ExMC/1100/DV
March 2016

INTERNATIONAL ELECTROTECHNICAL COMMISSION SYSTEM FOR CERTIFICATION TO STANDARDS RELATING TO EQUIPENT FOR USE IN EXPLOSIVE ATMOSPHERES (IECEx SYSTEM)

Title: Re-assessment and Scope Extension Report for Shanghai Inspection and Testing Institute of Instruments and Automatic Systems (SITIIAS) / National Supervision and Inspection Centre for Explosion Protection and Safety of Instrumentation (NEPSI) an Accepted ExTL within the IECEx System, Equipment Scheme 02

To: Members of the IECEx Management Committee, ExMC

Introduction

This document contains the IECEx Re-Assessment Report for Shanghai Inspection and Testing Institute of Instruments and Automatic Systems (SITIIAS) / National Supervision and Inspection Centre for Explosion Protection and Safety of Instrumentation (NEPSI) an Accepted ExTL within the IECEx System, Equipment Scheme 02.

During the re-assessment, the IECEx Assessment Team took the opportunity to also assess National Supervision and Inspection Centre for Explosion Protection and Safety of Instrumentation (NEPSI) facilities, equipment and competence to undertake certification to the Standard –

IEC 60079-29-1 Edition 1
Scope extension
Explosive atmospheres - Part 29-1: Gas detectors - Performance requirements of detectors for flammable gases listed as an "Extension of Scope"

Please consider the assessment report and return the completed voting form, (A separate Word document) to **the Secretariat** by

2016 05 05
Your speedy response to the voting process will be very much appreciated.

Chris Agius

IECEx Secretariat

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IECEx ASSESSMENT REPORT for Shanghai Inspection and Testing Institute of Instruments and Automatic Systems (SITIIAS) / National Supervision and Inspection Centre for Explosion Protection and Safety of Instrumentation (NEPSI), 103 Cao Bao Road Shanghai 200233, P.R. China (IECEx Test Laboratory ExTL)

Type of Assessment: (please mark)

Initial assessment for Candidate ExTL

Re-Assessment of ExTL **X**

Scope Extension of ExTL **X**

1. OBJECT AND FIELD OF APPLICATION

1.1. *Country:*

People's Republic of China

1.2. *Name of Candidate TL*

Shanghai Inspection and Testing Institute of Instruments and Automatic Systems (SITIIAS)

National Supervision and Inspection Centre for Explosion Protection and Safety of Instrumentation (NEPSI)

103 Cao Bao Road, Shanghai 200233, PEOPLE'S REPUBLIC OF CHINA

1.3. Members of the Assessment Team

Heinz Berger - IECEx Lead Assessor
Michel Brenon - IECEx Expert Assessor

The above Team was part of an overall IECEx Assessment team comprising:
Heinz Berger – Team Leader
Gordana Ostojic - Expert Assessor
Ajay Maira – Expert Assessor
Michel Brenon – Expert Assessor

This Assessment formed part of the overall assessment of all IECEx CN Bodies, including: CQM, CMExC, CQST, PCEC, and CHEM (Mid-term only). Results of these individual assessments are included in separate ExMC reports, as posted to the Member's area of the IECEx Website.

1.4. *Place and Date of Assessment*

Shanghai Inspection and Testing Institute of Instruments and Automatic Systems (SITIIAS)
National Supervision and Inspection Centre for Explosion Protection and Safety of Instrumentation (NEPSI)

103 Cao Bao Road, Shanghai 200233, P.R. of China

June 18th & 19th, 2015

1.5. *Assessment References*

i) IECEx 02 Equipment Scheme Rules (current version)
ii) IECEx OD 003-2 Assessment Procedures (current version)
iii) ISO/IEC 80079-34; Manufacturer Assessment (current version)
iv) IECEx OD 009 Equipment Scheme Procedures(current version)
v) IECEx OD 018 Checklist 17025 (current version)
vi) IECEx OD 024 Witness Testing/manufacturer and users Facility
vii) ISO/IEC 17025:2005
viii) IECEx Technical Capability Document (TCD)
ix) ExTAG decision sheets (DSs)
x) OD's related to technical issues
xi) ExTL scope extension application documents of October 22nd, 2014 and February 26th, 2015

1.6. *Scope of Application*

Standard	Title	Acceptance
60079-0 Edition 6	Explosive atmospheres - Part 0: Equipment - General requirements	YES
60079-1 Edition 7	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures 'd'	YES
60079-2 Edition 6	Explosive atmospheres - Part 2: Equipment protection by pressurized enclosures 'p'	YES
60079-5 Edition 4	Explosive atmospheres - Part 5: Equipment protection by powder filling 'q'	YES
60079-6 Edition 4	Explosive atmospheres - Part 6: Equipment protection by oil immersion 'o'	YES
60079-7 Edition 4	Explosive atmospheres - Part 7: Equipment protection by increased safety 'e'	YES
60079-11 Edition 6	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety 'i'	YES
60079-13 Edition 2	Explosive atmospheres – Part 13: Equipment protection by pressurized room 'p'	YES

