



ExMC/183/DV
December 2003

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Ex Management Committee, ExMC

Title: Voting document -
Report by the IECEx Assessment Team for the acceptance of *Baseefa (2001) Limited* as an Ex Testing laboratory (ExTL)

This document contains the IECEx Assessment Report for the acceptance of *Baseefa (2001) Limited* as an Ex Testing Laboratory (ExTL) within the IECEx Scheme.

The report is hereby submitted to the ExMC for voting.

Please consider the assessment report and return the completed voting form to the Secretariat by **2004 02 27**. Your speedy response to the voting process will be very much appreciated, as it will assist in moving the scheme forward.

You may return your completed voting form (available in Word format) via fax or E-mail. Details below.

IECEx Secretariat
SAI Building
286 Sussex Street
Sydney NSW 2000
Australia

Contact Details:
E-mail: chris.agius@iecex.com
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<http://www.iecex.com>



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Voting Form

IECEx Assessment Report for acceptance of the following candidate as an
Ex Testing Laboratory

Baseefa (2001) Limited

☐ Yes. I agree with the acceptance of ***Baseefa (2001) Limited*** as an
Ex Testing Laboratory

☐ No. I do not agree with the acceptance of ***Baseefa (2001) Limited*** as an
Ex Testing Laboratory within the IECEx Scheme, for the following reasons

Signature: _____

Name: _____

Member Body: _____

Date: _____

Please complete and return by **2004 02 27** to:

Mr Chris Agius
IECEx Secretariat

Contact Details:
E-mail: chris.agius@iecex.com
Tel: +61 2 8206 6940
Fax: +61 2 8206 6272



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IECEX ASSESSMENT REPORT (TEST LABORATORY – ExTL)

Baseefa (2001) Ltd. Health and Safety Laboratory Site October 13 – 14, 2003

Type of Assessment:

Initial Assessment for Candidate ExTL ☒ X
Surveillance Assessment for existing ExTL ☐

1. OBJECT AND FIELD OF APPLICATION

1.1 Country:

United Kingdom

1.2 Name of Candidate TL

Baseefa (2001) Ltd.
Health and Safety Laboratory Site
Harpur Hill
Buxton
Derbyshire
SK 17 9JN
United Kingdom

1.3 Members Of The Assessment Team

Jim Munro, Test Safe, Australia (Lead Assessor)
Heinz Berger, CERTICONSULT GmbH, Switzerland (Expert Assessor)

1.4 Place And Date Of Assessment (Refer ExMC/182/DV for Site Report)

Baseefa (2001) Ltd. Laboratories, Buxton, UK, October 13 – 14, 2003

1.5 Assessment References

Documents:



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- i) IECEx 02 Second Edition 2003-06
- ii) IECEx Operational Document OD/003
- iii) ISO / IEC 17025:2000
- iv) IECEx Technical Guidance Documents
- v) ExTL application documents dated July 7, 2003, Mr. Ron Sinclair

1.6 Scope Of Application

Number	Title
<u>60079-0</u>	Electrical apparatus for explosive gas atmospheres Part 0: General requirements
<u>60079-1</u>	Electrical apparatus for explosive gas atmospheres Part 1: Construction and verification test of flameproof enclosures of electrical apparatus
<u>60079-2</u>	Electrical apparatus for explosive gas atmospheres Part 2: Electrical apparatus, type of protection 'p' (Pressurization)
<u>60079-5</u>	Electrical apparatus for explosive gas atmospheres Part 5: Powder filling "q"
<u>60079-6</u>	Electrical apparatus for explosive gas atmospheres Part 6: Oil-immersion 'o'
<u>60079-7</u>	Electrical apparatus for explosive gas atmospheres Part 7: Increased safety 'e'
<u>60079-11</u>	Electrical apparatus for explosive gas atmospheres Part 11: Intrinsic safety 'i'
<u>60079-15</u>	Electrical apparatus for explosive gas atmospheres Part 15: Electrical apparatus with type of protection 'n' (Non-Sparking)
<u>60079-18</u>	Electrical apparatus for explosive gas atmospheres Part 18: Encapsulation 'm'
<u>61241-1-1</u>	Electrical apparatus for use in the presence of combustible dust Part 1: Electrical apparatus protected by enclosures Section 1: Specification for apparatus

1.7 Candidate TL Persons Interviewed

Name	Position
Ron Sinclair	Managing Director
Peter Dickie	Certification Manager



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Maurice Powney	Certification Manager
David Kerfoot	Certification Engineer
Andrew Templer	Certification Engineer
David Brearley	Certification Engineer
Stephen Taylor	Testing Facilities Manager
Paul Thompson	Testing Engineer
John Wells	Testing Engineer

1.8 Legal Entity Of The Candidate TL

Private Company Limited by Shares, according to companies act 1985,
incorporated on 16th October 2001, Company Number 4305578

1.9 Associated ExCB

Baseefa (2001) Ltd.
Health and Safety Laboratory Site
Harpur Hill
Buxton
Derbyshire
SK 17 9JN
United Kingdom

1.12 Financial Support

No support according to legal entity mentioned in chapter 1.8.

1.13 History

In September 2001, the UK Health and Safety Executive (HSE) announced its intention to close The Electrical Equipment Certification Service (EECS) from July 2003.

With the announcement of closure, the current staff of EECS, encouraged by a number of major customers, believed it essential that the reputation for technical excellence that they had built up over the preceding years should continue in a private organisation still based at Buxton. A number of staff from EECS invested together to form a new company to carry that reputation forward and fill the place of EECS as a world leader in this field.

