

1 Object and field of assessment

1.1 Object

Assessment covering	IECRE Assessment	Unified Assessment	Accreditation Body	Scope of Accreditation
Initial Assessment (IAR)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CNAS (China National Accreditation Service for Conformity Assessment)	IEC 61400-12-1: 2005 IEC TS 61400-13: 2001
Extension of Scope (EAR)	<input type="checkbox"/>	<input type="checkbox"/>		
Re-Assessment (RAR)	<input type="checkbox"/>	<input type="checkbox"/>		
Follow-up Assessment (FAR)	<input type="checkbox"/>	<input type="checkbox"/>		

1.2 Energy Sector

1.2.1 Energy Sector covered by the assessment

<input type="checkbox"/> Marine Energy	<input type="checkbox"/> Solar PV Energy	<input checked="" type="checkbox"/> Wind Energy
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1.3 Previous Assessment Report (if applicable)

Previous Assessment Report Number	N/A
Previous Assessment Date	N/A

1.4 Complete legal entity name and address of the Testing Laboratory

Type	Candidate	Accepted
RETL	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Legal Entity Name	CEPRI – China Electric Power Research Institute
Address	No.15 Xiaoying East Road, Qinghe, Beijing 100192, P.R. China
Contact Person	Qin Shiyao – Deputy Director, Renewable Energy Research Centre
Email	qinshy@epri.sgcc.com.cn
Tel	86-10-823813187
Fax	86-10-62956185
Website	www.epri.sgcc.com.cn

1.5 Members of the Assessment Team

	Name	Organisation
Lead Assessor	Alistair Mackinnon	Energy Technology Centre, UK
Assessor	Eric Effern	Windtest Grevenbroich, Germany
Assessor		

1.6 Place(s) and date(s) of Assessment

Main location(s)	No.15 Xiaoying East Road, Qinghe, Beijing 100192, P.R. China (7 th and 10 th and 11 th)
If applicable, other location(s)	Test Site Visit – Baoli Wind Farm, Liaoning (7 th (pm) and 8 th)

1.7 Assessment Base

IECRE 01 Basic Rules
 IECRE Rules of Procedure
 IECRE ODs
 IEC Standards as noted in Annex 1
 ISO/IEC 17025

The above documents are to be based upon the latest published editions

2 Organisation

2.1 Brief history of the Testing Laboratory

CEPRI Renewable Energy Centre is a division of CEPRI, a supporting organisation of the State Grid Company of China. CEPRI employs just under 2000 staff in 11 Divisions of which the Renewable Energy Centre (REC) is one. CEPRI (REC) was established in 2007 following the China Renewable Energy Law of 2006. Initially the department comprised of a small group and a number of students but has grown over the years to its current size of around 230 with 130 based in Beijing and 100 employees in Nanjing. CEPRI was accredited by CNAS in 2008 prior to the establishment of its test site in Zhangbei in 2009. CEPRI's turnover is ~ 400M RMB – 50 % from the State Grid Company and the other 50% from other government departments and the commercial market. CEPRI (REC) has been intrinsically involved in the development of a number of the IEC 61400 series of standards including acoustics (-11), power performance (-12-1), loads measurement (-13) and power quality (-21).

In 2014 the Chief Engineer of CEPRI's Renewable Energy Centre became the Secretary of IEC SC 8A

2.2 Organisation of the Testing Laboratory

The testing laboratory is a supporting organisation of the State Grid Company of China to provide research and development, testing and standards related activity in renewable energy technologies.

The testing laboratory operates under CEPRI's General Management Department Quality Management System (6th Version) Document number: CEPRI-B-0-06/2015, dated 20th May 2015. An English translation of the QMS main documents is provided in the Annex to this report.

NOTE FROM THE SECRETARIAT: The Organization Chart was supplied to, and reviewed by, the assessment team, and it is retained in the IEC Central Office by the Executive Secretary.

