



International Electrotechnical Commission
TC 82 on Solar Photovoltaic Energy Systems

Conformity Assessment: *Introducing IECRE*

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Background

- Industry **Growth**
 - Demand increasing 20%+ per year
 - Significant increase in large commercial plants
- Concern for **Quality / Bankability**
 - Doubts about adequacy of existing standards
 - Need for improved understanding of reliability
 - Validation of product lifetime for investors
- Need for **Conformity Assessment**
 - Assurance of security of investments in PV



Roles & Responsibilities

- Standards Management Board (**SMB**)
 - Technical Committees => Write the standards
 - Manage nomination of experts and voting by National Committees
- Conformity Assessment Board (**CAB**)
 - Assessment Schemes => Evaluate implementation of standards in specific situations
 - Manage accreditation of Certifying Bodies

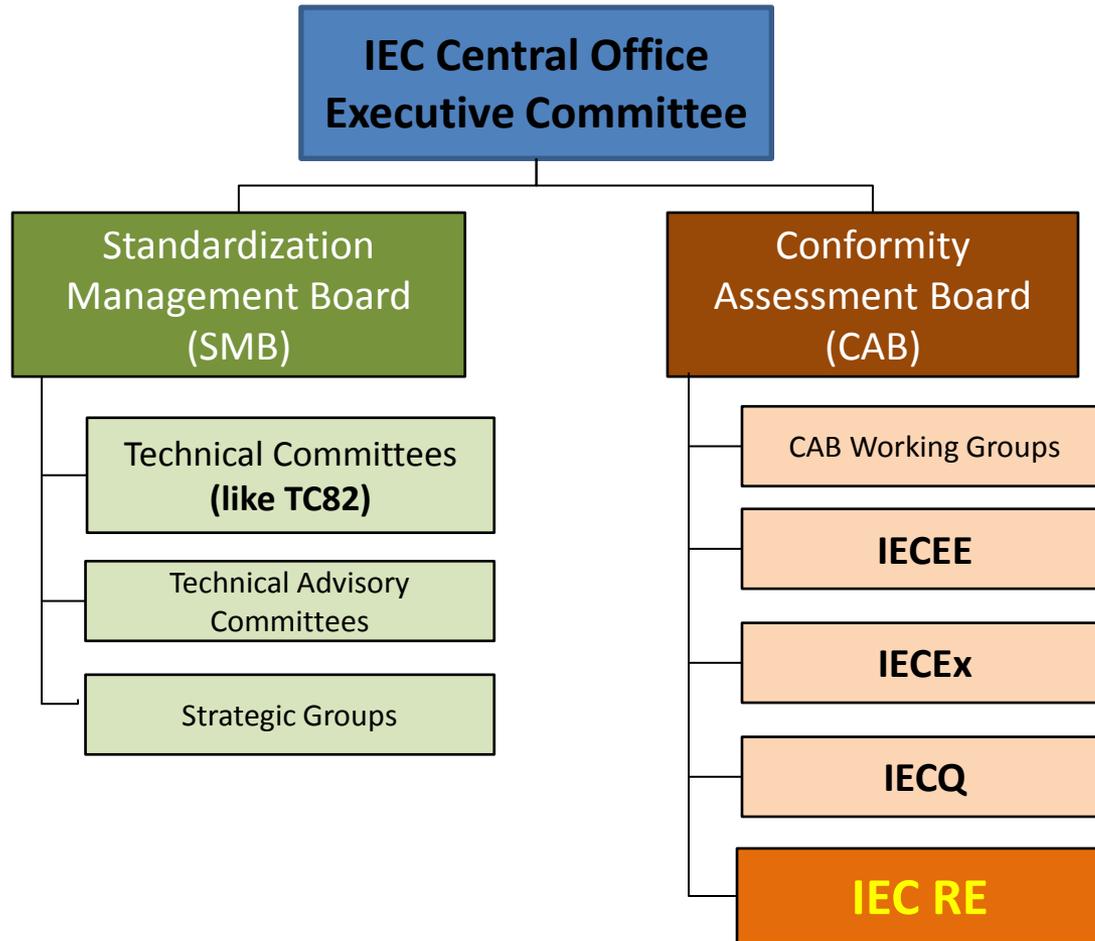


Existing CA Schemes

- **IECEE**
 - System for conformity testing and certification of **electrotechnical equipment** (specific categories including PV modules)
 - Oversees the Certification Body (CB) Scheme and recognizes CB Testing Laboratories (CBTL)
- **IECEX**
 - Conformity assessment for equipment operating in **explosive atmospheres**
- **IECQ**
 - Quality assessment system for **electronic components** and associated materials



