



ASSOCIATION CONNECTING
ELECTRONICS INDUSTRIES®

Government Relations
1901 N. Moore Street, Suite 600, Arlington, VA 22209
Tel. 703.522.0225 Fax 703.522.0548
www.ipc.org

June 25, 2007

Environmental Protection Agency
EPA Docket Center, Room B102
1301 Constitution Avenue, NW.
Washington, DC, 20460
(703-308-8800)

RE: Supplemental Proposed Rule on Revisions to the Definition of Solid Waste 72
FR 14171 March 26 2007 Docket ID No. EPA-HQ -RCRA 2002-0031

IPC –Association Connecting Electronics Industries® appreciates the opportunity to offer the enclosed comments on the supplemental proposed *Revisions to the Definition of Solid Waste*.

Should you have any questions regarding these comments, please feel free to contact me at (703) 522-0225 or by email at fabrams@ipc.org.

Sincerely,

Fern Abrams
Director of Environmental Policy

Comments
of
IPC – The Association Connecting Electronics Industries
on the
U.S. Environmental Protection Agency’s
Supplemental Proposed Rule
on
Revisions to the Definition of Solid Waste

(72 FR 14171 March 26 2007 Docket ID No. EPA-HQ -RCRA 2002-0031)

JUNE 25, 2007



**1901 NORTH MOORE STREET SUITE 600
ARLINGTON, VA 22209**

TABLE OF CONTENTS

| | | |
|-------------|---|----------|
| I. | INTRODUCTION | 1 |
| II. | GENERAL COMMENTS..... | 1 |
| III. | IF ENACTED, THE SUPPLEMENTAL PROPOSAL WOULD PROMOTE THE RECYCLING OF SECONDARY MATERIALS..... | 2 |
| | A. Secondary Materials from Electronics Manufacturing | 5 |
| | 1. Electroplating Sludge (RCRA F006) | 5 |
| | 2. Other Recyclable Materials | 6 |
| IV. | SPECIFIC COMMENTS..... | 7 |
| | A. The Transfer-Based Exclusion Offers the Greatest Opportunity to Increase the Recycling and Reclamation of Secondary Materials | 7 |
| | B. Recycling under Generators Control..... | 8 |
| | C. EPA’s Proposed Prohibition on Middlemen/Brokers will Stymie the Participation of Small Businesses and Hamper the Economic Success of the Supplemental Proposal | 9 |
| | D. Some of EPA’s Notification and Recordkeeping Proposals Go Beyond Necessary Data and Will Discourage Recycling of Secondary Materials | 10 |
| | 1. Notification..... | 10 |
| | 2. Recordkeeping..... | 12 |
| | E. EPA Should Initially Collect Data to Demonstrate the Success of the Revisions to the Definition of Solid Waste | 13 |
| | F. EPA’s Proposed Requirements Regarding Reasonable Efforts far Exceed Those Necessary to Incentivize Additional Recycling of Secondary Materials | 14 |
| | G. Legitimacy Criteria..... | 16 |
| | 1. Provides a Useful Contribution to the Recycling Process..... | 16 |
| | 2. Yields a Valuable Product..... | 17 |
| | 3. Yields a Product without Significant Levels of Toxic Constituents as Compared to Analogous Products..... | 17 |
| | 4. Managed as a Valuable Commodity or Analogous Raw Material | 18 |

| | | |
|-----------|---|-----------|
| H. | Any Storage Condition Requirements Should Be Limited to Ensuring Secondary Containment | 18 |
| I. | EPA Should Not Propose Additional Requirements for Reclaimers of Conditionally Excluded Secondary Materials | 18 |
| J. | EPA’s Proposed Financial Assurance Requirements Are Not Appropriate for Reclaimers of Conditionally Excluded Secondary Materials..... | 19 |
| K. | EPA’s Proposed Enforcement Scheme Should be Base on Environmental Harm or Damage..... | 19 |
| L. | EPA should Reconsider the Exclusion of Materials Burned for Energy Recovery .. | 20 |
| V. | CONCLUSIONS | 21 |
| | APPENDIX A REASONABLE EFFORTS QUESTIONNAIRE..... | 22 |

I. Introduction

IPC –Association Connecting Electronics Industries[®] offers the following comments on the *Supplemental Proposed Rule on the Revisions to the Definition of Solid Waste (Supplemental Proposal)*. IPC is a global trade association dedicated to the competitive excellence and financial success of its 2,500 member companies, of which approximately 75 percent are in located in the United States. IPC represents all facets of the electronics interconnect industry, including design, printed circuit board manufacturing and electronics assembly. Printed circuit boards and electronic assemblies are used in a variety of electronic devices that include computers, cell phones, pacemakers, and sophisticated missile defense systems. The industry is vital to the U.S. economy. Without printed circuit boards and electronic assemblies, you would not be able to start your car, watch television, answer a telephone, turn on a light switch, or brew a cup of coffee. There would be no Internet, no e-mail, no VCRs and no Nintendo.

