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Date: October 18, 2002
To: Participants
From: Jim McElroy, NEMI
Subject: Minutes of NEMI Product Take-Back Workshop

This workshop was hosted by StorageTek at their Louisville, Colorado facilities and was held on Oct. 10/11, 2002.

The following companies participated in the event:

AeA	McDATA Corp.
Agilent Technologies	Market Quest Consulting
AMR Research, Inc.	Motorola, Inc.
Australis Investments	NEMI Secretariat
Celestica	Nortel Networks
Cornell University	Plexus Technology Group
Douglas Engineering	Solelectron Corporation
Flextronics	StorageTek
The GoodBye Chain Group	University of Colorado at Denver
Hewlett-Packard Company	Vari-L Company, Inc
Lexmark International, Inc.	

The following agenda was followed:

NEMI Product Take-Back Workshop

Hosted by StorageTek

Aurora Conference Room

Agenda – October 10th

Time:	Topic:	Speaker:
8:00 a.m.	Self introductions	
8:30 - 8:45	Review agenda, set expectations	Jim McElroy, NEMI
8:45 - 9:00	Welcome	Rick Charbonneau, StorageTek
9:00 - 9:30	Update on WEEE/Legal implications	J.P. Brisson, Allen & Overy
9:30 - 9:50	Break	
9:50 - 10:20	Impact of WEEE on Industry	Jennifer Guhl, AeA
10:20 - 10:50	Materials Declaration Guide	Bob Pfahl, Motorola (for EIA)

10:50 - 11:30	Readiness-European Recycling Companies	Patrick Martin, Jr., Cornell University
11:30 - 12:00	Preparing for WEEE – OEM View	Fran Planinsek, StorageTek
12:00 - 1:00	Lunch	
1:00 - 5:00	Group Discussion Topics	

Agenda – October 11th

8:00 - 9:00	Review Results of Group Discussion	Rick Charbonneau / Jim McElroy
9:00 - 11:30	Options for industry collaboration	Rick Charbonneau / Jim McElroy
11:30 - 12:00	Wrap-up/feedback	All

Minutes

Self-introductions were made by all participants. Jim McElroy, NEMI, reviewed agenda and also led a discussion on workshop objectives. Rick Charbonneau, StorageTek, discussed logistics of facilities and reviewed workshop process.

Jean-Philippe Brisson, Allen & Overy, gave a very informative talk on the WEEE directive, entitled “A Step-by-Step Analysis”. JP broke his talk into five sections: background/overview of WEEE, step-by-step analysis, implementation options, financial responsibility, and discussion points.

Our next speaker was Jennifer Guhl, AeA, who began by informing us that she has been involved with the WEEE directive for the last five years! Jennifer’s talk was entitled “The U.S. High-Tech Industry and the EU WEEE Directive”. After a brief introduction to AeA, she provided information on the political background leading up to WEEE. Jennifer then discussed schedule for WEEE passage followed by descriptions of key issues that industry is attempting to mitigate. These include individual financing, flexible systems, historic waste, orphan waste, and design provisions. This was followed by a very sobering estimate of the financial impact of WEEE on a typical mid sized high-tech company. Jennifer concluded by reviewing the work of AeA and AeA Europe relative to WEEE and its related industry impact.

Bob Pfahl, Motorola, then spoke on behalf of EIA. His talk was entitled “EIA Information and Supply Chain Management Tools”. Bob then went on to describe/provide status on two information efforts: EIA’s Material Declaration Guide and EIA’s regulatory tracking tool. The Material Declaration Guide is designed to provide a uniform way for supply chain providers to communicate the substances of concern within their component/subassembly/system. The list is designed to cover, as minimum, items from RoHS (Restrictions on the use of certain Hazardous Substances) and Annex II of the WEEE directive (i.e. those items that must be removed prior to treatment). The Regulatory Tracking Tool is an internet based service that provides subscribers with comprehensive legislation and regulatory information on a global basis. Point made that tool is for information not for legal compliance. Bob also pointed out that there is an effort going on to harmonize this work with similar efforts in Japan and Europe.

