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

**TITLE: Re-assessment Report for the continued acceptance of Shanghai Inspection and Testing Institute of Instruments and Automatic Systems Co., Ltd. (SITIIAS) / National Supervision and Inspection Centre for Explosion Protection and Safety of Instrumentation (NEPSI) an Accepted ExCB and ExTL within the IECEx Equipment Scheme 02.**

**Circulation to: Members of the IECEx Management Committee, ExMC**

**INTRODUCTION**

In accordance with the 5 year re-assessment plan for the surveillance and monitoring of bodies within the IECEx System, the following document contains the IECEx Re-assessment Report for the continued acceptance of Shanghai Inspection and Testing Institute of Instruments and Automatic Systems Co., Ltd. (SITIIAS) / National Supervision and Inspection Centre for Explosion Protection and Safety of Instrumentation (NEPSI) an Accepted ExCB and ExTL within the IECEx Equipment Scheme 02.

This report is hereby submitted for endorsement during the 2022 ExMC Meeting.

***Chris Agius***

**IECEx Secretariat**

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| **IECEx Secretariat**  **Australia Square**  **Level 33, 264 George Street**  **Sydney NSW 2000**  **Australia** | **Tel: +61 2 4628 4690**  **Fax: +61 2 4625 3480**  **Email: info@iecex.com** |

IEC System for certification to standards relating to equipment for use in Explosive Atmospheres (IECEx System)

IECEx Assessment Report Form, F-003

IECEx assessment report form for use by IECEx assessment teams to report assessments conducted according to the relevant IECEx assessment procedures of:

Operational Document IECEx OD 003-2 for the Certified Equipment Scheme

Operational Document IECEx OD 316-\* for the Certified Service Facility Scheme

Operational Document IECEx OD 422 for the IECEx Conformity Mark Licensing Scheme

Operational Document IECEx OD 501 for the Personnel Competence Scheme

IECEx ExCB/ExTL assessment report

for

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

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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# Assessment information

## Type of body covered by this assessment:

|  |  |
| --- | --- |
| ExCB for IECEx Certified Equipment Scheme |  |
| ExTL for IECEx Certified Equipment Scheme |  |
| ATF for IECEx Certified Equipment Scheme |  |
| ExCB for IECEx Certified Service Facilities Scheme |  |
| ExCB for IECEx Conformity Mark Licensing System |  |
| ExCB for IECEx Certification of Personnel Competency Scheme |  |

## Type of assessment:

|  |  |
| --- | --- |
| Pre-assessment for candidate body |  |
| Initial assessment for candidate body |  |
| Surveillance |  |
| Re-assessment |  |
| Scope extension |  |

## Details of body

### Country

People's Republic of China

### Name of body

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

### Name and title of nominated principal contact

|  |  |  |
| --- | --- | --- |
| Name | Title | E-mail address |
| Xu Jianping | Managing Director of SITIIAS | xujianping@nepsi.org.cn |

## Assessment information

### Members of the assessment team

|  |  |
| --- | --- |
| Name | Role |
| Marino Kelava | Lead Assessor |

### Place(s) of assessment

|  |  |
| --- | --- |
| Shanghai Inspection and Testing Institute of Instruments and Automatic Systems Co., Ltd. (SITIIAS) / National Supervision and Inspection Centre for Explosion Protection and Safety of Instrumentation (NEPSI) | 103 Cao Bao Road, Shanghai 200233,  P.R. of China |

Due to the COVID-19, the assessment is remotely carried out by using Zoom, IECEx OD-060 is applied for this assessment.

### Assessment date(s)

March 8th to 12th and March 15th to 19th, 2021

## Application information and background information on the assessment

Due to problems with travelling caused by the COVID-19, it was decided to do a remote assessment in accordance with OD 060. The platform Zoom was used with the combined use of WeChat video calls to different rooms for the witness testing, to mitigate the effects of occasional loss of connectivity. For witness testing a mobile phone was connected to the meeting platform and this enabled the testing to be witnessed live. It also enabled screen shots to be taken of testing with those pictures being supplemented by photos taken on site, especially for small items that were difficult to see on screen. Some bandwidth problems were encountered. These occasionally impacted on the time needed, mainly due to conversation needing to be repeated, but did not materially impact on the outcomes. The process was found to provide sufficient evidence to be able to make a recommendation, but there were some aspects that could not meet the standards of on-site assessment, for example the difficulty reviewing hard copy documents, the loss of ability to independently look around a test area and the difficultly in observing very small things.

## Scopes

### ExCB scope for equipment certification scheme

The scope for the ExCB is shown in Annex A.

NOTE 1 Unless otherwise indicated, earlier editions of standards (even if with a different number) are considered to be covered in the above scope for the purposes of the assessment.

### ExTL scope

The ExTL scope is the same as for the ExCB.

# Common information

## Legal entity of body

SITIIAS Co., Ltd 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.

The legal registration number is 91310104754347246Q and is valid with no time limitation. This document was issued on July 25th, 2017.

National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation (Abbr. NEPSI) is one part of the SITIIAS Co., Ltd., 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.

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

## History

SITIIAS was established by merging of different testing labs in 1999 with the approval of the State Bureau of Machinery Industry. It was registered as an independent legal enterprise in September 2003. And in 2017, it changed its name to “Shanghai Inspection and Testing Institute of Instruments and Automation System Co., Ltd.”. 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.

SITIIAS/NEPSI was accredited to Guide 25 in 1987 and subsequently to ISO/IEC 17025 since 1999, see ANNEX E for the certificate. In 2004 it was accredited to ISO/IEC17020. In 2005, SITIIAS/NEPSI became IECEx TL. In 2016, SITIIAS was authorized to be Certification Body according to ISO/IEC 17065 by CNCA, see ANNEX D for the certificate. In 2018, SITIIAS/NEPSI became IECEx CB. In 2019 SITIIAS/NEPSI became CCC (China Compulsory Certification) TL and CB.

## Documentation

### Quality manual

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

Level 1: Quality Manual 01 (respectively for CB and TL)

Level 2: Procedure 02 (respectively for CB and TL)

Level 3: Working instruction 03

Level 4: Quality records/forms 04

Quality manual SITIIAS-RG01-01 B/1 (for CB) and SITIIAS-JG01-01 E/0 (for TL) describe the activities as ExCB and ExTL.

The Quality manual as well related documents from different levels were reviewed during the assessment and found to meet the requirements of the IECEx.

### Procedures

There are 20 procedures relevant to ExCB and 36 procedures relevant to ExTL. Procedures were reviewed during the assessment and found to meet the requirements of the IECEx. Complete list is contained in the Site Assessment Report.

### Work instructions

There are 666 work instructions in SITIIAS / NEPSI, some of which are relevant to Ex testing.

The procedure relating to Ex Testing was reviewed and found to meet the requirements of IECEx

### Records (including test records where relevant)

Procedures SITIIAS-RG02-05 & SITIIAS-JG02-16 ”Procedure for records and archives management” prescribe the system for recording the method and results of certification, assessment and testing activities. All records are uniquely identified, secured and stored in a way to ensure the reliability of the certification process and to maintain the confidentiality of information.

Testing Laboratory supervises the documents (internal and external) that relate to meeting the requirements of ISO/IEC 17025:2018-02.

The Testing Laboratory ensures that:

* Management System documents are approved for adequacy by authorized personnel before issuance,
* Management System documents are periodically reviewed and updated as necessary,
* Changes and current status of management system changes are identified,
* Relevant versions of applicable documents are available at the places of use (either in hard copy or on the server) and, where necessary, their dissemination is supervised,
* The documents are identified,
* Unintended use of outdated documents is prevented and they are appropriately marked if retained for any reason.

The Testing Laboratory establishes and maintains clear records to, among other things, demonstrate compliance with the requirements of ISO/IEC 17025:2018-02.

The Laboratory implements supervision over records. Test data is entered into forms via computer and then printed. These are stored in binders in a manner that ensures legibility and identification, ease of retrieval (e.g., through the chronological collection), accessibility, and protection from loss, damage, or destruction. These printed records ensure that the original data is preserved. These records can also be accessed online, but are not regarded as authorised records. A record retention period has been established. After it expires, the records are archived. Procedures SITIIAS-RG02-05 (B/2) and SITIIAS-JG02-16 (E/1) address retention period for IECEx, including the reference to IECEx OD-207 and an indication that these requirements take precedence over the corporate requirements.

