



INTERNATIONAL ELECTROTECHNICAL COMMISSION

IEC SCHEME FOR CERTIFICATION TO STANDARDS FOR SAFETY OF ELECTRICAL EQUIPMENT FOR EXPLOSIVE ATMOSPHERES (IECEx SCHEME)

**Title: IECEx Assessment Report for the acceptance of *SIQ* as an
Accepted Certification Body within the IECEx Scheme**

Introduction

This document contains the IECEx Assessment Report for *SIQ*

Following assessment, including a site assessment, the Assessment team recommends acceptance of SIQ as an Ex Accepted Certification Body within the IECEx Scheme. Signed copies of assessments held by Secretariat

This report has been issued for consideration during the next ExMC Meeting being held in Seoul October 2002 under Item 8 of Draft Agenda ExMC/127/DA.

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IECEX ASSESSMENT REPORT

For SIQ, Slovenia

(Accepted Certification Body)

Type of Assessment:

Initial Assessment for Candidate ACB

☒

Surveillance Assessment for existing ACB

☐

1. OBJECT AND FIELD OF APPLICATION

1.1 *Country:*
Slovenia

1.2 *Name of Candidate ACB*
Slovenian Institute of Quality and Metrology (SIQ)

1.3 *Members Of The Assessment Team*
Mr R. Turton (EECS, GB) Team Leader
Dr U. Johannsmeyer (PTB, DE)
Mr C. Agius (IECEX Secretary)

1.4 *Place And Date Of Assessment*
Trzaska cesta 2
1000 Ljubljana
Slovenia

Site Assessors:
Mr C. Agius Lead Assessor
Dr U. Johannsmeyer

Following a review of all documentation submitted, a site assessment was conducted on 16 and 17 April 2002. A copy of the Site Assessment Report (without attachments) is included as Annex B.

1.5 *Assessment References*

Document:

- i) IECEx 02 First Edition
- ii) IECEx Operational Document OD/003 (ExMC/100/CD)
- iii) ISO/IEC Guide 65 1996
- iv) ACB application documents dated February 1998

1.6 *Scope Of Application*

During the on-site visit the scope of application was reviewed and the following new scope agreed between SIQ and the site assessment team:

| Product Category | Standard |
|-------------------------|--|
| General Requirements | IEC 60079-0 |
| Flameproof Enclosures | IEC 60079-1 Excluding enclosures with plastic material |
| Intrinsic safety | IEC 60079-11 |
| Increased Safety | IEC 60079-7 Excluding motors and batteries |
| Encapsulation | IEC 60079-18 |
| Non Sparking | IEC 60079-15 |

1.7 *Candidate ACB Persons Interviewed*

| Name | Position |
|-------------------|-----------------------|
| Mr Igor Likar | Managing Director |
| Mr Vojko Koron | Certification Manager |
| Mr Zdravko Kramar | Manager Ex Department |

1.8 *Legal Entity Of The Candidate ACB*

Founded at the end of 1992, as the successor of the Institute of Quality and Metrology (IKM) by the Contract on foundation. SIQ is a public, non-profit-distributing institution founded according to the law on institutions (OG 12/92-1).

1.9 *Associated Testing Laboratories*

| Names of Laboratories | Address |
|--|----------------|
| SIQ has an integral Testing laboratory | Same address |

1.10 *Associated Certification Functions*

IECEE CB Scheme
CB-FCS Agreement
CENELEC Certification Agreement, CCA
IQNET
Keymark
ENEC
CCA-EMC
Management System Certification

1.11 *National Marks And Certificates*

SIQ Mark

Other Marks associated with European and international programs

1.12 *Financial Support*

Self funding

1.13 *History*

Founded in 1992 to succeed IKM with the transfer of all goods, including staff, values, rights and obligations agreed between SIQ and IKM (ratified by IKM Council on 1993-01-18). A total of 40 years involvement in testing and certification of Electrical products.

1.14 *Standards Accepted*

Equipment CENELEC Standards

1.15 *National Differences To IEC Standards*

European Group Differences

2. ORGANISATION

2.1 *Names, Titles And Experience Of The Senior Executives*

| Name | Title | Experience |
|-------------------|--|---|
| Mr Igor Likar | Managing Director | Senior Management, more than 15 years experience in standards and certification |
| Mr Vojko Koron | Certification Manager Certification | 8 years experience in Quality and |
| Mr Zdravko Kramar | Head Ex Department | More than 10 years experience in Ex testing and certification |

2.2 *Name, Title And Experience of The Quality Management Representative*

| Name | Title | Experience |
|----------------|-----------------------|---|
| Mr Vojko Koron | Certification Manager | More than 10 years in the quality field, with formal training in Quality Management Systems, including lead assessor training |

2.3 *Name And Title of Nominated Principal Contact*

| Name | Title | Comments |
|---------------|-------------------|----------|
| Mr Igor Likar | Managing Director | |