Standard	Title	Acceptance
60079-15 Edition 4	Explosive atmospheres - Part 15: Equipment protection by type of protection 'n'	YES
TR 60079-16 Edition 1.0	Electrical apparatus for explosive gas atmospheres - Part 16: Artificial ventilation for the protection of analyser(s) houses	YES
60079-18 Edition 4	Explosive atmospheres – Part 18: Equipment protection by encapsulation "m"	YES
60079-25 Edition 2	Explosive atmospheres - Part 25: Intrinsically safe systems	YES
60079-26 Edition3.0	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga	YES
60079-27 Edition2.0	Explosive atmospheres - Part 27: Fieldbus intrinsically safe concept (FISCO)	YES
60079-28 Edition1.0	Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation	YES
60079-29-1 Edition1.0	Explosive atmospheres - Part 29-1: Gas detectors - Performance requirements of detectors for flammable gases (Scope extension excludes Group I Equipment)	YES Scope extension
60079-30-1 Edition1.0	Explosive atmosphere - Part 30-1: Electrical resistance trace heating - General and testing requirements	YES
60079-31 Edition2.0	Explosive atmosphere - Part 31: Equipment dust ignition protection by enclosure "t"	YES
61241-0 Edition1.0	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements	YES
61241-1 Edition1.0	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures 'tD'	YES
61241-4 Edition1.0	Electrical apparatus for use in the presence of combustible dust - Part 4: Type of protection 'pD'	YES
61241-11 Edition1.0	Electrical apparatus for use in the presence of combustible dust - Part 11: Protection by intrinsic safety 'iD'	YES
61241-18 Edition1.0	Electrical apparatus for use in the presence of combustible dust - Part 18: Protection by encapsulation 'mD'	YES
62086-1 Edition1.0	Electrical apparatus for explosive gas atmospheres – Electrical resistance trace heating – Part 1: General and testing requirements	YES

1.7. *ExTL Persons Interviewed*

Name	Position
Xu Jianping	President of SITIIAS, Director of NEPSI
Guo Aihua	Deputy President of SITIIAS

Name	Position
Ge Qing	Deputy director of NEPSI
Lu Qiao	International Business Manager
Yao Zhihong	Quality Manager
Yang Deshuang	Head of Flameproof Lab.
Huang Yongwei	Head of IS Lab.
Hu Honghui	Head of Business Department
Zhao Hong	Senior Engineer
Jin Zhaohui	Engineer
Xu Junjun	Engineer
Gao Lei	Technical
Li Hangchuan	Engineer
Shi Lei	Engineer
Xin Leifu	Engineer
Yao Beixin	Engineer
Xu Mengjia	Engineer
Xu Haijiang	Engineer
Yao Yu	Technical
Chen Qi	Assistant Engineer
Wang Chuanan	Engineer
Wang Jiawen	Trainee
Zhang Yixiang	Engineer
Li Xiaojun	Engineer
Hu Jie	Senior Engineer

1.8. Legal Entity of The Candidate TL

SITIIAS is a state-owned enterprise with the status of an independent legal entity, providing services of calibration, verification, testing, certification and standardization for the relevant electrical apparatus, including instruments, luminaries, electrical motors, control panels etc.

Their registration number is 310104000265243 and is valid with no time limitation. This document was issued on March 11th, 2015.

National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation (Abbr. NEPSI) is one part of the SITIIAS, especially in the field of explosion protection.

The address at which it carries out its operations is at
103, Cao Bao Road, Shanghai, 200233, P. R. of China

1.9. *Associated ExCB*

China Quality Mark Certification Group Co., Ltd, (CQM), No.33 Zengguang Road, Haidian District, Beijing, Postal Code: 100048, P.R. China

1.10. *Financial Support*

All the assets at SITIIAS remain the property of the Government, and its operation is financed from its services of testing, verification, inspection, national certification and

standardization work. Sometimes they can get investment from local or central government in order to support research work.

1.11. History

The mother organization, SIPAI was founded in 1956. Initially SITIIAS was established for environmental testing, with about 60 years of history. In the 1980s it was nominated as the testing centre for process automation instrumentation, calibration and reliability. Testing of Ex equipment was initiated in 1979 and completed in 1985. In 1986, NEPSI was approved and authorized by the former Ministry of Labour. It was accredited to Guide 25 in 1987 and subsequently to ISO/IEC 17025 since 1999. SITIIAS was registered independently as legal enterprise in 2003. In 2004 it was accredited to ISO/IEC17020. See **ANNEX 4** for the certificate. In 2005, SITIIAS/NEPSI became IECEx TL.