Since first trading in March 2002, the new company has grown rapidly. HSE altered its plans and decided that EECS should close earlier, at the end of September 2002.

By July, approximately one third of the technical staff had transferred from EECS to Baseefa (2001) Ltd., with others joining at the end of September 2002 when they were finally made redundant by HSE.



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Currently renting the old EECS office space on the HSE site at Buxton, the company has purchased a green field site at Staden in Buxton for its own purpose designed office and laboratory complex.

1.14 Relevant Standards

Number	Title
<u>60079-0</u>	Electrical apparatus for explosive gas atmospheres Part 0: General requirements
<u>60079-1</u>	Electrical apparatus for explosive gas atmospheres Part 1: Construction and verification test of flameproof enclosures of electrical apparatus
<u>60079-2</u>	Electrical apparatus for explosive gas atmospheres Part 2: Electrical apparatus, type of protection 'p' (Pressurization)
<u>60079-5</u>	Electrical apparatus for explosive gas atmospheres Part 5: Powder filling "q"
<u>60079-6</u>	Electrical apparatus for explosive gas atmospheres Part 6: Oil-immersion 'o'
<u>60079-7</u>	Electrical apparatus for explosive gas atmospheres Part 7: Increased safety 'e'
<u>60079-11</u>	Electrical apparatus for explosive gas atmospheres Part 11: Intrinsic safety 'i'
<u>60079-15</u>	Electrical apparatus for explosive gas atmospheres Part 15: Electrical apparatus with type of protection 'n' (Non-Sparking)
<u>60079-18</u>	Electrical apparatus for explosive gas atmospheres Part 18: Encapsulation 'm'
<u>61241-1-1</u>	Electrical apparatus for use in the presence of combustible dust Part 1: Electrical apparatus protected by enclosures Section 1: Specification for apparatus

2. ORGANISATION

2.1 Names, Titles And Experience Of The Senior Executives

SINCLAIR Ron	Managing Director	28 years
CORFIELD Michael	Certification Manager	23 years



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DICKIE Peter	Certification Manager	23 years
POWNEY Maurice	Certification Manager	28 years

2.2 Name, Title And Experience Of The Quality Management Representative

BARBER Alan	Quality Manager	17 years
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2.3 Name And Title Of Nominated Principal Contact

SINCLAIR Ron	Managing Director
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2.4 Employees

Total number of employees at Baseefa2001 is 29 of which 25 have a technical background.

2.5 Organisational Structure

See Annex A for the organisational structure.

3. RESOURCES

The major test equipment is shown at Annex B.

Currently located at the HSL Site Harpur Hill. They will be moving to Staden in Buxton sometime in the next 12 months.

4. TEST METHODS

4.1 Procedures

General procedures called up in the quality manual.

4.2 Staff Work Instructions

There are numerous work instructions mainly covering physical testing. They also cover other staff and operational issues such as training of auditors. Where the requirements of the standards are clear, these are not generally duplicated in work instructions.

5. TEST REPORTS AND RECORDS

5.1 Test Reports Issued

Test reports issued during the past 2 years:

Note: It should be stated that the total number of years direct experience of testing, assessment and certification of apparatus for use in explosive atmospheres of the current staff is approximately 300.



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Baseefa (2001) Ltd. has issued similar number of supplementary certificates, mainly to the certificates issued by EECS which were formally transferred to Baseefa (2001) at the request of the manufacturer.

flameproof	d	200
intrinsic safety	i	200
oil-immersion	o	none
increased safety	e	35
special	s	none
powder filled	q	none
encapsulated	m	5
type	n	55
pressurised	p	5
Gas Detectors		none
Apparatus for Dusts		35

Tests according to concepts “s”, “o” and “q” are rather rare. However, Baseefa is in the position to perform tests according to these concepts based on the comprehensive test experience of its personnel.

Sometimes an internal report will be kept on file and not issued with the concurrence of the applicant.

5.2 Test Records

Test data is record on Test Record Sheets. This may be specific to the type of test or general. Each sheet that is printed off against a job and has a unique serial number against it. The intent is to ensure all sheets are accounted for.

All changes must be initialled and not obliterated.

6. CALIBRATION

All physical measuring apparatus such as vernier callipers and micrometers are calibrated in house. Thermocouples are calibrated by calibrating for linearity a sample from the beginning, middle and end of a reel. Each thermocouple has a spot check calibration done. Gas measuring instruments are also calibrated in house. Pressure gauges are calibrated using a reference gauge.

Electrical instruments are calibrated externally.

7. DOCUMENTATION

7.1 Quality Manual

Baseefa (2001) Ltd. Has a comprehensive quality manual. The current issue is # 4, dated July 2003.



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7.2 Document Change Control

Document control and document change control is on a PC network available on the Intranet for read only. Mr. Alan Barber, Quality Manager, is in charge of this document control and the related database.

8. CONFIDENTIALLY

A confidentiality agreement is signed by the employees in conjunction with the employment contract. A set of documents within procedure GP 5 is ready for for different types of employment.

9. NATIONAL ACCREDITATION

National accreditation is shown in UKAS Accreditation Certificate for Testing Laboratory No. 2593, issued 26th September 2003 and valid until 31st August 2007 (see Annex C)

10. RECOGNITION AND AGREEMENTS

Baseefa (2001) Ltd. is a private Company Limited by Shares, according to companies Act 1985, incorporated on 16th October 2001, Company Number 4305578.