2.4 *Name and Title of Signatories for Certification*

| Name | Title | Comments |
|----------------|-----------------------|----------|
| Mr Igor Likar | Managing Director | |
| Mr Vojko Koron | Certification Manager | |

2.5 *Other Employees in ACB activity*

| Name | Title | Responsibility | |
|------------------|-------|-------------------|---------------------|
| Mr Edo Venek | | Factory Inspector | Factory Inspections |
| Mr Bojan Pecavar | | Factory Inspector | Factory Inspections |
| Mr Matej Žontar | | Factory Inspector | Factory Inspections |

NOTE: other staff involved in testing are identified in the Report for the ExTL application

2.6 *Organisational Structure*

See Annex A

2.7 *Administration*

2.7.1 Administrative Structure:

Testing is conducted within the Ex testing department. Certification activities are overseen by a the SIQ Board of Certification Body. The SIQ quality system ensures that final certification decisions are taken by qualified personnel that are independent from the testing and evaluation activities

2.7.2 Terms of Reference of the Governing Board

This Group is known as the SIQ Board of Certification Body, with the terms of reference to oversee and approve policies and procedures affecting the certification activities of SIQ, including dealing with appeals.

3. RESOURCES

(Verification that ACB has all necessary resources for its operation in-house, including personnel trained and experienced in factory inspection / quality audits).

The site assessment revealed adequate resources, personnel and facilities, in order to meet the requirements of the IECEx Scheme for the issuing of IECEx ATRs and Certificates of Conformity.

4. COMMITTEES

The SIQ Council, comprising representatives of founders, employees, public/economic/industrial associations and institutions representing SIQ customers is the SIQ Governing Body.

SIQ Board of Certification Body (BCB), comprising representatives from public/economic/industrial associations and institutions.

5. CERTIFICATION OPERATIONS

5.1 *National Approval/Certification Methods*

As specified in item 1.10 above. The SIQ certification operations were reviewed both prior to and during the site assessment. A recommendation for improvement was accepted by SIQ with the amendment of necessary documentation. (refer to site assessment report, Annex B)

5.2 *Certification Policy*

As included in the Quality Manual, sighted and reviewed during the on-site visit on 16 and 17 April 2002.

5.3 *Staff Work Instructions*

Included in the SIQ procedures manual

5.4 *Application for Certification*

SIQ has dedicated application forms and does not discriminate when receiving applications for testing or certification.

6. STATISTICS

| Certificates issued during the past 2 years: | | Partial Test Certificate | Type Certificate |
|--|---|--------------------------|------------------|
| flameproof | d | 939 | 6 |
| intrinsic safety | i | 834 | 8 |
| increased safety | e | 1201 | 9 |
| encapsulated | m | 246 | 4 |
| type | n | 0* | 0* |

* Note: equipment in type n protection was not allowed to be put in use in Slovenia in the past 2 years

7. DOCUMENTATION

7.1 *Document and Change Control*

The SIQ Quality System ensures adequate control over the issue and change of SIQ certification documentation.

8. RECORDS

The SIQ Quality System requires retention of records, indefinitely. Records are a combination of paper copies and electronic media, however the SIQ record retention system ensures identification of records and protection of records in appropriate and secure environment.

9. CONFIDENTIALITY

All SIQ staff are subjected to the strict confidentiality requirements of the SIQ organisation.

10. PUBLICATIONS

Apart from the SIQ Quality System publications, SIQ have published a number of training documents as part of their recognised training services.

11. APPEALS

Appeals can be made directly to SIQ management whom are required to record the appeal and then refer to the Board of Appeal which reports to the Board of Certification Body.

12. NATIONAL ACCREDITATION

Slovenian Accreditation SA for

- Certification of electrical safety
- Certification of Ex products (Copy of certificate, annex C)
- Type A Inspection Body
- Testing of Ex products
- Testing of electrical safety

German DAP for:

- Certification of Ex products
- Testing of Ex products
- Type A Inspection Body - Ex

Russian GOST R for:

- EMC and NIR testing

SWEDAC for:

- ISO 9000 QMS Certification
- ISO 14000 EMS Certification

SIQ are also the holder of two national measurement standards for:

- Time and frequency
- Electric current

13. RECOGNITION AND AGREEMENTS

See Item 1.10 above

14. QUALITY MANUAL

As part of SIQ's range of accreditations, SIQ maintain a comprehensive Quality Manual which is supported by detailed procedures. These were reviewed in detail, both prior to and during the site assessment.

15. INTERNAL AUDIT AND PERIODIC REVIEW

As part of the Quality System, SIQ conduct regular internal audits in addition to a review of the management system.

16. COMPLAINTS

Complaints are dealt with as part of the Quality System and include the recording of complaints, and reviewing the timely nature and effectiveness in their dealing by SIQ Staff. Complaints are reviewed by the Board of Certification Body.

