limestone
- 9 removal of slag
- 10 tapping of molten pig iron
- 11 collection of waste gases

ATTACHMENT C – Memorandum from K. Stein and B. Diamond to J. Barker and D. Guinyard (Dec. 12, 1990) regarding "Individual Liability of Corporate Offices as Operators Under RCRA"



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DEC 1 2 1990

MEMORANDUM

SUBJECT:

Individual Liability of Corporate Officers as

Operators Under RCRA

FROM:

Kathie Stein

Acting Associate Enforcement Counsel

for RCRA

Bruce M. Diamond

Director, Office of Waste Programs Enforcement

TO:

John R. Barker

Regional Counsel, Region IV

Donald J. Guinyard Acting Director,

Waste Management Division, Region IV

It has come to our attention that The Honorable Timothy J. Dowling, Administrative Judicial Officer, has issued his final decision in the Resource Conservation and Recovery Act ("RCRA") Section 3008(a) case, Southern Timber Products, Inc., and Brax Batson; (Appeal No. 89-2). Judge Dowling's decision overturned the findings of Chief Administrative Law Judge Gerald Harwood that Brax Batson was individually liable because of the responsible part he played in the violations of the rules regulating closure and post-closure care of surface impoundments at interim status facilities under RCRA. Judge Dowling, in footnote 49 of his decision, has invited the Region to move for reconsideration under 40 C.F.R. § 22.22 if the Region continues to believe that Mr. Batson should be held personally responsible for such post-closure care.

In the decision, Judge Dowling expressed concern that, during his research, he was unable to locate any specific guidance from the Agency that it has a policy of naming corporate officers in RCRA cases where the officer takes on the role of the operator. The reason for the absence of such specific guidance is that, as case law has developed under the various environmental statutes and regulations, the Agency has followed this practice of naming such corporate officers as operators where the facts and the case law supported this theory of liability.

In light of Judge Dowling's concern however, the purpose of this memorandum is to clarify what the national enforcement practice has been, to date, regarding the imposition of individual and personal liability on the officers of a corporate operator under RCRA § 3008(a), when theories for piercing the corporate veil are not necessarily relied upon. The case law is developing, and there are few cases that have reached the stage of a decision or that have not been settled prior to going to hearing. However, the following cases are illustrative of the Agency's approach to this issue.

The Agency frequently has sought to hold corporate officers liable as operators under RCRA § 3008 due to their personal participation in the corporate actions which violated RCRA. of the civil judicial cases where this practice has been followed include: U.S. v. Proteccione Tecnica Ecologica, Inc., et al. (Civ. Action No. 86-1698, U.S. Dist. Ct. D. P.R., complaint filed October 30, 1986); U.S. v. Bayonne Barrel and Drum Co., et al. (Civ. Action No. 87-786, U.S. Dist. Ct. D. N.J., complaint filed March 4, 1987); U.S. v. ILCO, Inc., (Civ. Action No. CV-85-H-823-S, U.S. Dist. Ct. N.D. Ala., complaint filed March 18, 1985); U.S. v. Escambia et al. (Civ. Action No. 88-30328-RV, N.D. Fla., complaint filed September 30, 1988); <u>U.S. v. Sanders Lead et al.</u> (Civ. Action No. 89-T-1123-N, U.S. Dist. Ct. M.D. Ala., amended complaint filed September 13, 1990); U.S. v. Conservation Chemical et al. (Civ. Action No. H 86-9, U.S. Dist. Ct. N.D. Ind., complaint filed January 6, 1986); U.S. v. Environmental Waste Control, Inc. et al. (Civ. Action No. S87-55, U.S. Dist. Ct. N.D. Ind., complaint filed February 2, 1987); U.S. v. Production Plated Plastics, Inc. et al, (File No. K87-138 CA, U.S. Dist. Ct. W.D. Mich, So. Div., complaint filed March 31, 1987) ; and U.S. v. Northway Industries, Inc. (Civ. Action No. 90-7-1-546, U.S. Dist. Ct. E.D. Mich., complaint filed October 19, 1990).

