

International Electrotechnical Commission (IEC)

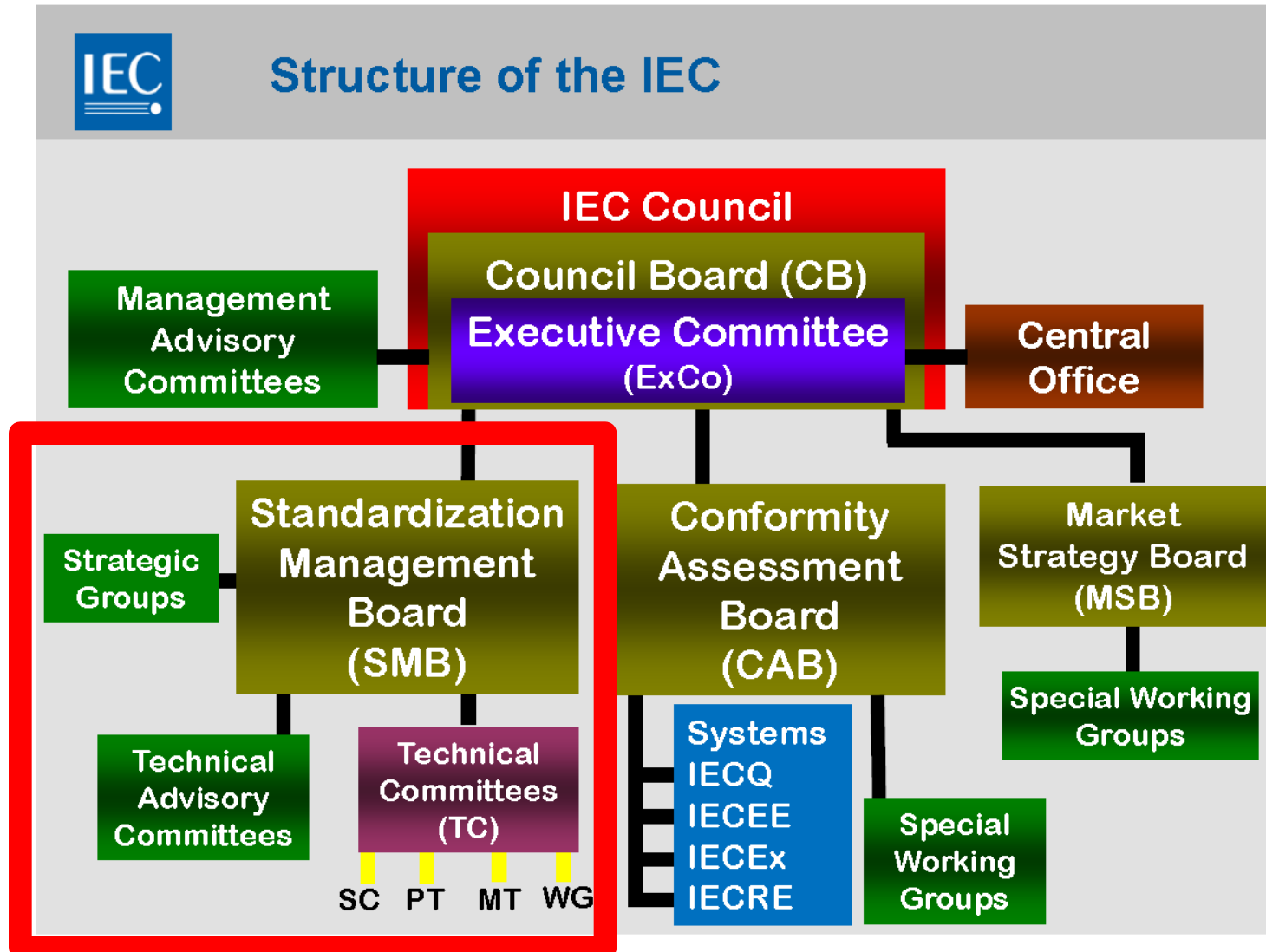


TC114 + IECRE Overview

**BOEM Offshore Renewable
Energy Workshop**

July 30, 2014

IEC Structure



TC114: Work Flow (Part I)

Published Technical Specifications (TSs)

TS62600-1	Terminology
TS62600-100	Wave power performance assessment
TS62600-200	Tidal power performance assessment