3 Personnel Structure ***NOTE FROM THE SECRETARIAT: For Items 3.1, 3.2, 3.3, and 3.5, the number of staff and their experience/competence were supplied to, and reviewed by, the assessment team. It was determined that there was objective evidence to determine that it was appropriate. The staff list is retained in the IEC Central Office by the Executive Secretary.***

3.1 Employees

Number of overall people employed by the legal entity of the Testing Laboratory	<i>See Note above</i>
Number of people involved with the testing activity within the scope of this assessment	<i>See Note above</i>

3.2 Responsible Managers for Testing

Name	Position (title) and field of expertise	Years of relevant experience	Experience checked & appropriate		To whom do they report?
			Yes	No	
<i>See Note above</i>			<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	

3.3 Principal staff involved in Testing

Name	Position (title) and field of expertise	Years of relevant experience	Experience checked & appropriate		To whom do they report?
			Yes	No	
<i>See Note above</i>			<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	

3.4 Staff involved in the Quality Management System of the Testing Laboratory

Name	Position (title) and field of expertise	Years of relevant experience	Experience checked & appropriate		To whom does the quality management system staff report?
			Yes	No	
Li Ting	Quality Manager	5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Qin Shiyao
			<input type="checkbox"/>	<input type="checkbox"/>	

3.5 Assessment of staff competence

See Note above

4 Quality Management System

	Yes	No	N/A
Is the Testing Laboratory accredited by a reputable Accreditation Body?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Does the accreditation include the standards covered by this assessment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Structure of the Quality System
The QMS mirrors what is required by ISO/IEC 17025: 2005 – English translations of the top level processes and procedures documents CEPRI-A-0-06/2015 and CEPRI-B-0-06/2015 are attached to this report.
Document control
Quality Management Manual Section 4.3 is the reference document
Review of requests, tenders and contracts
Quality Management Manual Section 4.4 is the reference document
Sub-contracting of tests
Quality Management Manual Section 4.5 is the reference document. The Met mast manufacture and erection and sensor installation is usually subcontracted but under the direct supervision of CEPRI approved staff.
Purchasing services and supplies
Quality Management Manual Section 4.6 is the reference document
Service to the client
Quality Management Manual Section 4.7 is the reference document
Complaints
Quality Management Manual Section 4.8 is the reference document. No complaints have been received in the last year.

Control of non-conforming work
Quality Management Manual Section 4.9 is the reference document
Corrective action
Quality Management Manual Section 4.11 is the reference document
Preventive action
Quality Management Manual Section 4.12 is the reference document
Control of records
Quality Management Manual Section 4.13 is the reference document
Internal audits
Quality Management Manual Section 4.14 is the reference document. Internal audits are usually undertaken just prior to the accreditation body (CNAS) assessment
Management reviews
Quality Management Manual Section 4.15 is the reference document. There is a single annual management review when all aspects of the business are reviewed.

IECRE Rules of Procedure
CEPRI were unable to demonstrate a thorough knowledge of the IECRE Rules of Procedure or their incorporation in to the CEPRI Quality Management System NOTE FROM THE SECRETARIAT: An NCR was issued, of which the Lead Assessor reviewed the root cause analysis and subsequent corrective action necessary and cleared the NCR prior to the approval of the assessment report.
IECRE Operational Documents
Whilst CEPRI were aware of and are using the IECRE OD's, they were unable to demonstrate their incorporation in to the Quality Management System NOTE FROM THE SECRETARIAT: An NCR was issued, of which the Lead Assessor reviewed the root cause analysis and subsequent corrective action necessary and cleared the NCR prior to the approval of the assessment report.

Clarification Sheets
<p>CEPRI were aware of IECRE Clarification Sheets but were unable to demonstrate where to find these on the IECRE website</p> <p>NOTE FROM THE SECRETARIAT: An NCR was issued, of which the Lead Assessor reviewed the root cause analysis and subsequent corrective action necessary and cleared the NCR prior to the approval of the assessment report.</p>
Use of appropriate IEC standards
<p>CEPRI have both original IEC English versions of the relevant standards but also have verified Chinese translations accessible to relevant staff.</p>
Current IECRE decisions
<p>CEPRI were not aware of IECRE Decisions and consequently were unable to demonstrate where to find these on the IECRE website</p> <p>NOTE FROM THE SECRETARIAT: An NCR was issued, of which the Lead Assessor reviewed the root cause analysis and subsequent corrective action necessary and cleared the NCR prior to the approval of the assessment report.</p>