17. WITHDRAWAL AND CANCELLATION OF CERTIFICATES

Procedures for the withdrawal and cancellation of certificates are covered by the Quality System procedures.

18. SPECIAL FACTS TO BE NOTED

No major non-conformances were raised.

Issues raised during the site assessment have been satisfactorily addressed. Refer to site assessment report Annex B.

19. RECOMMENDATION

The Assessment Team hereby recommends the following:-

1. Immediate acceptance of SIQ as an IECEx Accepted Certification Body for:-
 - Ex i
 - Ex m
 - Ex n
 - Ex e (excluding Batteries and Motors)
2. Extension of the scope to include Ex d (excluding enclosures with plastic materials), on completion of the following:-
 - Completion of the refurbishment of Flameproof test facilities at Zagorje; and
 - Satisfactory review of the new Ex d facilities by a member of the Assessment Team

Mr R Turton
Team Leader

Dr U Johannsmeyer

Mr C Agius



LIST OF ANNEXES

- A – Organisation Chart
- B – Site Assessment Report
- C – Accreditation Certificate

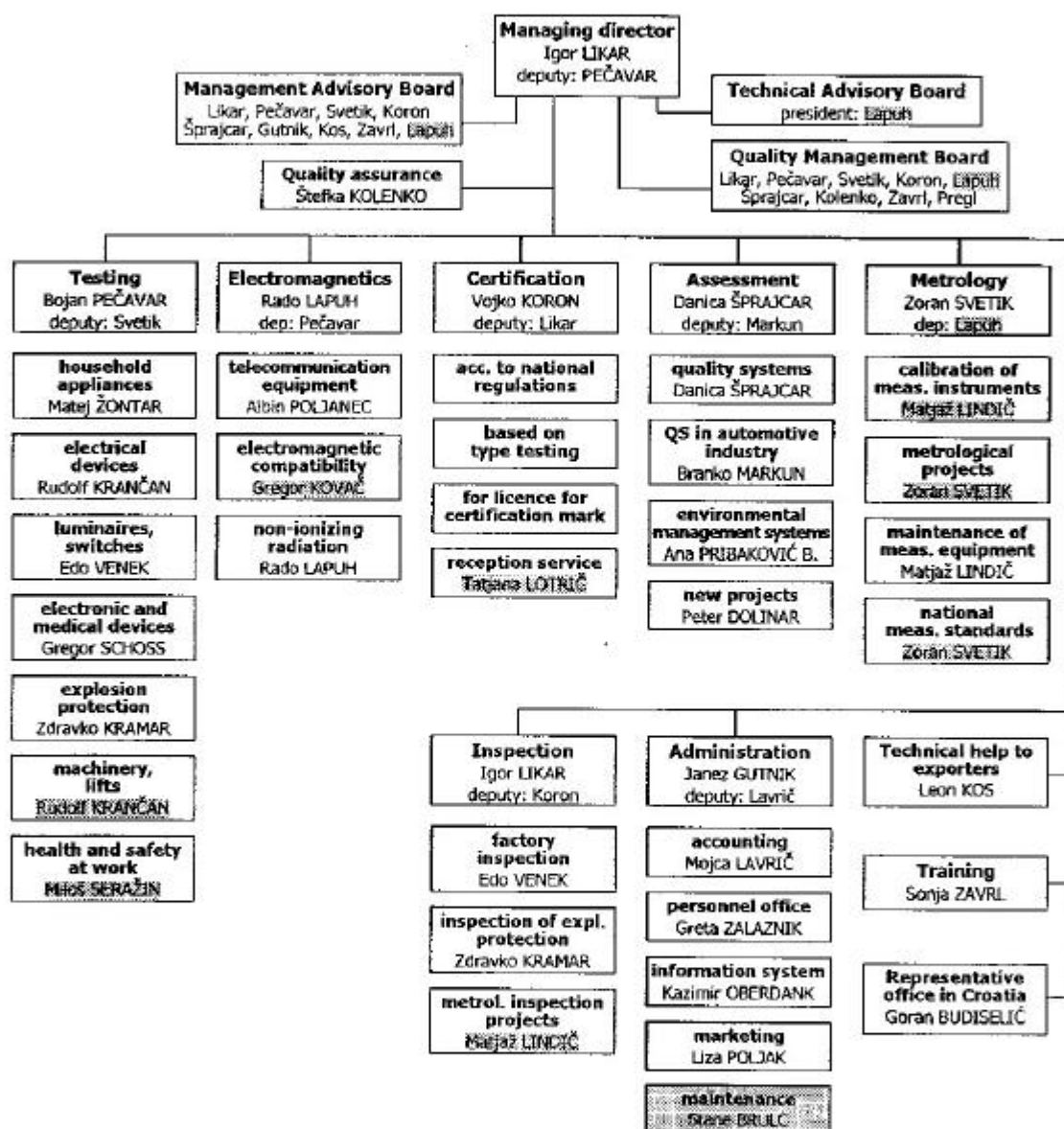


ANNEX A.