Although IPC members include electronic giants, such as Intel, Hewlett Packard, and IBM, sixty percent of IPC members meet the Small Business Administration's definition of "small business." The typical IPC member has 100 employees and has a profit margin of less than four percent.

IPC appreciates the opportunity to offer the following comments on the *Supplemental Proposed Rule on the Definition of Solid Waste*.

II. General Comments

IPC supports the general concepts presented in the Supplemental Proposed Rule on the Definition of Solid Waste. We believe the proposed rule, if properly implemented, will increase recycling, reclamation, and other beneficial re-use of secondary materials that would be considered hazardous waste if discarded. IPC does not believe that EPA's

jurisdiction under the Resource Conservation and Recovery Act (RCRA) extends to materials that have not been discarded. Nevertheless, we believe the proposal strikes an appropriate balance between removing regulatory barriers and EPA's mandate to maintain environmental protections.

The Supplemental Proposal represents a significant improvement over the initial October 28, 2003 Proposed Rule on Revisions to the Definition of Solid Waste (68 FR 61557). In moving beyond the narrow industry definitions of the October 28, 2003 proposal, this Supplemental Proposal will enable and encourage recycling, reclamation, and re-use of secondary materials by removing many of the regulatory barriers of the current RCRA regulations.

Although we are pleased with the proposal overall, we do have some concerns with several of the alternate implementation details raised throughout the proposal. In some cases, the regulatory framework proposed by EPA is excessive and could prohibit the recycling EPA is trying to encourage. EPA should be cautious not to overburden the excluded materials or the rule will be as burdensome as the current system and fail to achieve its goal of promoting recycling.

III. If Enacted, the Supplemental Proposal Would Promote the Recycling of Secondary Materials

In 1976 when Congress passed RCRA, it was directed at addressing very real environmental concerns related to improper releases of hazardous materials. The rule's stated intent was not only to prevent improper management of hazardous waste, but to encourage material reuse and recovery:

“As originally conceived, RCRA was designed primarily as a system of controls over the management of wastes in this country, with two fundamental mandates: protect human health and the environment, and conserve resources.”¹

¹ Beyond RCRA, Waste and Materials Management in the Year 2020, US EPA, Office of Solid Waste, EPA530-R-02-009, April 2003.

Yet, EPA's current system of waste management has failed to promote the "Resource Conservation and Recovery" portion of RCRA. In fact, the unintended consequence of RCRA regulations is often to discourage the reuse, recycling, and reclamation of valuable secondary materials, resulting in increased use of virgin materials while valuable resources consume diminishing landfill space. The current regulatory structure has resulted in a business environment where it is less expensive to landfill or incinerate secondary materials than it is to recycle them. Businesses, which must balance civic responsibility against fiscal responsibility to shareholders, often are driven to choose a landfill over recycling. Selection of environmentally beneficial options should not create a competitive disadvantage for businesses.

Until EPA addresses the critical impediments within RCRA, little if any substantive progress can be made to reduce regulatory burden and enhance resource conservation. IPC believes that by revising the definition of solid waste, EPA can provide the best incentive to recovery and reuse of beneficial materials. Materials destined for beneficial reclamation and recycling should no longer be classified as wastes or "discarded" under RCRA.

EPA recognizes this in their publication *Beyond RCRA, Waste and Materials Management in the Year 2020*. EPA clearly states,

"America's wasteful ways are a thing of the past. Materials that were once considered wastes suitable only for landfilling are now continually reused and recycled,"²

The RCRA vision paper goes on to discuss the need to change the regulatory system to increase recycling and reuse:

"Creating a system truly oriented towards efficient use of resources could also require fundamental changes in the waste versus non-

² Beyond RCRA, Waste and Materials Management in the Year 2020, US EPA, Office of Solid Waste, EPA530-R-02-009, April 2003.

waste regulatory construct embedded in the current RCRA system so that materials now considered wastes would be seen, whenever possible, as commodities with potential uses. One approach to making such a system work would be to identify materials as “wastes” only when they are clearly destined for disposal; until then, all potentially hazardous materials would be subject to similar management controls/incentives based on their risk potential rather than on designation as a waste—that is “materials management” rather than “waste management.” Reducing distinctions between wastes and materials could dramatically improve recycling and reuse rates and, therefore, make great contributions towards conservation of resources.”³

This rulemaking presents an essential step in enabling EPA to move toward a future where the focus of RCRA is on resource conservation, not just waste management.