5 Critical Technical Procedures

Environmental conditions
<p>See attached completed OD Checklists for both Power Performance and Loads</p> <p>NOTE FROM THE SECRETARIAT: The completed OD Checklist for Power Performance and Loads is retained in the IEC Central Office by the Executive Secretary.</p>
Test methods and method validation
<p>See attached completed OD Checklists for both Power Performance and Loads</p> <p>NOTE FROM THE SECRETARIAT: The completed OD Checklist for Power Performance and Loads is retained in the IEC Central Office by the Executive Secretary.</p>
Equipment
<p>See attached completed OD Checklists for both Power Performance and Loads</p> <p>NOTE FROM THE SECRETARIAT: The completed OD Checklist for Power Performance and Loads is retained in the IEC Central Office by the Executive Secretary.</p>
Measurement traceability
<p>See attached completed OD Checklists for both Power Performance and Loads</p> <p>NOTE FROM THE SECRETARIAT: The completed OD Checklist for Power Performance and Loads is retained in the IEC Central Office by the Executive Secretary.</p>

Sampling
N/A
Handling of test items
See attached completed OD Checklists for both Power Performance and Loads <i>NOTE FROM THE SECRETARIAT: The completed OD Checklist for Power Performance and Loads is retained in the IEC Central Office by the Executive Secretary.</i>
Assuring the quality of test results
See attached completed OD Checklists for both Power Performance and Loads <i>NOTE FROM THE SECRETARIAT: The completed OD Checklist for Power Performance and Loads is retained in the IEC Central Office by the Executive Secretary.</i>
Reporting the results
See attached completed OD Checklists for both Power Performance and Loads <i>NOTE FROM THE SECRETARIAT: The completed OD Checklist for Power Performance and Loads is retained in the IEC Central Office by the Executive Secretary.</i>

6 Proficiency Testing Programmes

CEPRI have and are currently participating in MEASNET proficiency testing programmes.

The proficiency test for power performance from August 2012 conducted by NREL and reported on by Jeroen van Dam, the current IEC TC 88 Chair, was reviewed and found to be complete and in order.

There were no major outliers and whilst the obstacle assessment analysis was repeated this was not considered significant by the assessment team.

CEPRI are currently participating in the IECRE proficiency test being conducted by MEASNET.

7 Testing witnessed during the assessment

A test site visit was undertaken to the Baoli Wind Farm in Liaoning Province around 600km north east of Beijing.

NOTE FROM THE SECRETARIAT: A site-visit and requisite documentation was completed by the assessment team. This documentation is retained in the IEC Central Office by the Executive Secretary.

8 Test reports reviewed during the assessment

The assessment team were very grateful to have the opportunity to review in detail three each of Power Performance and Loads reports in the English language.

NOTE FROM THE SECRETARIAT: The completed OD Checklist for Power Performance and Loads, and an indication of the Test Reports reviewed, are retained in the IEC Central Office by the Executive Secretary.

9 Number of Non-Conformity Reports issued

Number of NCRs appended

NOTE FROM THE SECRETARIAT: Any NCRs, and their resolution, was reviewed by the Lead Assessor. The NCR(s) is retained in the IEC Central Office by the Executive Secretary

10 Recommendations of the Assessment Team

This assessment has been a sampling exercise and thus every aspect of the Testing Laboratory's activities has not been covered. It does not follow, therefore, that non-conformances do not exist in areas where none have been reported in this assessment report.

Standard recommendations:

1. The Assessment Team recommends acceptance of the assessed organisation for the scope(s) as reported in Annex 1 of this Assessment Report as appropriate.	<input checked="" type="checkbox"/>
2. The Assessment Team recommends acceptance of the assessed organisation for the scope(s) as reported in Annex 1 of this Assessment Report, subject to clearance of the outstanding Non-conformity Reports as appropriate.	<input type="checkbox"/>
3. The Assessment Team recommends that the acceptance of the assessed organisation is postponed until a further follow-up assessment is carried out and is found satisfactory.	<input type="checkbox"/>
4. Other, please specify using similar terminology	<input type="checkbox"/>

10.1 Additional Information

The Assessment Team would like to record how warmly welcomed they were to CEPRI in Beijing.

Similarly the team were indebted for all the logistical support prior to travel to and from China and also internally within the P.R China. The Assessment Team were superbly taken care of by a number of CEPRI staff.

CEPRI staff were open to the IECRE process of Peer review and the assessment team and shared all information required without hindrance and with enthusiasm and received the comments and observations from the assessment team in a gracious and positive and constructive way.