In practice it was advised critical records are stored indefinitely and so no destruction process for these records is in place.

### Document change control

**Certification Body**

Document SITIIAS-RG02-04 ”Procedure for document control” is the relevant ExCB procedure for supervision of documents and records. This procedure was checked and found to meet the IECEx requirements. At present change control is applied to printed documents as well as any document on the server. The QA representative reviews the validity of the system documents (Quality Manual / procedures / certification programs) in relation to the actual procedure and the current legal regulations, at least once a year.

In addition, any employee of the Certification Body may report the need to introduce changes to the system. These will also be considered.

Physical changes are made by replacing out-of-date pages in the document / out-of-date issue of the form / attachment in the original document (also in the electronic version of system documents on the server).

QA representative provides information about the documents that have changed to all employees of the Certification Body, whose area of ​​operation the changes apply to. Each time a change is introduced, the list of system documents is updated.

**Testing Laboratory**

Document SITIIAS-JG02-08 “Procedure for Document Management” is the relevant ExTL procedure for management of documents and records, including technical records.

A similar process for review and change of documents as that for the ExCB is usedand was found to meet the IECEx requirements.

## Confidentiality

(For staff, contractors and members of advisory bodies)

### Certification Body

Confidentiality is addressed in the certification body Quality Manual and in SITIIAS-RG02-02 ”Procedure for confidentiality management”. A declaration is completed and signed by every employee of the Certification Body and every member of the Certification Council (currently there are 9 members, SITIIAS/NEPSI QM documentation refers to this Council as Impartiality Committee). Examples of signed forms for the Certification Body and Certification Council members were viewed during the assessment visit. Confidentiality is appropriately addressed in contractual agreements with external service providers (Associated ExTLs).

Confidentiality is also ensured through:

* limited access to customer documentation from the moment of submission to certification up to the archiving stage,
* records of documentation created in the certification and supervision process (contracts, protocols from inspection, test reports),
* archiving evidence of conformity assessment and any customer documentation provided during the certification process.

The system meets the requirements of ISO/IEC 17065 and IECEx.

### Testing Laboratory

Confidentiality is addressed in the testing body Quality Manual and in SITIIAS-JG02-05 ”Procedure for confidentiality management”. A form is completed and signed by every employee of the testing body. The form covers both confidentiality and conflict of interest. An example of a signed form for a Testing Body employee was viewed during the assessment visit and found to meet the IECEx requirements.

The process takes account of the need to ensure client confidentiality.

The Testing Laboratory has key systems in place to control access. This system is also used to control access for safety purposes because of the tests that may be taking place.

The system meets the requirements of ISO/IEC 17025 and IECEx.

## Communication with public and customers (Hard copy and Electronic)

The website [www.nepsi.org.cn](http://www.nepsi.org.cn) and catalogue has been checked. Sufficient and correct information are displayed there.

The certification body maintains and publishes information on:

* auditing processes (in Chinese only SITIIAS-RJ03-01),
* processes for granting, refusing, maintaining, extending, suspending, renewing or withdrawing certification or extending or reducing the scope of certification (in Chinese only),
* types of management systems and certification programs in which it operates,
* use of the name of the certification body and the certification mark or logo (in Chinese only),
* processes for processing requests for information, complaints and appeals (in Chinese only),
* impartiality policy.

Other information is available on request.

## Recognitions and agreements

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

## Internal audit

### Certification Body

Internal audit is addressed in the Quality Manual and in Procedure SITIIAS-RG02-06 “Procedure for internal audit” which addresses the rules of audit planning, their frequency and the manner of supervising the implementation. The internal audit for ExCB is done at least once a year by the Quality Manager and other internal auditors. All audit records are retained. The last audit for ExCB was conducted on Dec.10th, 2020.

### Testing Laboratory

Internal audit is addressed in the Quality Manual and in Procedure SITIIAS-JG02-17 “Procedure for internal audit” which addresses the rules of audit planning, their frequency and the manner of supervising the implementation. The internal audit for ExTL is done at least once a year by the Quality Manager and other internal auditors. All audit records are retained. The last audit for ExTL was conducted on Dec.10th, 2020.

### Review of internal audit processes and records

A review was made of the above processes together with records for recent audits carried out for the Certification Body and Testing Laboratory. The following is relevant for both bodies:

* Certification Body – the audit was carried out on Dec.10th, 2020 using eight auditors in four teams. There was one NCR but not related to Ex department (about applicability of related standards in other departments - NC was later solved). No observation recorded.
* Testing Laboratory – the audit was carried out on Dec.10th, 2020. There were no NCRs but three observations were raised resulting with the recommendation for improvement.

The audit plans for the certification body and laboratory were reviewed.

The internal audit systems for both bodies were found to meet the requirements of ISO/IEC 17065 and ISO/IEC 17025, and the requirements of IECEx.

## Management review

### Certification Body

Management Review is addressed in the Quality Manual and in Procedure SITIIAS-RG02-07 “Procedure for Management review”.

According to the Quality Manual the management of the Certification Body, at least once a year, conducts a review of the management system in terms of its suitability, adequacy and effectiveness, including established policies and objectives related to meeting the requirements of ISO/IEC 17065.

The review includes an assessment of the opportunities for improvement and the need for changes in the system, quality policy and impartiality, and the implementation of the objectives contained therein.

The last management review took place on January 6th, 2021. The meeting was attended by senior members of the organization. Agenda was made available to members beforehand, and minutes of the meeting were issued.

### Testing Laboratory

Management Review is addressed in the Quality Manual and in Procedure SITIIAS-JG02-18 “Procedure for Management review”.

The Testing Laboratory conducts management system reviews at scheduled intervals, not less than once every 12 months, to ensure its continued suitability, adequacy, and effectiveness, including established policies and objectives relating to meeting the requirements of ISO/IEC 17025.

The last management review took place on January 6th, 2021. The meeting was attended by senior members of the organization. Agenda was made available to members beforehand, and minutes of the meeting were issued.

### Review of Management Review

The reports from the last management review meetings held on January 6th, 2021 for the Certification Body and for the Testing Laboratory were reviewed. The matters covered by the meeting also addressed the relevant requirements for ISO/IEC 17065 and ISO/IEC 17025 and hence the system meets the requirements of those standards and IECEx.

## Contracting, subcontracting and witness testing

### Contracting

While the ExCB does not use subcontracting there is limited by the ExTL.

### Subcontracting

The following tests are, or may be, subcontracted by the body:

|  |  |  |
| --- | --- | --- |
| Standard | Clause | Test |
| IEC 60079-7:2017 | 6.3.5  (Permitted by TCD) | Sulphur dioxide test for Level of Protection “eb” for the connection of bi-pin lamp caps to lampholders |

Test is subcontracted to SQI\_ZM (Shanghai Institute of Quality Inspection and Technical Research-China National Lighting Fitting Quality Supervision Testing Centre). This is IECEx ExTL and also nationally accredited by CNAS (CNAS L0128).

More details, including bodies to whom tests are subcontracted, details of accreditation of those bodies and details of how the subcontracted bodies are checked, was reviewed and found to comply with IECEx requirements.

### Off-site and Witness testing

Off-site and witness testing is addressed in the procedure SITIIAS-JG02-34 “IECEx Certification of Ex Electrical Apparatus–Procedures for Type Test”. This procedure includes the relevant requirements from OD 024.

A few manufacturers were assessed and registered as Witness testing facility. Registration of the manufacturer, user or third party test facility has been made with the IECEx Secretariat and there is written procedure SITIIAS-JG02-34 clause 6.15.3 for the updating of the current information in the Register.

## Training and competence

Details of staff competencies are included in the site assessment report.

### Certification Body

The procedure for the recruitment of new employees, the initial assessment and the continuous monitoring of their work is described in the procedure SITIIAS-RG02-03 "Procedure for personnel management ".

Competence levels for staff for various standards have been checked and found to comply with IECEx requirements.