We believe that the EPA has greatly underestimated the potential benefits, both environmental and economic. While it may not be possible to quantitatively measure expected benefits from a complete change in the landscape of materials use, it is important to recognize that the potential and likely benefits of the Supplemental Proposal far exceed those identified in the Regulatory Impact Analysis (RIA). Because the RIA focused only on the impacts that could be predicted from existing RCRA biannual reporting, it underestimated the full potential of the Supplemental Proposal. The RIA failed to include both the wastes generated by Conditionally Exempt Small Quantity Generators (CESQGs), which are exempt from reporting, as well as many waste streams that are not currently recycled but could be under a broader, more competitive recycling marketplace made possible by the Supplemental Proposal.

³ Beyond RCRA, Waste and Materials Management in the Year 2020, US EPA, Office of Solid Waste, EPA530-R-02-009, April 2003.

A. Secondary Materials from Electronics Manufacturing

1. Electroplating Sludge (RCRA F006)

Hydroxide metal sludge, created through the treatment of printed circuit board electroplating wastewater, is one of the many secondary materials that would be affected by the Supplemental Proposal. Under RCRA, metal precipitate sludge produced in this manner is a listed hazardous waste, even when it is being shipped off-site for metals recovery. The hazardous waste designation increases the cost of recycling, resulting in a large quantity of valuable metal bearing sludge being disposed of in hazardous waste landfills rather than being recycled. The *1998 Metal Finishing Common Sense Initiative F006 Benchmarking Study*⁴ found that landfilling was the dominant choice for final disposal of electroplating sludge. When electroplating sludge is recycled it is generally through secondary smelting or cement manufacture.

In addition to smelters, etchant suppliers are potentially interested in recycling electroplating sludge from PCB manufacturers. However the need to become a RCRA-permitted Treatment, Storage and Disposal Facility (TSDF) in order to perform recycling under EPA's RCRA hazardous waste regulations has deterred these facilities from pursuing this type of copper recycling. When electroplating sludge is mixed into spent etchant, the residual acid or alkaline content in spent etchant dissolves the electroplating sludge to produce the same dissolved copper compounds as the spent etch contains. Under current RCRA regulations, etchant suppliers have not been interested in receiving this mixture, as it would require them to become a permitted TSDF. Under the Supplemental Proposal, this combined mixture could be shipped to the etchant supplier for recycling, allowing the PCB manufacturer to eliminate separate shipments of electroplating sludge and etchant.

⁴ EPA Common Sense Initiative, Metal Finishing Sector, Workgroup Report: F006 Benchmarking Study, September 1998. Available from the at National Metal Finishing Resource Center at <http://www.nmfr.org/pdf/f006fin.pdf>

Electroplating sludge contains higher concentrations of valuable metals than occurs in nature. For example, copper ore normally contains less than 1% copper, whereas copper precipitate sludge from the printed circuit board industry averages 10% to 15% copper. Wastewater treatment sludge from electroplating operations represents one of the largest sources of untapped metal-bearing secondary material amenable to metals recovery in the United States. However, because landfilling is generally less expensive than metals recovery under current regulatory restrictions, much metals-rich sludge is land filled, wasting valuable resources.

2. Other Recyclable Materials

Other materials used in electronics manufacturing that would be more economically and frequently recycled under a less burdensome regulatory scheme include:

- Spent cupric chloride etchant, which is rich in copper etched from printed circuit boards, can be used in the manufacture of copper hydroxide fungicides, copper sulfate and tribasic copper chloride for use as mineral supplements in the hog and chicken feedstock industries, and copper oxide for the pigment market as well as for the treated wood industry.
- The ammonium chloride portion of spent ammoniacal etchant (also used to remove copper from printed circuit boards) can be recycled by chemical suppliers/manufacturers into new etch solution and returned to the electronics industry. The copper constituent is incorporated into copper sulfate, copper oxide, and a variety of other specialty formulations as discussed above.
- Other spent plating baths, such as electroless copper, electroless nickel, and gold can be reclaimed by suppliers or other chemical processors.
- Spent cyanide baths, which contain gold, are a listed RCRA waste (F007), thereby requiring shipments of mainly gold baths on hazardous waste manifests. Any precious metals are typically recovered by chemical suppliers/ manufacturers and returned to the market.