Active Project Teams (PTs)

PT62600-2	Design requirements for Marine Energy Converters (MECs)
PT62600-10	Mooring systems for MECs
PT62600-20	OTEC
PT62600-30	Electrical power quality for MECs
PT62600-101	Wave resource assessment
PT62600-102	Wave (WEC) power performance at a 2 nd site
PT62600-103	Testing of scale wave devices
PT62600-201	Tidal (TEC) resource assessment
PT62600-301	River (REC) resource assessment

TC114: Work Flow (Part II)

Maintenance Team (MT)

MT62600-1 Terminology (approved for MT at TC114 Plenary)

Ad-hoc Groups (AHG)

AHG2 River power performance – to become PT62600-300

AHG3 Assessment of information received on TS62600-100

AHG4 Assessment of information received on TS62600-200

New Work Item Proposals (NP)

114/135/NP River power performance Vote due 9/5/14

114/136/NP Acoustic characterization of MECs Vote due 9/12/14

114/137/NP Testing of scale tidal devices Vote due 9/26/14

US Shadow Committee for every PT, MT, AHG, etc.

5 Operate under the US Technical Advisory Group (US TAG)

TC-114 and US TAG Leadership

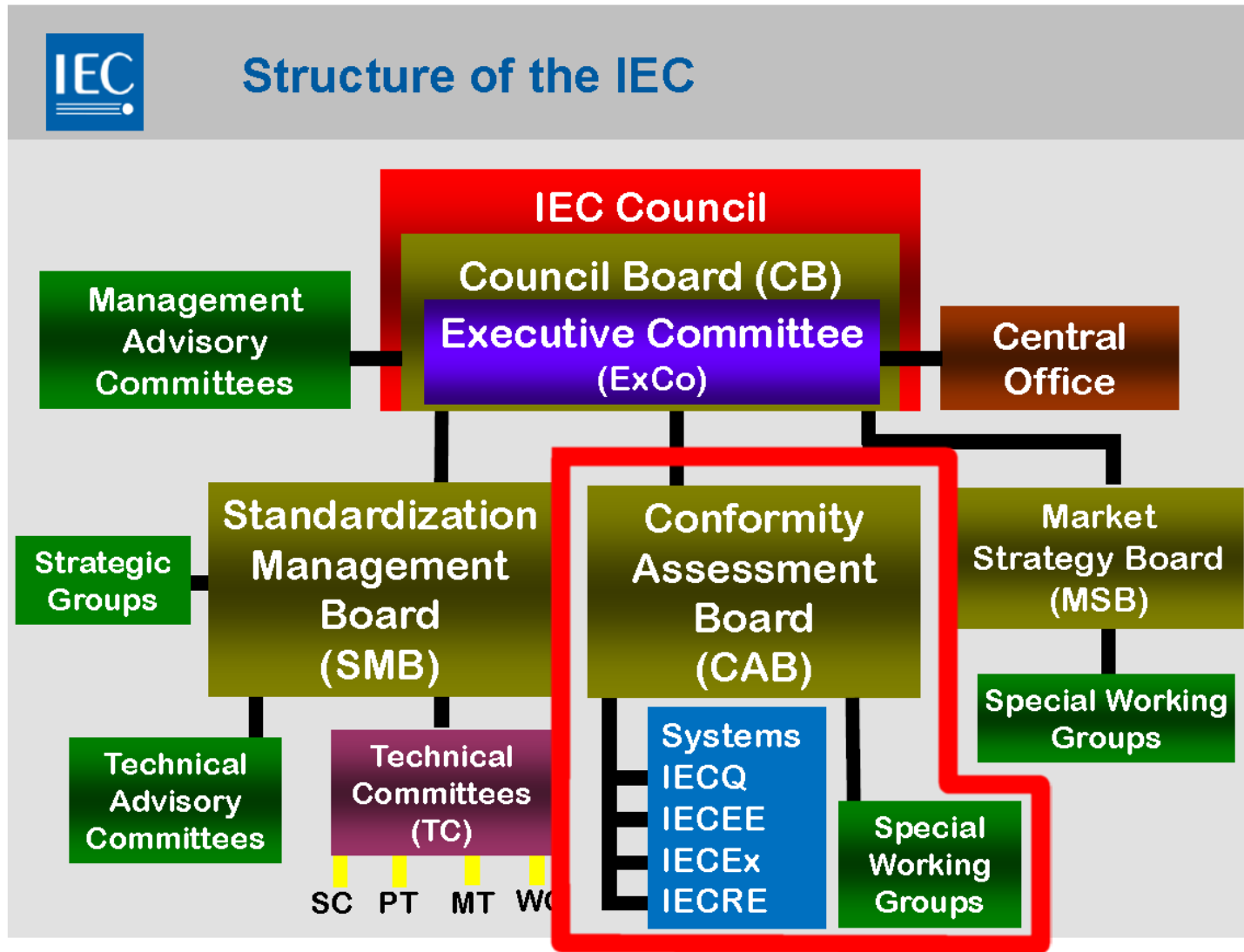
INTERNATIONAL LEADERSHIP

Chairman:	Mr. Neil Rondorf of the United States (Leidos)
Secretariat:	National Committee of the United Kingdom
Secretary:	Mr. Danny Peacock (British Standards Institute)
Technical Officer:	Mr. Charles Jacquemart (IEC - Geneva)

US TECHNICAL ADVISORY GROUP (TAG)

Head of Delegation:	Bill Staby (Resolute Marine Energy)
HOD Elect:	Jonathan Colby (Verdant Power)
Deputy HOD:	Roger Bagbey (Cardinal Engineering)
Secretary:	Walt Musial (NREL)
Administrator:	Arielle Cardinal (NREL)

IEC Structure



Conformity Assessment for the MHK Industry

Objectives of Conformity Assessment

- Identify, classify and reduce risk
- Provide assurance to stakeholders
- Open global markets

“Mechanics” of Conformity Assessment (Certification)

- Based upon International Standards (IEC, ISO, etc.)
- 3rd party verification undertaken by “Certifying Bodies” is “Certification”
- 1st and 2nd party verification also exist (Ex. Self-declaration)

Certification is CRITICAL to the advancement of the MHK industry