There is work instruction SITIIAS-RJ04-01 which makes reference to the appointment of auditors and lead auditors in accordance with IECEx OD 026. The competency matrix displays clearly which auditors are lead auditors. This work instruction also clarifies whether technical experts may also be required as defined in OD 025 and gives other related details.

The relevant procedure and work instruction makes clear how the decision process occurs to appoint people to their competence/roles.

There is a skills matrix covering the various techniques broken in verification, ExTR review, QAR review, certification review and certification decision.

Example of assignment of roles of competencies and written evidence of qualifications and experience was checked during the assessment and found to meet IECEx requirements.

### Testing Laboratory

The procedure relevant to appointment and competency of staff in the laboratory is addressed in procedures SITIIAS-JG02-19 "Procedure for personnel management" and SITIIAS-JG02-02 “Procedure for Personnel Supervision and Monitoring”.

These procedures list the steps for personnel to be trained and provide judgement for personnel competencies, including who can make those decisions. There are lists with signatures showing the relevant competencies. Finally, there is a skills matrix covering the various techniques broken in testing, verification and ExTR review.

To ensure competent personnel, the Testing Laboratory has established a procedure for selecting personnel, determining competence requirements, supervising personnel, authorizing personnel, training personnel, and monitoring personnel competence.

Qualification of the personnel is specified. Each employee has their scope of duties and rights. A newly recruited employee is supervised and qualified to perform individual tests.

The training policy of the Testing Laboratory is differentiated depending on the identification of training needs based on the personnel competence assessment.

## Complaints and appeals (including appeals to IECEx)

### Certification Body

The applicant, the certificate holder or other parties have the right to appeal in writing to the decision made by the Certification Body at each stage of the certification process or within the certificate validity period. All appeals and complaints of suppliers, organizations/clients, certificate holders are considered in the Certification Body in accordance with the principle of protection of interests of the supplier, organization/client.

The records on all appeals and complaints are registered and kept by the Office of the Certification Body.

In the case of any disputes, the final decision is made by the Court with territorial jurisdiction over the registered office of ExCB.

In the case of IECEx certification, clients also have the right to file appeals and complaints.

The course of procedure in this scope is described in Procedure SITIIAS-RG02-09 “Procedure for appeals and complaints control”.

Procedure SITIIAS-RG02-09 (B/2) reflects the latest appeals process to IEC via IECEx in accordance with CAv01 and IECEx 01-S. The applicant is advised of their right of appeal to IEC if they are not satisfied with the outcome of the ExCB appeal process.

A survey is also made by 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 2020 the rating was 97.25% for ExCB. No complaint about Ex projects was found in the past year.

### Testing Laboratory

The complaint handling process for the laboratory is addressed in procedure SITIIAS-JG02-13 “Procedure for Complaint Management”.

A survey is also made by 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 2020 the rating was 98.66% for ExTL. No complaint about Ex testing was found in the past year.

## Impartiality

### Certification Body

Impartiality is addressed in the Quality Manual and in the procedure SITIIAS-RG02-01 ”Procedure for impartiality management”.

The manual and procedure indicates that the Certification Body ensures full impartiality and credibility of the provided services, is responsible for impartiality of undertaken operations related to conformity assessment and does not allow any commercial, financial or other pressures to infringe its impartiality. It includes reference to the process of identifying and dealing with risks related to conflicts of interests resulting from certification activities.

A mechanism for ensuring impartiality is by use of a Certification Council which includes a balance of all interests with:

1. representatives of science from technical higher education institutions,
2. representatives of producers,
3. representatives of users (mines, measurement and automation centres, etc.).

The minutes of the last meeting held on December 21st, 2020 were reviewed. The committee meets once a year.

In addition to the above, to ensure there are no conflicts of interest, the Certification Body requires all its employees, both internal and external, to report any former and/or present connections with the organizations, the certification of which they will be assigned to. If there are any such connections, the Certification Body assesses the risk in terms of threats to impartiality, and either resigns from involving this staff into the certification process or proves that there is no conflict of interests.

All staff have signed regarding impartiality, honesty and confidentiality of their work. During the assessment, the list and several signed documents were checked.

The process meets the requirements for ISO/IEC 17065 and IECEx.

### Testing Laboratory

Impartiality is addressed in the Quality Manual and in the procedure SITIIAS-JG02-01 “Procedure for Impartiality and Independence Management”. Appropriate provisions are included to ensure impartiality.

The Testing Laboratory has no connections with external entities, either designing or supplying products, and does not provide any services in this respect.

Employees of the Testing Laboratory performing product tests do not take part in the process of its certification which is carried out by the Certification Body, because it constitutes a threat to impartiality.

In addition to the above, to ensure there are no conflicts of interest, the ExTL requires all its employees, both internal and external, to report any former and/or present connections with the organizations, the certification of which they will be assigned to. If there are any such connections, the ExTL assesses the risk in terms of threats to impartiality, and either resigns from involving this staff into the testing process or proves that there is no conflict of interests.

All staff have signed regarding impartiality, honesty and confidentiality of their work. During the assessment, the list and several signed documents were checked.

The process meets the requirements for ISO/IEC 17025 and IECEx.

## Active involvement in development of Decision Sheets

Instructions for commenting on ExTAG documents are in the SITIIAS-RG02-18 “Procedure for management of information submission as certification body”. SITIIAS/NEPSI provided evidence of discussing ExTAG Decision Sheets internally and providing feedback to the IECEx Secretariat.

## Special facts to be noted

None other than those matters identified throughout this report.

## Supporting documentation

Copies of additional supporting information for this assessment have been provided to the applicant and the IECEx Secretariat. These are included in a site assessment report or provided separately and include:

* Details of issues raised and how these have been resolved
* Checklist for ISO/IEC 17065
* Checklist for ISO/IEC 17025
* Completed Technical Capability Document (TCD)
* Photos of the facilities/tests witnessed are included in the above TCD
* Information on competencies
* Information on contracting/subcontracting
* Assessors’ notes
* Other

## Recommendations

Based on the assessment performed remotely on March 8th to 12th and March 15th to 19th, 2021, Shanghai Inspection and Testing Institute of Instruments and Automatic Systems Co., Ltd. (SITIIAS) / National Supervision and Inspection Centre for Explosion Protection and Safety of Instrumentation (NEPSI) is recommended for continued acceptance in the IECEx scheme as:

* An ExCB in the IECEx Certified Equipment Scheme
* An ExTL in the IECEx Certified Equipment Scheme

This is according to the scope of the standards listed in this document.

|  |
| --- |
| Marino Kelava |
| Lead Assessor |

Date: 2021-06-24

# ExCB for IECEx Certified Equipment Scheme

## Assessment references

### General references

1. IECEx 02 IECEx Certified Equipment Scheme covering equipment for use in explosive atmospheres – Rules of Procedure
2. IECEx OD003-2 Assessment, surveillance assessment and re-assessment of ExCBs and ExTLs operating in the IECEx 02, IECEx Certified Equipment Scheme
3. ISO/IEC 80079-34 Explosive atmospheres – Part 34: Application of quality systems for equipment manufacture
4. IECEx OD 009 Issuing of CoCs, ExTRs and QARs
5. IECEx OD 025 Guidelines on the Management of Assessment and Surveillance programs for the assessment of Manufacturer’s Quality Systems in accordance with the IECEx Scheme
6. IECEx OD 026 IECEx Certified Equipment Scheme – Guidelines for the qualification of Lead Auditor and Auditors, in accordance with the IECEx System
7. ISO/IEC 17065 General requirements for bodies operating product certification systems Conformity assessment — Requirements for bodies certifying products, processes and services
8. IECEx OD 107 Harmonised check list for certification bodies ISO/IEC 17065
9. IECEx OD 060 IECEx Guide for Business Continuity – Management of Extraordinary Circumstances or Events Affecting IECEx Certification Schemes and Activities
10. IECEx Technical Capability Document (TCD)
11. ExTAG decision sheets (DSs)

NOTE The latest editions of the above documents were applied, unless otherwise specified

### Additional references applied for this assessment

OD 060 IECEx Guide for Business Continuity – Management of Extraordinary Circumstances or Events Affecting IECEx Certification Schemes and Activities

OD 280 IECEx Certified Equipment Scheme – Guide to Certification of Nonelectrical Equipment and Protective Systems

OD 233 IECEx Certified Equipment Scheme - Assessment of Ex “s” Equipment.