2. ORGANISATION

2.1. Names, Titles and Experience of the Senior Executives

Name	Title	Experience
Xu Jianping	President of SITIIAS Director of NEPSI	31 years at SITIIAS and in Ex field
Guo Aihua	Deputy President of SITIIAS Technical Manager	17 years at SITIIAS, 8 years in current position
Yao Zhihong	Quality Manager	31 years at SITIIAS, 15 years in current position
Lu Qiao	International Business Manager Head of Ex Lab III	17 years in Ex field
Ge Qing	Deputy Director of NEPSI	32 years at SITIIAS, 25 years in Ex field
Yang Deshuang	Head of Ex Lab II	18years in Ex field
Huang Yongwei	Head of Ex Lab I	24 years in Ex field
Hu Jie	Head of Inspection Lab	14 years in Ex field

2.2. Name, Title and Experience of the Quality Management Representative

Name	Title	Experience
Yao Zhihong	Quality Manager	31 years at SITIIAS, 15 years in current position

2.3. Name and Title of Nominated Principal Contact

Name	Title	Comments
Xu Jianping	President of SITIIAS Director of NEPSI	xujianping@nepsi.org.cn Tel: +86 21 64516349 Fax: +86 21 64844580

2.4. Employees (overall list)

Name	Title	Experience
Xu Jianping	President of SITIIAS Director of NEPSI	31 years at SITIIAS and in Ex field
Yao Zhihong	Quality Manager	31 years at SITIIAS, 15 years in current position
Lu Qiao	International Business Manager Head of Ex Lab III	17 years in Ex field
Ge Qing	Deputy Director of NEPSI	32 years at SITIIAS, 25 years in Ex field
Yang Deshuang	Head of Ex Lab II	18 years in Ex field
Huang Yongwei	Head of Ex Lab I	24 years in Ex field
Hu Jie	Senior Engineer Head of Inspection Lab	14 years in Ex field
Zhao Hong	Senior Engineer	12 years in Ex field
Jin Zhaohui	Engineer	12 years in Ex field
Li Hangchuan	Engineer	10 years in Ex field
Xin Leifu	Engineer	9 years in Ex field
Shi Lei	Engineer	8 years in Ex field
Yao Beixin	Engineer	7 years in Ex field
Xu Junjun	Technician	14 years in Ex field
Wang Yueming	Senior technician	14 years in Ex field
Gao Lei	Technician	1 year in Ex field
Xu Mengjia	Engineer	4 years in Ex field
Xu Haijiang	Engineer	3 years in Ex field
Yao Yu	Technician	3 years in Ex field
Chen Qi	Engineer	2 years in Ex field
Xue Ziyu	Senior Engineer	33 years in Ex field
Wang Chuanan	Engineer	10 years in Ex field
Wang Jiawen	Trainee	1 years in Ex field

2.5. Organizational Structure

See **ANNEX 1a** and **ANNEX 1b**.

3. RESOURCES

The laboratory is well resourced with experienced staffs, good facilities and comprehensive procedures.

SITIIAS/NEPSI employs about 89 people in total, in which 24 personnel professionally working on testing and assessment of electrical equipment used for explosive atmospheres, and all the rest, mainly working for the tests of climate, vibration, electric safety, and the evaluation of reliability and functional safety. Parts of those support the testing of NEPSI, for example, thermal endurance test, IP test and vibration tests etc.

The main procedure for training is SITIIAS-G02-19 ”Procedure for personnel training”. This procedure lists the steps for personnel to be trained and judged as competent in activities. They also have procedures for how staff is judged for their competencies,

including who can make those decision. There are lists with signatures showing the relevant competencies. Finally there is a skills matrix covering the various techniques broken in performing tests, checking design drawings and documents, serving as a project manager, and verifying reports/certificates. These cover each professional / technical member of staff.

Test equipment and environment requirements are covered under SITIIAS-G02-02 ”Procedure for Equipment Control”. It covers the whole IECEx scope of standards. However, for certain clauses subcontracting is used (see ExCB report of CQM).

4. DOCUMENTATION

4.1. Quality Manual

The quality system of SITIIAS/NEPSI consist of four levels:

Level 1: Quality Manual G01

Level 2: Procedure G02

Level 3: SITIIAS-05-J**: working instruction SITIIAS-05-J04-***; calibration standards SITIIAS-05-J03-***, operational instruction for equipment SITIIAS-05-J05-***; technical explanation sheet SITIIAS-05-J06-***; pattern approval procedure SITIIAS-05-J07-***

Level 4: quality records/forms

In addition to the main quality manual a quality manual for IECEx operation exists under the number SITIIAS-G02-034. It describes the co-operation with ExCB (CQM) and the testing activities under the IECEx Scheme.
The Quality manual as well documents from different levels were reviewed during the assessment and found to meet the requirements of the IECEx.