- Reduce perceived risk
- Improved access to funding, insurance, etc.
- Single global certificate on International Standards (consensus based)

IEC Conformity Assessment Framework

Certification Schemes managed by the IEC

- Schemes must reside within an IEC System
- Certification is done to IEC/ISO Standards

Existing IEC Systems

- IECQ: Quality Assessment System for Electronic Components
- IECEE: Conformity Testing and Certification of Electrical Equipment
- IECEx: Certification of Equipment for use in Explosive Atmospheres

Deliverables

- Statements of Compliance, Type Certificates, Unit Certificates, Test Reports, Personnel Certificates, Maintenance Certificates

Risk-Based Rulemaking

- Quantify both likelihood and impact of failure
- Outline pathway to mitigation/remediation
- Design review, manufacturing and installation surveillance, etc.

IECRE: Conformity Assessment System for Renewable Energy

IEC Conformity Assessment Board (CAB)

- Approved 4th System, IECRE, for Renewable Energy
- Basic Rules approved June, 2014
- Collaboration with Solar PV (TC82), Wind (TC88) and Marine (TC114) Sectors

IECRE Structure

- RE Management Committee (REMC)
- Sector Operational Management Committees (OMCs)
- National Member Bodies (Ex. USNC/IECRE)

US Activities

- USNC CAPCC Task Force on the US Member Body to the IECRE



IECRE - RENEWABLE ENERGY

IEC SYSTEM FOR CERTIFICATION TO STANDARDS RELATING TO
EQUIPMENT FOR USE IN RENEWABLE ENERGY APPLICATIONS

IECRE: Conformity Assessment System for Renewable Energy

REMC Kick-off Meeting

- Hosted by the USNC in Boulder, Colorado (CU Boulder, RASEI)
- REMC Meetings – 9/16 + 9/17
- Sector Forum Meetings – 9/18
- Details available at www.iecre.org



Encourage US Participation

- **Join the US TAG to TC114**
- **Join US Member Body to IECRE**
- **Sponsorship opportunities for REMC Kick-off Meeting**

TC114, IECRE and US TAG Information

Thank you very much – Questions?

Websites:	www.iec.ch/tc114	[IEC TC114 Site]
	www.tc114.us	[US TAG TC114 Site]
	www.iecre.org	[IECRE Site]

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