Operating as a Notified Body (NB) according to the ATEX regulation. NB number is 1180.

11. INTERNAL AUDIT AND PERIODIC REVIEW

Internal audits are performed every year over the full range of processes. In addition a management review will take place annually.

12. COMPLAINTS MECHANISM

According to procedure GP 16, Issue 1 (advisory board). However, procedure GP 13 allows Baseefa (2001) Ltd to resolve complaints internally with the involvement of the Managing Director.

13. SPECIAL FACTS TO BE NOTED

The following observations are made:



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1. Generally test samples were identified but a batch of small luminaires were not individually identified, even though they had obviously been subject to impact testing.
2. The air conditioner for temperature and humidity in the calibration laboratory had broken and was being replaced.
3. The equipment for doing Ex p testing was out of the country and hence was not sighted.
4. The dust chamber had to be hit with a hammer to get dust circulating after a test had been paused due to a faulty motor. There was no evidence to suggest that the chamber would keep dust in circulation over an eight hour test. Baseefa undertook to monitor some tests to check circulation is occurring.
5. Some test equipment is not available in-house and hence these tests are sub-contracted. These include:
 - CTI testing
 - Resistance to light
 - Dynamometer load testing of motors
6. It was noted that a move to new premises elsewhere in Buxton (Staden) is scheduled for some time in the next twelve months.

14. COMMENTS

The standard of work being carried out at the laboratory reflected the significant experience of the staff involved.

15. RECOMMENDATIONS

It is recommended that Baseefa (2001) Ltd be accepted as an ExTL.

It is recommended that after the move to new premises, the Secretary of the IECEx Scheme be advised. As the staff, procedures and test equipment will remain the same (the move being within Buxton), it is not anticipated that a follow-up assessment will be required.

LIST OF ANNEXES

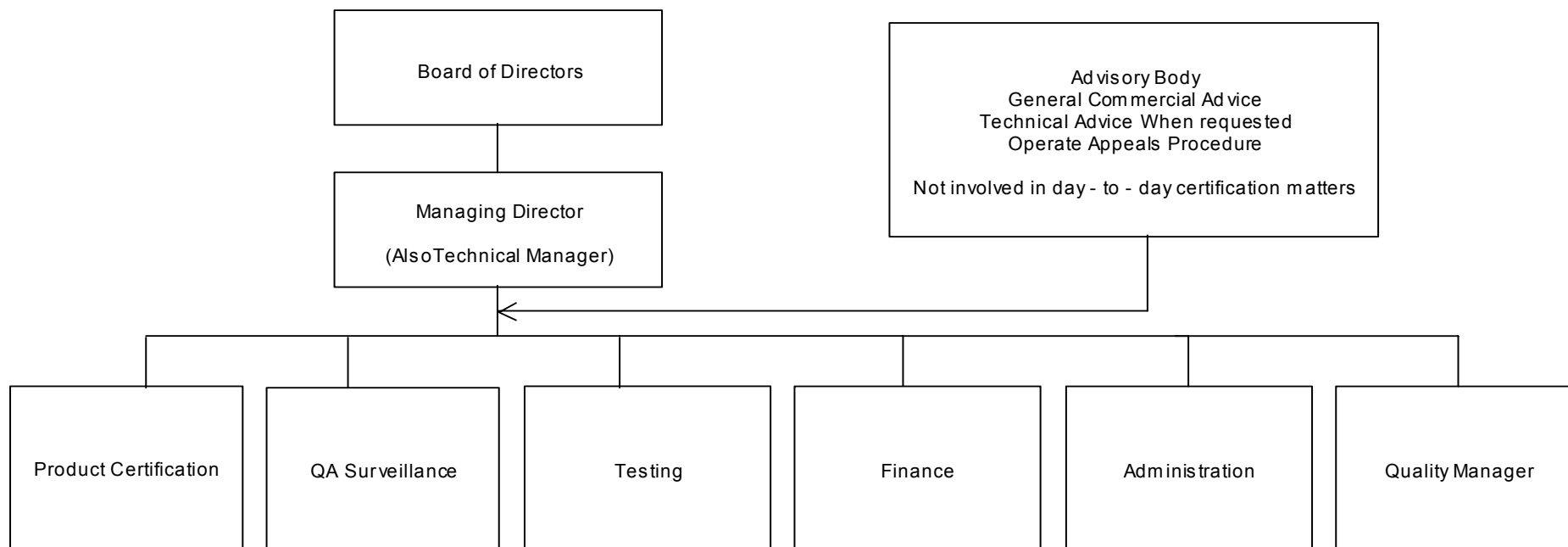
- | | |
|----------|--|
| Annex A: | Organisational Structure of Baseefa (2001) Ltd |
| Annex B: | List of test equipment |
| Annex C: | UKAS Accreditation Certificate for Testing Laboratory No. 2593 |
| Annex D: | Checklist for ISO/IEC 17025 |

Annex A

Organisational Structure of Baseefa (2001) Ltd

Annex A

Quality Manual Appendix
Organisation
Issue 2 - Feb 2003



Annex B

List of test equipment

Annex D.5

Baseefa (2001) Ltd.

List of major test equipment

General

Electrical measuring equipment (voltage, current, resistance, capacitance, inductance, oscilloscopes)

High voltage insulation testing

Temperature measurement (various thermocouple meters, data loggers, draft proof chamber)

High temperature/humidity cabinets, ovens, freezers, etc.