VODILO / GUIDE

Organizacijski diagrami / Organization diagrams

3 Organization diagram and responsibilities for management



Changes: shaded (yellow) fields



ANNEX B
SITE ASSESSMENT REPORT
(copy)

**SITE ASSESSMENT
REPORT**

**BODY UNDER
ASSESSMENT:**

Slovenian Institute of Quality and Metrology (SIQ)

**SITE(S)
ASSESSED:**

Head Office and Main Site:
Trzaska cesta 2
1000 Ljubljana
Slovenia

Also visited Remote Test Facilities at Zagorje

**IECEX SITE ASSESSMENT TEAM
LEADER:**

Chris Agius, Secretary IECEX

REPRESENTATIVE OF BODY:

Mr Igor Likar

DATE(S) OF SITE ASSESSMENT:

16 and 17 April 2002

Distribution: IECEX Secretary (original), copies to Body Assessed, Team Members, (where applicable).



SITE ASSESSMENT REPORT OF

ACCEPTED CERTIFICATION BODY (ACB) ☒

Ex TESTING LABORATORY (ExTL) ☒

(Where both the ACB and ExTL are assessed please tick both and complete report. Alternatively separate reports may be used)

| | | | |
|--|--|--|--|
| ASSESSMENT TYPE: Application: <input checked="" type="checkbox"/> Surveillance: Re-Assessment: Other: Assessment duration: Days. <u>2 Days</u> | IECEX Site Assessors Mr C. Agius (Leader) Dr U. Johannsmeyer (DE) | ACB/ExTL Representative: Mr I. Likar | ATTACHMENTS Not included in this extract Organisation chart TGD, Ex d TGD, Ex i TGD, Ex e TGD, Ex m DAP Assess Report DAP Assess Report List of tests 17.4.02 |
| RECOMMENDATION BY IECEX ASSESSOR(S) <div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> That Acceptance be granted <input type="checkbox"/> That Acceptance be suspended </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <input type="checkbox"/> That Acceptance continues <input checked="" type="checkbox"/> That Acceptance be granted/continued conditional on; </div> <div style="margin-top: 10px;"> <input type="checkbox"/> Non Compliance having agreed corrective action and timescales to rectify the system </div> <div style="margin-top: 10px;"> <input checked="" type="checkbox"/> Matters raised in Assessment Report addressed within the agreed timeframe </div> | | | |

| IECEx REQUIREMENTS | | | | Findings | COMMENTS AND REFERENCE TO ATTACHMENTS |
|---|-----------------------|---|-----|--|---|
| ACB Assessment | IECEx 02 requirements | Confirmation of Scope of Application | | Yes | Scope was reviewed during visit to now cover protection techniques d, e, i, m, n |
| | | Confirmation that details in original application are still current | | Yes | |
| | | Confirm currency and scope of accreditation (ISO/IEC Guide 65), if applicable | | Yes | Slovenian accreditation SIST EN 45011 (CP-001) Deutscher Akkreditierungs Rat (DAR) of Germany, accreditation No DAP-PL-3419-00 |
| | | Clause 11.1.1 | (a) | Yes | |
| | | | (b) | Yes | |
| | | | (c) | Yes | |
| | | Clause 11.1.2 | | Yes | |
| | | Clause 11.1.3 | | Yes | Documented procedures available to inform manufacturers on the procedure for gaining SIQ certification |
| ISO/IEC Guide 65 Assessment– Operational Document OD/002 Satisfactorily Completed | | | Yes | Refer to completed ExMC Document OD/002 for dates 16 and 17 April 2002 | |

| IECEX REQUIREMENTS | | | Findings | COMMENTS AND REFERENCE TO ATTACHMENTS, IF ANY |
|--------------------|--|--|----------|---|
| ExTL Assessment | IECEX 02 requirements | Confirmation of Scope of Application | Yes | Same revised scope as for ACB |
| | | Confirmation that details in original application are still current | Yes | |
| | | Confirm currency and scope of accreditation (ISO/IEC 17025), if applicable | Yes | Slovenian accreditation SIST EN 45001 (CP-020) Deutscher Akkreditierungs Rat (DAR) of Germany, accreditation No DAP-PL-3419-00, -01, -02 |
| | | Clause 11.2.1 | (a) | Yes |
| | | | (b) | Yes |
| | | | (c) | Yes |
| | | Clause 11.2.3 | Yes | Integral with ACB |
| | | Clause 11.2.4 | Yes | SIQ Management agreed with findings of the IECEX Assessors |
| | | Confirmation of declaration made under Annex D | Yes | |
| | Satisfactory Completion of IECEX Technical Guidance Documents (TGDs) | Ex d (IEC 60079-1) | Partial | Exclusion from scope for enclosures incorporating plastic components. Following Improvements required: <ul style="list-style-type: none"> Need to obtain surface roughness measuring equipment Need to obtain thread gauges Refurbishment of Ex d test facilities required to better control test mixtures (Since the site assessment, SIQ have provided copies of orders placed for surface roughness measuring equipment and thread gauges, re E-mail of 1 June 2002. SIQ have also confirmed that the refurbishment of Ex d test facilities are progressing according to plan) |
| | | Ex e (IEC 60079-7) | Yes | Note Batteries and Motors excluded from Scope, at this stage |
| | | Ex i (IEC 60079-11) | Yes | Modification to spark test apparatus to cover circuits with a short circuit current greater than 3 Amps. |
| | | Ex m (IEC 60079-18) | Yes | |
| | | Dusts (IEC 61241-1-1) | N/A | Outside scope |