4.2. Procedures

There are 43 procedures relevant to the laboratory.

Test methods and procedures are generally covered in SITIIAS -G02-23 ”Control of Test and Calibration Methods”.

The requirements for the testing environment are specified in SITIIAS-G02-20 “Procedure for the Control of Facilities and Environmental Conditions”
Control of access to the assessment and testing areas is covered in SITIIAS-G02-21” Procedure for Internal Management”.

SITIIAS-G02-14 ”Procedure for the Control of Non-conforming Testing and /or Calibration Work” covers the system for detecting deficiencies in assessment and testing and their causes, and for correcting unfavourable trends.

Handling and storage of test samples is covered in SITIIAS-G02-28 ”Procedure for Sampling and Handling of Test and Calibration Items”.

Several procedures were reviewed during the assessment and found to meet the requirements of the IECEx.

4.3. Work Instructions

There are 480 work instructions in SITIIAS / NEPSI, many of which are relevant to Ex testing. There are 64 technical information sheets: these include the ExTAG decision sheets, special requirements of IECEx testing and some related to specific requirements for China. Several work instructions were reviewed and found to meet the requirements of IECEx.

4.4. Records

SITIIAS-G02-22 ”Working Program for Calibration and Testing” prescribes system for recording the method and results of assessment and testing activities. The procedure was checked and found to meet the IECEx requirements.

4.5. Document Change Control

There is prescribed system for documents control and procedure to change documents SITIIAS-G02-08 ”Procedure for document control”. The procedure was checked and found to meet the IECEx requirements.

4.6. Test Records

There is a prescribed system for recording the method and results of assessment and testing activities in SITIIAS-G02-22 ”Working Program for Calibration and Testing”. The procedure was checked and found to meet the IECEx requirements.

5. TEST REPORTS

5.1. Test Reports Issued

Number of **test reports** issued under the IECEx System and the national or regional schemes in the preceding four years for each type of protection:

Standards	Title	Number of issued test reports				
		2012	2013	2014	2015	Total
60079-0	Explosive atmospheres - Part 0: Equipment - General requirements	---	---	---	---	**Part 0 included in numbers below**
60079-1	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures 'd'	633	809	761	252	2455
60079-2	Explosive atmospheres - Part 2: Equipment protection by pressurized enclosures 'p'	29	43	26	13	111

Standards	Title	Number of issued test reports				
		2012	2013	2014	2015	Total
60079-5	Explosive atmospheres - Part 5: Equipment protection by powder filling 'q'	5	5	7	3	20
60079-6	Explosive atmospheres - Part 6: Equipment protection by oil immersion 'o'	0	0	0	0	0
60079-7	Explosive atmospheres - Part 7: Equipment protection by increased safety 'e'	291	211	240	76	818
60079-11	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety 'i'	544	580	528	182	1834
60079-13	Explosive atmospheres – Part 13: Equipment protection by pressurized room 'p' Construction and use of rooms or buildings protected by pressurization Part 13	0	0	0	0	0
60079-15	Explosive atmospheres - Part 15: Equipment protection by type of protection 'n'	89	102	72	37	300
TR 60079-16	Electrical apparatus for explosive gas atmospheres - Part 16: Artificial ventilation for the protection of analyser(s) houses Part 16	0	0	0	0	0
60079-18	Explosive atmospheres – Part 18: Equipment protection by encapsulation "m"Electrical apparatus for explosive gas atmospheres - Part 18: Construction, test and marking of type of protection encapsulation 'm' electrical apparatus	73	78	72	17	240
60079-25	Explosive atmospheres - Part 25: Intrinsically safe systems	0	0	0	0	0
60079-26	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga	333	394	355	112	1194
60079-27	Explosive atmospheres - Part 27: Fieldbus intrinsically safe concept (FISCO)	0	0	0	0	0
60079-28	Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation	0	0	1	0	1
60079-29-1	Explosive atmospheres - Part 29-1: Gas detectors - Performance requirements of detectors for flammable gases	0	0	3	0	3