Impact weights and rigs

Water ingress sprays, nozzles, etc.

Dust ingress chamber

Tensile testing (in relation to cable glands)

Mechanical measuring equipment (travelling microscope, micrometers, vernier callipers, plug and thread gauges, force, pressure, etc.)

Intrinsic Safety

Standard IEC Spark Test Apparatus and high current variant

Flameproof

Pressure determination (including rotation of electrical machines)

Hydraulic Overpressure

Transmission

Bubble Pore Size (sinters)

Flammability (non-metallic flamepaths)

Purged and Pressurised

Gas sampling, purge rate, etc.

Increased Safety

Various rigs for heating cables



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ANNEX C
UKAS Accreditation Certificate for Testing Laboratory No. 2593



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United Kingdom Accreditation Service

ACCREDITATION CERTIFICATE



TESTING LABORATORY
No. 2593

BASEEFA (2001) Ltd
Health and Safety Laboratory Site
Harpur Hill
Buxton
Derbyshire
SK17 9JN

is accredited to undertake tests as detailed in the schedule bearing the above accreditation number. From time to time this schedule may be revised and reissued by the United Kingdom Accreditation Service.

Accredited laboratories comply with the requirements of International Standard BS EN ISO/IEC 17025, which replaces ISO/IEC Guide 25 and EN45001. Testing and calibration laboratories that comply with the requirements of this International Standard operate a quality system for their testing and calibration activities that also meets the requirements of ISO 9001 when they engage in the design/development of new methods, and/or develop test programmes combining standard and non-standard test and calibration methods, and ISO 9002 when they only use standard methods.

This Accreditation shall remain in force until the expiry date printed below, subject to continuing compliance with United Kingdom Accreditation Service requirements.

Initial Accreditation 26 September 2003

Accreditation Manager, United Kingdom Accreditation Service

This certificate issued on 26 September 2003

Expiry date 31 August 2007

The Department of Trade and Industry (DTI) has entered into a memorandum of understanding with the United Kingdom Accreditation Service (UKAS) through which UKAS is recognised as the national body responsible for assessing and accrediting the competence of




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Schedule of Accreditation

issued by

United Kingdom Accreditation Service

21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK

	BASEEFA (2001) Ltd	
	Issue No: 001	Issue date: 26 September 2003
	Health and Safety Laboratory Site Harpur Hill Buxton Derbyshire SK17 9JN	Contact: Mr R Sinclair Tel: +44 (0)1298 28255 Fax: +44 (0)1298 28214 E-Mail: ron.sinclair@baseefa2001.biz Website: www.baseefa2001.biz
Testing performed at permanent laboratory premises		


SUMMARY OF ACCREDITATION

ELECTRICAL

Apparatus for use in potentially explosive atmospheres
Cable glands
Combustible dusts
Ex d Flameproof enclosures
Ex e Increased safety
Ex i Intrinsically safe
Ex m Encapsulated
Ex n Type N protection
Ex o Oil filled
Ex p Purged & pressurised
Ex q Powder filled
Ex s Special protection
General requirements
Miners cap lights
Non-electrical apparatus
Surface heating devices
Temperature rise/thermal testing
Electrical & electronic equipment
Enclosures & ingress protection


ENVIRONMENTAL ENGINEERING (CLIMATIC/DYNAMIC)

Climatic (single parameters) -
non-explosive items
High humidity
High/low temperature


 2593	<p align="center">Schedule of Accreditation issued by United Kingdom Accreditation Service 21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK</p>
	<p align="center">BASEEFA (2001) Ltd Issue No: 001 Issue date: 26 September 2003</p>
Testing performed at permanent laboratory premises	

DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
Electrical Apparatus, Systems, Components, Accessories and Enclosures for use in potentially Explosive Atmospheres	<u>ELECTRICAL PRODUCT TESTS</u>	
	Tests for the general requirements for electrical apparatus for potentially explosive atmospheres or hazardous (classified) locations	BS EN 50014:1998, Amd's 1 and 2 IEC 60079-0:2000, Amd 1 Excluding: Resistance to light Tests of ignition by electrostatic charges Ageing test for elastomeric sealing rings for cable entries
	Tests for apparatus in flameproof enclosures (Ex d)	BS EN 50018:2000, Amd 1 IEC 60079-1:2001 Excluding: Flame transmission at other than normal atmospheric pressure
	Tests for increased safety apparatus (Ex e)	BS EN 50019:2000 IEC 60079-7:2001 Excluding: Thermal performance testing of electrical machines
	Tests for intrinsically safe apparatus, associated apparatus and systems (Ex i)	BS EN 50020:2002 EN 50039:1980 IEC 60079-11:1999 Appendix 3 to Annex B of Council Directive 82/130/EEC
	Tests for encapsulated apparatus (Ex m)	EN 50028:1987, Amd 1 IEC 60079-18:1992
	Tests for electrical apparatus for explosive atmospheres with type of protection n (Ex n) + (Ex N)	BS EN 50021:1999, Amd 1 IEC 60079-15:2001 Excluding: Thermal performance testing of electrical machines
	Tests for oil immersed apparatus (Ex o)	BS EN 50015:1998 IEC 60079-6:1995

 <p>UKAS TESTING 2593</p>	<p align="center">Schedule of Accreditation issued by United Kingdom Accreditation Service 21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK</p> <hr/> <p align="center">BASEEFA (2001) Ltd Issue No: 001 Issue date: 26 September 2003</p>
<p align="center">Testing performed at permanent laboratory premises</p>	

