TC100 AGS
Report of Advisory Committee of Energy Efficiency

Sep 23rd, 2013
Toshihiro Inokuchi
Assistant Secretary of TC100

Agenda

1. What is ACEE
2. TC100 input towards ACEE

What is ACEE?

IEC SG1 (Energy Efficiency) was transferred to Advisory Committee on Energy Efficiency (ACEE) under SMB on 2013.

Scope and proposed structure

Task Team proposal

Input towards ACEE

1st ACEE meeting is scheduled on Oct. 14th and 15th in Singapore.

ACEE requests all members to below Action.

ACTION

The members of ACEE are invited to provide their presentation slides (using the appropriate ppt template) to the ACEE secretariat (dle@iec.ch and jla@iec.ch) by 2013-10-01.

ACEE members are invited to make their presentations (each with a maximum of 10 minutes) at the meeting.

Template for members' presentation

Describe your delegating organization (TC or NC)

TC: What does the TC do in EE? Available stds, planned stds etc.

TC100 develops following standards in EE area;

IEC 62087 series (Methods of measurement for the power consumption of audio, video and related equipment)

IEC 62623 (Desktop and notebook computers – Measurement of energy consumption)

What are the main activities in this organization (TC or NC) towards EE?

TC100 develops the standard of power consumption measurement method for AV and multimedia equipment.

What is your engagement in these activities (TC or NC)?

EE relating issue is handled by TA12, TA13 or TA14 of TC100.
I'm the Technical Secretary of TA12, and Assistant Secretary of TC100.

5

Template for members' presentation

What are your personal expectations towards ACEE?

For realizing Energy Efficient world, I expect ACEE to define what kind of standard to be developed.

What are the expectations of your organization (TC or NC) towards ACEE?

TC100 expects ACEE to identify the necessary type of standard beside the power consumption measurement method.

What –in your view- is the most important thing ACEE should do?

ACEE should identify the type of standard for EE and summarize them as IEC Guide document.

In which field would you like to contribute?

Energy consumption measurement method

6

ACEE/6/INF

For IEC use only

2013-08-12

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ADVISORY COMMITTEE ON ENERGY EFFICIENCY (ACEE)

SUBJECT **Meeting 2, Singapore, agenda item 8**

Proposal on the work structure and plan of ACEE

BACKGROUND

During the last ACEE meeting, it was suggested to have some proposals for the possible work structure and plan of ACEE to be presented and discussed at the next meeting.

The ACEE chairman, Dr. Ralph Sporer, has submitted the document hereunder for discussion.

ACTION

The members of ACEE are invited to take note of the document for discussion at the meeting.

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

Work Structure and Plan

14.10.13-15.10.13

Proposal for
Kickoff meeting

Review of ToR AC/11/2013 (2013-03-15)

ACEE deals with energy efficiency matters which are not specific to one single technical committee of the IEC. It coordinates activities related to energy efficiency.

ACEE is responsible for the assignment of horizontal energy efficiency aspects and requirements. ACEE provides guidance for implementation in a general perspective and for specific sectors.

It encourages a systems perspective for the development of standards for energy efficiency and provides support for system considerations.

Possible Working Items

Task Team

1. **WP: Aspects - Definition of EE aspects**
   - List of basic EE Functions
   - List of basic EE hazards connected to basic EE requirements
   - Depending on the above definition of generic approaches
2. **WP: Organization - Description of IEC organization**
   - Group/system EE standards vs. product EE standards
   - Standardized disclaimer/wording in standards/SBP
3. **WP: Generic – Derive generic approaches per function**

Study Group

1. **WP: Overview - Overview of existing EE standards**
   - Classified according to functions/hazards

Accompanying actions:

- **Definitions – Terminology** (Use work of JPG2)
- **Marketing – Dissemination** (Workshop with TC / with external orgs. /White Paper/Brochure etc.)