Standards	Title	Number of issued test reports				
		2012	2013	2014	2015	Total
60079-30-1	Explosive atmosphere - Part 30-1: Electrical resistance trace heating - General and testing requirements	0	0	0	0	0
60079-31	Explosive atmosphere - Part 31: Equipment dust ignition protection by enclosure "t"	23	9	32	72	136
61241-0	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements	---	---	---	---	**Part 0 included in numbers below**
61241-1	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures 'tD'	0	0	0	0	0
61241-1-1	Electrical apparatus for use in the presence of combustible dust - Part 1: Electrical apparatus protected by enclosures and surface temperature limitation - Specification for apparatus	0	0	0	0	0
61241-4	Electrical apparatus for use in the presence of combustible dust - Part 4: Type of protection 'pD'	0	0	0	0	0
61241-11	Electrical apparatus for use in the presence of combustible dust - Part 11: Protection by intrinsic safety 'iD'	0	0	0	0	0
61241-18	Electrical apparatus for use in the presence of combustible dust - Part 18: Protection by encapsulation 'mD'	0	0	0	0	0
62086-1	Electrical apparatus for explosive gas atmospheres – Electrical resistance trace heating – Part 1: General and testing requirements	0	0	0	0	0

5.2. Specific information relating to IEC 60079-29-1d

The following specific Information relating to the scope extension for IEC 60079-29-1 is provided.

1) SITIIAS/NEPSI holds various national accreditation and authorization for gas detectors;
2) SITIIAS/NEPSI is a CNAS accredited testing laboratory for different types of gas detectors according to IEC and relevant national standards.
3) SITIIAS/NEPSI is a CNAS accredited calibration laboratory for different types of gas detectors according to relevant Chinese national standards

4) SITIIAS/NEPSI is an authorized provincial pattern approval organization for gas detectors by Shanghai Bureau of Technical Supervision;
5) SITIIAS/NEPSI is an authorized national pattern approval organization for gas detectors by General Administration of Quality Supervision, Inspection and Quarantine of The People's Republic of China (AQSIQ);

During daily operation, SITIIAS have experience in conducting tests and calibrations for gas detectors mainly according to Chinese national standards and verification regulations (JJG), because these standards/regulations are mandatory in China. But the majority of the test items in theirour national series standards GB 15322 are almost identical to those in IEC 60079-29-1.

In the last two years, SITIIAS/NEPSI issued three test reports according to GB15322, and more than 2000 calibration reports (including visible inspection, zero calibration, response time, alarm concentration) according to Chinese JJG regulation.

In addition, during site assessment Mr Brenon as expert Assessor witnessed a successful demonstration of performance tests, and satisfactorily interviewed SITIIAS/NEPSI Staff on a clause by clause basis against the IEC 60079-29-1.

6. CALIBRATION

Documented procedures for calibrating all equipment and reference standards, which include method, periodicity, sealing after calibration are covered in SITIIAS-G02-26"Procedure for Equipment Control" and SITIIAS-G02-27 "Procedure for the Traceability of Measurement and Calibration of Measuring and Test Equipment", This last procedure also covers traceability to national or international standards of measurement. The procedures and several calibration certificates were checked and found to meet the IECEx requirements.

SITIIAS/NEPSI operates a comprehensive and CNAS accredited calibration laboratory.

7. CONFIDENTIALITY

Confidentiality is covered in SITIIAS-G02-05 "Procedure for the Protecting of Confidentiality and Proprietary Rights". All staffs have signed regarding impartiality, honesty and confidentiality of their work. During the assessment, the list and several signed documents were checked. It was found to meet the IECEx requirements.

8. NATIONAL ACCREDITATION

STIIAS/NEPSI is accredited by the China National Accreditation Service for Conformity Assessment (CNAS), No L0130 to ISO/IEC 17025, valid from April 10th, 2013 to April 9th, 2016. See **Annex 2**. The accredited scope covers the range of activities covered by this application. SITIIAS/NEPSI also holds an accreditation for ISO/IEC 9001. See **Annex 3** for the certificate.

9. RECOGNITION AND AGREEMENTS

SITIIAS/NEPSI has cooperation agreement with many Ex bodies. For example, PTB, LCIE, KTL, KOSHA, TUV NORD, TIIS, LOM, DEKRA, SIRA, INERIS, BASEEFA, KGS, NANIO CCVE, TestSafe and KEMA.

10. INTERNAL AUDIT AND PERIODIC REVIEW

Internal audit is covered by SITIIAS-G02-17 ”Procedure for Internal Audits of Quality System”. A specific internal audit concerning IECEx is done at least once a year by the Quality Manager and other internal auditors. All audit records are retained. The last audit was conducted in October 2014. The internal audit procedure and the records for 2014 were reviewed and found to meet the requirements of the IECEx.
The internal audit plan for 2015 was presented and found to meet the requirements of the IECEx. The 2015 internal audits will be performed in October 2015.

The last management review took place on January 6th, 2015. The meeting was attended by senior members of the organization. An agenda was forwarded to members beforehand and minutes of the meeting were issued. The minutes of this meeting were discussed and found to meet the IECEx requirements.