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
Electrical Apparatus, Systems, Components, Accessories and Enclosures for use in potentially Explosive Atmospheres (cont'd)	<u>ELECTRICAL PRODUCT TESTS</u> (cont'd)	
	Tests for pressurised and purged apparatus (Ex p)	BS EN 50016:2002 IEC 60079-2:2001
	Tests for sand filled apparatus (Ex q)	BS EN 50017:1998 IEC 60079-5:1997
	Tests for apparatus having special protection (Ex s)	SFA 3009:1985
	Tests for electrical apparatus with protection by enclosure for use in the presence of combustible dusts	BS EN 50281-1-1:1999, Amd's 1 and 2 IEC 61241-1-1:1999 IECEX 61241-1-1:2002
	Tests for apparatus of equipment Group II, Category 1G	BS EN 50284:1999
	Tests for apparatus of equipment Group I, Category M1	BS EN 50303:2000
Miners Cap Lamps	Tests to demonstrate removal of explosion initiation risk	BS EN 62013-1:2002 IEC 62013-1:1999 Excluding: Resistance of cable to fire
Electrical Trace Heating Tapes	Tests to demonstrate compliance with constructional requirements and prove thermal performance	BS IEC 62086-1:2001 IEC 62086-1:2001 Excluding: Inrush current determination and rating verification test for parallel circuit heating conductors with self-limiting characteristics, moisture resistance test and verification of rated output (Method b)

 <p>UKAS TESTING 2593</p>	<p align="center">Schedule of Accreditation issued by United Kingdom Accreditation Service 21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK</p> <hr/> <p align="center">BASEEFA (2001) Ltd Issue No: 001 Issue date: 26 September 2003</p>
<p align="center">Testing performed at permanent laboratory premises</p>	

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
Mechanical Cable Glands Metallic Glands	<p><u>DIMENSIONAL TESTS</u></p> <p>Tests to demonstrate compliance with constructional requirements</p>	<p>BS 6121:Part 1:1989 Excluding: Seal compression, hardness and ageing Clause 8.6.2 Clause 8.6.3 Clause 8.6.4</p>
Polymeric Glands	<p>Tests to demonstrate compliance with constructional requirements</p>	<p>BS 6121:Part 2:1989 Excluding: Clause 8.5.2 Clause 8.5.3 Clause 8.7</p>
Special Corrosion Resistant Glands	<p>Tests to demonstrate compliance with constructional requirements</p>	<p>BS 6121:Part 3:1990 Excluding: Clause 8.7.2 Clause 8.7.3 Clause 8.9 Clause 8.12</p>
Metric Cable Glands	<p>Tests to demonstrate compliance with constructional requirements</p>	<p>BS EN 50262:1999, Amd 1 Excluding: Clauses 9.1, 9.2, 9.3, 9.5 and 9.6 Clauses 10.3.1 and 10.3.2 Clauses 10.4.1 and 10.4.2 Clause 12.2</p>
Non-Electrical Apparatus, Systems, Components, Accessories and Enclosures for use in Potentially Explosive Atmospheres	<p><u>NON-ELECTRICAL PRODUCT TESTS</u></p> <p>Tests similar to those indicated above for electrical equipment</p>	<p>Tests or adaptations thereof, of those given above, and in accordance with procedures GP 18 and GP 22 BS EN 13463-1:2001</p>
Enclosures for Electrical Equipment	<p><u>INGRESS PROTECTION TESTS</u></p> <p>IP1X Protected against solid objects greater than 50 mm diameter</p>	<p>BS EN 60529:1992, Amd's 1 and 2 IEC 60529:2001, Amd 1</p>

Annex D
Baseefa (2001) Ltd. Health and Safety Laboratory Site
October 13 – 14, 2003

REPORT ON ISO/IEC 17025

Clause No	Title/requirement	Comments/Laboratory Assessment Notes	Complies?
1	Scope	No requirements	N/A
2	Normative references	No requirements	N/A
3	Terms and conditions	No requirements	N/A
4	Management requirements	No requirements	
4.1	Organization	No requirements	
4.1.1	Entity that can be held legally responsible	According to quality manual chapter 2	Y
4.1.2	Carry out activities in way to meet this standard	According to quality manual chapter 2	Y
4.1.3	Management system covers permanent facilities, sites away, or temporary or mobile facilities	According to quality manual chapter 2	Y
4.1.4	If part of larger organization, responsibilities defined to identify potential conflicts of interest.	According to quality manual chapter 2	Y
4.1.5	Laboratory shall	No requirements	
a)	Have authority and resources	According to quality manual chapter 2	Y
b)	Have management and personnel free from undue internal and external commercial, financial and other pressures	According to quality manual chapter 2	Y
c)	Have policies and procedures to ensure confidentiality	According to quality manual chapter 5.3 and GP 5	Y
d)	Have policies and procedures to avoid activities that would diminish confidence in competence, impartiality, judgement or operational integrity	According to quality manual chapter 2	Y
e)	Define organisation and management structure, place in organization, and relationships quality management, technical operations and support services	According to quality manual chapter 2	Y
f)	Specify responsibility, authority and interrelationships	According to quality manual chapter 2 and job function description	Y
g)	Provide adequate supervision	According to quality manual chapter 2 and job function description	Y