Possible Working Items

Task Team

1. Definition of EE aspects – source Guide 51/109
   - List of basic EE Functions – source ISO TC 242/257
   - List of basic EE hazards connected to basic EE requirements – source ISO 257
   - Depending on the above definition of generic approaches
2. Description of IEC organization – source Guide 104
   - Group/system EE standards vs. product EE standards – source Guide 104
   - Standardized disclaimer/wording in standards/SBP – source Guide 104
3. Generic – Derive generic approaches per function – source TC work

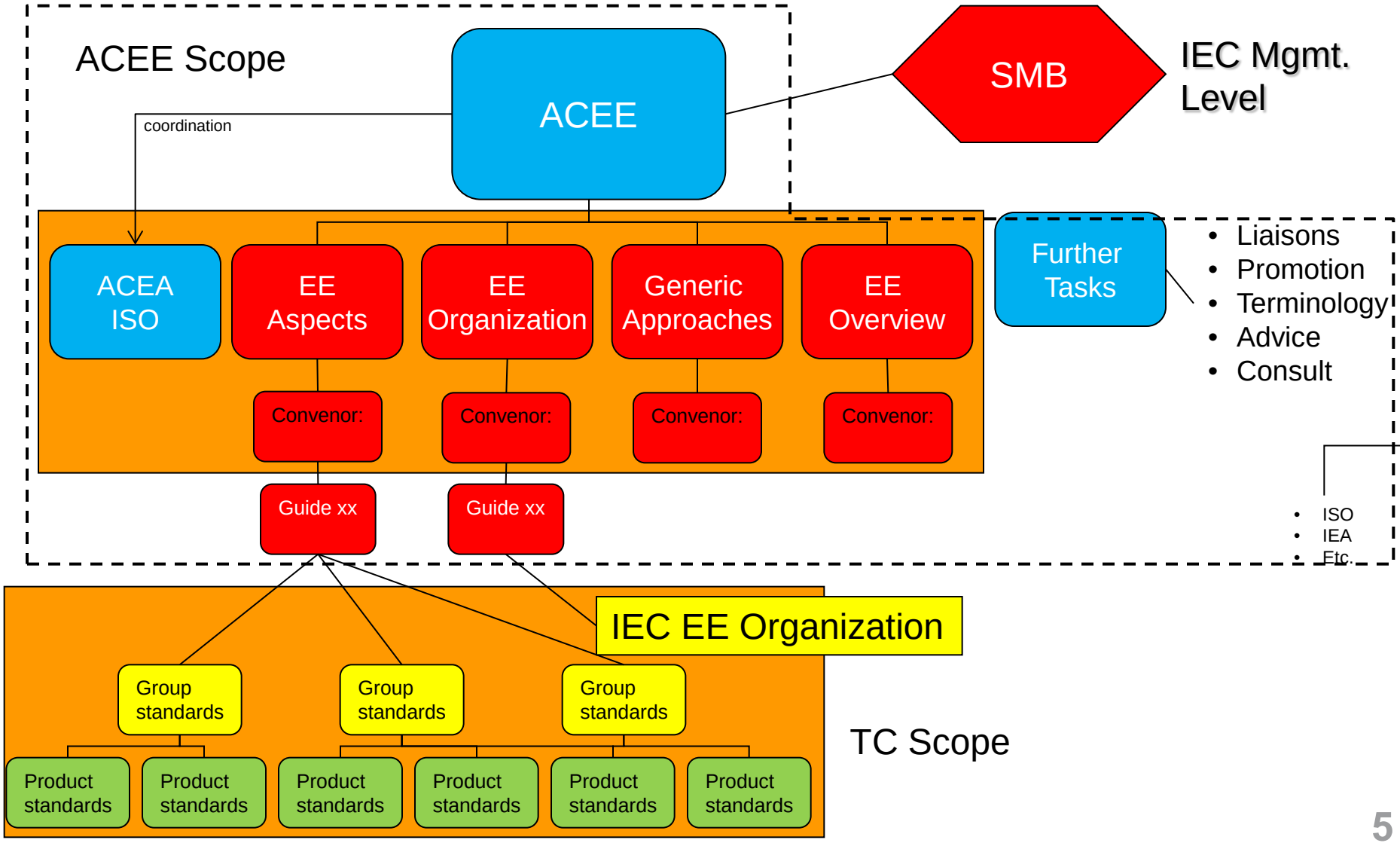
Study Group

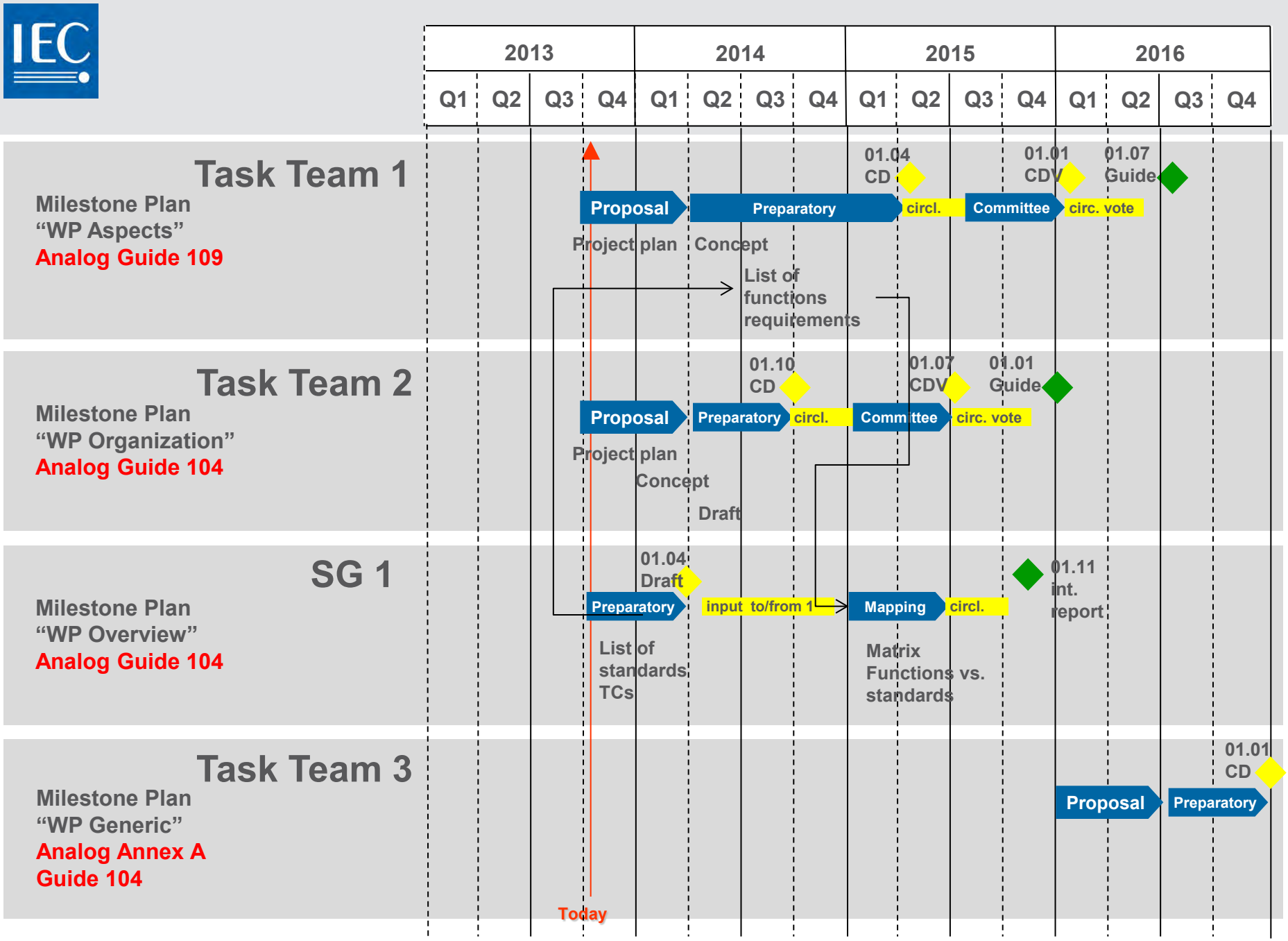
1. Overview of existing EE standards – source SAG/ SG 1 work
   - Classified according to functions/hazards