- One of our member facilities ships high chloride micro-etches to a mine as a feedstock to the mining process.
- Solder dross, a byproduct of the soldering process, is sent back to the solder manufacturers and returned to electronics facilities and other solder users.
- Due to designation as a hazardous waste by many states, solder is infrequently recycled or reclaimed from used electronic components and sweatables (wipers, lead-bearing Q-tips, solder tips, rollers, and personal protective equipment contaminated with solder). Reclamation by the solder manufacturer would occur more frequently if the regulatory barriers were reduced or removed.
- Sludge from the stencil wash evaporator process can also be sent to the solder manufacturer for reclamation and would be done more frequently under less burdensome regulatory schemes.
- Copper containing drill dust (approximately 10% copper) and edger dust (20-25% copper) generated during the manufacture of PCBs is generally not recycled because of the high cost of shipment as compared to landfill disposal. Under the Supplemental Proposal, this secondary material could be easily combined with copper containing sludge for more efficient shipment and recycling.

IV. Specific Comments

A. The Transfer-Based Exclusion Offers the Greatest Opportunity to Increase the Recycling and Reclamation of Secondary Materials

The transfer-based exclusion provides the greatest opportunity for increasing the recycling of secondary goods. Many of the secondary materials produced in the electronics interconnect and other manufacturing sectors are most efficiently recycled or reclaimed by manufacturers of other products or goods. Economies of scale, along with differing input needs, allow manufacturers in one sector to make efficient use of secondary materials produced by other manufacturing sectors.

Because the generator of secondary materials views them as such, they do not retain control of these materials, but provide them to other companies whose recycling and reclamation processes lay outside their line of business. By excluding materials manufactured by one company and transferred to another company for recycling or

reclamation from RCRA waste designation, this rule will greatly increase the opportunity and likelihood that secondary materials will be recycled.

B. Recycling under Generator's Control

It should be recognized that there are many types of contractual relationships beyond the ownership and tolling relationships discussed in the proposed rule. Companies often specify contract terms requiring compliance with environmental regulations as a condition for business. Some contracts also specify periodic certification that all materials have been processed appropriately. Even when dealing with fully licensed and permitted TSDFs, companies may contractually direct, or limit, how their materials are handled.

For example, suppliers of ammoniacal etchant set the price of their product based on 1) the PCB manufacturer returning all spent etchant to the etchant manufacturer, and 2) the spent etchant having a minimum copper content per gallon of spent etchant. Hence, the shipment of the spent etchant to the etchant supplier is covered by a contractual agreement. The etchant manufacturer then manufactures copper compounds from the spent etchant.

Some solder suppliers require a similar return of solder dross generated as a byproduct of soldering. As with the ammoniacal etchant supply agreement, the return requirement of the spent material is part of the purchase price and a contractual requirement.

In each case, there is a contractual relationship between the generator of the secondary materials and the manufacturer taking responsibility for its recycling or reclamation. EPA should consider how other types of contractual relationships can serve to provide further degrees of control and certainty of the legitimacy of material recycling.

C. EPA's Proposed Prohibition on Middlemen/Brokers will Stymie the Participation of Small Businesses and Hamper the Economic Success of the Supplemental Proposal

EPA has recognized that many recycling scenarios involve treatment by one or more reclaimers performing multiple steps. IPC would like to emphasize the importance of this process. For example electroplating sludge is usually aggregated, dried, blended, and analyzed before it is transferred to a smelter for ultimate reclamation. Each of these steps, which may be performed by one or more brokers and processors, is a significant and important step in the ultimate reclamation of valuable metals. In the preamble to the Supplemental Proposal, EPA rightfully states that although materials undergo sequential recycling processes, often provided by different reclaimers, this does not negate their eligibility for exclusion from RCRA hazardous waste regulations under the provisions of the Supplemental Proposal.

Unfortunately, EPA fails to acknowledge the similarly important services provided by middlemen and brokers. IPC is extremely concerned about EPA's proposal to require that materials be directly transferred from the generator to the reclaimer, and prohibiting handling by others (i.e. middleman such as a broker). This proposal will prevent the Supplemental Proposal from having its desired effect and greatly impede recycling opportunities. Many businesses, large and small, rely on brokers and other middlemen to provide the invaluable service of collecting small amounts of secondary materials. This consolidation makes shipment, recycling, and reclamation economically viable for both the generator of the secondary material and for the reclaimer.