h)	Have technical management with overall responsibility and resources	According to quality manual chapter 2 and job function description	Y
i)	Appoint member of staff as quality manager	According to quality manual chapter 2 and job function description	Y
j)	Appoint deputies for key managerial personnel	According to quality manual chapter 2 and job function description	Y
4.2	Quality system	No requirements	
4.2.1	Quality system established. Documentation communicated, understood, available to and implemented	According to quality manual chapter 3	Y
4.2.2	Quality system policies and objectives defined in quality manual. Overall objectives in quality statement	According to quality manual chapter 1 and 3	Y
4.2.3	Quality manual – reference to supporting procedures	According to quality manual chapter 3 and appendix C	Y
4.2.4	Roles of technical management and quality manager defined	Job function descriptions	Y
4.3	Document control	No requirements	
4.3.1	General Procedures to control all documents	According to quality manual chapter 3, GP 1, GP 3, GP 4 and GP 14	Y
4.3.2	Document approval and issue	No requirements	
4.3.2.1	Documents issued reviewed and approved	According to quality manual chapter 3, GP 1, GP 3 and GP 4	Y
4.3.2.2	Procedure to	No requirements	
a)	Authorized edition available	According to quality manual chapter 3, GP 1, GP 3, GP 4 and GP 14	Y
b)	Periodically reviewed	According to quality manual chapter 3, GP 1, GP 3, GP 4 and GP 14	Y
c)	Invalid, obsolete removed	According to quality manual chapter 3, GP 1, GP 3, GP 4 and GP 14	Y
d)	Obsolete retained	According to quality manual chapter 3, GP 1, GP 3, GP 4 and GP 14	Y
4.3.2.3	Quality system documents uniquely identified	According to quality manual chapter 3 and GP 1	Y
4.3.3	Document changes	No requirements	
4.3.3.1	Changes reviewed and approved	According to quality manual chapter 3, GP 1, GP 3, GP 4 and GP 14	Y
4.3.3.2	Where practicable altered or new text identified	According to quality manual chapter 3, GP 1, GP 3, GP 4 and GP 14	Y
4.3.3.3	If required provision for alteration by hand	No hand alteration practised	Y
4.3.3.4	Procedures for documents maintained in computerized systems	According to quality manual chapter 3, GP 1, GP 3, GP 4 and GP 14	Y
4.4	Review of requests, tenders and contracts	No requirements	
4.4.1	Procedures for review of requests, tenders and contracts	According to quality manual chapter 5 and GP 18	Y
4.4.2	Records of reviews maintained	According to quality manual chapter 5 and GP 18	Y

4.4.3	Cover subcontracted work	According to quality manual chapter 5 and GP 18	Y
4.4.4	Client informed of deviation	According to quality manual chapter 5 and GP 18	Y
4.4.5	Same review process is contract amended	According to quality manual chapter 5 and GP 18	Y
4.5	Subcontracting of tests and calibrations	No requirements	
4.5.1	Subcontract work with competent subcontractor	According to quality manual chapter 4.2 and GP 12	Y
4.5.2	Advice to and approval of client	According to quality manual chapter 4.2 and GP 12	Y
4.5.3	Laboratory responsible unless subcontractor specified by client or regulatory authority	According to quality manual chapter 4.2 and GP 12	Y
4.5.4	Maintain register of all subcontractors	According to quality manual chapter 4.2 and GP 12	Y
4.6	Purchasing services and supplies	No requirements	
4.6.1	Policies and procedures for selection and purchasing of services and supplies	According to quality manual chapter 4.3 and GP 12	Y
4.6.2	Supplies, reagents and consumable materials that affect quality of tests not used until inspected and verified. Records kept	According to quality manual chapter 4.3 and GP 12	Y
4.6.3	Purchasing documents describe services and supplies ordered. Documents reviewed and approved prior to release.	According to quality manual chapter 4.3 and GP 12	Y
4.6.4	Suppliers of critical consumables, supplies and services evaluated.	According to quality manual chapter 4.3 and GP 12	Y
4.7	Service to clients Laboratory afford clients cooperation to clarify request or monitor laboratory's performance	According to quality manual chapter 5.3	Y
4.8	Complaints Policy and procedure for resolution of complaints	According to quality manual chapter 6 and GP 13	Y
4.9	Control of nonconforming testing and/or calibration work	No requirements	
4.9.1	Policy and procedures to be implemented if work does not conform to own procedures	According to quality manual chapter 6, GP 2, GP 9, GP 10 and GP 15	Y
4.9.2	Corrective action followed	According to quality manual chapter 6, GP 2, GP 9, GP 10 and GP 15	Y
4.10	Corrective action	No requirements	
4.10.1	Policy and procedure for corrective action	According to quality manual chapter 6, GP 2, GP 9, GP 10 and GP 15	Y
4.10.2	Cause and analysis Procedure for investigation to determine root course	According to quality manual chapter 6, GP 2, GP 9, GP 10 and GP 15	Y