## ExCB persons interviewed

|  |  |
| --- | --- |
| Name | Position |
| Xu Jianping | Managing director of SITIIAS |
| Guo Aihua | General manager of SITIIAS  Director of NEPSI |
| Yao Zhihong | Quality manager |
| Ge Qing | Deputy director of NEPSI |
| Li Hangchuan | Manager of Marketing Department |
| Jin Zhaohui | Manager of Product Certification Department |
| Hu Jie | Manager of Inspection Department |
| Huang Yongwei | Manager of Ex Dept. I |
| Zhao Hong | Manager of International Affairs,  Deputy manager of Ex Dept. I |
| Yang Deshuang | Manager of Ex Dept. II and Testing Lab |
| Xu Haijiang | Deputy manager of Ex Dept. III |
| Shi Lei | Deputy manager of Testing Lab |
| Jiang Xuqiang | Manager of office at Guangzhou |

## Associated ExTL(s)

SITIIAS/NEPSI is integral with the ExCB.

SITIIAS/NEPSI has been accepted in the IECEx Scheme as an ExTL since 2005. It is located at the same address as the ExCB.

Other associated ExTLs:

* CCTEG-SHC, No·369 Wutang Road, Nanqiao,Fengxian District,Shanghai PEOPLES REPUBLIC OF CHINA
* CCCMT, No. 1 Mushu Road, Zhonglou District, Changzhou City, Jiangsu Province  
  PEOPLES REPUBLIC OF CHINA
* [CHEM](http://en.jexm.com.cn/), 3 Anqing Street, Jiamusi, 154005 Heilongjiang Province, PEOPLES REPUBLIC OF CHINA

## Associated certification functions

In China, SITIIAS/NEPSI is authorized by Certification and Accreditation Administration of the People’s Republic of China (CNCA) as Certification Body and accredited by the China National Accreditation Service for Conformity Assessment (CNAS) as Testing (No L0130 to ISO/IEC 17025) and Inspection Body (ISO/IEC 17020) with the right to certify Ex equipment for the Chinese Market.

SITIIAS/NEPSI also holds an accreditation for ISO 9001:2015.

## National marks and certificates

The NEPSI Logo and SITIIAS approval mark are used on certified products. Certificates of compliance are issued authorizing the clients to use the applicable mark.

## Standards accepted

The scope for the ExCB is shown in Annex A. The Scope for the ExTL is the same

## National differences to IEC standards

National differences to IEC standards are those for the Chinese differences listed in the latest version of the IECEx System Bulletin.

## Organisation

### Names, titles and experience of the senior executives

|  |  |  |
| --- | --- | --- |
| Name | Title | Experience (years) |
| Xu Jianping | Managing Director of SITIIAS | 36 years at SITIIAS and in Ex field |
| Guo Aihua | General manager of SITIIAS  Director of NEPSI | 22 years at SITIIAS, 4 years in current position |

### Name, title and experience of the quality management representative

|  |  |  |
| --- | --- | --- |
| Name | Title | Experience (years) |
| Yao Zhihong | Quality Manager | 36 years at SITIIAS, 20 years in current position |

### Name and title of signatories for certification

|  |  |  |
| --- | --- | --- |
| Name | Title | Comments |
| Xu Jianping | Managing Director of SITIIAS | 36 years at SITIIAS and in Ex field |
| Guo Aihua | General Manager of SITIIAS  Director of NEPSI | 22 years at SITIIAS |

### Other employees in ExCB activity

|  |  |  |
| --- | --- | --- |
| Name | Title | Experience in Ex (years) |
| Ge Qing | Deputy director of NEPSI | 32 |
| Li Hangchuan | Manager of Marketing Department | 16 |
| Jin Zhaohui | Manager of Product Certification Department | 18 |
| Hu Jie | Manager of Inspection Department | 20 |
| Huang Yongwei | Manager of Ex Dept. I | 30 |
| Zhao Hong | Manager of International Affairs,  Deputy manager of Ex Dept. I | 18 |
| Yang Deshuang | Manager of Ex Dept. II and Testing Lab | 23 |
| Xu Haijiang | Deputy manager of Ex Dept. III | 9 |
| Shi Lei | Deputy manager of Testing Lab | 12 |
| Jiang Xuqiang | Manager of office at Guangzhou | 16 |
| Sun Jinxiang | Deputy manager of Inspection Department | 6 |
| Luo Zhengrong | Engineer | 5 |
| Wang Chunnan | Manager of general metrology department | 5 |

## Organizational structure

See Annex B and C. As noted earlier the ExCB and ExTL operate with separate personnel and with different quality systems.

## Indemnity insurance

SITIIAS/NEPSI holds indemnity insurance from the People Insurance Company of China Limited with validity to November 15th, 2021. The policy is worldwide with an insured amount of 2.000.000,00 ¥.

## Resources

SITIIAS/NEPSI Certification Body has the necessary resources of competent staff and appropriate procedures to operate as a certification body. They do not use external contractors for their certification activities.

SITIIAS/NEPSI employs 138 people in total, of which 31 personnel professionally working on testing and assessment of electrical equipment used for explosive atmospheres,16 personnel working in the Certification Body. All others mainly work on tests - climatic, vibration, electric safety, and the evaluation of reliability and functional safety. Some of them support the testing of NEPSI, for example, thermal endurance test, IP test and vibration tests etc.

There are 36 procedures and 3 working instructions to support the routine certification work.

## Committees (such as governing or advisory boards)

The Certification Body has established Certification Council (in SITIIAS/NEPSI QMS referred to as Impartiality Committee). Its purpose is to provide the Certification Body with advice on issues affecting impartiality, together with openness and public perception. Operation is covered in procedures SITIIAS-RG02-01 “Procedure for management of Impartiality” and SITIIAS-RG05-01 “Regulation for the Impartiality Committee”.

The Certification Council (Impartiality Committee) is comprised of representatives from the industry, certification body, consumers, users and other interested parties (currently nine persons). The committee is responsible for providing guidance and advice on the formulation of policies relating to impartiality of the conformity assessment activities of SITIIAS/NEPSI.

The committee meets once a year. The last combined Certification & Impartiality meeting took place on December 21st, 2020. The minutes were viewed and the topics covered found to meet the requirements of ISO/IEC 17065 and SITIIAS/NEPSI quality management system as well as the requirements of the IECEx.

## Certification operations

### National approval/certification methods

SITIIAS/NEPSI maintains national certification methods according to Chinese regulation covering all the types of protection for Ex electrical equipment and non-electrical equipment.

### Certification policy

SITIIAS/NEPSI - Certification Body has a quality policy in its quality manual which includes clear reference to its certification and testing activities. SITIIAS/NEPSI quality policy is based on the following:

Earnest service, Impartial Assessment, All-round development, Continual Improvement

The quality policy has been described in the Quality Manual.

### Application for certification

SITIIAS/NEPSI – Certification Body has a documented procedure SITIIAS-RG02-14 “Procedure for certification review and certification decision”, based on IECEx OD-009, which addresses their process for handling application for IECEx Certificates, ExTRs and QARs. It is supported by appropriate application and other forms.

SITIIAS-RJ03-01 includes arrangements for the recognition of Test Reports (ExTRs) and Quality Assessment Reports (QARs) in case of their issuance by other recognized ExCB certification bodies. Before decision on the acceptance of externally prepared ExTR or QAR an evaluation is made and recorded in SITIIAS-RJ04-01 (for QAR) of SITIIAS-RJ03-01 (for ExTR).

### Certification decision

The certification decision is addressed in procedure SITIIAS-RG02-14 “Procedure for certification review and certification decision”. The procedure was reviewed and found to meet the requirements of the IECEx.

### Suspension and cancellation of certificates

Suspension and cancellation of certificates is addressed in procedure SITIIAS-RG02-16 “Procedure for issuance, maintaining, renewal, modification, extension, reduction, suspension, reinstatement, withdrawal and cancellation of the certificates”. The process meets IECEx requirements.