The cost of transportation is often recognized as the major component in not only waste management but also materials recycling. Shipping secondary materials by rail is generally recognized as the least costly form of transportation. It is also recognized as the mode of transportation with the least mobile air emissions per ton

of shipment. Yet virtually all generators of secondary materials have neither the material generation quantity, nor the rail siding necessary to take advantage of this mode of transportation. Without brokers and middlemen to establish a “recycling consortium,” including contracting for a warehouse with a rail siding, or contracting for rail car quantity shipments, those generators are forced to use the most costly form of secondary materials shipment – a partial truckload quantity. The resulting mobile air emissions per ton shipped will also be higher.

Brokers help to attract the market by aggregating small volumes of secondary material into volumes in which other manufacturers or reclaimers are interested. All successful solid waste recycling programs (paper, glass, electronics) include aggregation for exactly these reasons. IPC urges EPA to reconsider its prohibition on brokers in order to make its proposal economically feasible for both large and small generators of secondary materials. IPC would support the use of additional notifications or recordkeeping for materials sent to brokers or middlemen.

D. Some of EPA’s Notification and Recordkeeping Proposals Go Beyond Necessary Data and Will Discourage Recycling of Secondary Materials

1. Notification

EPA’s proposed rule would require generators to notify the appropriate authority of their intention to recycle materials under the provisions of the proposed exclusion. While IPC questions EPA’s authority to require such a notification regarding the management and recycling of secondary materials that have not been discarded, we believe that it represents a reasonable compromise between EPA’s desire to increase recycling and provide assurance of environmental protection. Any notification and/or recordkeeping requirements should be kept as simple as possible in order to avoid discouraging recycling.

EPA proposes to require one time notification of the name, address, EPA ID number of the generator, the name and phone number for contact, type and schedule for handling of secondary hazardous materials for any secondary materials that will be recycled or reclaimed. In the preamble to the Supplemental Proposal EPA also seeks comment on whether the one-time notice should have additional notification requirements such as identification of the reclamation facility to which it will be shipped, how it will be stored at the generator's facility, and/or a detailed characterization of the hazardous secondary material and of the recycling process.

IPC believes that the proposed notification including identification of reclamation facility is reasonable components of the process, but that no other data elements should be included in the one-time notification. Much of the information requested is beyond the generator's reasonable knowledge. For example, detailed characterization of the reclamation process is often considered confidential business information by the reclaimer, especially if the secondary material is being used as a feedstock. In addition, many recyclers and reclaimers produce numerous product streams. Feedstocks are shifted from one product line to another based upon manufacturing and economic factors.

In the preamble to the Supplemental Proposal, EPA asks several additional questions regarding the format of the notification. IPC supports the option of electronic notification which is often more efficient and cost effective for both the complying facilities and the receiving agency. However, IPC would like to remind EPA that many small facilities lack sophisticated electronic communication systems and should retain the option to provide paper notifications.

IPC does not believe that the *Subtitle C Site Identification Form (EPA Form 8700-12)* should be used for the one-time notification required by generators

and reclaimers. This form was specifically designed for hazardous wastes and therefore is not appropriate for secondary materials. Additionally, IPC would like to emphasize the importance of establishing clear separation between the hazardous waste regulatory program and the excluded secondary materials.

EPA proposes that generators exporting exempted secondary materials use the existing 40CFR 262.53 procedure. EPA would notify the receiving country and obtain consent from that country before shipment of the materials.

Exporters would be required to notify EPA 60 days prior to intended off-site shipment. IPC does not believe that the proposed notification requirements for exporters of secondary hazardous wastes for reclamation are necessary or appropriate. Both exporters and importers are capable of ensuring that applicable laws and regulations for any hazardous materials are followed. IPC has no objection to a one-time notification, nor to the submission of annual reports, providing the destination, volume, and DOT shipping names, and other relevant data. However, there is no reason to task the Agency with activities easily performed by the persons and companies involved in the material transactions.

2. Recordkeeping

The Supplemental Proposal would require generators using the exclusion for secondary materials to keep records regarding the date of shipment, transporter, reclamation facility location, type and quantity of hazardous secondary materials. EPA also seeks comment on whether records of additional information such as the date the materials were generated, more thorough characterization of the materials that are transferred for reclamation, the types of units in which they were accumulated at the generating facility, how they were transported, whether or not hazardous secondary materials were transported as a DOT hazardous material be required.