Our next speaker was Patrick Martin, Cornell University. Patrick completed an internship at StorageTek where he focused on conducting a survey of European Recyclers to determine their readiness to WEEE. The effort involved identification of potential suppliers, development/distribution of a questionnaire, internet research, and compilation of results. Patrick then

provided an overview of the questionnaire content. This was followed by some general conclusions of the European infrastructure by geography. While the desire was to identify a pan European solution, most seem to focus on one country or region. A number of potentially viable partners have been identified through this effort. Patrick also discussed a number of alternative scenarios for end-of-life product management. He discussed a number of challenges/obstacles that were identified but then focused on the opportunity to partner early. The talk ended with some conclusions and recommendations for the group to consider.

Fran Planinsek, StorageTek, gave an OEM view of preparing for WEEE. Fran began with a brief summary of WEEE (including schedule of critical milestones). This was followed by the objectives established by the StorageTek implementation team. A description of functional impact was provided across the supply chain (i.e. internal functions as well as supply chain partners). Fran then discussed strategy to gain access to industry information and help establish the standards/practices that will be required. StorageTek plans to make use of industry groups (e.g. NEMI and AeA) to leverage their resources in this area. The selected option will maintain an internal infrastructure that will orchestrate required action both internal and external to StorageTek. A number of detailed recommendations was developed by the team and they are in the process of building support within the company. Fran concluded with an estimate of the development costs to StorageTek. A major portion of this is related to software efforts to deal with the information requirements of WEEE across the spectrum of business processes.

This concluded the morning session. During the afternoon, a number of discussion topics were explored including: take back and recycling, information management systems, quality systems, design for environment, and business models.

On Friday morning we began by getting an update from Jennifer Guhl on the conciliation committee meeting in Europe. This was followed by J.P. Brisson going into more details on some of the definitions of WEEE (e.g. collection, reuse as a whole, treatment, targets, etc.).

We then reviewed a summary of the discussions of the previous afternoon. Points made were categorized as follows:

Opportunities

- Investigate and develop the establishment of an industry-wide electronic data exchange management system for gathering and/or exchanging information about substances of concern.
 - Could be secure, web-based tool
 - Should be sure to protect intellectual property
 - Could be a standards element (data organization/format)
- Suggest companies subscribe to a Regulatory Tracking on a Global Basis (e.g. EIA Tracking tool).
- Draft White Paper on Conflict between OECD Trans-boundary Waste and WEEE.
- Educate companies about Best Practices for DfE
 - Design for disassembly
 - Design for reuse
 - Conferences, forums, journals
- Consider leasing as a strategy for re-use.
- Get to know your supply chain and educate your suppliers.

- There is a business opportunity for EMS providers to provide end-to-end solutions (design through end-of-life)
 - Timing based on volume need.
- OEMs are interested in outsourcing recycling (although some may keep it in house).
- Consider support for the EIA Materials Declaration List
 - Note: Ensure the EIA list contains the treatment obligations of WEEE
- Develop and get agreement (through AeA and/or EICTA) to get web-based information about WEEE requirements standardized and provided to the recyclers, treatment facilities, and Member States.
- Can NEMI/IPC help change U.S. infrastructure to meet RoHS Directive requirements?
- Should NEMI members develop a testing standard for RoHS?
 - Alternative to data tracking?
 - Supplier certification.
 - Audit function to data tracking.
- Establish a standardized quality system for recyclers.
- Promote competition in the recycling industry for household waste
 - Concern that collective financing for historic and orphan household waste could impact cost for recycling of new household waste
- Companies can consider subscribing to the AeA Europe Environmental Bulletin for Member State legislation updates that will implement WEEE.
- Develop white paper on definition of waste that will encourage more re-use.