## Certificates issued

Number of certificates issued under for the preceding two years for each type of protection.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Standard numbers | Type of protection or other identifying information | Number of issued certificates (for last 2 years) | | Total |
| 2020 | 2019 |
| IEC 60079-0 | Explosive atmospheres -  Part 0: Equipment - General requirements | ----- | ----- |  |
| IEC 60079-1 | Explosive atmospheres -  Part 1: Equipment protection by flameproof enclosures 'd' | 28（1734） | 13（1423） | 41（3157） |
| IEC 60079-2 | Explosive atmospheres -  Part 2: Equipment protection by pressurized enclosures 'p' | 2（95） | 2（64） | 4（159） |
| IEC 60079-5 | Explosive atmospheres -  Part 5: Equipment protection by powder filling 'q' | 0（4） | 0（13） | 0（17） |
| IEC 60079-6 | Explosive atmospheres -  Part 6: Equipment protection by oil immersion 'o' | 0（0） | 0（0） | 0（0） |
| IEC 60079-7 | Explosive atmospheres -  Part 7: Equipment protection by increased safety 'e' | 16（72） | 9（51） | 25（123） |
| IEC 60079-11 | Explosive atmospheres -  Part 11: Equipment protection by intrinsic safety 'i' | 15（617） | 17（584） | 32（1201） |
| IEC 60079-13 | Construction and use of rooms or buildings protected by pressurization  Part 13 | 0（0） | 0（0） | 0（0） |
| IEC 60079-15 | Explosive atmospheres -  Part 15: Equipment protection by type of protection 'n' | 2（467） | 4（295） | 6（762） |
| IEC TR 60079-16 | Artificial ventilation for the protection of analyser(s) houses  Part 16 | 0（0） | 0（0） | 0（0） |
| IEC 60079-18 | Electrical apparatus for explosive gas atmospheres -  Part 18: Construction, test and marking of type of protection encapsulation 'm' electrical apparatus | 7（636） | 3（342） | 10（978） |
| IEC 60079-25 | Explosive atmospheres -  Part 25: Intrinsically safe systems | 0（10） | 0（8） | 0（18） |
| IEC 60079-26 | Explosive atmospheres -  Part 26: Equipment with equipment protection level (EPL) Ga | 1（700） | 0（500） | 1（1200） |
| IEC 60079-27 | Explosive atmospheres -  Part 27: Fieldbus intrinsically safe concept (FISCO) | 0（15） | 0（10） | 0（25） |
| IEC 60079-28 | Explosive atmospheres -  Part 28: Protection of equipment and transmission systems using optical radiation | 2（25） | 13（17） | 15（42） |
| IEC 60079-29-1 | Explosive atmospheres - Part 29-1: Gas detectors - Performance requirements of detectors for flammable gases | 0（0） | 0（0） | 0（0） |
| IEC 60079-30-1  IEC/IEEE 60079-30-1 | Explosive atmosphere -  Part 30-1: Electrical resistance trace heating - General and testing requirements | 0（11） | 2（11） | 2（22） |
| IEC 60079-31 | Explosive atmosphere -  Part 31: Equipment dust ignition protection by enclosure "t" | 18（0） | 12（0） | 30（0） |
| IEC 60079-33 | Explosive atmospheres – Part 33: Equipment protection by special protection “s” | 0（2） | 0（2） | 0（4） |
| IEC TS 60079-46 | Explosive atmospheres - Part 46: Equipment assemblies | 0（0） | 1（0） | 1（0） |
| IEC 61241-0 | Electrical apparatus for use in the presence of combustible dust -  Part 0: General requirements | 0（937） | 0（612） | 0（1549） |
| IEC 61241-1 | Electrical apparatus for use in the presence of combustible dust -  Part 1: Protection by enclosures 'tD' | 0（478） | 0（388） | 0（866） |
| IEC 61241-4 | Electrical apparatus for use in the presence of combustible dust -  Part 4: Type of protection 'pD' | 0（8） | 0（2） | 0（10） |
| IEC 61241-11 | Electrical apparatus for use in the presence of combustible dust -  Part 11: Protection by intrinsic safety 'iD' | 0（320） | 0（163） | 0（483） |
| IEC 61241-18 | Electrical apparatus for use in the presence of combustible dust -  Part 18: Protection by encapsulation 'mD' | 0（131） | 0（59） | 0（190） |
| IEC 62086-1 | Electrical apparatus for explosive gas atmospheres –  Electrical resistance trace heating – Part 1: General and testing requirements | 0（0） | 0（0） | 0（0） |
| IEC 62784 | Vacuum cleaners and dust extractors providing equipment protection level Dc for the collection of combustible dusts - Particular requirements | 0（0） | 0（0） | 0（0） |
| ISO 80079-36 | Explosive atmospheres - Part 36: Non-electrical equipment for explosive atmospheres – Basic method and requirements | 0（11） | 0（4） | 0（15） |
| ISO 80079-37 | Explosive atmospheres - Part 37: Non-electrical equipment for explosive atmospheres – Non electrical type of protection constructional safety ”c” control of ignition source ”b”, liquid immersion ”k” | 0（11） | 0（4） | 0（15） |

NOTE 1. Above include certificates to IEC 60079-0 unless otherwise shown

2. Numbers in () states for quantity of national certificates.

## National accreditation

The national accreditation certification for ISO/IEC 17065 is shown in Annex D.

As a Certification Body, SITIIAS/NEPSI is authorized by Certification and Accreditation Administration of the People’s Republic of China (CNCA) and accredited by China National Accreditation Service for Conformity Assessment (CNAS). The last site assessment was conducted March 30th~March 31st,2020.

The scope of accreditation of the product certification includes all IEC standards for the applied scope of IECEx related services requested.

## Assessment of manufacturers and issue of QARs

Procedure SITIIAS-RJ04-01 for factory auditing provides guidance for manufacturer’s assessment.

The above procedure addresses the initial issue of QARs or the review of other ExCB QARs for the purpose of issuing certificates, as well as the maintenance process in accordance with OD 025 and the need to ensure that all certificates on the website are linked to current QARs.

ExCB applied the provisions of OD-060 into their QMS.

## Comments (including issues found during assessment)

SITIIAS/NEPSI has the necessary staff and quality system in place for their scope as an ExCB. There were some issues related to the QMS and implementation of recent updates and new IECEx OD’s. All issues were revised to the satisfaction of the assessment team and now meet the requirements of the IECEx.

# ExTL for IECEx Certified Equipment Scheme

## Assessment references

### General references

1. IECEx02 IECEx Certified Equipment Scheme covering equipment for use in explosive atmospheres – Rules of Procedure
2. IECEx OD003-2 Assessment, surveillance assessment and re-assessment of ExCBs and ExTLs operating in the IECEx 02, IECEx Certified Equipment Scheme
3. IECEx OD009 Issuing of CoCs, ExTRs and QARs
4. ISO/IEC 17025 General requirements for the competence of testing and calibration laboratories
5. IECEx OD 018 Harmonised check list for testing and calibration laboratories ISO/IEC 17025
6. IECEx TCD 60079, ISO 80079 Series and ISO 16852 Technical Capability Document
7. ExTAG decision sheets (DSs)
8. IECEx OD 202 IECEx Certified Equipment Scheme – IECEx Proficiency Testing Program

NOTE The latest editions of the above documents were applied, unless otherwise specified.

### Additional references applied for this assessment

1. IECEx OD 060 IECEx Guide for Business Continuity – Management of Extraordinary Circumstances or Events Affecting IECEx Certification Schemes and Activities
2. IECEx OD 233 IECEx Certified Equipment Scheme – Assessment of Ex “s” Equipment
3. OD 280 IECEx Certified Equipment Scheme – Guide to Certification of Nonelectrical Equipment and Protective Systems

## ExTL persons interviewed

|  |  |
| --- | --- |
| Name | Position |
| Xu Jianping | Managing director of SITIIAS |
| Guo Aihua | General manager of SITIIAS  Director of NEPSI |
| Ge Qing | Deputy director of NEPSI |
| Li Hangchuan | Manager of Marketing Department |
| Jin Zhaohui | Manager of Product Certification Department |
| Hu Jie | Manager of Inspection Department |
| Huang Yongwei | Manager of Ex Dept. I |
| Zhao Hong | Manager of International Affairs,  Deputy manager of Ex Dept. I |
| Yang Deshuang | Manager of Ex Dept. II and Testing Lab. |
| Xu Haijiang | Deputy manager of Ex Dept. III |
| Shi Lei | Deputy manager of Testing Lab. |
| Jiang Xuqiang | Manager of office at Guangzhou |
| Qian Song | Deputy manager of Product Certification Department |
| Chen Yingwei | Technician |
| Cheng Yin | Technician |
| Gao Lei | Technician |
| Xu Zhiqi | Engineer |
| Wang Jiawen | Engineer |
| Li Yinhe | Engineer |
| Chen Qi | Engineer |
| Yao Beixin | Engineer |
| Gao Jiemin | Engineer |

## Associated ExCB(s)

The Certification Body (ExCB) is an integral part of SITIIAS/NEPSI.  
Both of ExCB and ExTL are operating under same legal entity

of SITIIAS/NEPSI.