While some generators may wish to perform additional characterization to clarify for themselves why the material is considered a valuable secondary material, IPC notes that many of the additional proposed records for which EPA seeks comment are more detailed than the information currently collected through the hazardous manifest. EPA must bear in mind that imposing additional unnecessary regulatory burdens will render this rule ineffective and will not encourage recycling. Because these materials under consideration represent valuable commodities, generators and other handlers have a natural incentive to keep track of them without the burden of using the manifest system. IPC believes it is important for EPA to be conscious of the need to avoid discouraging the recycling of secondary materials through the imposition of costly reporting and recordkeeping requirements. IPC wishes to further remind EPA that all material shipments will be required to comply with DOT restrictions concerning hazardous materials, regardless of the RCRA status of the material.

EPA also asks if generators should be required to keep a confirmation receipt from the reclaimer and whether this represents normal business practices. In our experience, while larger facilities do keep confirmation receipts, some smaller facilities do not. Regardless, all facilities keep financial records regarding payment or invoice for payment for secondary materials. IPC recommends that such financial records be used for any necessary confirmation of receipt.

E. EPA Should Initially Collect Data to Demonstrate the Success of the Revisions to the Definition of Solid Waste

IPC supports the collection of data regarding the types and volumes of hazardous secondary materials recycled, and where the materials were sent for reclamation. Reports should be no more frequent or detailed than the data now collected through the Biennial Reports for hazardous waste. This data, when combined with existing

Toxic Release Inventory (TRI) data, should be more than adequate to measure the success of the Revisions to the Definition of Solid Waste.

F. EPA's Proposed Requirements Regarding Reasonable Efforts far Exceed Those Necessary to Incentivize Additional Recycling of Secondary Materials

The Supplemental Proposal requires generators to make reasonable efforts to ensure the materials are safely and legitimately recycled, in effect requiring a due diligence effort. EPA also seeks comment on many additional requirements which would put burdens on generators that far exceed the current level of burden under RCRA. Should EPA choose to finalize even a few of these additional requirements for reasonable effort, the proposed rule will fail to provide any incentive to recycle secondary materials. Most secondary materials are used as feedstocks, and should be treated as such. If the Revisions to the Definition of Solid Waste are properly implemented, most secondary materials will be sent to production facilities not waste management facilities.

IPC is also concerned, that with the additional requirements discussed in the preamble to this Supplemental Proposal, EPA seeks to make the determination of legitimate reclamation a generator-managed responsibility. IPC believes that many generating facilities do not have adequate resources to audit reclaimers to the level proposed. It is not appropriate for EPA to shift the entire burden of performing audits and inspections to the generator. Generators are quite willing to provide relevant information on the materials and facilities processing their secondary materials to EPA. The Agency retains the latitude and authority to audit or inspect any facility it suspects of mismanagement or environmental risk.

The proposed rule requires generators to make reasonable efforts to ensure the materials are safely and legitimately recycled. In effect, it requires a due diligence effort. EPA proposes six questions it believes would form the core of this due diligence and asks if they should be required and to what degree of specificity.

While the need for “due diligence” is understood and appreciated, this is the kind of requirement which can cause generator implementation costs to skyrocket, while also introducing great uncertainty among regulators/enforcers and generators as to what is reasonable. EPA needs to be conscious that there is no such thing as a one-size-fits-all approach to appropriate due diligence. Appropriate and necessary due diligence varies according to the quantity of secondary materials produced, the inherent hazards associated with a release of the secondary material, the reclamation process used, and the relationship between the generator and reclaimer.

Because of the many variables involved in evaluating necessary and appropriate due diligence, we believe that EPA should be very cautious in establishing due diligence requirements that might exceed those needed for a particular generator or secondary material. Should EPA feel the need to establish a minimal level of due diligence it should be fairly basic, such as a review of a manufacturer’s or reclaimer’s compliance status through the EPA ECHO webpage.

A simple checklist, to be completed by the reclaimer and returned to the generator might be a feasible way of implementing appropriate due diligence. Unless liability shielding is provided to generators that complete suggested due diligence requirements, we do not believe that they should be codified as part of the final regulation. We do, however, encourage EPA to provide examples or non-regulatory guidance regarding different levels of due diligence and the situations for which they would be appropriate. Appendix A to these comments contains a sample checklist developed by IPC for use by small and large quantity generators of secondary materials typical to electronics manufacturing.