Additional Remarks concerning TGDs

During assessment of the ExTL, it was noted that there was no special procedure to define the method for ensuring durability of marking and resistance to rubbing. Therefore a procedure should be prepared to ensure compliance with Standards.

Conclusion of Site Assessment

The purpose of the site assessment was to verify the compliance with the requirements of the IECEx Scheme for the initial and on-going acceptance of Accepted Certification Body and/or Ex Testing Laboratory. The site assessment forms part of the overall evaluation of the body by the IECEx Management Committee, ExMC and was conducted in accordance with the IECEx Scheme Assessment Procedures, ExMC/100/CD. Report of the on-site assessment team is as follows:-

At all times prior to and during the site assessment there was full cooperation and support by all SIQ Staff and Management which greatly assisted in enabling the team to conduct a thorough assessment during this time.

The assessment included the following:

- completion of IECEx Technical Guidance documents
- Assessment of Facilities, equipment and competence of staff
- Review of the original scope of application
- Assessment of specific requirements of IECEx 02
- Assessment of the Technical Competence of testing and certification staff and management
- Assessment of testing facilities, including visiting the remote Ex d test facilities at Zagorje
- Review of Accreditation reports from the German Accreditation Body DAR

The Assessment Team noted the comprehensive facilities available including:-

- Product testing and certification
- Metrology, including calibration facilities
- Assessment and Certification of Management Systems
- Availability of Training Courses

SIQ recognitions include participation in IECEE CB Scheme, CENELEC CCA Agreement, CB-FCS Agreement, Keymark Scheme, ENEC Scheme and accreditations from Slovenia SA and German DAP for testing, certification and type A inspection body for Ex equipment. In addition SIQ is the holder of 2 national measurement standards for “Time and Frequency” and “Electric Current”

In reviewing the number of tests conducted, the assessment team noted that the majority of Ex tests performed were partial testing to the standard, therefore the assessment team focused on assessing files where a range of full tests were conducted. During this review, the assessment team noted that SIQ have used external test facilities to conduct certain tests. While this is acceptable for national accreditation systems, IECEx requires that any external test facility be included as part of the IECEx assessment and that a formal agreement and procedures are in place to ensure total control over the external facility. On this basis and at this point in time SIQ and the IECEx assessment team agreed to withdraw these test from the scope of both the ExTL and ACB application.

Since the site assessment, SIQ have supplied document CD306 for which Clause 4.3.4 addresses the issue of subcontracting of test facilities for testing conducted under the IECEx Scheme. This has found to be sufficient

but would suggest amending the last sentence of the first paragraph of Clause 4.3.4 to read “...shall be subcontracted to members of the IECEx Scheme only, with SIQ confirming that such testing is within the scope of the ExTL’s acceptance.”

A meeting took place between the IECEx Team and SIQ Management to review the original scope of application with both the IECEx Team and SIQ Management agreeing to the following amended scope for both the ExTL and ACB application:

- Ex d – excluding enclosures with plastic material
- Ex i
- Ex e – excluding motors and batteries
- Ex m
- Ex n

A review of SIQ’s Certification Rules and Procedures revealed the following:

1. Overall, a very sound and well established quality system with manual and supporting procedures. The Quality Manual cited was Issue 5 December 1999. Draft organisation Chart 07/2002-04 was available and found to satisfy the general requirements of ISO/IEC Guide 65.
2. SIQ comply with the IECEx Scheme requirement to accept IECEx Assessment and Test Reports issued by other ACBs via the SIQ “Rules for Certification” document CR 004 Issue 3.
3. While SIQ document CN012 “Working Order of the Product Certification Committee” provides delegated authority to the Chairman to make the certification decision, it was difficult to show where this provision has been approved by the Governing Body of SIQ, the Board of Certification. SIQ plan to review document CR 004 and submit to the Board of Certification Body for their planned next meeting of 9 May 2002.