SITIIAS/NEPSI has been accepted in the IECEx Scheme as an ExCB since 2018. It is located at the same address as the ExTL.

Other associated ExCBs:

* CQM, No.33 Zengguang Road, Haidian District, 100048 Beijing City,China
* Eurofins E&E CML Limited (CML), Unit 1, Newport Business Park, New Port Road, Ellesmere Port, CH65 4LZ  
  UNITED KINGDOM

## Organisation

### Names, titles and experience of the senior executives

|  |  |  |
| --- | --- | --- |
| Name | Title | Experience (years) |
| Xu Jianping | Managing Director of SITIIAS | 36 years at SITIIAS and in Ex field |
| Guo Aihua | General manager of SITIIAS  Director of NEPSI | 22 years at SITIIAS, 4 years in current position |

### Name, title and experience of the quality management representative

|  |  |  |
| --- | --- | --- |
| Name | Title | Experience (years) |
| Yao Zhihong | Quality Manager | 36 years at SITIIAS, 20 years in current position |

### Other employees in ExTL activity

| Name | Title/responsibility | Experience in Ex (years) |
| --- | --- | --- |
| Ge Qing | Deputy director of NEPSI | 32 |
| Li Hangchuan | Manager of Marketing Department | 16 |
| Jin Zhaohui | Manager of Product Certification Department | 18 |
| Hu Jie | Manager of Inspection Department | 20 |
| Huang Yongwei | Manager of Ex Dept. I | 30 |
| Zhao Hong | Manager of International Affairs,  Deputy manager of Ex Dept. I | 18 |
| Yang Deshuang | Manager of Ex Dept. II | 23 |
| Xu Haijiang | Deputy manager of Ex Dept. III | 9 |
| Shi Lei | Deputy manager of Testing Lab. | 12 |
| Jiang Xuqiang | Manager of office at Guangzhou | 16 |
| Sun Jinxiang | Deputy manager of Inspection Department | 6 |
| Luo Zhengrong | Engineer | 5 |
| Xu Junjun | Senior Engineer | 18 |
| Gao Lei | Technician | 7 |
| Yao Beixin | Engineer | 12 |
| Chen Qi | Engineer | 8 |
| Yao Yu | Engineer | 8 |
| Wang Jiawen | Engineer | 7 |
| Li Yinhe | Engineer | 7 |
| Cheng Yin | Technician | 4 |
| Chen Yingwei | Technician | 4 |
| Gao Jiemin | Engineer | 4 |
| Chen Xiao | Engineer | 7 |
| Liu Yang | Engineer | 3 |
| Qian Song | Deputy manager of Product Certification Department | 18 |
| Xu Zhiqi | Technician | 2 |
| Sun Haocheng | Engineer | 2 |
| Lu Lin | Engineer | 1 |
| Ma Wanyu | Engineer | 3 |
| Wang Chunnan | Manager of General Metrology Department | 5 |
| Li Xiang | Engineer | 5 |

## Organizational structure

See Annex B and C.

## Resources

SITIIAS/NEPSI, as an integral body of ExTL and ExCB，is very well resourced with appropriate facilities, comprehensive procedures and competent staff for carrying out activities aimed to meet the requirements of applied standards.

SITIIAS/NEPSI employs about 138 people in total, in which 31 personnel professionally working on testing and assessment of electrical equipment used for explosive atmospheres,16 personnel working in the Certification Body. And all the rests, 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.

There are 35 procedures and 40 working instructions to support the type testing.

The main procedure for training is SITIIAS-JG02-19 ”Procedure for personnel management”. 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 decisions. 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-JG02-26 ”Procedure for Equipment Management”. It covers the whole IECEx scope of standards. However, for certain clause subcontracting is used, refer to 2.10.2 Subcontracting of this assessment report. All testing equipment, where range significantly affects accuracy and the reliability of the test is calibrated. The equipment is subject to ongoing control before each use. Standards and reference materials are subject to ongoing checking in accordance with established procedures. Laboratory maintains lists of equipment, which include, among others: name and type of device, identification number, place of use. In addition, each measuring and testing device has a sticker with information about the status of calibration or with information about unfitness for use.

## Test reports issued

Number of test reports (ExTRs) issued under for the preceding two years for each type of protection is listed below.

| Standard numbers | Type of protection or other identifying information | Number of issued reports (ExTRs) (for last 2 years) | | Total |
| --- | --- | --- | --- | --- |
| 2020 | 2019 |
| IEC 60079-0 | Explosive atmospheres -  Part 0: Equipment - General requirements | ----- | ------ |  |
| IEC 60079-1 | Explosive atmospheres -  Part 1: Equipment protection by flameproof enclosures 'd' | 29 | 16 | 45 |
| IEC 60079-2 | Explosive atmospheres -  Part 2: Equipment protection by pressurized enclosures 'p' | 3 | 2 | 5 |
| IEC 60079-5 | Explosive atmospheres -  Part 5: Equipment protection by powder filling 'q' | 0 | 0 | 0 |
| IEC 60079-6 | Explosive atmospheres -  Part 6: Equipment protection by oil immersion 'o' | 0 | 0 | 0 |
| IEC 60079-7 | Explosive atmospheres -  Part 7: Equipment protection by increased safety 'e' | 15 | 10 | 25 |
| IEC 60079-11 | Explosive atmospheres -  Part 11: Equipment protection by intrinsic safety 'i' | 13 | 20 | 33 |
| IEC 60079-13 | Construction and use of rooms or buildings protected by pressurization  Part 13 | 0 | 0 | 0 |
| IEC 60079-15 | Explosive atmospheres -  Part 15: Equipment protection by type of protection 'n' | 2 | 4 | 6 |
| IEC TR 60079-16 | Artificial ventilation for the protection of analyser(s) houses  Part 16 | 0 | 0 | 0 |
| IEC 60079-18 | Electrical apparatus for explosive gas atmospheres -  Part 18: Construction, test and marking of type of protection encapsulation 'm' electrical apparatus | 7 | 3 | 10 |
| IEC 60079-25 | Explosive atmospheres -  Part 25: Intrinsically safe systems | 0 | 0 | 0 |
| IEC 60079-26 | Explosive atmospheres -  Part 26: Equipment with equipment protection level (EPL) Ga | 1 | 0 | 1 |
| IEC 60079-27 | Explosive atmospheres -  Part 27: Fieldbus intrinsically safe concept (FISCO) | 0 | 0 | 0 |
| IEC 60079-28 | Explosive atmospheres -  Part 28: Protection of equipment and transmission systems using optical radiation | 2 | 12 | 14 |
| IEC 60079-29-1 | Explosive atmospheres - Part 29-1: Gas detectors - Performance requirements of detectors for flammable gases | 0 | 0 | 0 |
| IEC 60079-30-1  IEC/IEEE 60079-30-1 | Explosive atmosphere -  Part 30-1: Electrical resistance trace heating - General and testing requirements | 0 | 2 | 2 |
| IEC 60079-31 | Explosive atmosphere -  Part 31: Equipment dust ignition protection by enclosure "t" | 19 | 14 | 33 |
| IEC 60079-33 | Explosive atmospheres – Part 33: Equipment protection by special protection “s” | 0 | 0 | 0 |
| IEC TS 60079-46 | Explosive atmospheres - Part 46: Equipment assemblies | 0 | 1 | 1 |
| IEC 61241-0 | Electrical apparatus for use in the presence of combustible dust -  Part 0: General requirements | 0 | 0 | 0 |
| IEC 61241-1 | Electrical apparatus for use in the presence of combustible dust -  Part 1: Protection by enclosures 'tD' | 0 | 0 | 0 |
| IEC 61241-4 | Electrical apparatus for use in the presence of combustible dust -  Part 4: Type of protection 'pD' | 0 | 0 | 0 |
| IEC 61241-11 | Electrical apparatus for use in the presence of combustible dust -  Part 11: Protection by intrinsic safety 'iD' | 0 | 0 | 0 |
| IEC 61241-18 | Electrical apparatus for use in the presence of combustible dust -  Part 18: Protection by encapsulation 'mD' | 0 | 0 | 0 |
| IEC 62086-1 | Electrical apparatus for explosive gas atmospheres –  Electrical resistance trace heating – Part 1: General and testing requirements | 0 | 0 | 0 |
| IEC 62784 | Vacuum cleaners and dust extractors providing equipment protection level Dc for the collection of combustible dusts - Particular requirements | 0 | 0 | 0 |
| ISO 80079-36 | Explosive atmospheres - Part 36: Non-electrical equipment for explosive atmospheres – Basic method and requirements | 0 | 0 | 0 |
| ISO 80079-37 | Explosive atmospheres - Part 37: Non-electrical equipment for explosive atmospheres – Non electrical type of protection constructional safety ”c” control of ignition source ”b”, liquid immersion ”k” | 0 | 0 | 0 |