New IEC Organization



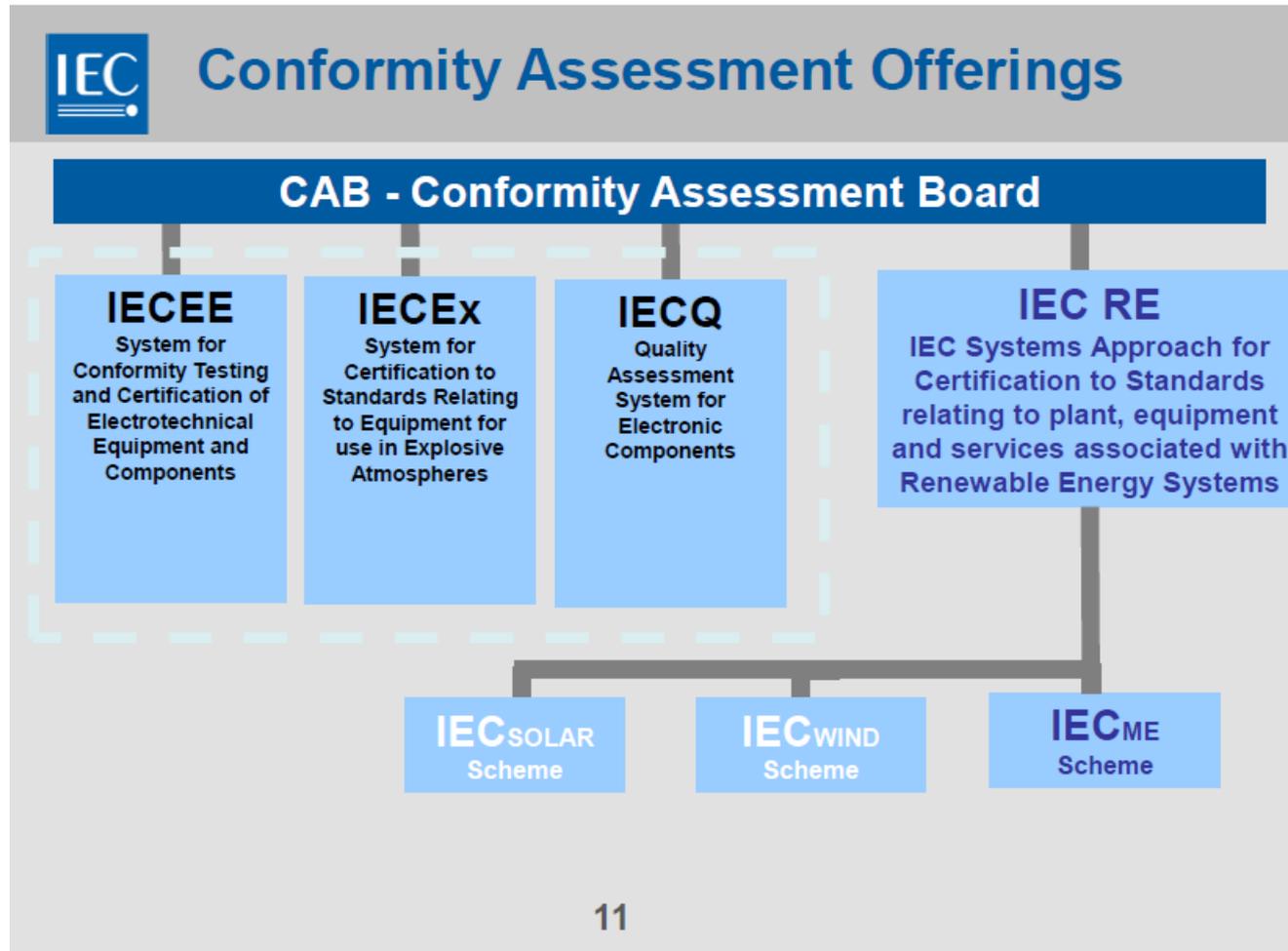


TC 88 - Wind Turbines

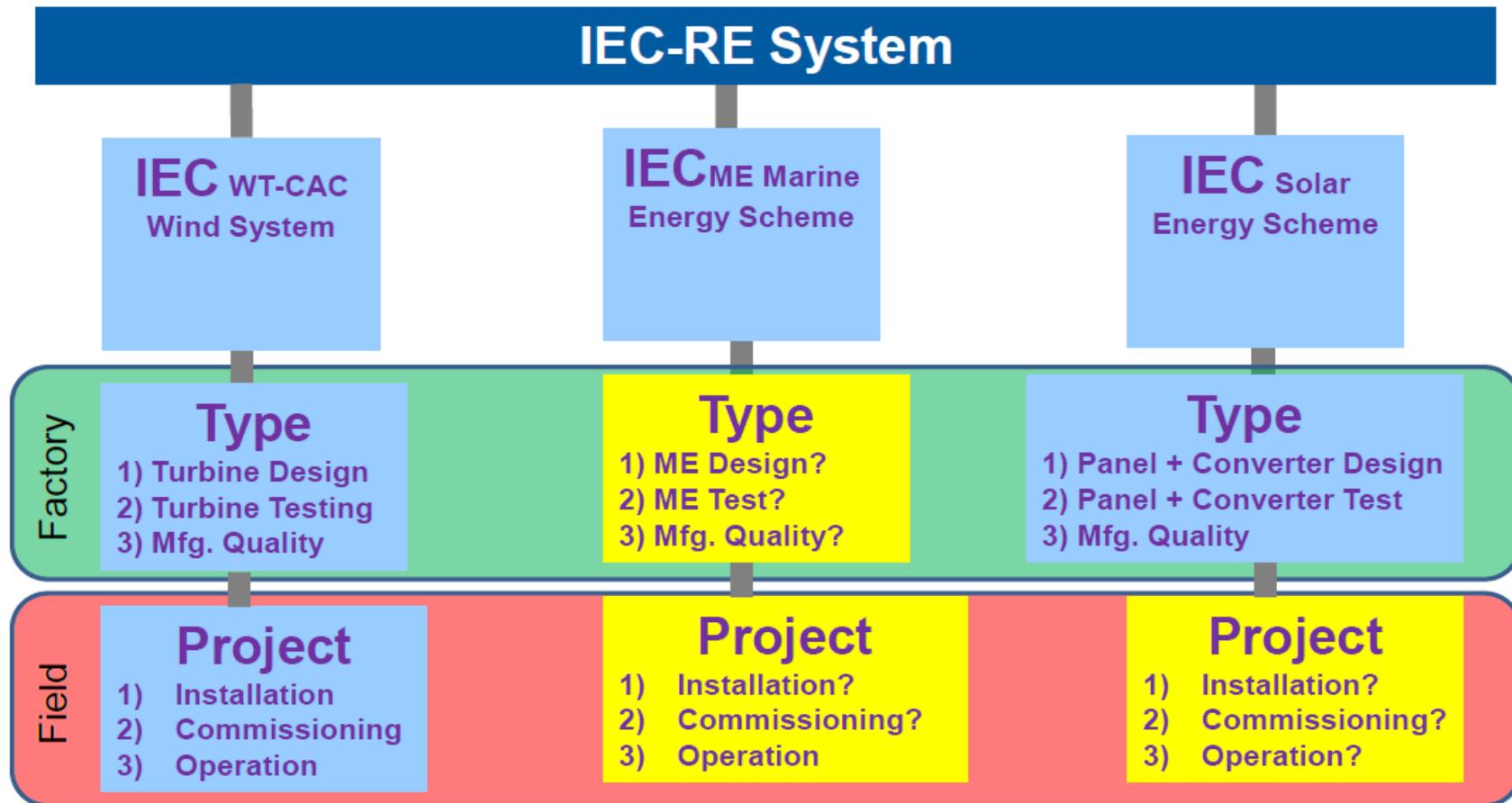
- Wind industry identified need to standardize “**system aspect**” of large complex projects
 - Not addressed by any existing CA scheme
- IEC structure / policy requires separation of standardization and CA activities
 - WT-CAC allowed to exist **temporarily** due to strong industry support
- Concept developed for new CA scheme (IECRE)
 - Similar requirements exist for **Marine Energy** projects as well as large **PV** plants
 - Specific differences in details apply for each industry



