



SUMMARY AND PARTICIPANT EVALUATION

Workshop on Standards, Conformity Assessment & Forensic Investigation of Consumer Electrical and Electronic Equipment
April 17-19, 2007, Hanoi, Vietnam



ASEAN's agreement on a Harmonized Electrical and Electronic Equipment (EEE) Regulatory Regime creates a framework that could ease trade flows in electrical and electronic products, the most highly traded manufactured products in ASEAN. Elaborating details of the regime, however, will take concerted effort and determination to meet the end 2010 deadline. To help the ASEAN Joint Sectoral Committee on Electrical and Electronic (JSCEEE) products frame technical issues required to implement the EEE regime, the ASEAN-US Technical Assistance and Training Facility conducted a three-day workshop on standards, conformity assessment and forensic investigations of fires related to consumer electrical and electronic products. The workshop was held April 17-19, 2007 in Hanoi and attended by 38 Member Country representatives.

Presenters from ASEAN countries set the stage for discussions. Experts from Singapore, Brunei and Malaysia provided national perspectives on their respective electrical and electronic product regimes. Experts from Underwriters Laboratory (UL) outlined development methodologies and the administration of product safety standards. The ASEAN EEE regime requires JSCEEE to reach consensus on the list of relevant international standards that can be used to demonstrate that a product complies with the "ASEAN Essential Requirements," (e.g. that a product is not harmful to people or the environment). UL's experience in working in international standards setting bodies was particularly relevant to ASEAN experts.

Hazard based safety engineering covering such topics as fire hazards and electrical shocks paved the way for more detailed presentations on product evaluations, including by third party conformity assessment bodies (CABs) and laboratory protocols. Conformity assessment procedures for electrical and electronic products, product surveillance and enforcement were introduced by UL experts, with two breakout sessions during which groups sought to design an ideal product safety model.

A fire investigator from the US National Electrical Manufacturer's Association that specializes in detecting electrical fires joined the workshop on day two. The investigator outlined how to approach fire scenes and narrow the scope of the investigation to pinpoint the cause of a fire. She provided detailed information her own research on burn tests of electrical products as well as risks posed by electrical cords, fuses, and lithium batteries. She presented detailed information on products with a "fuel load" or "ignition source" that could contribute to or cause a fire. Electrical appliances themselves cause very few fires, but their casing materials can contribute to the spread and intensity of a fire.

In the closing discussion ASEAN participants noted major tasks ahead: agreeing on hazard risks for specific products, the standards to which products should be harmonized (most likely international standards (IEC), and mutual acceptance of the results of each others' conformity assessment tests. Some noted that regulators like to regulate but do not have the capacity to do so in such a vast field as consumer electronic products. Another suggested that ASEAN Member Countries "outsource" conformity assessment, relying on private testing laboratories as CABs. The EEE regime provides for third party certification with the JSC EEE maintaining a list of certified CABs.

The need to exchange information about products that caused a fire or represent a hazard is important to build confidence in the effectiveness of the ASEAN EEE regime. Some experts, however, were cautious of sharing such information unless they were absolutely certain about the risks posed by the product in question. Some expressed interest in the US National Fire Prevention Association's Guidelines on Investigating Fires and Explosions as a way of ensuring all ASEAN countries follow the same protocols in investigating a fire. Others noted that experts might differ in their conclusions even following the same protocol.

Participants rated the course favorably with an average of four or five out of a possible six for each of the sessions. They enjoyed the interactive nature and expressed an interest in future such trainings. On their evaluations, participants

requested more training on risk assessment and evaluation, surveillance and conformity assessment. Several participants noted the value of information exchange and requested more collaboration among ASEAN and with laboratories.

The ASEAN Secretariat expert expressed appreciation for the intensive workshop. The discussions had helped set the stage for the JSC EEE's meeting the following day. In particular, the Committee would discuss next steps for implementing the EEE regime. She thought that more in-depth workshops might be useful with respect to market surveillance and conformity assessment. UL experts thought additional work might also be useful on risk assessments of specific products, providing a comparison of standard on specific products across CABs, providing training to regulators on how to use field reports and how they feed into standards/conformity assessment, and training for regulators on market surveillance and pooling surveillance information. UL experts expressed an interest in continuing work with the JSC EEE either through workshops or in providing technical assistance as the Committee begins to fill in details for implementation of the EEE regime. NEMA recommended that the JSCEEE establish a method for collecting statistical information regarding fire origin and cause, shock, or burn injuries involving EEE. NEMA also encouraged that ASEAN Develop or adopt a scientific method for investigating and reporting incidents involving EEE, for which the NFPA 921 Guide for Fire and Explosion Investigations was recommended (the publications are presently cost-prohibitive for Member Countries).

