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iNEMI PVC Alternatives - Meeting Minutes 04 December 2008

Actions

- **Scott O'Connell and Jim Arnold to setup agenda for next call on 18 December 2008**
- **Jim Arnold to provide iNEMI Statement of Work Template to team**
- **Next Meeting: Thursday 18 December 2008 2pm EST (1pm CST; 11am PST)**
 - **04 December Meeting Agenda:**
 - **Continued Discussion on Development of Project Statement of Work (SOW)**
 - **PE International to lead discussion the prior LCA work on PVC**
- **The last conference call for the year will be on 18 December 2008.**
- **Weekly meetings will be scheduled beginning 08 January 2009 until the SOW and PS are completed.**

11/20/08 Conference Call Participants*

Susan Landry (Albemarle)
Timothy St Romaine (Albemarle)
Tom Okrasinski (Alcatel-Lucent)
Sarah Westerdale (BASF)
Rachel Nolan (Bayer MS)
Matt Holman (BizLink)
Wayne Li (BizLink)
Shawn Meng (BizLink)
John Marshall (Dupont)
Jan Stouffer (DuPont)
Lise Laurin (EarthShift)
Cathleen Hess (SABIC)
Erin Gately (HP)
Leo Heiland (Intel)
Nancy J. Bolinger (Lenovo)
Peter Canepa (PE Americas)
Michael J McLearn (Madison Cable – Tyco)
Andrew J Nowak (Madison Cable – Tyco)
Mike Patel (Teknor Apex)
Bud Hall (Vinyl Institute Consultant)
Curtis Robb (Volex)

Jim Arnold (iNEMI)
David Godlewski (iNEMI)

Potential Participants not on call*

Bill Reents (Alcatel-Lucent)
Joseph Wiesner (Alcatel-Lucent)
Brian Larin (BASF)
Guenter Kehr (BASF)
Ricardo Cuetos (BASF)
Mitch Willis (BASF)
Joe Johnson (Cisco)
D'Lane Wisner (D'Lane Wisner)
Scott O'Connell (Dell)
Bryce Busby (Dell)
Conrad Hovik (Dupont)
Bill Olson (Motorola)
Constantin Herrmann (PE International)
Marc Binder (PE Americas)
Mike Newman (ReCellular)
Andrew Poslinski (SABIC)
Todd Washburn (SABIC)
Robert McKay (SABIC)
Robert Kinyanjui (Sanmina-SCI)
Dave Bender (Tyco)

* If you have additions and deletions for the distribution list or if you were on the call and are not listed as a Participant, please forward the information to Jim Arnold (jim.arnold@rissastudios.com). He will take the appropriate action to add or remove names

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04 December Meeting Agenda:

- Review Purpose of Calls with brief overview for new participants – Jim Arnold (iNEMI) – see **General and Administrative Issues** at the end of this note
- Review initial matrix of PVC and PVC-alternative materials – an updated matrix will be distributed with the minutes
- Send a short note to Jim Arnold (jim.arnold@rissasstudios.com) if any critical information is missing and most importantly any information needing correction or clarification.
- Questions, Issues, and General Discussion – All Participants
- iNEMI looking into setting up a face-to-face meeting during APEX 2009 in Las Vegas
 - **Need input from participants on availability to have a face-to-face meeting at APEX** (send input to Jim Arnold)
- Below is a summary of the discussion captured during the conference call.