Issues

- How to “certify” a product as “lead free”?
- What is definition of product?
 - Impact to WEEE (what’s covered, what’s not covered)
 - Impact to RoHS (establishing denominator for % HS calculations)
- Upgrading equipment may lead to components in the waste stream, which could place component manufacturers under the scope of the WEEE Directive.
- Define waste (I.e. items that can be reused vs. when it enters waste stream).
 - Impacts targets that are reported
- Visible Fee – still being debated by industry in Europe (also not legal in certain Member States)
- Intellectual Property, particularly with respect to data exchange and data requirements – liabilities.

Recommendations

- Each company should develop an environmental product stewardship statement/mission
 - Educate suppliers
 - Engage top-level support
 - Include in marketing
 - Educate employees
- Figure out where your products are installed / located.

- Figure out what’s in your products

- Including through your supply chain/components
- Prioritize by treatment obligations and substances of concern (See EIA list)
- Benefit: identify potential resources (business opportunity)
- Each company to determine strategy for recovering recycling cost.

Questions

- How will recycling information get reported from recyclers to the Member States?
 - Not yet determined. Will be elaborated in MS legislation
- How can equipment manufacturers get suppliers to notify them when they make changes to what's in their components?

Information Points

- EMS 14001 seems to be geared for manufacturing – not involved with design (yet).
- Not all companies report environmental performance.
- LCA info. is useful in the area of energy consumption.
- Member states must collect 4 Kg per person per year for house hold WEEE.
- Have labs available so suppliers can certify to material spec's.
- 0.1% lead is requirement for EOL vehicles (by weight).
- RoHS requirements can be specified in purchase specifications/purchase orders.
- Knowledge of product content can entice recyclers to capture value.

Schedule (to be verified)

- March '03 - Entry into force.
- March '05 - Labeling must begin (new products).
- Sept. '05 – All systems “go” for recovery/recycling.
- Jan. or July '06 – M/S report on 4 Kg collect target.
- July '06 – RoHS enforced for covered new products.
- '10 – Storage exemption lapses.
- '13 – Historical waste requirements lapse.

Actions

- Jim McElroy – Start process of developing NEMI project on Data Exchange Systems for RoHS/Annex II data.
- Jim McElroy – Contact EIA to discuss pricing structure of EIA Tracking Tool.
- Jennifer Guhl, Jennifer Shepherd, Richard Kubin, Jim McElroy – Develop White Paper on OECD Trans-boundary Waste and WEEE.
- Bob Pfahl – Send list of DFE references to Rick & Jim for distribution.

- Discovery phase for best practices for DFE
 - Identify leaders, state of art practices, workshops/short courses
 - Tie into EEE legislation (AeA)

- Educational Forum on RoHS and reporting (inc. Annex II)
 - Focus on supply chain readiness
- Jim McElroy – Check to see if there is any market data on size of recycling business in Europe (e.g. ICER).
- NEMI TC – Show visible support for EIA M't'l. Declaration list as standard.
- Jennifer Shepherd – Work with AeA to look at standard reporting for recyclers, treatment facilities and member states.
- Bob Pfahl – Consider if Moto. Would share test methods for determining HS in RoHS (for use as industry standard).
- All participants – Ask the question: should industry develop a standardized quality system for recyclers?
- Jennifer Guhl, Amey Redfern, Jim Dills – Develop white paper on definition of waste to encourage reuse.
- Jennifer Guhl – Working on definitions of lead free and what constitutes a product.
- Jim McElroy – Publish list of statements by leading companies re: environmental policy/product stewardship programs.

Future Actions

- Consider mechanisms for ongoing sharing of company plans:
 - Approaches to be taken (I.e. business models)
 - Sharing of best practices
 - NEMI role in data sharing
- Determine timing/venue for follow on meeting:
 - Use AeA as vehicle to determine optimum timing (based on member state progress).
 - Consider alternate mediums
 - » Web based
 - » Video conference
 - » Alignment with other industry events (IPC, IEEE, etc.)

Reviewed goals of meeting as established at beginning. Positive feedback from participants on value of workshop. Thanks again to StorageTek for hosting this session!