4.10.3	Selection and implementation of corrective action Where needed identify potential corrective actions. Document and implement required changes	According to quality manual chapter 6, GP 2, GP 9, GP 10 and GP 15	Y
4.10.4	Monitoring of corrective actions Monitor corrective actions have been effective	According to quality manual chapter 6, GP 2, GP 9, GP 10 and GP 15	Y
4.10.5	Additional audits Where nonconformances or departures casts doubts, ensure these areas audited	According to quality manual chapter 6, GP 2, GP 9, GP 8, GP 10 and GP 15	Y
4.11	Preventive action	No requirements	
4.11.1	Needed improvements identified. If preventive action required, plans developed, implemented and monitored.	According to quality manual chapter 6, GP 7 and GP 8	Y
4.11.2	Procedures include initiation of actions and controls	According to quality manual chapter 6, GP 7 and GP 8	Y
4.12	Control of records	No requirements	
4.12.1	General	No requirements	
4.12.1.1	Procedures for records. Reports from internal audits and management reviews	According to quality manual chapter 3.4, GP's 1-10 and GP's 12-23	Y
4.12.1.2	Records legible, stored in suitable environment, readily retrievable. Retention time established.	According to quality manual chapter 3.4, GP's 1-10 and GP's 12-23	Y
4.12.1.3	Secure and in confidence	According to quality manual chapter 3.4, GP's 1-10 and GP's 12-23	Y
4.12.1.4	Procedure to protect and back-up records stored electronically	According to quality manual chapter 3.4, GP's 1-10 and GP's 12-23	Y
4.12.2	Technical records	No requirements	
4.12.2.1	Retain records of original observations etc. If possible identify factors affecting uncertainty and to enable to be repeated. Include identity of personnel responsible for doing and checking	According to quality manual chapter 3.4 and GP 18	Y
4.12.2.2	Observations, data and calculations recorded at time made	According to quality manual chapter 3.4 and GP 18	Y
4.12.2.3	Mistakes not erased. Alterations signed and initialled	According to quality manual chapter 3.4 and GP 18	Y
4.13	Internal audits	No requirements	
4.13.1	Periodically conduct internal audits	According to quality manual chapter 3.3 and GP 8	Y
4.13.2	If audits cast doubt, timely corrective action and notify clients if results may have been affected	According to quality manual chapter 3.3 and GP 8	Y

4.13.3	Audit recorded	According to quality manual chapter 3.3 and GP 8	Y
4.13.4	Follow-up activities verify and record implementation and effectiveness	According to quality manual chapter 3.3 and GP 8	Y
4.14	Management reviews	No requirements	
4.14.1	Periodic review by executive management of quality system	According to quality manual chapter 3.3 and GP 7	Y
4.14.2	Findings and actions recorded.	According to quality manual chapter 3.3 and GP 7	Y
5	Technical requirements	No requirements	
5.1	General	No requirements	
5.1.1	Information on factors that affect correctness and reliability of tests	No requirements	
5.1.2	Take account of extent factors contribute to uncertainty of measurement	The lab has well a developed system for developing, using and reporting uncertainty of measurement.	
5.2	Personnel	No requirements	Y
5.2.1	Ensure competence of personnel	The company has personnel with extremely long experienced. Even the two newest employees have come from jobs in industry dealing with Ex.	Y
5.2.2	Formulate goals with respect to education, training and skills	Annual review that concentrates on identifying areas of weakness and traing needs.	Y
5.2.3	Personnel employed or under contract. Ensure personnel supervised and competent	Supervision by senior very experienced staff.	Y
5.2.4	Current job descriptions	The organisation uses generic job descriptions.	Y
5.2.5	Specific personnel authorized. Records of authorizations, competence, educational and professional qualifications	Primary report, normally senior certification manager. Also involve MD. Defined in GP17.	Y
5.3	Accommodation and environmental conditions	No requirements	
5.3.1	Facilities such as to facilitate correct performance of tests	Facilities are adequate with a temporary issue of air conditioning in the calibration laboratory. They will be moving to new premises within 12 months.	Y
5.3.2	Monitor and control conditions	Calibrated instruments are use to monitor conditions.	Y
5.3.3	Separation of incompatible activities	There is reasonable segregation of activities.	Y
5.3.4	Access controlled where needed	There is overall control of the site.	Y
5.3.5	Good housekeeping	The operation suffers from some overcrowding and impact of construction work nearby. This should be overcome by new facility.	Y
5.4	Test and calibration methods and method validation	No requirements	

5.4.1	General Methods and procedures for all tests within scope, including sampling, handling, storage and preparation Instructions on use of relevant equipment and handling items for testing. All instructions etc up to date and available.	There is a comprehensive collection of procedures and work instructions.	Y
5.4.2	Selection of methods Methods which meet need of client. Latest edition of standard used.	For the purpose of this assessment it is assumed that only IEC standards will be used.	Y
5.4.3	Laboratory-developed methods Planned activity assigned to qualified personnel Plans updated as development proceeds.	Process is managed by Certification Managers	Y
5.4.4	Non-standard methods Subject to agreement with client. Method developed validated before use.	Not applicable	
5.4.5	Validation of methods	No requirements	
5.4.5.1	Validation by examination and provision of objective evidence	A large lot of information held by individuals. But not always committed to paper.	
5.4.5.2	Non-standard, laboratory-designed/developed, standard but outside scope methods validated.	Not applicable.	
5.4.5.3	Range and accuracy relevant to clients' needs		
5.4.6	Estimation of uncertainty of measurement	No requirements	
5.4.6.1	Procedure to estimate uncertainty of measurement for all calibrations	Excellent – very comprehensive	Y
5.4.6.2	Procedure to estimate uncertainty of measurement for testing (at least reasonable estimation)	As above	Y
5.4.6.3	All uncertainty components taken into account.		Y
5.4.7	Control of data	No requirements	
5.4.7.1	Calculations and data transfers subject to checks	Checking by second person.	Y
5.4.7.2	When computers and automated equipment used:	No requirements	
a)	Computer software developed by user documented and validated	Some good software but some doubt regarding documentation and ability of current personnel to maintain.	Y
b)	Procedures for protecting data.	Direct to paper.	Y