Since the date of site assessment, SIQ have confirmed that the SIQ Board of Certification Body approved the fourth revision of the SIQ Rules for Product Certification (document CR201), during their 9 May 2002 meeting. Furthermore, Document CN106 identifies the cross reference concerning the new codes used to identify SIQ documents. Refer SIQ E-mail dated 19 June 2002

4. While SIQ currently have 4 staff that perform factory inspections, inspection procedure ID 002 need to be amended to ensure that at least one member of the factory inspection team has Ex expertise, for Ex applications, for at least the initial factory inspection and for some surveillance inspections

Since the date of site assessment, SIQ have issued document CD 306 “Certification within IECEx Scheme”. The requirement for at least one member of the factory inspection team to have Ex expertise is now incorporated in CD 306 Clause 4.3.5 item (b).

5. The IECEx Assessment Team conducted a visit to the remote test facilities at Zagorje and noted some deficiencies, including the need to better control gas test mixtures for Ex d testing. SIQ have advised that they plan to upgrade this facility and a set of plans showing this was sighted. Re-construction of the facilities is due to commence by autumn and completed within 1 year.

In conclusion, SIQ and the IECEx Assessment Team agreed on the need for SIQ to review some procedures, to ensure that applications for IECEx Testing and Certification are conducted within the specific scope of acceptance by IECEx and also compliance with IECEx Scheme specific requirements.

The IECEx site assessment team, therefore recommend the following:-

- 1) Immediate acceptance of SIQ as both ExTL and ACB within the scope of
 - Ex i,
 - Ex m,
 - Ex e (excluding Batteries and Motors)upon completion of matters raised in this report, relating to Ex i.
- 2) Extension of the ExTL and ACB Scope to include Ex d – (excluding enclosures with plastic materials), on completion of the following:-
 - Completion of the refurbishment of Flameproof test facilities at Zagorje.
 - Satisfactory review of new Ex d test facilities by a member of the IECEx Assessment team



Chris Agius
IECEx Site Assessment Team Leader

***** End of Annex B *****

ANNEX C

DAP Deutsches Akkreditierungssystem Prüfwesen GmbH

represented in the

Deutschen AkkreditierungsRat



Accreditation

The DAP Deutsches Akkreditierungssystem Prüfwesen GmbH herewith confirms that the

Slovenian Institute of Quality and Metrology (SIQ)

Tržaška cesta 2

SI-1000 Ljubljana, Slovenia

with its

Product Certification Body

is competent under the terms of DIN EN 45011 to carry out conformity assessments
in the areas of

Decree on Technical Requirements for Apparatus Used in Potentially Explosive
Atmospheres (Official Gazette of the Republic of Slovenia No. 46/98) for electrical
apparatus for potentially explosive atmospheres, electrical apparatus for detection
and measurement of combustible gases and non-electrical equipment for potentially
explosive atmospheres;

Decree on Explosion Protection (Official Gazette of the Republic of Slovenia No.
102/00) electrical and non-electrical equipment, protective systems, devices and
components intended for use in potentially explosive atmospheres in equipment
groups I and II, categories M1, M2, 1, 2 and 3 with annexes III, IV, V, VI, VII, VIII, IX.

The accreditation is valid from 20-12-2000 to 19-12-2005.

The annex is part of the certificate.

DAR-Registration number: DAP-ZE-3419.01

Berlin, 20-12-2000

Dr.-Ing. K. Berner
Managing Director
DAP Deutsches Akkreditierungs-
system Prüfwesen GmbH

Dr.-Ing. M. Wittler
Technical expert for DAP GmbH
Deutsche Montan Technologie GmbH
Dortmund

See notes overleaf.

1st issue

Annex C

DAP Deutsches Akkreditierungssystem Prüfwesen GmbH

Shareholders: VMPA, DGZfP, DVS, GL, LGA, VdTÜV

Annex to the Accreditation Certificate DAP-ZE-3419.01

Period of validity: 20-12-2000 till 19-12-2005

Holder of the certificate: **Slovenian Institute of Quality and Metrology (SIQ)**

Tržaška cesta 2
SI-1000 Ljubljana, Slovenia

with its

Product Certification Body

Conformity evaluation
in the fields:

Decree on Technical Requirements for Apparatus Used in Potentially Explosive Atmospheres (Official Gazette of the Republic of Slovenia No. 46/98) for electrical apparatus for potentially explosive atmospheres, electrical apparatus for detection and measurement of combustible gases and non-electrical equipment for potentially explosive atmospheres;
Decree on Explosion Protection (Official Gazette of the Republic of Slovenia No. 102/00) electrical and non-electrical equipment, protective systems, devices and components intended for use in potentially explosive atmospheres in equipment groups I and II, categories M1, M2, 1, 2 and 3 with annexes III, IV, V, VI, VII, VIII, IX

abbreviations used: see last page

1. Certification in the scope of the Decree on Technical Requirements for Apparatus Used in Potentially Explosive Atmospheres (Official Gazette of the Republic of Slovenia No. 46/98) for

- electrical apparatus for potentially explosive atmospheres
- electrical apparatus for detection and measurement of combustible gases
- non-electrical equipment for potentially explosive atmospheres



SIST EN 50014:1999
(EN 50014:1992)

Electrical apparatus for potentially explosive atmospheres - General requirements