Terminology – source JPC 2

Dissemination

Setup of ACEE




2013
2014
2015
2016
Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4
Task Team 1
Milestone Plan
"WP Aspects"
Analog Guide 109
01.04
CD
01.01
CDV
01.07
Guide
Proposal
Preparatory
circl.
Committee
circ. vote
Project plan
Concept
List of
functions
requirements
Task Team 2
Milestone Plan
"WP Organization"
Analog Guide 104
01.10
CD
01.07
CDV
01.01
Guide
Proposal
Preparatory
circl.
Committee
circ. vote
Project plan
Concept
Draft
SG 1
Milestone Plan
"WP Overview"
Analog Guide 104
01.04
Draft
Preparatory
input to/from 1
Mapping
circl.
01.11
int.
report
List of
standards
TCs
Matrix
Functions vs.
standards
Task Team 3
Milestone Plan
"WP Generic"
Analog Annex A
Guide 104
01.01
CD
Proposal
Preparatory
Today

How to deal with System Aspects

Note:

Part of the ToR (It encourages a systems perspective for the development of standards for energy efficiency and provides support for system considerations) **are currently only dealt with partly by Task Team 2 "Organization".**

However IEC will establish a "System Resource Group" dedicated to the task of supporting IEC in the implementation of system aspects. ACEE could delegate the task to this body and consult on the EE aspects only.

ACEE should discuss whether there is need for a separate work group.

ACEE/7/INF

For IEC use only

2013-08-12

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ADVISORY COMMITTEE ON ENERGY EFFICIENCY (ACEE)

SUBJECT **Meeting 2, Singapore, agenda item 8**

Proposal on the setting-up of the ACEE Task Team 1, *Aspects - definition of EE aspects*

BACKGROUND

At the inaugural ACEE meeting, members present suggested to have some proposals for the possible work structure and plan of ACEE to be presented and discussed during the next meeting.

The ACEE chairman, Dr. Ralph Sporer, submits hereunder his presentation on the proposed ACEE Task Team 1, *Aspects*.

ACTION

The members of ACEE are invited to take note of this proposal for discussion at the meeting.

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

Task Team 1
“Aspects”
14.10.13-15.10.13

Proposal for a new Task Team

Review of ToR AC/11/2013 (2013-03-15)

ACEE deals with energy efficiency matters which are not specific to one single technical committee of the IEC. It coordinates activities related to energy efficiency.

ACEE is responsible for the assignment of horizontal energy efficiency aspects and requirements. ACEE provides guidance for implementation in a general perspective and for specific sectors.

It encourages a systems perspective for the development of standards for energy efficiency and provides support for system considerations.

Possible Working Items

Task Team

1. WP: Aspects: Definition of EE aspects **– source Guide 51/109**
   - List of basic EE Functions **– source ISO TC 242/257**
   - List of basic EE hazards connected to basic EE requirements **– source ISO 257**
   - Depending on the above definition of generic approaches