c)	Computers and automated equipment maintained.	Yes	Y
5.5	Equipment	No requirements	
5.5.1	Furnished with all items of equipment required for correct performance.	There is a comprehensive range of test equipment, although some tests need to be subcontracted.	Y
5.5.2	Equipment and software comply with specifications		Y
5.5.3	Equipment operated by authorized personnel. Up-to-date instructions on use provided	Yes.	Y
5.5.4	Each item of equipment and software uniquely identified.		Y
5.5.5	Records maintained on each item of equipment, including identification, maintenance and calibration.	For critical items.	Y
5.5.6	Procedures for safe handling, transport, storage, use and planned maintenance of measuring equipment.	Covered by CP812	Y
5.5.7	Defective equipment taken out of service	Examples of 'bonded' equipment sighted.	Y
5.5.8	Identified to show calibration status	All equipment sighted had stickers with current calibration	Y
5.5.9	If outside direct control check before return to service	Partly covered by GP19 Calibration.	
5.5.10	Where needed, intermediate checks done		
5.5.11	Correction factors correctly updated	Seen for oxygen analysers	Y
5.5.12	Safeguarded from adjustments which would invalidate test and/or calibration results.		
5.6	Measurement traceability	No requirements	
5.6.1	General All equipment having significant effect on accuracy of results calibrated before out into service. Established program for calibration of equipment.		Y
5.6.2	Specific requirements	No requirements	
5.6.2.1	Calibration	No requirements	
5.6.2.1.1	Programme for calibration of equipment ensures calibrations and measurements made traceable to International System of Units (SI).	Traceability through national standards body	Y
5.6.2.1.2	If cannot be strictly made to SI units, traceability to appropriate measurement standards	Not relevant	
5.6.2.2	Testing	No requirements	

5.6.2.2.1	If calibration contributes little to uncertainty of test results, equipment used can provide uncertainty of measurement needed.		Y
5.6.2.2.2	Where traceability to SI units not possible/relevant agreed methods required (see 5.6.2.1.2)	Not relevant	
5.6.3	Reference standards and reference materials		
5.6.3.1	Reference standards Programme for calibration of reference standards	Yes	Y
5.6.3.2	Reference materials Traceable to SI Units	Yes	Y
5.6.3.3	Intermediate checks Carried out to defined procedures and schedules	Not assessed	
5.6.3.4	Transport and storage Procedure for safehandling, storage and use of reference standards	Covered by CP812	Y
5.7	Sampling	No requirements	
5.7.1	Sampling plan if relevant	Only relevant for ranges of equipment. Discussed and seemed appropriate.	Y
5.7.2	If client requires differences, recorded.		
5.7.3	Procedures for recording sampling		
5.8	Handling of test and calibration items		
5.8.1	Procedures for transportation, receipt, handling, protection, storage, retention and/or disposal of test/calibration items.		
5.8.2	System for identifying test items		
5.8.3	Recording of abnormalities or departures recorded. Consultation with client		
5.8.4	Procedures for avoiding deterioration, loss or damage to items.		
5.9	Assuring the quality of test and calibration items Procedures for monitoring validity of tests.		
5.10	Reporting the results	No requirements	
5.10.1	General Results reported accurately, clearly, unambiguously and objectively.	Good reporting procedures and formats.	Y

5.10.2	Test reports and calibration certificates Shall include:	No requirements	
a)	Title, eg test report		Y
b)	Name and address of laboratory and location of tests if different		Y
c)	Unique identification, each page identified, and clear indication of end		Y
d)	Name and address of client		Y
e)	Identification of method used		Y
f)	Description, condition, unambiguous identification of item(s)		Y
g)	Date of receipt of items where critical		
h)	Reference to sampling plan		
i)	Results with units of measurement		Y
k)	Where relevant statement result relates only to items tested		
5.10.3	Test results	No requirements	
5.10.3.1	In addition to 5.10.2 where necessary:	No requirements	
a)	Deviations, additions, exclusions to test method, and specific test conditions		
b)	Statement of compliance/non-compliance		Y
c)	Where applicable, statement of uncertainty		
d)	Where appropriate and needed, opinions and interpretations		
e)	Additional information required by specific methods, clients		
5.10.3.2	In addition to 5.10.2 and 5.10.3.1 test reports containing sampling contain additional information		
5.10.4	Calibration certificates		
5.10.4.1	Additional requirements for calibrations certificates		
5.10.4.2	Calibration certificate relates only to quantities and results of functional tests. If statement of compliance identify which clauses met of not met		



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5.10.4.3	When instrument for calibration adjusted or repaired, results after reported		
5.10.4.4	Calibration certificate not contain recommendation on calibration interval except if agreed with client.		
5.10.5	Opinions and interpretations When opinions or interpretations included, basis documented.		
5.10.6	Testing and calibration results obtained from subcontractors When report contains results from subcontractors, these are clearly identified. When calibration subcontracted, certificate to contracting laboratory.		Y
5.10.7	Electronic transmission of results In case of transmission of results by telephone, telex, fax or similar, requirements of this standard met		
5.10.8	Format of reports and certificates Format designed to accommodate each type of test and minimize misunderstanding		
5.10.9	Amendments to test reports and calibration certificates Material amendments after issue made by further report containing statement re supplement. Amendments meet all requirements of this standard. When issue a complete new report, it is uniquely identified and references original it replaces.		

Jim Munro
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