SIST EN 50015:1995
(EN 50015:1994)

Electrical apparatus for potentially explosive atmospheres - Oil immersion „o”

SIST EN 50018:1995
(EN 50018:1977)

Electrical apparatus for potentially explosive atmospheres - Pressurized apparatus „p”

Annex C

Annex to the Accreditation Certificate DAP-ZE-3419.01

| | |
|---|--|
| SIST EN 50016:1995/ A1:1995 (EN 50016:1977/A1:1979) | Electrical apparatus for potentially explosive atmospheres - Pressurized apparatus „p“ |
| SIST EN 50017:1995 (EN 50017:1994) | Electrical apparatus for potentially explosive atmospheres - Powder filling „q“ |
| SIST EN 50018:1995 (EN 50018:1994) | Electrical apparatus for potentially explosive atmospheres - Flameproof enclosures „r“ |
| SIST EN 50019:1999 (EN 50019:1994) | Electrical apparatus for potentially explosive atmospheres - Increased safety „s“ |
| SIST EN 50020:1999 (EN 50020:1994) | Electrical apparatus for potentially explosive atmospheres - Intrinsic safety „i“ |
| SIST EN 50021:2000 (EN 50021:1999) | Electrical apparatus for potentially explosive atmospheres - Type of protection „n“ |
| SIST EN 50028:1999 (EN 50028:1987) | Electrical apparatus for potentially explosive atmospheres - Encapsulation „m“ |
| SIST EN 50033:1997 (EN 50033:1991) | Electrical apparatus for potentially explosive atmospheres - Caplights for mines susceptible to firedamp |
| SIST EN 50039:1995 (EN 50039:1980) | Electrical apparatus for potentially explosive atmospheres - Intrinsic safety „i“ systems |
| SIST EN 50050:1996 (EN 50050:1986) | Electrical apparatus for potentially explosive atmospheres - Electrostatic hand-held spraying equipment |
| SIST EN 50054:1997 (EN 50054:1991) | Electrical apparatus for the detection and measurement of combustible gases - General requirements and test methods |
| SIST EN 50054:1997/ A1:1997 (EN 50054:1991/A1:1995) | Electrical apparatus for the detection and measurement of combustible gases - General requirements and test methods |
| SIST EN 50055:1997 (EN 50055:1991) | Electrical apparatus for the detection and measurement of combustible gases - Performance requirements for Group I apparatus indicating up to 5 % (v/v) methane in air |
| SIST EN 50055:1997/ A1:1997 (EN 50055:1991/A1:1991) | Electrical apparatus for the detection and measurement of combustible gases - Performance requirements for Group I apparatus indicating up to 5 % (v/v) methane in air |
| SIST EN 50056:1997 (EN 50056:1991) | Electrical apparatus for the detection and measurement of combustible gases - Performance requirements for Group I apparatus indicating up to 100 % (v/v) methane in air |
| SIST EN 50056:1997/ A1:1997 (EN 50056:1991/A1:1995) | Electrical apparatus for the detection and measurement of combustible gases - Performance requirements for Group I apparatus indicating up to 100 % (v/v) methane in air |



Annex C

Annex to the Accreditation Certificate DAP-ZE-3419.01

| | |
|--|--|
| SIST EN 50057:1997 (EN 50057:1991) | Electrical apparatus for the detection and measurement of combustible gases - Performance requirements for Group II apparatus indicating up to 100 % lower explosive limit |
| SIST EN 50058:1997 (EN 50058:1991) | Electrical apparatus for the detection and measurement of combustible gases - Performance requirements for Group II apparatus indicating up to 100 % (v/v) gas |
| SIST EN 1127-1:1998 (EN 1127-1:1997) | Explosive atmospheres - Explosion prevention and protection - Part 1: Basic concepts and methodology |
| SIST EN 20284:1997 (EN 20284:1993) | Conveyor belts - Electrical conductivity - Specification and method of test (ISO 284 : 1982) |
| SIST IEC 61241-1-1: 1998 (IEC 61241-1-1:1993) | Electrical apparatus for use in the presence of combustible dust - Part 1: Electrical apparatus protected by enclosures - Section 1: Specification for apparatus |
| IEC 93:1980 | Methods and test for volume resistivity and surface resistivity of solid electrical insulating materials |