Summary of Discussion, Suggestions and Recommendations – 04 December

- Suggestions were made to contact:
 - Cathy Hart who ran the EPA LCA study; to identify specifics of what was and wasn't covered in the EPA's 2 year study
 - George Fechtman (george.j.fechtman@us.ul.com; Underwriters Laboratories Inc; 1285 Walt Whitman Rd; MELVILLE, NY 11747; Phone: 631-546-2858)
 - Susan Stene (Susan.L.Stene@us.ul.com; Principal Engineer for UL 62; Phone 408-876-2948)
- SOW should include identification of specifications, e.g. UL and IEC Standards, to assist in narrowing investigative options
- Thousands of application specific non-PVC and PVC formulations exist, it will be important to narrow the investigative field for the LCA process development effort.
- Studies with End of Life (EOL) are limited to date; need to identify studies that have included some of the EOL issues and investigate what was included
- Start with EOL to help identify issues and use information to help narrow field for investigations
- Important to understand if new formulations will be a requirement of the Project.
 - Initially proposing new formulations is not the intention of the Project; however it is conceivable that requests for new formulations (including all of the requirements) could be an output of Phase 1.
- Limit initial investigations to “consumer” cabling (power, SCSI, ...) to narrow field
 - Investigation on riser and other “infrastructure” cabling could be an option for a follow-on Project as an output of the Phase 1 process development.
 - Follow-on Projects could be used to verify the process developed to compare LCA results
 - After the call, Lise Laurin (EarthShift) provided the goal and scope requirements for an LCA from ISO 14040, suggesting it might provide a good framework for our next steps in developing the SOW:

5.2 Goal and scope definition

5.2.1.1 The goal of an LCA states

- The intended application,
- The reasons for carrying out the study,

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- The intended audience, i.e. to whom the results of the study are intended to be communicated, and
- Whether the results are intended to be used in comparative assertions intended to be disclosed to the public.
- The scope should be sufficiently well defined to ensure that the breadth, depth and detail of the study are compatible and sufficient to address the stated goal.

5.2.1.2 The scope includes the following items:

- The product system to be studied;
- The functions of the product system or, in the case of comparative studies, the systems;
- The functional unit;
- The system boundary;
- Allocation procedures;
- Impact categories selected and methodology of impact assessment, and subsequent interpretation to be used;
- Data requirements;
- Assumptions;
- Limitations;
- Initial data quality requirements;
- Type of critical review, if any;
- Type and format of the report required for the study

Next Steps

- Next meeting: Thursday, 18 December. Agenda for meeting will be sent out approximately one week prior to call.
- Participants to continue discussion on determining which materials and tools to use for the initial LCA Assessment
 - Project should consider using two different end of life scenarios

Notes from Previous Meetings

Initial Proposal from First Meeting

Scott O’Connell presented an initial proposal on possible elements of an iNEMI PVC Alternatives Project. The presentation material will be sent to the general distribution for those who were not able to download the material from the iNEMI web site. The presentation material was intended to provide a baseline for the discussions. Anyone who has comments, questions, or issues they would like addressed, are encouraged to send a short note to either Jim Arnold (jim.arnold@rissastudios.com) or Scott O’Connell (scott_oconnell@dell.com) for review and redistribution to the participants. Any information provided will be sent to the general distribution and time during the conference calls will be scheduled for discussion.

Review of Past, Present, and Proposed Projects (P4)

- Some initial information is shown in the attached presentation materials (Slide #3)
- Bud Hall provided a link to the EPA final report on “Wire and Cable Insulation and Jacketing: Life-Cycle Assessments for Selected Applications”, and the summary document, “Wire and Cable Insulation and Jacketing: Life-Cycle Assessments for Selected Applications—Summary”. The link is: <http://www.epa.gov/dfepubs/wire-cable/lca.htm>

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Brief Summary of Questions, Issues, and General Discussion

- What studies have been and are currently being done?
- Scott provided an initial listing in the initial presentation made at first meeting/
- One issue with current studies is the lack of adequate material information.
- Need information on the full life cycle and should not overlook the complexity of end of life scenarios

- Anyone wishing their comments or questions to be anonymous can send them to Jim Arnold who will distribute them accordingly.