IECRE Concept



RE System Common Elements





CAB Decisions (June 2013)

- Proposal for a new RE System was endorsed along with the recommended next steps
- Decision 33/20
 - CAB approves the creation of a [Renewable Energy Conformity Assessment System](#) once the Basic Rules have been developed
- Decision 33/21
 - Establishes a [working group](#) to prepare a draft set of Basic Rules and report back at the next CAB meeting in New Delhi

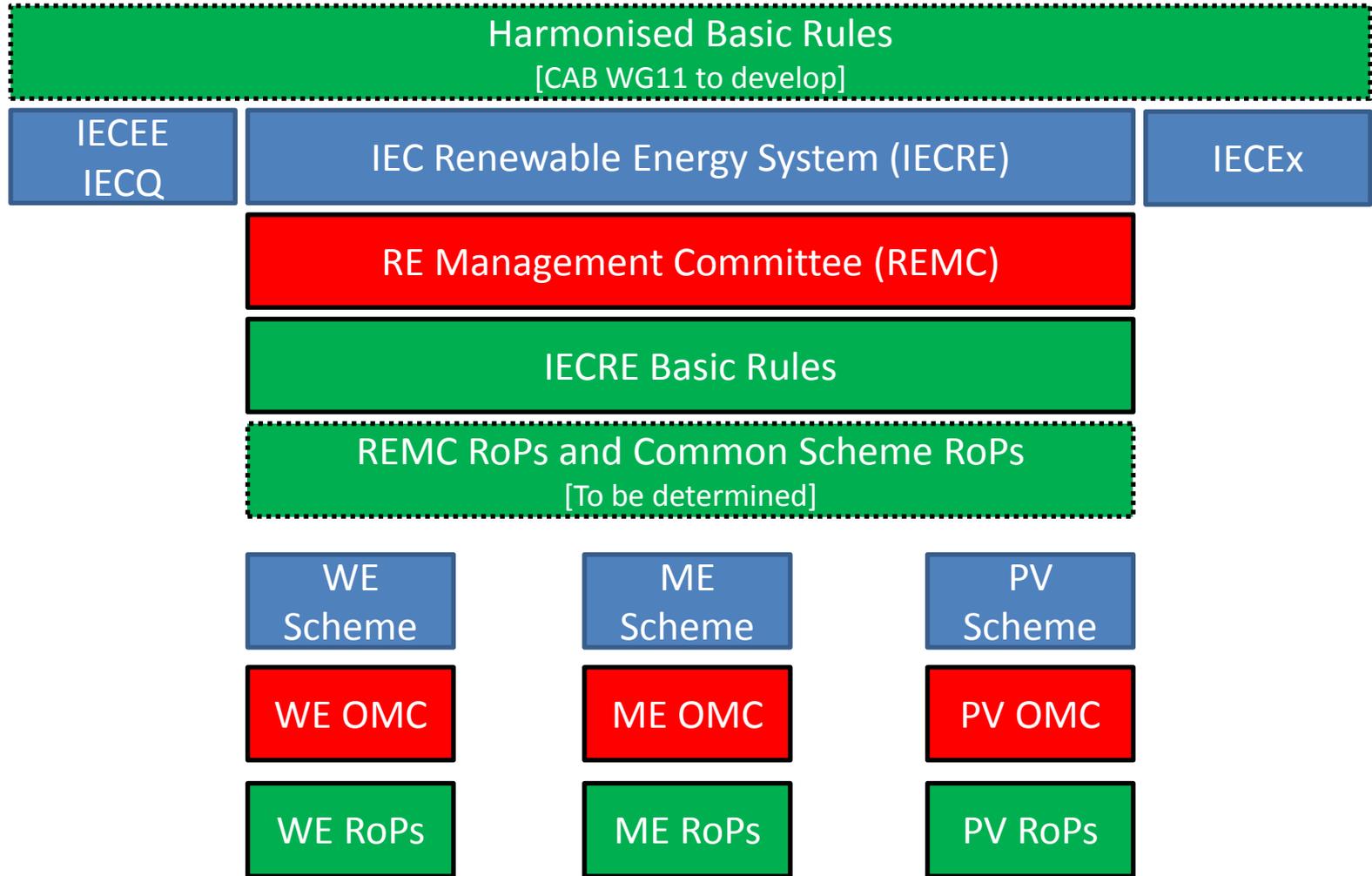


IECRE kickoff meeting

- Oct-2013 in Aarhus, Denmark
 - Participation by TC82, TC88 (Wind Turbines) and TC114 (Marine Energy)
 - Seeking to include TC117 (Solar Thermal)
 - Working group (RE Forum) assigned to draft **Basic Rules** and **Rules of Procedure** for IECRE
 - Basic Rules are common to all
 - Rules of Procedure are industry-specific



IECRE Hierarchy





Latest Progress

- IECRE Basic Rules
 - Draft reviewed by all 3 sectors
 - To be finalized at RE Forum meeting
 - Geneva 2-3 April 2014
 - CAB approval expected June 2014
- First Meeting of IECRE MC
 - To be hosted by USNC in Sept 2014
 - Location TBD in Colorado
 - (CSU or CSM)



IECRE Basic Rules

- Scope
- Governing documents
- Membership
- Organization
- RE Management Committee
- Officers, Executive and administration
- Committees reporting to the MC
- Legal provisions
- Standards
- Voting
- Finance
- Dissolution of the IECRE System



IECRE-PV Documents

- PV Rules of Procedure (**RoP**)
 - Draft reviewed in Madrid last week
 - Updated draft to be circulated 10-Mar
 - Final draft by Sept 2014
- PV Operational Documents (**OD**)
 - Based on IECEx system
 - Administrative details for processing requests, record-keeping, etc.



PV Rules of Procedure

- Scope
- Normative references
- Terms and definitions
- Acceptance of certification bodies
- Management of the certification system
- Extent of certification
- **Aspects of certification**
- Final evaluation
- Plant certificate



Aspects of Certification

- General
- Site conditions evaluation
- Design evaluation
- Equipment evaluation
- Structural and electrical evaluation

- Installation surveillance
- Output characteristics measurement
- Commissioning surveillance
- Operation and maintenance surveillance

