



ExMC/667/DV
April 2011

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

Title: IECEx Assessment Report for the acceptance of Bureau Veritas Consumer Product Services (Germany) GmbH - as an IECEx Test Laboratory (ExTL) within the IECEx System.

To: Members of the IECEx Management Committee, ExMC

INTRODUCTION

This document contains the IECEx Assessment Report for the acceptance of *Bureau Veritas* as an Accepted IECEx Test Laboratory (ExTL) within the IECEx System.

This report is hereby submitted for voting.

Please consider this assessment report and return the completed voting form (The Voting Form is a separate document - in Word Format) to the IECEx Secretariat by **2011 05 10.**

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

Chris Agius

**Chris Agius
Secretary IECEx**

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IECEX ASSESSMENT REPORT for Bureau Veritas Consumer Product Services (Germany) GmbH, Türkheim, Germany IECEX Test Laboratory ExTL V1

Type of Assessment: (please mark)

Initial assessment for Candidate ExTL **X**

Re-Assessment of ExTL _____

Scope Extension of ExTL _____

1. OBJECT AND FIELD OF APPLICATION

1.1 Country:

Germany

1.2 Name of Candidate ExTL

Bureau Veritas Consumer Product Services Germany GmbH

1.3 Members of the Assessment Team

Heinz Berger - IECEx Officer - IECEx Lead Assessor
Alexander Zalogin - IECEx Expert Assessor (off-site during follow-up assessment)
Nicholas Ludlam - IECEx Expert Assessor

1.4 Place and Date of Assessment

Bureau Veritas Consumer Product Services Germany GmbH
Businesspark A96
86842 Türkheim, Germany

First Site Visit:

July 7th – 9th, 2010 and

Follow up Visit

December 9th - 10th, 2010

1.5 Assessment References

- i) IECEx 02 Third Edition 2006-11 Equipment Certification Program covering equipment for use in explosive atmospheres,



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- ii) IECEx Operational Document OD 003 IECEx Assessment procedures
- iii) IECEx Operational Document OD 009 Issuing of CoCs, ExTRs and QARs
- iv) ISO/IEC 17025:2005
- v) IECEx Technical Guidance Documents (TGDs)
- vi) ExTAG decision sheets (DS)
- vii) ExTL application documents dated 16 10 2009

1.6 Scope of Application

Number	Title	Acceptance
60079-0 2007	Explosive atmospheres - Part 0: Equipment - General requirements	YES
60079-1 2007	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures 'd'	YES Up to 3 projects to be presented to the assess- ment team (LA)
60079-2 2007	Explosive atmospheres - Part 2: Equipment protection by pressurized enclosures 'p'	YES
60079-5 2007	Explosive atmospheres - Part 5: Equipment protection by powder filling 'q'	YES
60079-6 2007	Explosive atmospheres - Part 6: Equipment protection by oil immersion 'o'	YES
60079-7 2007	Explosive atmospheres - Part 7: Equipment protection by increased safety 'e'	YES
60079-11 2006	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety 'i'	YES Up to 3 projects to be presented to the assess- ment team (LA)
60079-15 2010	Explosive atmospheres - Part 15: Equipment protection by type of protection 'n'	YES Up to 3 projects to be presented to the assess- ment team (LA)
60079-18 2009	Electrical apparatus for explosive gas atmospheres - Part 18: Construction, test and marking of type of protection encapsulation 'm' electrical apparatus	YES
60079-25 2003	Explosive atmospheres - Part 25: Intrinsically safe systems	YES
60079-26 2006	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga	YES
60079-27 2008	Explosive atmospheres - Part 27: Fieldbus intrinsically safe concept (FISCO)	YES
60079-28 2006	Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation	YES "op is" only
60079-31 2008	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't'	YES



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Number	Title	Acceptance
61241-0 2004	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements	YES
61241-1 2004	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures 'tD'	YES
61241-1-1 2004	Electrical apparatus for use in the presence of combustible dust - Part 1: Electrical apparatus protected by enclosures and surface temperature limitation - Specification for apparatus	YES
61241-4 2004	Electrical apparatus for use in the presence of combustible dust - Part 4: Type of protection 'pD'	YES
61241-11 2005	Electrical apparatus for use in the presence of combustible dust - Part 11: Protection by intrinsic safety 'iD'	YES
61241-18 2004	Electrical apparatus for use in the presence of combustible dust - Part 18: Protection by encapsulation 'mD'	YES

1.7 Candidate TL Persons Interviewed

Name	Position
Thomas Lammel	Head of department
Arno Butzke	Deputy head of department
Dr. Hartmut Franz	Ex Expert
Magnus Huber	Technician
Alfons Drexel	Technician
Nils Dohrmann	Technician
Michael Bäseke	Technician

1.8 Legal Entity of The Candidate TL

Bureau Veritas Consumer Product Services Germany GmbH is registered under number HRB 3564, Local Court Register Schwerin, Germany.