Initial Situation

Steering committee

- ACEE

Initial situation

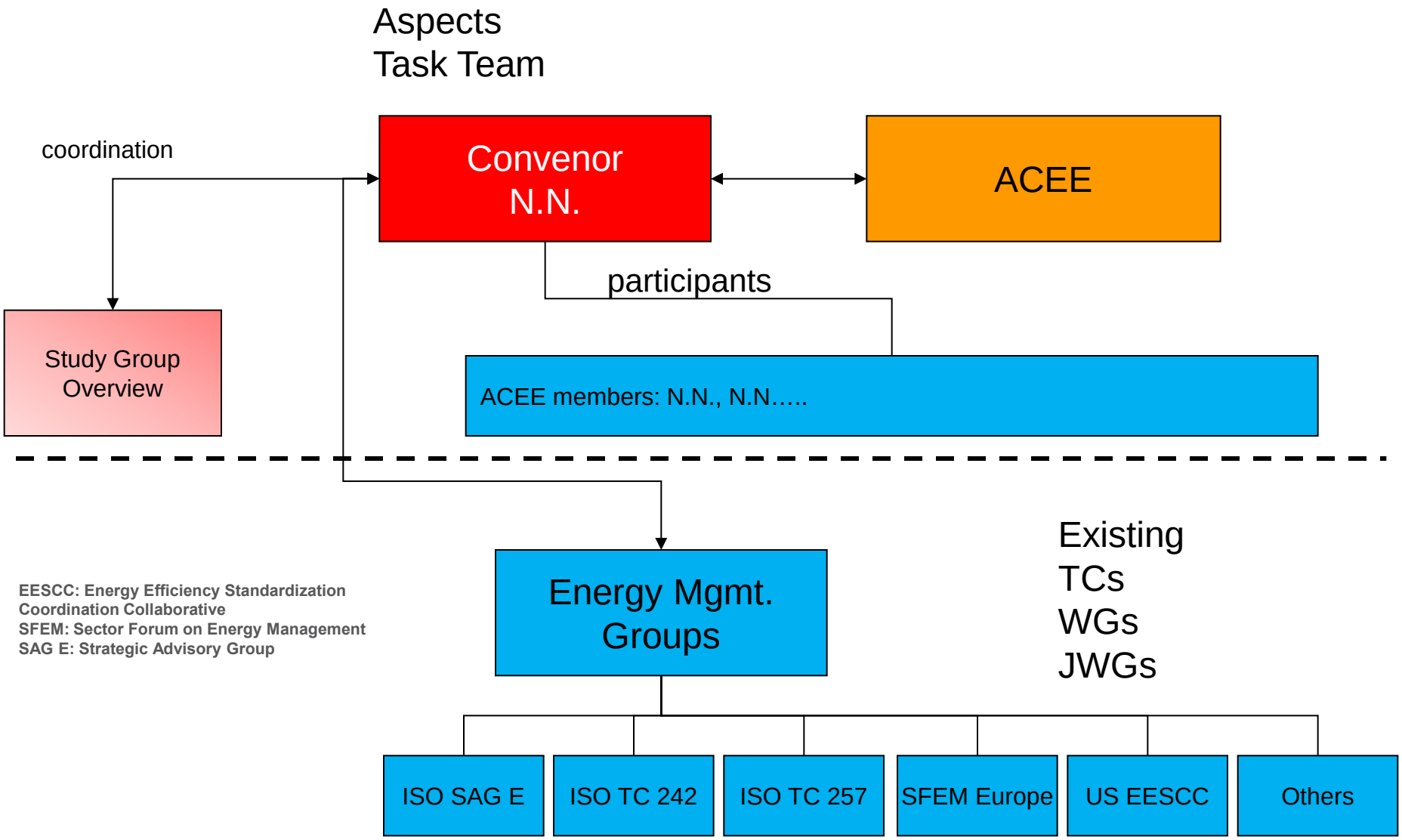
- ACEE is responsible for the assignment of horizontal energy efficiency aspects and requirements.
- Deliverable: Definition of EE aspects and classification, result is the base for further systematic treatment and investigation of EE standards and standardization activities
- Currently EE standardization and standards show a mixed status (from mature to starting or even not existing)
- First draft to be provided by 04.2015; Guide publication 07.2016

Basic conditions

- Relation to ISO to be clarified, potential for a joint Guide to be considered
- Close coordination with ACEE study group “Overview”

Organization

Steering Group
New Groups
Existing Groups



EESCC: Energy Efficiency Standardization Coordination Collaborative
SFEM: Sector Forum on Energy Management
SAG E: Strategic Advisory Group

Scope of work

Intended use

- Provide systematic structure and classification of EE aspects
- It is intended to derive generic procedures and guides for the main identified aspects

Content

- Definition of EE aspects
- Aspects could be defined as functions, hazards and/or requirements
- Functions can be derived from ISO 50001 main elements (e.g. KPI calculation, Labeling, Measurement, Energy management, benchmarking etc.)
- Hazards could be identified from guides for implementation of EnMs in specific sectors
- Hazards could provide links to the basic requirements
- Content could be analog to Guide 109 and/or Guide 104 (Annex A)

Example
Energy management process

1/ Define the system concerned with its boundaries , output and input

2/ Define the energy performance of the system , the related KPI and the associated data

3 / Collect the data related to the KPI
(note this suppose the system makes them available)

4/ Calculate and assess the performance level according to the KPI (against targets , through benchmark , against previous values , with correction on data …)