Several Regions have also filed administrative actions under RCRA § 3008 naming such corporate officers as individually liable operators. Some of these cases include: In the Matters of: Dana Corp., Victor Products Division and BRC Rubber Group (RCRA Docket Nos. VW-90-R-14 and VW-90-R-15, amended administrative complaint filed September 25, 1990); In Re: Ronald Coffman d.b.a. Coffman Body Shop and Estrada, Inc. (RCRA Docket No. VII-88-H-0014, administrative complaint filed March 31, 1988); and In Re: Triggs Trailer Corp. (RCRA Docket No. VII-88-H-0004, amended administrative complaint filed July 14, 1988).



LUY 88

MEMORANDUM

SUBJECT: Owner and Operator Responsibility for

Corrective Action

FROM

Steve Heare, Acting Director RCRA Enforcement Division

Steve Leifer, Acting Associate Enforcement Counsel for Waste Office of Enforcement and Compliance Monitoring

TOI

Waste Management Division Directors, Regions I-X

The purpose of this memorandum is to emphasize the importance of naming both the owner and operator as respondents to corrective action orders. The Agency is statutorily authorized, and pursuant to certain provisions required, to implement regulations applicable to both owners and operators of hazardous waste management facilities. In most cases the owner of a facility is also the operator, or the operator is the agent of the owner, operating the facility for the benefit of the owner. In either case, the liability of the owner is clear.

In some instances, however, the operator of a facility is not the employee or agent of the property owner and therefore not acting on behalf of the owner. In any event, you must assure access to the affected property, so that any corrective action required pursuant to sections 3888(h), 3613, or 7883, negotiated or issued unilaterally, will be completed. This assurance is obtained by making the owner and the operator jointly liable for completion of the work.

Also, the Agency's authority to assess penalties is limited to those persons named on the order. Section 3888(h)(2) states "... If any person named in an order fails to comply with the order, the Administrator may assess, and such person shall be liable to the United States for a civil penalty in an amount not to exceed \$25,800 for each day of noncompliance with the order."

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While nothing in the statute precludes EPA from issuing separate orders to owners and operators of facilities, it is not as practical to do so. If a negotiated order is in effect at a facility, a subsequently issued order would have to contain provisions that would not conflict with any requirements in the existing order. Also, the issuance of the second order is likely to disrupt corrective action and it also places an unnecessary resource burden on the Region.

If you have any questions regarding this issue, please call can be reached on 475-9315.

cc: RCRA Enforcement Branch Chiefs, Regions I-X

RCRA Enforcement Section Chiefs, Regions I-X

Hazardous Waste Branch Chiefs, Regions I-X

a.



United States environmental protection agency WASHINGTON, D.C. 20400

OFFICE OF Bulio waste and emercincy ace

May 27, 1986

MEMORANDUM

SUBJECT: Drafting of initial complaints to name individuals

FROM:

Lloyd S. Guerci, Director

RCRA Enforcement Division

TO:

*

RCRA Enforcement Branch Chiefs, Regions I-x

Enclosed is a decision in an enforcement proceeding against J. V. Peters & Company (Appeal to Administrator No. 85-4, May 9, 1986) where the Region attempted to add parties after the hearing. The Region's attempt was rejected and the matter was remanded to the Region.

We expect that in a fair number of cases against closing land disposal facilities, the corporation will not have adequate assets to effectuate the necessary relief for will have effectively transferred the assets in an attempt to hide them). At the time that the initial complaint or order is written, it is very important to consider naming individuals who participated in the regulated activity. A finel order adminst a corporation with no sesses is a hollow victory. It may prove difficult to add individuals as respondents after the initial proceedings are commenced.

CERTIFICATE OF SERVICE

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

Original and one copy hand-delivered to:

Regional Hearing Clerk U.S. EPA, Region 5 77 West Jackson Boulevard Chicago, Illinois 60604

Copy via overnight mail to:

Attorneys for Respondents:

Carbon Injection Systems LLC, Scott Forster, Eric Lofquist c/o Keven D. Eiber Brouse McDowell 600 Superior Avenue East Suite 1600 Cleveland, OH 44114

Carbon Injection Systems LLC, Scott Forster, Eric Lofquist c/o Lawrence W. Falbe Quarles & Brady LLP 300 N. LaSalle Street, Suite 4000 Chicago, IL 60654

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

3-16-12

Charles Rodriguez, Student Aide

87