11 Signatures of the Assessment Team

Executive Secretary comments: Concurrence with this report by the Assessors noted below has been confirmed and signatures retained in the IEC Central Office, therefore no signatures are needed below.

Date: 2016-11-11

	Printed name	Signature
Lead Assessor	Alistair Mackinnon	
Assessor	Eric Effern	
Assessor		

12 Acknowledgement by the assessed organization

- ☒ We acknowledge and agree with the content of the Assessment Report.
- ☐ We acknowledge the content of the Assessment Report and we disagree for the following reasons:

Executive Secretary comments: Concurrence with this report by the representative noted below has been confirmed and his signature is retained in the IEC Central Office, therefore no signature is needed below.

Date: 2016-11-11

	Printed name	Signature
Testing Laboratory Representative	Qin Shiyao Deputy Director, Renewable Energy Research Centre	

Annex 1 Assessment Scope

Type of assessment (IAR, EAR, FAR, RAR)	Standard	Number of Test Reports issued during the last three years / test reports reviewed during the assessment	Sufficient expertise demonstrated	
			Yes	No
IAR	IEC 61400-12-1: 2005	11/3	<input checked="" type="checkbox"/>	<input type="checkbox"/>
IAR	IEC TS 61400-13: 2001	15/3	<input checked="" type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>

Note: For the organisation's full scope please see the IECRE Website

Annex 2 Organisation chart

NOTE FROM THE SECRETARIAT: The Organization Chart was supplied to, and reviewed by, the assessment team, and it is retained in the IEC Central Office by the Executive Secretary.

Annex 3 Accreditation Certificate relevant to the IECRE operations

NOTE FROM THE SECRETARIAT: The Accreditation Certificate was supplied to, and reviewed by, the assessment team, and it is retained in the IEC Central Office by the Executive Secretary.

Annex 4 “Independence and impartiality” including “Commercial consultancy”

NOTE FROM THE SECRETARIAT: The Independence and Impartiality was assessed by the assessment team and there was objective evidence of compliance. This Annex was completed and it is retained in the IEC Central Office by the Executive Secretary.

Control Number:CEPRI-A-0-06/2015

China Electric Power Research Institute

Quality Management Manual

THE 6st Version

Approved: Guo Jianbo

Audit: Yang Rui

Compile: General Management Department

Issued Date: 20th May, 2015

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Control Number:CEPRI-B-0-06/2015

China Electric Power Research Institute

Procedures File

The 6st Version

Approved: Chen Mei

Audit: Yang Rui

Compile: General Management Department

Issued Date: 20th May, 2015

CONTENTS

Procedures File revision records

CEPRI-B-01 *Procedures to ensure the impartiality and operational integrity*

CEPRI-B-02 *Procedures to protect state, trade and technology confidential information*

CEPRI-B-03 *Procedures to manage documents*

CEPRI-B-04 *Procedures to manage records*

CEPRI-B-05 *Procedures to manage data and computers*

CEPRI-B-06 *Procedures to manage the review of requests , tenders and contracts*

CEPRI-B-07 *Procedures to manage the subcontracting*

CEPRI-B-08 *Procedures to manage the purchasing services and supplies*

CEPRI-B-09 *Procedures to manage the resolution of complaints and service to the customers*

CEPRI-B-10 *Procedures to manage the nonconforming work*

CEPRI-B-11 *Procedures to manage the corrective action and preventive action*

CEPRI-B-12 *Procedures for the internal audits*

CEPRI-B-13 *Procedures for the management reviews*

CEPRI-B-14 *Procedures to manage the improvement*

CEPRI-B-15 *Procedures to manage the training and qualification of personnel*

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CEPRI-B-24 *Procedures to manage the quality plans*

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CEPRI-B-27 *Procedures to manage the inter-laboratory*

comparison and proficiency-testing programmes

CEPRI-B-28 *Procedures to manage the sampling*

CEPRI-B-29 *Procedures to manage the test and calibration
items*

CEPRI-B-30 *Procedures to control the quality results*

CEPRI-B-31 *Procedures to manage the opinions and
interpretations about results and certificates*

CEPRI-B-32 *Procedures to manage reports and certificates*

CEPRI-B-33 *Procedures to manage testing work on the outside*

CEPRI-B-34 *Procedures to manage calibration work*

CEPRI-B-35 *Procedures to manage inspection work*