11. COMPLAINTS AND APPEALS (Including appeals to IECEx)

Customer complaints are in procedure SITIIAS-G02-13. This includes the process that would be used if the complaint resulted in the need for retesting.
A survey is also made of customers each year, seeking their feedback. The form is available to customers on the website. The results are scored and an average calculated to rate the service. From the survey in the year of 2014 the rating was 95.4%. No complaint about IECEx testing was found in the past 5 years.

12. SPECIAL FACTS TO BE NOTED

12.1. *Supporting Documentation*

Copies of additional supporting information for this assessment have been provided to the audited organization and the IECEx Secretariat. These include:

- On-Site Assessment report (IECEx OD/006)
- Details of issues raised and how these have been resolved
- Checklist for ISO/IEC 17025
- Completed technical Capability Document (TCD)
- Reports and pictures from the technical assessment

12.2. Tests Witnessed and/or competence checked

Standard:	Clause(s):	Description:
IEC 60079-0	26.4.5	Degree of protection IPX5 & IPX6
	26.4.5	Degree of protection IPX2, IPX3 & IPX4
	26.8	Thermal endurance to heat

Standard:	Clause(s):	Description:
	26.4.2	Resistance to impact
	26.5.1.3	Maximum surface temperature
	26.13	Surface resistance test of non-metallic enclosures
	26.5.1.3	Maximum surfaces temperature
	26.6	Torque test on bushings M4, M10, M24
	26.14	Test for build up of ESD on a non-metallic enclosure for Group II + para 7.5 table 9
IEC 60079-1	15.1.2	Determination of explosion pressure (reference pressure)
	15.1.2 & 15.2	Determination of explosion pressure (reference pressure) and test for non-transmission of an internal ignition
	15.1.3	Overpressure test
IEC 60079-2	16.1	Pmax determination
	16.2	Leakage measurement
	16.3	Purging measurement
IEC 60079-7	4.5.3	CTI determination for Group II material
	4.9.1a	IP determination minimum 54 for enclosure with bare conductive parts
	6.3.1	Mechanical tests for screw lamp holder
IEC 60079-11	10.1.2	Spark ignition tests
	10.9	Cable pull test
	10.5.3	Surface temperature of cells and batteries
IEC 60079-15	9.2	Determination of temperature class of a fuse
IEC 60079-18	8.1.1	Water absorption
IEC 60079-29-1	5.4	Observed various aspects of Test according to 5.4
	5.4.3	Special focus on Calibration and adjustment
		Competence check of staff via interview with view to scope extension
IEC 60079-28	5.2.2 & 5.2.3	Measurement of continuous wave radiation and pulsed radiation
IEC 60079-26		Competence checked
IEC 60079-30-1	5.1.4	Flammability test
	5.1.5	Impact test
	5.1.6	Deformation test
IEC 60079-31	5.3.1	Determination of clearance for plain entry hole
	6.1.1.3	Pressure test for “tc” electrical equipment
	6.1.2	Thermal tests

13. COMMENTS (Including issues found during assessment)

Ms. Dai Yue from CQM was present during the whole assessment.

Issues were found concerning work instructions, calibration traceability and test record forms. All open issues were resolved to the satisfaction of the assessment team.

14. RECOMMENDATION

Based on the reassessment and scope extension assessment performed from June 18th to 19th,2015, the ExTL is recommended for continued acceptance in the IECEx scheme as an IECEx Testing Laboratory (ExTL) according to the scope of the standards listed in this document including the extension of scope to include IEC 60079-29-1 with a limitation to Group II ONLY.