Following is the agenda and a summary of participant evaluations.

ASEAN-US Technical Assistance & Training Facility

Workshop on Standards, Conformity Assessment & Forensic Investigation of Consumer Electrical and Electronic Equipment

April 17-19, 2007, Hanoi, Vietnam

Day 1: April 17	
8:15 – 8:30	Arrival/Registration/Coffee
8:45 – 9:15	Introductions of Instructors & Participants
9:15 – 9:30	Workshop Overview , <i>Ann Weeks, Vice President of Government Affairs, Underwriters Laboratories</i>
Standards and Conformity Assessment	
Session 1 9:30 – 9:45	Agreement on the ASEAN Harmonized Electrical and Electronic Equipment (EEE) Regulatory Regime of December 2005 and ASEAN Sectoral Mutual Recognition Agreements, <i>Chair of the Joint Sectoral Committee</i>
Session 2 9:45 – 10:30	National Perspectives on Electrical and Electronic Product Control (regulation) <ul style="list-style-type: none"> • Brunei Darussalam, <i>Pg Shaharuddin Pg Hj Yusoff, Assistant Project Officer, Construction Planning and Research Unit, Ministry of Development</i> • Singapore, <i>Mr. Michael Ong, Director, SPRING</i> • Malaysia, <i>Mr. Ismail Bin Anuar, Director, Electrical Safety Department, Energy Commission</i>
Session 3 10:30 – 10:45	Overview of Underwriters Laboratory , <i>Robert Pollock, Director, Market and Conformity Surveillance</i> <ul style="list-style-type: none"> • Mission, purpose, history and founding • Context for the structure of US safety system, both private and public sectors
10:45 – 11:00	Coffee Break
Session 4 11:00 – 12:00	Setting Standards for Electrical and Electronic Equipment , <i>Ann Weeks</i> <ul style="list-style-type: none"> • Development methodologies, processes, and administration of consensus based product safety standards: <ul style="list-style-type: none"> ○ Consensus based standards – How are they developed? What is the value? ○ International standards development philosophy ○ The Government's role
12:00 – 1:00	Lunch
Session 5 1:00 – 1:45	Hazard Based Safety Engineering (HBSE) Principles , <i>Gary Siggins, Primary Designated Engineer</i> <ul style="list-style-type: none"> • Engineering processes and product safety design strategies of HBSE, a framework for anticipating and mitigating risks in designing products, in order to increase compliance with relevant product safety standards. <ul style="list-style-type: none"> • Casualty hazards – for example, sharp edges • Electric shock hazards • Fire hazards
Session 6 1:45-2:45	Overview of Conformity Assessment , <i>Ann Weeks</i> <ul style="list-style-type: none"> • Stakeholder responsibilities (government, manufacturers, insurance agencies, retailers, testing and certification organizations and consumers) • Technical discussion: how is conformity assessment implemented for electrical and electronic products?

2:45-3:00	Coffee Break
Session 7 3:00 – 3:45	Product Evaluations, Gary Siggins <ul style="list-style-type: none"> • General safety and performance requirements for Electrical and Electronic Equipment (EEE) • Scope and development of technical file • 3rd Party Certification System
Session 8 3:45 – 4:15	Technical Considerations, Gary Siggins <ul style="list-style-type: none"> • Test Equipment/Laboratory Protocol (identification of fire, shock and casualty hazards)
Session 9 4:15 - 5:00	Breakout Session – Building a Roadmap to Conformity <ul style="list-style-type: none"> • Ideal product safety model • SME Q&A sessions
Day 2: April 18	
8:30 – 8:45	Arrival/Registration/Coffee
Standards and Conformity Assessment (continued)	
Session 10 8:45 – 10:15	Surveillance, Robert Pollock Process for monitoring and ensuring manufacturer compliance with the product safety requirements. <ul style="list-style-type: none"> • Testing or inspection of samples from Open Market • Testing or inspection of samples from Factory • Quality System Audits • Assessment of production process • Investigation of field incidents • Implementing corrective actions
10:15 – 10:30	Coffee Break
Session 11 10:30 – 12:00	Compliance Enforcement – Government Regulations and Internal Obligations, Robert Pollock and Ann Weeks <ul style="list-style-type: none"> • Roles and responsibilities that government agencies have in the oversight, regulatory, and enforcement authority for consumer product safety. <ul style="list-style-type: none"> ○ Government oversight - role and responsibilities ○ Government regulations for enforcing product safety ○ Product recall authority ○ Self-regulation and voluntary compliance ○ Consumer product safety legal framework ○ Implications for free trade agreements and WTO obligations
12:00 – 1:00	Lunch
Session 12 1:00 – 2:00	Breakout Session – Building a Road Map to Conformity – TBD Continuation and conclusion of the breakout session started on day one and next steps for meeting the ASEAN Regulatory Regime objective. <ul style="list-style-type: none"> • Ideal product safety model • SME Q&A sessions