IPC does not believe that generating facilities should be required to maintain certification statements signed by an authorized company rep that for each reclamation facility to which the generator transferred excluded secondary materials, the generator made reasonable efforts that the material was legitimately recycled. IPC believes that one-time notification should be sufficient and that

additional information would be reported through Biennial reports. Certification would be unnecessary and duplicative paperwork which would undermine the goals of the Supplemental Proposal.

G. Legitimacy Criteria

IPC believes that it is appropriate for EPA to codify the legitimacy criteria so that the criteria may be used to distinguish legitimately recycled materials that should be excluded from RCRA. Codification of the criteria as proposed will have the benefit of promoting national consistency while providing enough flexibility to address individual circumstances. IPC generally supports the criteria as proposed by EPA, with the following comments.

1. Provides a Useful Contribution to the Recycling Process

IPC agrees with EPA that the principles of legitimate recycling require that a recycled secondary material provides a useful contribution to the recycling process or to a product of the recycling process. We further agree that while economic factors may be used to establish the usefulness of the secondary material to the recycling process, no specific economic test should be established. Variations in the prices of transportation, recycled materials and raw materials, make establishment of a specific economic test inappropriate.

Furthermore, as is the case under the current regulatory scheme, recycling a material may be more costly than disposal. Nonetheless, a company, wishing to **lessen its environmental footprint**, may choose to pay for recycling. This decision should not be deemed to render the recycling illegitimate. Requiring that recycling always result in positive payments to the generator would inappropriately shift the focus of the regulation to economic factors, as opposed to environmental ones. IPC recommends that the criteria remain

open to non-economic measures of ‘useful contribution’ by not developing a specific economic test. This criterion as well as all the legitimacy criteria must be evaluated given the specific facts of the activity being evaluated.

2. Yields a Valuable Product

Requiring that the recycling process yields a valuable product or intermediate is a reasonable criterion for determining if recycling is legitimate. IPC agrees that value should be determined not only on the basis of market value (evidenced through sale to a third party), but also on intrinsic value or usefulness as a substitute for a commercial product in either a recycling or other industrial process.

3. Yields a Product without Significant Levels of Toxic Constituents as Compared to Analogous Products

IPC supports EPA’s proposed requirement that this criterion be considered but not be mandatory in order to be considered legitimate recycling. As with the other individual criterion and the legitimacy criteria as a whole, this criterion must be evaluated and balanced for specific recycling circumstances. In some cases, products made from recycled materials may contain higher levels of hazardous constituents than those made from virgin materials. Because of the importance of recycling and reusing materials, IPC believes that case-by-case evaluation as to the significance of the hazardous constituents, given particular focus to the risk presented by the product may be most appropriate.

Codification of a mandatory ‘Bright Line’ type approach to assessing the significance of elevated levels of toxic constituents in recycled products would be inappropriate given the need to consider factors such as the differing

uses of products made from recycled materials and the properties of each individual toxic of concern.

4. Managed as a Valuable Commodity or Analogous Raw Material

Both raw materials and recyclable secondary materials represent valuable commodities. This provides an inherent economic incentive towards appropriate management that avoids the potential loss of valuable production inputs, and consequently, the potential for releases into the environment. Materials managed as valuable commodities are not materials “abandoned, disposed of, or thrown away,” and thus, have not been discarded.

H. Any Storage Condition Requirements Should Be Limited to Ensuring Secondary Containment

Any storage conditions imposed on generators should be limited to adequate secondary containment, and management to prevent contamination of stormwater. Additionally, any security issues should be addressed through Department of Homeland Security (DHS) requirements.

I. EPA Should Not Propose Additional Requirements for Reclaimers of Conditionally Excluded Secondary Materials

The proposed general conditions for reclaimers: record keeping, storage of secondary hazardous materials, management of recycling residuals, and financial assurance are appropriate. EPA should not impose additional record keeping conditions for reclaimers. More thorough characterization of secondary materials, beyond those deemed necessary by the recycler to manage their processes in conformance with the legitimacy criteria would add unnecessary costs to recycling.

Additional requirements regarding transportation records are redundant as there are DOT requirements for transportation of hazardous materials. Furthermore, residuals from the reclamation of secondary materials should be considered hazardous waste unless they meet the criterion listed or characteristic waste. In order to not undercut the effectiveness of this proposal, EPA should seek to impose only those regulations necessary to maintain environmental protections.