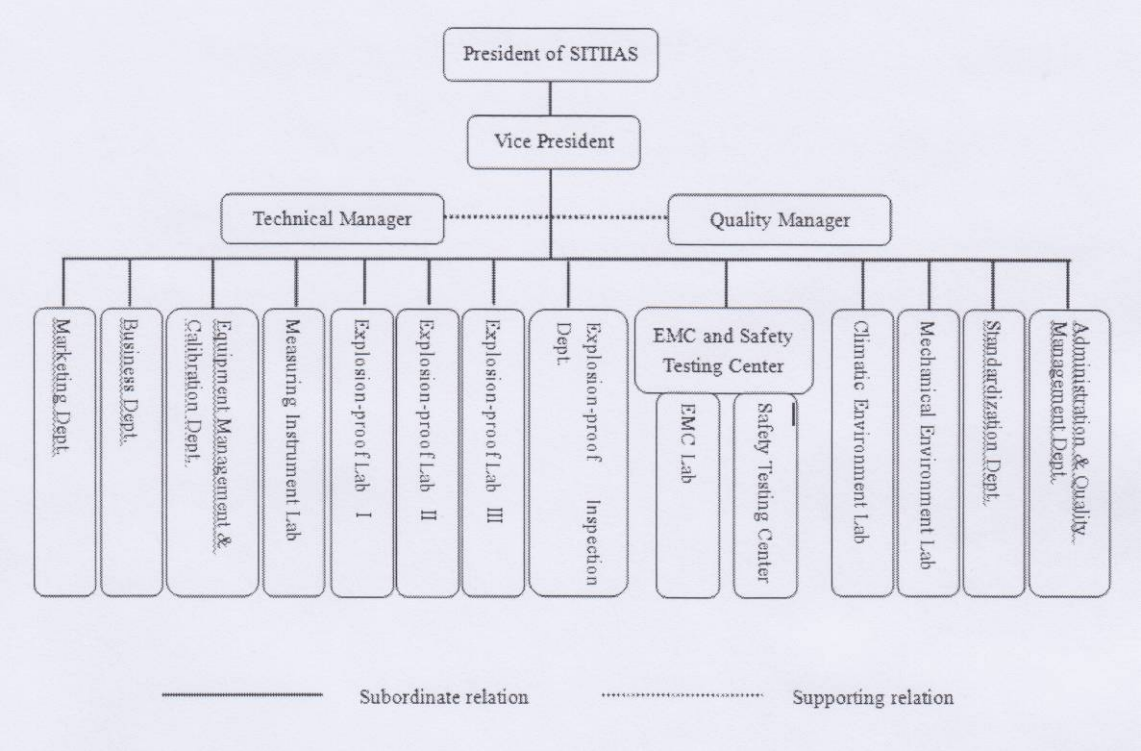
Lead Assessor	Expert Assessor
Heinz Berger	Michel Brenon

Date: June 19th, 2015

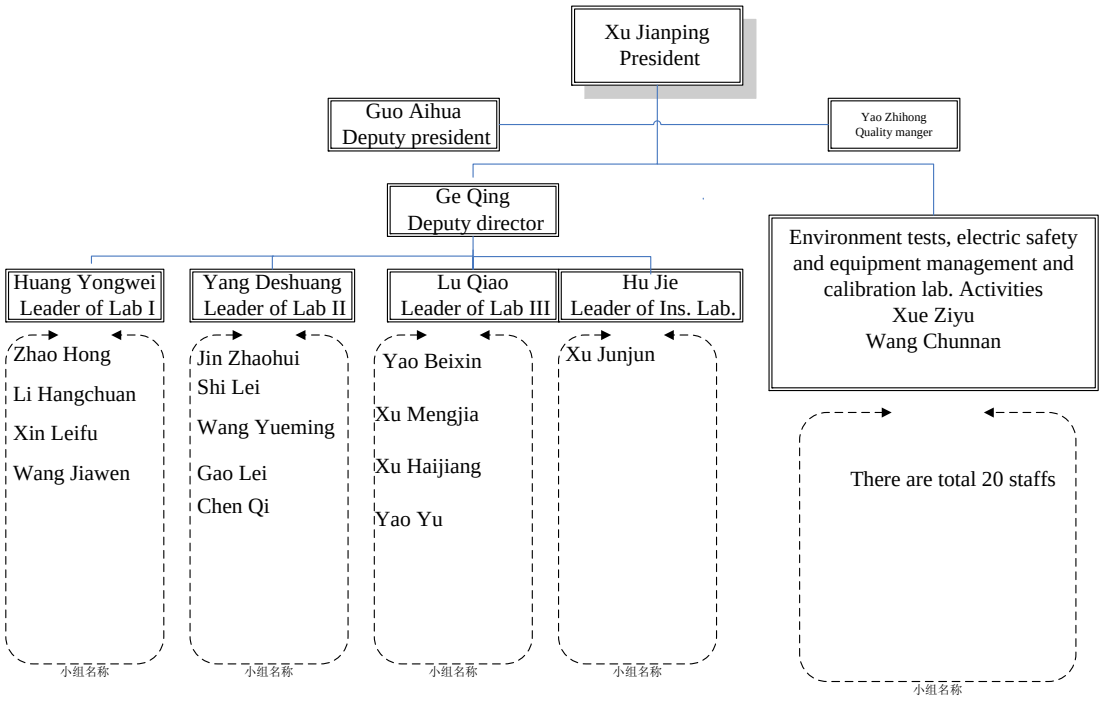
List of Annexes:

Annex 1a: Overall Organization Chart of SITIIAS / NEPSI
Annex 1b: Organization Chart of ExTL
Annex 2: Accreditation Certificate for the ExTL from CNAS for ISO/IEC 17025
Annex 3: ISO 9001 Certificate
Annex 4: Certificate for ISO/IEC 17020

ANNEX 1a: Overall organization Chart of SITIIAS/NEPSI



ANNEX 1b: Organization Chart of the ExTL



Annex 2: Accreditation Certificate according to ISO/IEC 17025

China National Accreditation Service for Conformity Assessment

LABORATORY ACCREDITATION CERTIFICATE

(Registration No. CNAS L0130)

Shanghai Inspection and Testing Institute of
Instruments and Automatic Systems (SITIIAS)
No.103, Caobao Road, Shanghai, China

is accredited to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories(CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence of testing and calibration.
The scope of accreditation is detailed in the attached appendices bearing the same registration number as above. The appendices form an integral part of this certificate.