## National accreditation

The national accreditation certification for ISO/IEC 17025 is shown in Annex E.

SITIIAS/NEPSI is authorized by Certification and Accreditation Administration of the People’s Republic of China (CNCA) and accredited by China National Accreditation Service for Conformity Assessment (CNAS) as Testing and Calibration Laboratory. The last site assessment was conducted in Sept 19th~20th, 2020. Scope of accreditation is adequate for the IECEx referenced standards for SITIIAS/NEPSI.. .

## Calibration

The system for calibration of test equipment is addressed in Testing Laboratory procedure SITIIAS-JG02-27 Procedure for measurement traceability and calibration of measuring and test equipment.

All equipment requiring calibration is calibrated by external suppliers or by other internal calibration laboratory (part of SITIIAS). The calibration schedule for equipment is maintained by a member of staff on a computer database. Calibration is then organised for all equipment that is about to fall due for calibration.

The status of confirmation of metrological control of a given equipment is recorded in the equipment digital card and confirmed by a green sticker on the equipment. Green sticker means that the equipment is calibrated, checked, good and approved for use.

All equipment used for witnessed testing was found to be in calibration.

## Tests witnessed during the assessment visit

The following tests were witnessed during the assessment visit:

| Standard and edition | Clause number | Test | Comments |
| --- | --- | --- | --- |
| IEC 60079-0 | cl. 26.4.5 | IP66 test to IEC 60529 | Testing performed competently. |
| IEC 60079-1 | cl. 15.4.3 | Thermal tests - breathing and draining devices | Testing performed competently. |
| IEC 60079-0 | cl. 26.4.2 | Resistance to impact | Testing performed competently. |
| IEC 60079-7 | / | Temperature rise test (preferably of a luminaire) and CTI determination for Group II material | Testing performed competently. |
| IEC 60079-0 | cl. 26.5.2 | Thermal shock test | Testing performed competently. |
| IEC 60079-7 | cl. 6.10 | Terminal insulating material test | Testing performed competently. |
| IEC 60079-11 | cl. 10.5.3 | Temperature rise on batteries | Testing performed competently. |
| IEC 60079-13 | cl. 6.4.4 | Purging test | Testing performed competently. |
| IEC 60079-15 | cl. 11.3 | Restricted-breathing testing | Testing performed competently. |
| IEC 60079-18 | cl. 8.1 | Tests on the compound  - Dielectric strength test  - Water absorption test | Testing performed competently. |
| IEC 60079-28 | cl.5.2.2.2, cl.5.2.2.3, cl.6 | Measurement of optical power and irradiance and ignition test | Testing performed competently. |
| IEC 60079-5 | cl. 5.1.3 | Dielectric strength of the filling material | Testing performed competently. |
| IEC/IEEE 60079-30-1 | cl. 5.1.7 | Cold bend test | Testing performed competently. |
| IEC/IEEE 60079-30-1 | cl. 5.1.10 method b) | Verification of rated output | Testing performed competently. |

All results provided evidence of their competence in doing this testing.

## Participation in IECEx Proficiency Testing Programs

Program: PTB Ex PT Scheme

| Year(s) of participation | IECEx Proficiency Testing program | General information about results |
| --- | --- | --- |
| 2019/2020 | Tests of enclosures-Test Round 2019 | Satisfactory (exact information contained in the report) |
| 2019/2020 | Battery Testing-Test Round 2019 | Satisfactory (exact information contained in the report) |
| 2017/2018 | Pressurized Enclosure - Test Round 2017 | Satisfactory (exact information contained in the report) |
| 2017/2018 | Explosion Pressure – Test Round 2017 | Satisfactory (exact information contained in the report) |
| 2015/2016 | Electrostatic Charge – Test Round 2015 | Satisfactory (exact information contained in the report) |
| 2015/2016 | Intrinsic Safety – Test Round 2015 | Satisfactory (exact information contained in the report) |
| 2013/2014 | Temperature Classification – Test Round 2013 | Satisfactory (exact information contained in the report) |
| 2013/2014 | Flame Transmission- Test Round 2013 | Satisfactory (exact information contained in the report) |
| 2011/2012 | Spark Ignition | Satisfactory (exact information contained in the report) |
| 2011/2012 | Explosion Pressure | Satisfactory (exact information contained in the report) |

## Comments (including issues found during assessment)

<Information should be included about the nature of the issues found together with an indication that they have been resolved to the satisfaction of the assessment team>

SITIIAS/NEPSI has the necessary staff and quality system in place for their scope as an ExTL. There were some issues related to the QMS and implementation of recent updates and new IECEx OD’s, training records and test reports. All issues were revised to the satisfaction of the audit team and now meet the requirements of the IECEx.

# Annexes

See Contents.