5/ identify and evaluate the improvement opportunities
Evaluation : technical , financial , other criteria and impact on KPI

6/ Select , Plan & Implement the improvement action

Back to 3

Example
Identified high level Services/Functions

1. **Calculate KPI**
   (note this has connection to energy management)
   - KPI Definition (to identify, define, calculate KPIs)
   - Data measurement for KPI calculation
2. **Labeling of Energy Efficiency**
   - Classes definition/Measurement method definition
3. **Benchmark Energy Performance**
   - Baseline definition

Example
Identified high level Services/Functions

4. Manage Energy

- KPI Definition
- Baseline Definition
- Correction Factors ?
- Energy Consumption Measurement
- Collect Data with respect to Energy Efficiency
- Energy Efficiency Monitoring
- Energy Efficiency Improvement
  - Identification
  - Implementation
  - Verification
- KPI Calculation (Note: is considered a separate Service)
- Audit Energy

Example
Hazard list IEC Guide 104 (Annex A)

A.4 Protection against electrical hazards

Except where specifically permitted for functional reasons, accessible conductive parts of equipment shall not be hazardous live.

The protective measures shall take into account electrical, mechanical, chemical and physical stresses to which the insulation is likely to be subjected during the normal use of the equipment.

In particular, the equipment shall provide adequate protection against electrical hazards arising from:

- leakage current;
- energy supply;
- stored charges;
- arcs;
- electric shock;
- burns.

A.5 Protection against mechanical hazards

Where applicable, publications shall include adequate requirements against mechanical hazards caused by the equipment or by the effect of expected external forces acting on the equipment or by hazards in particular arising from:

- instability;
- break-down during operation;
- falling or ejected objects;
- inadequate surfaces, edges or corners;
- moving parts, especially where there may be variations in the rotational speed of parts;
- vibration;
- improper fitting of parts.

A.6 Protection against other hazards

A.6.1 General

Where applicable, publications shall include requirements relating to the hazards addressed in A.6.2 to A.6.9.

A.6.2 Explosion

Explosion hazards can be caused by the equipment itself or by gases, liquids, dusts, vapours, or other substances which may be produced or used by the equipment or which may exist in the location where the equipment is to be used.

NOTE In the area of explosive atmospheres, attention is drawn to the specific risk assessment, zone area classification and equipment protection level.

A.6.3 Hazards arising from electric, magnetic, and electromagnetic fields, other ionising and non-ionising radiation

Equipment shall be designed and manufactured in such a way that electric, magnetic, and electromagnetic fields and other non-ionising radiations generated by the equipment are limited to the extent necessary for its operation, and operate at a safe level.

Equipment shall be designed and manufactured in such a way that any emission of ionising radiation is limited to the extent necessary for its operation and that the effects on exposed persons are non-existent or reduced to non-dangerous levels.

A.6.4 Electric, magnetic or electromagnetic disturbances

Equipment shall be designed and constructed so that it has sufficient immunity against electric, magnetic and electromagnetic disturbances to prevent any hazard arising. It shall also be designed to limit the emission of magnetic and electromagnetic disturbance so as not to interfere with other equipment, which can cause a hazard.

A.6.5 Optical radiation

Equipment shall be designed and constructed so that exposure to hazardous optical radiation (including LED's, lasers, infrared and ultraviolet radiation, etc.), is avoided.

A.6.6 Fire

Appropriate tests to ensure that the risks of ignition from within the equipment and the spread of fire are limited shall be specified.

Provisions can include temperature-limiting devices, current-limiting devices, leakage current detection devices, methods of increasing resistance to fire, and selection of appropriate materials.

NOTE The possible environmental damage caused by the use of flame retardants should be balanced against the benefits obtained through the reduction of the risk from fire.

A.6.7 Temperature

The two main aspects which need to be taken into account are:

- temperature of touchable surfaces;
- effects of temperature on materials and components.

A.6.8 Acoustic noise

Equipment shall be designed and constructed so that noise is limited as far as possible to acceptable levels. Where the resulting level is not acceptable, the manufacturer's instructions shall specify the use of external noise reduction measures (e.g. baffles or hoods) or the use of personal protective equipment.