Forensic Accident Investigation of EEE

Session 13 2:00 – 3:00	Overview of Forensic Accident Investigation of EEE , <i>Elizabeth C. Buc, PhD, PE, Materials Engineer</i>
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3:00 – 3:15	Coffee Break
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Session 14 3:15 – 5:00	At the Accident Scene , <i>Elizabeth C. Buc</i> <ul style="list-style-type: none">• Information gathering• Arc mapping,• Collection and preservation of evidence
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Day 3: April 19

8:30-8:45	Arrival/Registration/Coffee
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Forensic Accident Investigation of EEE (continued)

Session 15 8:45 – 10:15	Examination of Evidence , <i>Elizabeth C. Buc</i> <ul style="list-style-type: none">• Protocols
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10:15 – 10:30	Coffee Break
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Session 16 10:30 – 12:00	Examination of Evidence (continued) , <i>Elizabeth C. Buc</i> <ul style="list-style-type: none">• Laboratory Tools and Testing Techniques
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12:00 – 1:00	Lunch
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Session 17 1:00 – 3:00	Research & Testing with EEE , <i>Elizabeth C. Buc</i> <ul style="list-style-type: none">• Full Scale Tests (pre-flash over/post flash over)• Burn testing of devices (size of ignition source, rate of heat release)• Testing components (cords, fuses, etc.)
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3:00 – 3:15	Coffee Break
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Session 18 3:15 – 4:30	Background Material , <i>Elizabeth C. Buc</i>
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4:30 – 5:00	Wrap up/Evaluations
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Evaluation

ASEAN-US Technical Assistance & Training Facility

Workshop on Standards, Conformity Assessment & Forensic Investigation of Consumer Electronic Equipment

April 17-19, Hanoi, Vietnam

Personal data

Years of experience in EEE

Average 10 years

Country of representation

Brunei Darussalam, Indonesia, Laos, Malaysia, Philippines, Singapore, Vietnam, ASEAN Secretariat

Please select the appropriate box

22	Male	5	Female	12 no-response
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Presentations

On a scale of 1 to 6, please rate how informative each session was for you. A rating of 6 indicates that you found the session highly informative; a rating of 1 that you did not find it informative.

Session	Presentation and Presenter	Rating
DAY 1		
1	Agreement on the EEE, <i>Chair of the Joint Sectoral Committee</i>	5
2	National Perspectives on Electrical & Electronic Product Control (regulation), <i>Country Representatives</i>	4
3	Overview of Underwriters Laboratory, <i>Robert Pollock</i>	5
4	Setting Standards for EEE, <i>Ann Weeks</i>	5
5	Hazard Based Safety Engineering Principles, <i>Gary Siggins</i>	4
6	Overview of Conformity Assessment, <i>Ann Weeks</i>	5
7	Product Evaluation, <i>Gary Siggins</i>	4
8	Technical Considerations, <i>Gary Siggins</i>	4
9	Breakout Session –Building a Roadmap to Conformity <i>Underwriters Laboratory</i>	4
DAY 2		
10	Surveillance, <i>Robert Pollock</i>	5
11	Compliance Enforcement – Government Regulations and Internal Obligations, <i>Robert Pollock and Ann Weeks</i>	5
12	Breakout Session – Building a Roadmap to Conformity <i>Underwriters Laboratory</i>	4
13	Overview of Forensic Accident Investigation of EEE <i>Underwriters Laboratory</i>	5

14 At the Accident Scene, *Elizabeth C. Buc* 5

Session	Presentation and Presenter	Rating
DAY 3		
15	Examination of Evidence – Protocols, <i>Elizabeth C. Buc</i>	4
16	Examination of Evidence – Lab Tools & Testing Techniques, <i>Elizabeth C. Buc</i>	5
17	Research & Testing with EEE, <i>Elizabeth C. Buc</i>	5
18	Background Material, <i>Elizabeth C. Buc</i>	4

Subject Matter

Would you like to see more, the same, or less time devoted to the following negotiation topics:

Session	Topic	More	Same	Less
1	Agreement on the EEE	6	13	6
2	National Perspectives on Electrical & Electronic Product Control (regulation)	4	16	5
3	Overview of Underwriters Laboratory	5	17	3
4	Setting Standards for EEE	11	12	2
5	Hazard Based Safety Engineering Principles	10	13	3
6	Overview of Conformity Assessment	8	14	3
7	Product Evaluation	12	13	1
8	Technical Considerations	10	15	1
9	Breakout Session –Building a Roadmap to Conformity	6	16	2
10	Surveillance	14	12	1
11	Compliance Enforcement – Government Regulations and Internal Obligations	16	10	1
12	Breakout Session – Building a Roadmap to Conformity	7	15	3
13	Overview of Forensic Accident Investigation of EEE	10	14	2
14	At the Accident Scene	11	13	1
15	Examination of Evidence - Protocols	10	12	3
16	Examination of Evidence – Lab Tools & Testing Techniques	12	9	3
17	Research & Testing with EEE	9	12	4
18	Background Material	11	9	3

General

1. What part of this course did you like the most?

- Compliance enforcement
- Forensic Investigations (4)
- Surveillance (3)
- Surveillance, HBSE
- Conformity assessment and standards (3)
- Setting standards for EEE
- Conformity assessment procedure of EEE
- Conformity assessment and Post market surveillance
- Standard and conformity assessments & national prospective on EEE
- Setting standard and conformity assessment & surveillance
- Standard & regulation relating to safety reg. for EEE products incl. surveillance matters
- Compliance enforcement - government regulations and internal obligations (2)
- Examination evidence and compliance enforcement
- Cases on past accidents involving EEE with illustrations.
1,2,6,7,9,10,11,12,13
- All subjects are interesting
- All were OK

2. What part of this course did you like the least?

- Examination of evidence
- Fire investigating of EEE (2)
- At the accident
- UL Overview
- Breakout session
- Those parts that are not applicable for EEE
- The time wasted due to participants long rhetoric
- All topics are relevant
- None

3. What other topics would you like to see included?

- More on practical investigation of fires
- Detailed linkage between standards, conformity assessment and forensic investigation
- Risk assessment
- Methodology for risk assessment of EEE
- Conformity assessment related with risk evaluation/investigation
- I think it is already covers all matters we expect to improve our aim to implement EEE Agreement
 - Risk Management methods (2)
 - Product evaluation/setting standards for EEE/Agreement in the ASEAN Harmonized EEE
 - How penalties/enforcement applied after forensic investigation
 - Sampling during surveillance/market surveillance. How should we select the samples.

- One sample - is it enough to represent the whole batch?
- Product evaluation and surveillance
- Regulatory Frameworks
- We are preparing now
- Process to investigate accident & Roles & Responsibility of each party concerned

4. Did this course use a good mix of lecture and interactive discussion?

- Yes (11)
- Yes understanding of on how product is evaluated due to standards
- Yes. I thought video would enhance the learning experience.
- Very much so
- Good
- OK
- No at all
- Too much lectures and too little interactive discussions
- No. There's very few discussion in each topic.
- None

5. What sorts of follow-up activities for this course would you find useful?

- Surveillance
- How to establish an information system and market surveillance system
- Concept for considering in development of the surveillance
- Training/workshops are cover to determine risk/evaluation of EEE and how to conduct conformance
- Determine of conformity procedure
- The product with standards and conformity assessment
- To determine risk/evolution of EEE
- Risk assessment workshop. Review of accident statistics caused by EEE
- Methodology for Risk Assessment of EEE and Recommendation of classification of high reks and low risk for EEE
- Organizing other workshops with other topics relating to EEE to share the experience in making
- Forensic investigation for fire incidents
- Post workshop assistance - providing advisory on likely cause of accident.
- Examination evidence
- Important to look into forensic investigation
- To set the participants "connected" so that sharing of experience could happen.
- Attachment to forensic labs.
- Interpersonal skills among the ASEAN Countries
- How and ensure every country implementation and harmonization and shall be monitored
- Strongly encourage to every country follow and practice and more guidance is needed to those developing the procedures.
- Thank you for inviting us to join in this workshop. This is important to us to support our duties well.
- standards and product conformity assessment.
- Methodology of setting up a new type of Technical Regulation for EEE
- More on views of each ASEN MC on Pre or Post Marketing Issues
- In-depth training/workshop on process to investigate the accident and test methods to identify root cause
- I agree with the breakout session results