Scope for IECEx Certified Equipment Scheme

* 1. Current standards

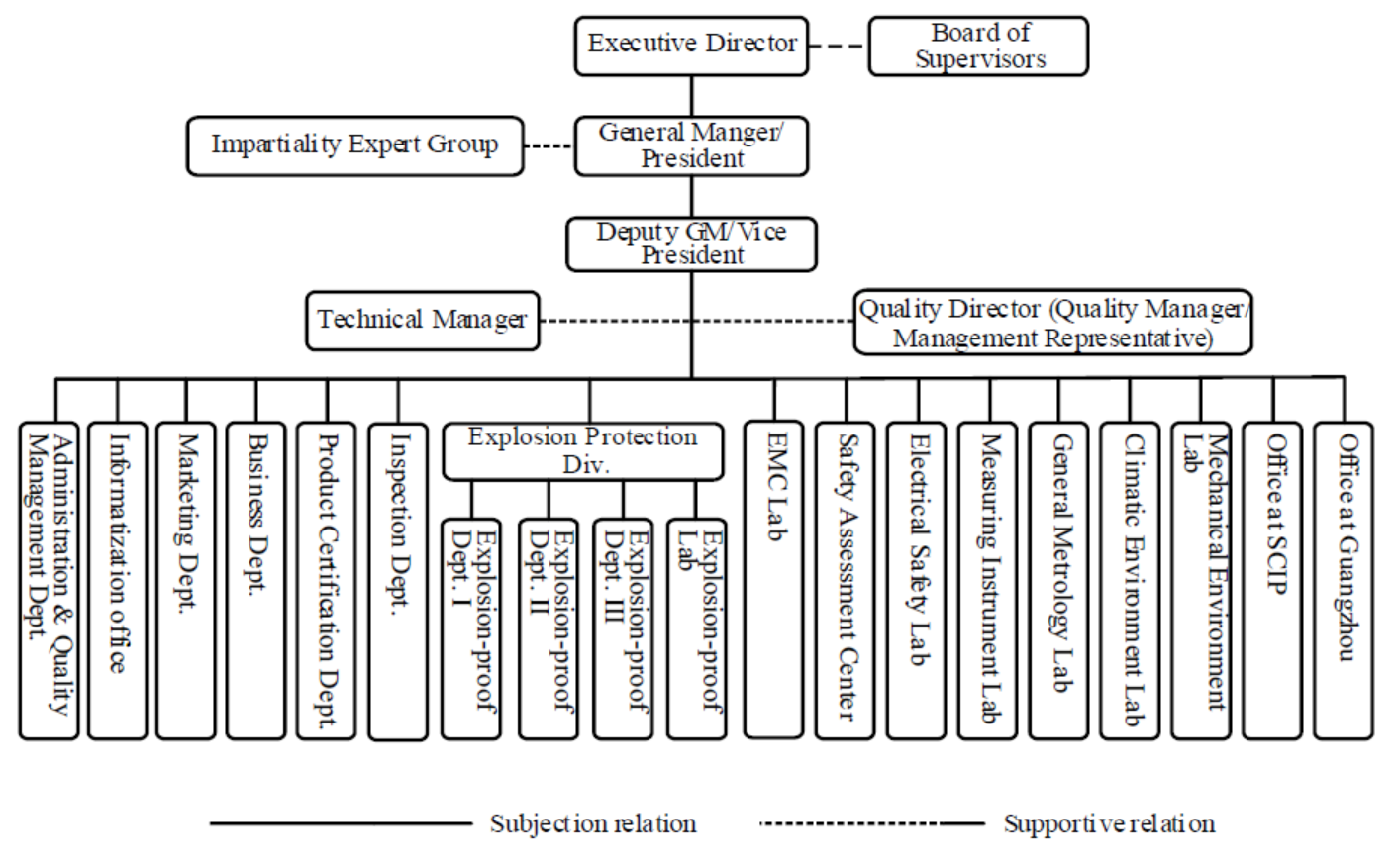
| Number | Title | Comments |
| --- | --- | --- |
| IEC 60079-0  Edition 7.0 | Explosive atmospheres - Part 0: Equipment - General requirements | **Already in** |
| IEC 60079-1  Edition 7.0 | Explosive atmospheres - Part 1: Equipment protection by flameproof  enclosures “d” | **Already in** |
| IEC 60079-2  Edition 6.0 | Explosive atmospheres - Part 2: Equipment protection by pressurized  enclosure “p’ | **Already in** |
| IEC 60079-5  Edition 4.0 | Explosive atmospheres - Part 5: Equipment protection by powder filling “q” | **Already in** |
| IEC 60079-6  Edition 4.1 | Explosive atmospheres - Part 6: Equipment protection by oil immersion “o” | **Already in** |
| IEC 60079-7  Edition 5.1 | Explosive atmospheres - Part 7: Equipment protection by increased  safety "e" | **Already in** |
| IEC 60079-11  Edition 6.0 | Explosive atmospheres - Part 11: Equipment protection by intrinsic safety “i” | **Already in** |
| IEC 60079-13  Edition 2.0 | Explosive atmospheres -  Part 13: Equipment protection by pressurized room "p" and artificially ventilated room "v" | **Already in** |
| IEC 60079-15  Edition 5.0 | Explosive atmospheres – Part 15: Equipment protection by type of protection "n" | **Already in** |
| IEC 60079-18  Edition 4.1 | Explosive atmospheres – Part 18: Equipment protection by encapsulation “m” | **Already in** |
| IEC 60079-25  Edition 3.0 | Explosive atmospheres – Part 25: Intrinsically safe electrical systems | **Already in** |
| IEC 60079-26  Edition 3.0 | Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga | **Already in** |
| IEC 60079-28  Edition 2.0 | Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation | **Already in** |
| IEC 60079-29-1  Edition 2.1 | Explosive atmospheres - Part 29-1: Gas detectors – Performance requirements of detectors for flammable gases | **Already in** |
| IEC 60079-30-1  Edition 1.0 | Explosive atmospheres – Part 30-1: Electrical resistance trace heating – General and testing requirements | **Already in** |
| IEC/IEEE 60079-30-1  Edition 1.0 | Explosive atmospheres – Part 30-1: Electrical resistance trace heating – General and testing requirements | **Already in** |
| IEC 60079-31  Edition 2.0 | Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t" | **Already in** |
| IEC 60079-33  Edition 1.0 | Explosive atmospheres – Part 33: Equipment protection by special protection “s” | **Already in** |
| IS0 80079-36  Edition 1.0 | Explosive atmospheres - Part 36: Non-electrical equipment for explosive atmospheres – Basic method and requirements | **Already in** |
| ISO 80079-37  Edition 1.0 | Explosive atmospheres - Part 37: Non-electrical equipment for explosive atmospheres – Non electrical type of protection constructional safety ”c” control of ignition source ”b”, liquid immersion ”k” | **Already in** |
| IEC TS 60079-46  Edition 1.0 | Explosive atmospheres – Part 46 - Equipment assemblies | **Already in** |
| IEC 62784  Edition 1.1 | Vacuum cleaners and dust extractors providing equipment protection level Dc for the collection of combustible dusts - Particular requirements | **Already in** |

* 1. Superseded standards

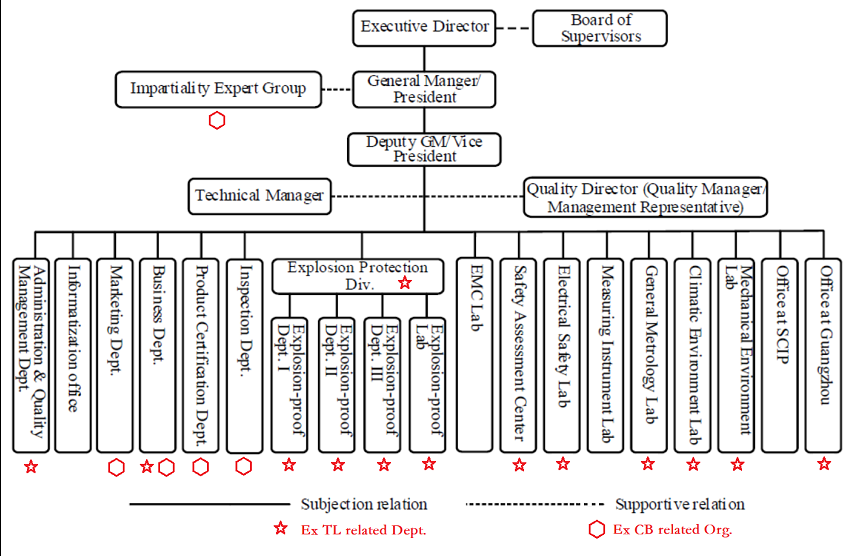
The following superseded standards may form part of a body’s scope, generally for historical reasons.

| Number | Title | Comments |
| --- | --- | --- |
| IEC/TR 60079-16  Edition 1.0 | Explosive atmospheres - Part 16: Artificial ventilation for the protection of analyser (s) houses | Already in |
| IEC 60079-27  Edition 2.0 | Explosive atmospheres – Part 27: Fieldbus intrinsically safe concept (FISCO) | **Already in** |
| IEC 61241-0  Edition 1.0 | Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements | **Already in** |
| IEC 61241-1  Edition 1.0 | Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosure “tD” | **Already in** |
| IEC 61241-4  Edition 1.0 | Electrical apparatus for use in the presence of combustible dust - Part 4: Protection by pressurization "pD" | **Already in** |
| IEC 61241-11  Edition 1.0 | Electrical apparatus for use in the presence of combustible dust – Part 11: Protection by intrinsic safety 'iD' | **Already in** |
| IEC 61241-18  Edition 1.0 | Electrical apparatus for use in the presence of combustible dust - Part 18: Protection by encapsulation "mD" | **Already in** |
| IEC 62086-1  Edition 1.0 | Part 1: General and testing requirements - Electrical apparatus for explosive gas atmospheres – Electrical resistance trace heating | **Already in** |

1. Overall Organisation Chart



1. Organisation Chart of ExCB/ExTL



1. Accreditation Certificate for ISO/IEC 17065



1. Accreditation Certificate for ISO/IEC 17025