Next Steps

- Next meeting: Thursday, 18 December. Agenda for meeting will be sent out approximately one week prior to call.
- Participants to continue discussion on determining which materials and tools to use for the initial LCA Assessment
 - Project should consider using two different end of life scenarios
- The LCA assessment should use at least two different tools to see what and if there are differences.
- Some of the variables discussed
 - Consider breaking the materials into categories, e.g.,
 - **Alternative Chlorinated Resins**
 - **Polyphenylene Oxides (PPO)**
 - **Polypropylene Homopolymers (PPU)**
 - **Nylons**
 - **Rubbers, e.g., neoprene**
 - ...
 - For PVC based materials
 - **Identify material formulations to possibly include in the initial LCA comparison**
 - **With and without phthalate Plasticizers**
 - Flame retardant technologies
 - **Br and Br-free materials**
 - What applications should be targeted?
 - Geography
 - **Where are the materials and products made?**
- Based on the discussion a new matrix was developed to begin to capture some of the information discussed.
 - The request was made for the participants to provide as much information to fill in the new matrix as possible.
 - Provide any additional information that should be included.
- Discussion of the input provided will be scheduled for the next call.

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General and Administrative Issues

Purpose of Calls

The purpose of the meeting was a continuation of the discussion from last meeting to begin setting priorities and direction for the evaluation of PVC insulation on cables used in the electronics industry. The intent is **not** to repeat past or present studies and/or projects; however to investigate the possibilities in developing a series of related tasks (a project or series of projects) that will add to the existing Life Cycle Assessment (LCA) knowledge base. iNEMI is a member based organization and projects are normally restricted to iNEMI members only; however to get a broader perspective from the industry the Project Formation process is open to anyone interested participating in defining the Project tasks. Participation in the Project Formation process will provide a forum where participants can help establish the agenda for the electronics industry. The ultimate goal of the Project Formation discussions is to develop a formalized Statement of Work (SOW) and Project Statement (PS) for the Project (The iNEMI SOW and PS templates are available for review upon request).

Formalizing the Project (Summary from 06 November Meeting)

- It is important to create a set of goals and clearly define what will be done. This will be added to the project plan.
- iNEMI recognizes the need to have clearly a defined set of tasks, i.e., a formalized Project plan, and has developed a set of guidelines and templates to assist teams through the development of a Statement of Work (SOW) and Project Statement (PS) for every project proposed.
- The Project formation team will be responsible to make recommendations if the project should be broken into multiple phases. For the PVC Alternatives Project, possibilities are:
 - Phase 1 - Literature search and review of previous and existing projects, e.g., some examples are listed in the presentation provided by Scott O'Connell
 - Phase 2 - LCA assessment of PVC and PVC-free cables
 - Phase 3 – Technical Evaluation of PVC alternatives, e.g., electrical, mechanical, safety.
- Jim Arnold will work with the team to pull together the iNEMI PVC Alternatives SOW and will work with the Project Leader (to be identified) to get iNEMI Technical Committee (TC) approval.
- After the TC has approved the SOW and PS, the Project will be advertised and open to all iNEMI members to participate. The initial signup period is typically 30 days, at which point the project signup is closed.
- Once a project closed any requests to participate in the project will require approval from the Project's founding members.
- The next TC meeting is scheduled for 04 December. The current plan is to present a brief status on the progress of the discussions.

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- Note that we will eventually be running a multi-company project. For the project to fall under “iNEMI umbrella” for working in a pre-competitive environment, we need a Statement of Work (SOW) and Project Statement (PS) in order to formalize the project.
- By following the iNEMI By-Laws and Policies the “umbrella” shields the participating companies from anti-trust issues. The project formation team is chartered to pull together the SOW and PS. These documents will be reviewed and approved by iNEMI Technical Committee. Companies wishing to participate in the formalized project will be required to agree to the terms and conditions identified in the SOW and PS and sign the PS, returning the signed copy to the iNEMI main office for final approval.
- Jim Arnold will provide an overview of the iNEMI project management process for any participants who have questions or would like additional information on iNEMI Projects.

Sharing files

- Any information participants would like to share with the group can be forwarded to Jim Arnold (jim.arnold@rissastudios.com) who will distribute the information to the rest of the participants.

Feedback

- Participants are also encouraged to provide feedback (positive and non-positive comments are both welcome) so iNEMI can continue to improve the Project formation process.

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