2. Certification in the scope of the Decree on Explosion Protection (Official Gazette of the Republic of Slovenia No. 102/00) for electrical and non-electrical equipment, protective systems, devices and components intended for use in potentially explosive atmospheres in equipment groups I and II, categories M1, M2, 1, 2 and 3 with annexes III, IV, V, VI, VII, VIII, IX of Decree

| | |
|---|--|
| SIST EN 50014:2000 (EN 50014:1997) | Electrical apparatus for potentially explosive atmospheres - General requirements |
| SIST EN 50014:2000/ A1:2000 (EN 50014:1997/A1:1999) | Electrical apparatus for potentially explosive atmospheres - General requirements |
| SIST EN 50014:2000/ A2:2000 (EN 50014:1997/A2:1999) | Electrical apparatus for potentially explosive atmospheres - General requirements |
| SIST EN 50015:2000 (EN 50015:1998) | Electrical apparatus for potentially explosive atmospheres - Oil immersion „o“ |
| EN 50016:1995 | Electrical apparatus for potentially explosive atmospheres - Oil immersion „o“ |
| SIST EN 50017:2000 (EN 50017:1998) | Electrical apparatus for potentially explosive atmospheres - Powder filling „q“ |
| SIST EN 50018:1995 (EN 50018:1994) | Electrical apparatus for potentially explosive atmospheres - Flameproof enclosures „d“ |
| EN 50018:2000 | Electrical apparatus for potentially explosive atmospheres - Flameproof enclosures „d“ |



Annex C

Annex to the Accreditation Certificate DAP-ZE-3419.01

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| SIST EN 50019:1999 (EN 50019:1994) | Electrical apparatus for potentially explosive atmospheres - Increased safety „e“ |
| EN 50019:2000 | Electrical apparatus for potentially explosive atmospheres - Increased safety „e“ |
| SIST EN 50020:1999 (EN 50020:1994) | Electrical apparatus for potentially explosive atmospheres - Intrinsic safety „i“ |
| prEN 50020:2000 | Electrical apparatus for potentially explosive atmospheres - Intrinsic safety „i“ |
| SIST EN 50021:2000 (EN 50021:1999) | Electrical apparatus for potentially explosive atmospheres - Type of protection „n“ |
| SIST EN 50028:1999 (EN 50028:1987) | Electrical apparatus for potentially explosive atmospheres - Encapsulation „m“ |
| SIST EN 50033:1997 (EN 50033:1991) | Electrical apparatus for potentially explosive atmospheres - Caplights for mines susceptible to firedamp |
| SIST EN 50039:1995 (EN 50039:1980) | Electrical apparatus for potentially explosive atmospheres - Intrinsic safety „i“ systems |
| SIST EN 50050:1996 (EN 50050:1988) | Electrical apparatus for potentially explosive atmospheres - Electrostatic hand-held spraying equipment |
| SIST EN 50054:2000 (EN 50054:1998) | Electrical apparatus for the detection and measurement of combustible gases - General requirements and test methods |
| SIST EN 50055:2000 (EN 50055:1998) | Electrical apparatus for the detection and measurement of combustible gases - Performance requirements for Group I apparatus indicating up to 5 % (v/v) methane in air |
| SIST EN 50056:2000 (EN 50056:1998) | Electrical apparatus for the detection and measurement of combustible gases - Performance requirements for Group I apparatus indicating up to 100 % (v/v) methane in air |
| SIST EN 50057:2000 (EN 50057:1998) | Electrical apparatus for the detection and measurement of combustible gases - Performance requirements for Group II apparatus indicating up to 100 % lower explosive limit |
| SIST EN 50058:2000 (EN 50058:1998) | Electrical apparatus for the detection and measurement of combustible gases - Performance requirements for Group II apparatus indicating up to 100 % (v/v) gas |
| SIST EN 50241-1:2000 (EN 50241-1:1999) | Specification for open path apparatus for the detection of combustible or toxic gases and vapours - Part 1: General requirements and test methods |
| SIST EN 50241-2:2000 (EN 50241-2:1999) | Specification for open path apparatus for the detection of combustible or toxic gases and vapours - Part 2: Performance requirements for apparatus for the detection of combustible gases |



Annex C

Annex to the Accreditation Certificate DAP-ZE-3419.01

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| SIST EN 50281-1-1 :2000 (EN 50281-1-1:1998) | Electrical apparatus for use in the presence of combustible dust - Part 1-1: Electrical apparatus protected by enclosures - Construction and testing |
| SIST EN 50284:2000 (EN 50284:1999) | Special requirements for construction, test and marking of electrical apparatus of equipment group II, Category 1 G |
| SIST EN 1127-1:1998 (EN 1127-1:1997) | Explosive atmospheres - Explosion prevention and protection - Part 1: Basic concepts and methodology |
| SIST EN 20284:1997 (EN 20284 : 1993) | Conveyor belts - Electrical conductivity -Specification and method of test (ISO 284 : 1982) |

abbreviations used:

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| DGZfP | German Society of Non-Destructive Testing |
| DVS | German Welding Society |
| EN | European Standard |
| GL | Germanischer Lloyd AG |
| IEC | International Electrotechnical Commission |
| LGA | Landesgewerbeanstalt Bayern |
| prEN | Draft of an European Standard |
| SIQ | Slovenian Institute of Quality and Metrology |
| SIST | Slovenian National Standard |
| TN | Certification procedure of the SIQ |
| VdTÖV | Association of Technical Inspection Agencies |
| VMPA | Association of Material Testing Institutions |

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