J. EPA's Proposed Financial Assurance Requirements Are Not Appropriate for Reclaimers of Conditionally Excluded Secondary Materials

EPA's proposal to require that reclaimers of transferred materials demonstrate financial assurance in accordance with *RCRA Subpart H financial assurance requirements* is inappropriate. The vast majority of consumers of conditionally excluded materials are expected to be manufacturing facilities. It is inappropriate to impose upon these facilities the same level of financial assurance requirements as those imposed on a RCRA TSDF. Imposition of these requirements would present a significant barrier to entry and discourage facilities from handling excluded secondary materials much in the way the current RCRA hazardous waste regulations pose a significant deterrence to recycling. Any financial assurance requirements imposed by EPA should be directly proportional to the direct additional risks associated with the storage (and potential release) of specific types and volumes of conditionally excluded secondary materials handled by a reclaimer.

K. EPA's Proposed Enforcement Scheme Should be Based on Environmental Harm or Damage

Until a secondary material is discarded, it should not be considered as a hazardous waste. Therefore, if a recycler or other entity handles a secondary material in a way such that it would be considered discarded and thus would become a solid waste, this should not retroactively label the secondary material as a waste at the time of

generation. To do so is no less illogical than to retroactively label the materials as having been a solid waste before it even entered the manufacturing process.

It would also be wholly unfair for EPA to initiate an enforcement action against a generator which had no control over the subsequent downstream activities which caused the material to lose its exclusion. In fact, such a liability scheme would propagate a situation where landfilling carries less risk than the environmentally preferable choice to recycle the material.

EPA has proposed that if a generator fails to meet the conditions and restrictions of the transfer-based exclusion, then the materials would be considered discarded by the generator and would be subject to RCRA Subtitle C regulations from the point at which the material was used and could not be reused without reclamation. IPC does not support this proposal. IPC believes that any enforcement action should be based on actual environmental harm or threat and not on paperwork violations.

L. EPA Should Reconsider the Exclusion of Materials Burned for Energy Recovery

EPA should reconsider its decision that the incineration for energy recovery is not a legitimate form of reclamation. Many industrial materials, including the epoxy resins used to create the substrate on which circuit boards are printed, are created from petroleum feedstocks. Recovery of the energy value of these materials is often the most efficient means of reclamation. The reclamation of energy from waste materials serves the environmentally beneficial goal of reducing coal and other fossil fuels extraction and their attendant environmental effects. This approach is also applicable to other flammable byproducts such as solvents, oils and wipes that contain them.

V. Conclusions

IPC appreciates the opportunity to submit these comments. We believe that, with this Supplemental Proposal, EPA has taken an important step towards relieving unnecessary regulatory burdens on the manufacturing industry while at the same time furthering its mission of protecting the environment and human health by encouraging greater use of secondary materials.

In particular, we believe that the transfer-based exclusion provides the greatest opportunity for increasing the recycling of secondary goods. We also believe that allowing the aggregation of secondary materials, when paired with appropriate notification and recordkeeping, would make the environmental and economic benefits of the proposed rule open to both large and small businesses.

Finally, we wish to remind the agency of the importance of striking a balance between those requirements that are necessary and those that would unduly add burden, thus lessening the effectiveness of the rule in achieving its objectives to increase the recycling, reclamation, and re-use of secondary materials. RCRA means Resource Conservation **and** Recovery.

APPENDIX A

Reasonable Efforts Questionnaire For Excluded Materials Recycled into Product(s)

Excluded Material _____ Date _____

Recycler Co. Name _____ EPA ID # _____

Plant/Facility Location _____
_____ Street Address City/Town State

Completed by _____ Title _____

| | Question | Comment / Response |
|--|---|--------------------|
| | What product is made from the excluded material described above? Please attach a specification sheet on each product made. | |
| | What raw materials or feed stocks other than the excluded material above are used to manufacture this product? | |
| | Describe manufacturing/recycling process used to make product(s) from raw materials and feed stocks used. Attach process flow chart showing material flow to final destination. | |
| | What wastes are generated in the manufacture of the product(s)? | |
| | How are manufacturing process wastes managed – as hazardous waste or non- | |

| | | |
|--|--|--|
| | hazardous solid waste? | |
| | Have you analyzed the manufacturing process waste using the TCLP method(s)? If so, provide a copy of analysis. | |
| | Was TCLP sample taken from process when the excluded material was a feedstock? | |
| | Name of waste regulator and date of last on-site inspection | |
| | Summarize last regulatory inspection findings (for each media) and attach copy of report if any. | |
| | Explanation of any ECHO non-compliance showing for past three years | |
| | Attach copy of insurance coverage information. | |
| | | |