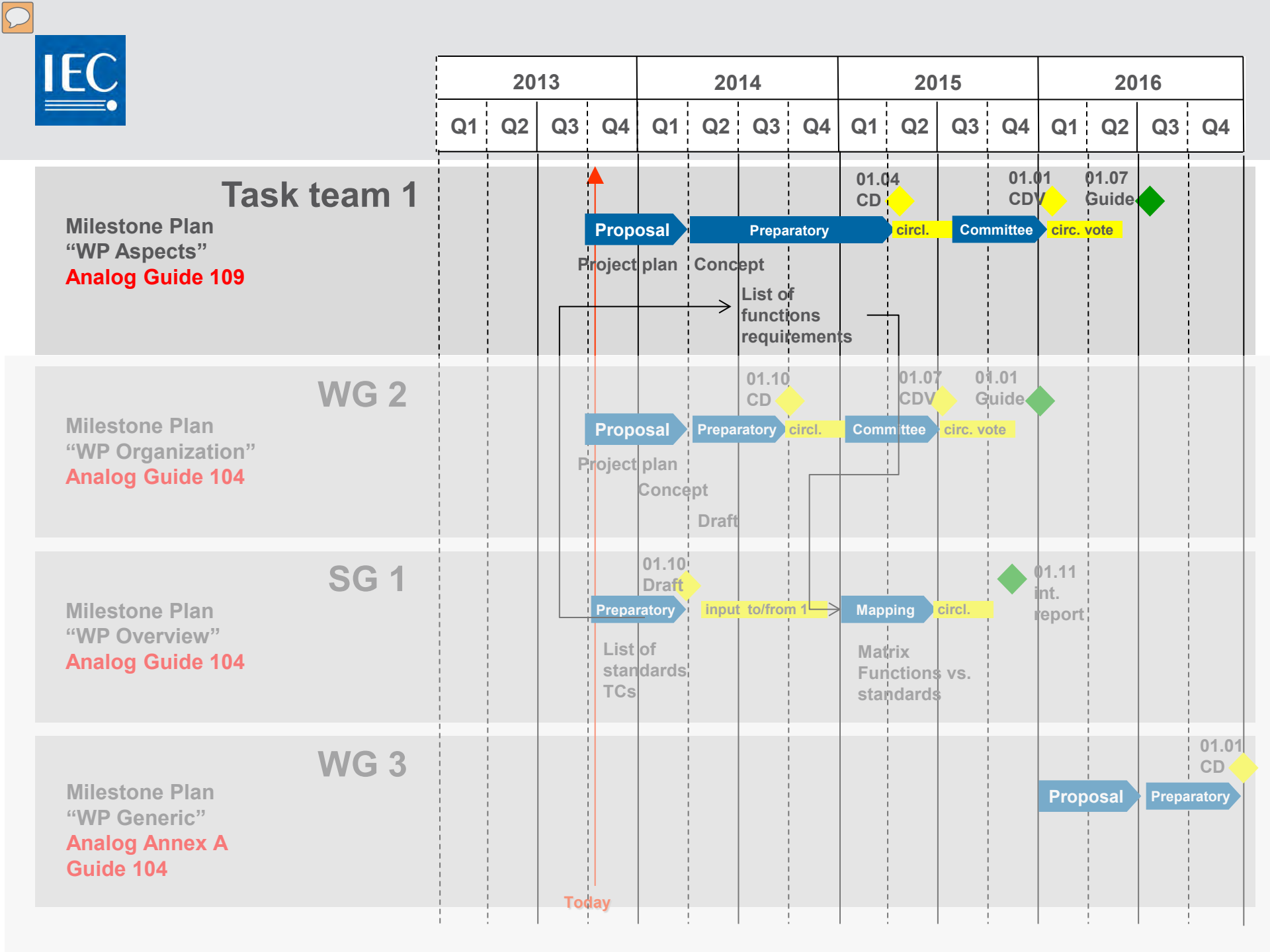
A.6.9 Biological and chemical effects

Hazards can arise from and measures shall be specified to avoid hazards from:

a) microbiological causes such as pathogens, spoilage, micro-organisms or toxins; for example, ingress or retention of bacteria, spores, viruses, yeasts, and moulds;

b) chemical causes including those from cleaning and disinfecting substances; for example, lubricating oils and cleaning fluids;

c) foreign materials arising from raw materials, equipment or other causes; for example, allergens, pests, metals, and materials used in the construction of the equipment.