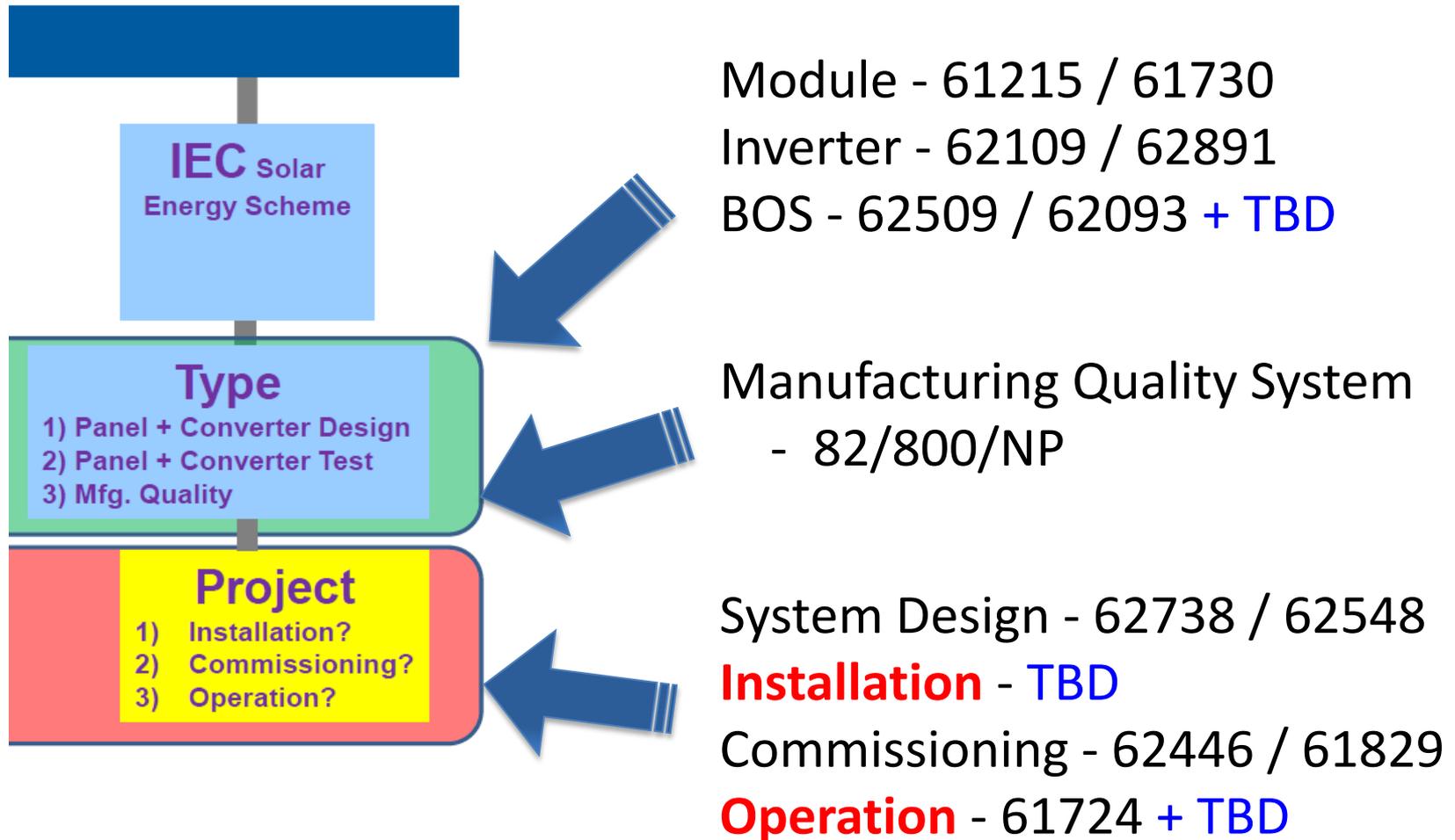


Operational Documents

- OD 001 Procedures for the Issuing of IECRE-PV Certificates of Conformity, IECRE-PV Test Reports and IECRE-PV Quality Assessment Reports
- OD 002 IECRE-PV Scheme rules
- OD 003 Certificate of Conformity rules
- OD 004 IECRE-PV Scheme Fees
- OD 005 IECRE-PV “On-Line” system
- OD 006 Qualification of PVCB auditors
- OD 007 IECRE-PV Test certificates



PV Standards for Assessment





Gaps to be Closed

- **Standards Needed:**
 - Installation
 - Operation & Maintenance
 - BOS Components
- **RoP Issues:**
 - References to specific standards
 - Output measurement details
 - Type certification requirements



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Thank you for your attention

Questions?

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