Date of Issue: 2013-04-10
Date of Expiry: 2016-04-09
Date of Initial Accreditation: 2000-12-12
Date of Update: 2013-04-10

Signed on behalf of China National Accreditation Service for Conformity Assessment

China National Accreditation Service for Conformity Assessment (CNAS) is authorized by Certification and Accreditation Administration of the People's Republic of China (CNCA) to operate the national accreditation schemes for conformity assessment. CNAS is the signatory to International Laboratory Accreditation Cooperation Multilateral Recognition Arrangement (ILAC MRA) and Asia Pacific Laboratory Accreditation Cooperation Multilateral Recognition Arrangement (APLAC MRA).

No.CNAS AL 2 0006784

Annex 3: ISO 9001 Certificate

CERTIFICATE OF QUALITY MANAGEMENT SYSTEM CERTIFICATION

Certificate No.016SH12Q22476R2M-5

Organization code: 75434724-6

This is to Certify that the Quality Management System of

SHANGHAI INSPECTION AND TESTING INSTITUTE OF INSTRUMENTS AND AUTOMATION SYSTEMS

is in conformity with

GB/T19001-2008/ISO9001:2008 Standard

This certificate is valid to the following product(s)/service(s)

TESTING, CALIBRATION AND INSPECTION OF PRODUCTS [MORE INFORMATION FOUND IN THE CERTIFICATE OF METROLOGICAL AUTHORIZATION (SHANGHAI AUTHORIZATION NO.(2014)267),THE LABORATORY ACCREDITATION CERTIFICATE (REGISTRATION NO.CNAS L0130).THE INSPECTION BODY ACCREDITATION CERTIFICATE(REGISTRATION NO.CNAS IB0022)AND THE INSPECTION ACCREDITATION CERTIFICATE(REGISTRATION NO. 20130000051)]

REGISTERED ADDRESS: BUILDING 3, NO.103, CAOBAO ROAD, XUHUI DISTRICT, SHANGHAI, P. R. CHINA
GEOGRAPHIC ADDRESS: BUILDING 3/7, NO.103, CAOBAO ROAD, XUHUI DISTRICT, SHANGHAI, P. R. CHINA

Issue Date: November 8, 2006
Reissue Date: December 25, 2014
Valid Until: November 1, 2015

Beijing New Century Inspection & Certification Co.,Ltd.
General Manager:

BCC Address:11/F,Building,1 Guoying,Nanxiaojie,Xizhimennei,Xicheng District,Beijing,P.R.China
The certificate is valid within the term of validity of all administrative and qualification license subject to the regulation of P.R.China
It shall be maintained by regular surveillance assessments and shall be valid when used in conjunction with the Notice of Surveillance Decision
The query website of certificate valid state:www.bcc.com.cn 2-dimensional bar code seach:v.bcc.com.cn
The certificate information is available in the CNCA website:www.cnca.gov.cn

MANAGEMENT SYSTEM
CNAS C016- Q

ANNEX 4: ISO/IEC 17020 Certificate

China National Accreditation Service for Conformity Assessment

INSPECTION BODY ACCREDITATION CERTIFICATE

(Registration No. CNAS IB0022)

Shanghai Inspection & Testing Institute of Instruments and Automatic Systems

No.103, Caobao Road, Shanghai, China

Is accredited to ISO/IEC 17020:1998 General Criteria for the Operation of Various Types of Bodies Performing Inspection (CNAS-CI01 Accreditation Criteria for the Competence of Inspection Bodies) as Type A inspection body for the competence to provide inspection services.

The scope of accreditation is detailed in the attached appendices bearing the same registration number as above. The appendices form an integral part of this certificate.

Date of Issue: 2013-01-16

Date of Expiry: 2016-01-15

Date of Initial Accreditation: 2004-08-30

Date of Update: 2013-01-16

Signed on behalf of China National Accreditation Service for Conformity Assessment

China National Accreditation Service for Conformity Assessment (CNAS) is authorized by Certification and Accreditation Administration of the People's Republic of China (CNCA) to operate the national accreditation schemes for conformity assessment. CNAS is the full member of International Laboratory Accreditation Cooperation (ILAC), and the signatory to Asia Pacific Laboratory Accreditation Cooperation Multilateral Recognition Arrangement (APLAC MRA).

No.CNAS AIB 2

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