2013
2014
2015
2016
Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4
Task team 1
Milestone Plan
"WP Aspects"
Analog Guide 109
01.04
CD
01.01
CDV
01.07
Guide
Proposal
Preparatory
circl.
Committee
circ. vote
Project plan
Concept
List of
functions
requirements
WG 2
Milestone Plan
"WP Organization"
Analog Guide 104
01.10
CD
01.07
CDV
01.01
Guide
Proposal
Preparatory
circl.
Committee
circ. vote
Project plan
Concept
Draft
SG 1
Milestone Plan
"WP Overview"
Analog Guide 104
01.10
Draft
01.11
int.
report
Preparatory
input to/from 1
Mapping
circl.
List of
standards
TCs
Matrix
Functions vs.
standards
WG 3
Milestone Plan
"WP Generic"
Analog Annex A
Guide 104
01.01
CD
Proposal
Preparatory
Today

Results

Aspects of Task Team

- Define EE aspects
- List of EE Functions
- List of main hazards to EE
- Derivation of main requirements from list of hazards
- Preparation of planned work on generic approaches

Format

- IEC Guide (joint ISO/IEC Guide to be evaluated)

	ACEE/5/DA
For IEC use only	
	2013-08-12

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ADVISORY COMMITTEE ON ENERGY EFFICIENCY (ACEE)

SUBJECT **Meeting 2, Singapore, 2013-10-14/15**

Draft agenda for the ACEE "kickoff" meeting to be held in Singapore, on 2013-10-14/15

BACKGROUND

The meeting will be held at the IEC Asia-Pacific Regional Centre (IEC-APRC), 2 Bukit Merah Central #15-04/05, Singapore, on Monday, 14 October 2013, from 09:00 to 17:30, and on Tuesday, 15 October, from 9:00 to 12:00. The proposed meeting schedule is enclosed as Annex.

LEGEND
** document to be supplied as available

1 Opening of the meeting, approval of draft agenda
Documents: ACEE/5/DA (*the present document*)

2 Approval of the minutes of the inaugural meeting, Frankfurt (DE), 2013-07-02
Document: ACEE/4A/RM

3 Information from SMB decisions, former documents
Documents: SMB/5068/QP, SMB/5068A/RV, SMB/5081/QP, SMB/5081A/RV**

4 Extended Roll Call
Document: ACEE/8/INF

5 Review of SG 1 work
Document: **

6 Review of ACEE Terms of Reference (ToR)
Document: ACEE/2/INF

7 Deliverables from other Advisory Committees (ACs)

8 Discussion of Workplan/Working Structure
Documents: ACEE/6/INF, ACEE/7/INF

9 Report back to SMB

10 Other issues: IEA/ISO/IEC workshop in 2014, etc.

11 Date of next meeting

12 Close of the meeting

Proposed meeting programme

Day 1		**Monday, 14 October 2013**
09:00	Opening of the meeting, approval of draft agenda	R.S./D.L
09:15	Approval of the minutes of the inaugural Frankfurt meeting, 2013-07-02	All
09:20	Information from SMB decisions, former documents	R.S./D.L
09:45	Extended Roll Call (10 min. each)	All
12:30	*Lunch*	
13:30	Review of SG 1 work	R.S./M.H.
14:00	Review of ACEE Terms of Reference (ToR)	All
14:30	Deliverables from other ACs	M.H.
15:15	*Coffee break*	
15:30	Discussion of Workplan/Working structure	All
17:30	End of Day 1 session	
Day 2 (AM)		**Tuesday, 15 October 2013**
09:00	Opening of the meeting, practical arrangements	R.S./D.L
09:15	Discussion of Workplan/Working structure- continued	All
11:00	Report back to SMB	D.L:
11:30	Other issues, IEA/ISO/IEC workshop in 2014, etc.	All
12:00	Date of next meeting, close of the meeting	