1.9 Associated Testing Laboratories

The ExTL is integral with the ExCB. Location is Türkheim, Germany.

1.10 Financial Support

BV Germany has the financial stability and resources required for the operation of the IECEx TL from income fees for testing, auditing and certification customer training.

1.11 History

BV E&E Product Services GmbH located in Tuerkheim (Germany) has been created by Bureau Veritas in September 2007. It integrates most of the activities of Innova, a privately owned company created in 2000, bought in January 2007 at 100% by Bureau Veritas and located in Kaufbeuren. Since 18th of August 2009 the fusion has been completed to BV CPS Germany GmbH.



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Since September 2007 BV CPS Germany GmbH is currently issuing documents of compliance, in different areas like: Prüfbescheinigungen (CE), Unbedenklichkeitsbescheinigungen; GS-Certificates and BG- Certificates, in the field of electrical safety (Power Supply for Office/ Lab equipment, Battery loader, Luminaires, IT, household appliances, Medical and ATEX). Faithful to its origins BV E&E PS GmbH provides testing services to different customers in the areas of IEC 60950, 60335, 60601, 61558 and 61010.

BV CPS Germany GmbH has especially experiences in testing of power supply for IT equipment and medical devices. It currently conducts Factory Inspections for these products under the BV-GS- and BV-BG- Mark.

Since 2007-09-01 the BV CPS Germany GmbH operates a facility of around 1300m² in the Industrial Business Park of Türkheim, which enables highly effective testing.

2. ORGANISATION

2.1. Names, Titles and Experience of the Senior Executives

Name	Title	Experience
Dr. Manfred Mayer	CEO	20 years
Guido Kuttler	Technical Director	10 years

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

Name	Title	Experience
Achim Hänchen	Head of certification body and Quality Manager	20 years
Stefanie Grewing	Deputy Quality Manager	9 years

2.3. Name and Title of Nominated Principal Contact

Name	Title	Comments
Achim Hänchen	Head of certification body and Quality Manager	achim.haenchen@de.bureauvertitas.com

2.4. Employees

Name	Title	Experience
Thomas Lammel	Dipl. Ing. (University)	8 Years in all kinds of ignition protection and concerning non-electrical explosion protection
Arno Butzke	Dipl. Ing. (FH)	9 Years in all kinds of ignition protection, focal point on intrinsic safety
Dr. Hartmut Franz	Dr. phys. (University)	30 years of experience, focal point on intrinsic safety and flameproof enclosure
Alfons Drexel	Electrician	9 Years of experience, focal point on flameproof enclosure and selection and installation of



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Name	Title	Experience
		explosion protected equipment according to IEC 60079-14
Magnus Huber	Electrician	2,5 years, focal point on flame-proof enclosure, pressurized enclosure and encapsulation
Nils Dohrmann	Electrician	5 years of experience, focal point on non-sparking "n" according to IEC 60079-15
Natalie Schwaninger	Trainee	2 years of experience
Michael Bäseke	Technician	3 years of experience

2.5. Organizational Structure

See **ANNEXES 1a, 1b and 1c** concerning the organization of BV Germany and BV Germany in Türkheim.

3. RESOURCES

A total of 7 employees are involved in testing activities. 5 persons are listed as Technical Certifiers (technical decision for certification). The laboratory has a pool of measuring equipment available for measurements under IECEx. The testing area for Ex activities is about 600m².

In addition to the above BV Germany Türkheim is using subcontracting of ExTLs for certain clauses in a number of standards to IECEx approved ExTL. The specific tests are listed in Annex 4. The Assessment Team has confirmed the existence of suitable agreements in place according to IECEx requirements.

4. DOCUMENTATION

4.1. Quality Manual

The Quality Manual is valid for all activities at BV Germany in Türkheim and describes the quality policy and the management system. The QM was updated in order to integrate IECEx activities and meets the IECEx Scheme's requirements.

4.2. Procedures

All necessary standard operation procedures (SOP) are available according to ISO/IEC 17025. The Quality manual refers to these SOP's which were reviewed and found to meet IECEx requirements.

4.3. Work Instructions

All necessary standard operation procedures (WI's) are available according to ISO/IEC 17025. The Quality manual refers to these WI's which were reviewed by the assessment team, and found to meet the IECEx System requirements



4.4. Records

Required records are archived as described in the quality manual. The assessment team has confirmed that the record keeping of BV Germany meets the requirements of IECEx.

4.5. Document Change Control

The BV Germany document control procedures are detailed in Chapter 5.3 of the quality manual with the assessment team finding that the procedures meet the requirements of ISO/IEC 17025 and Guide 65, as well as, IECEx related documentation, including keeping up to date with IECEx website.

4.6. Test Records

Required records are archived as described in the quality manual and archived under the respective project number.

5. TEST REPORTS

5.1. Test Reports Issued

Number of **test reports** issued under the national or regional schemes (e.g. ATEX) in the preceding four years for each type of protection:

Standards	Title	Number of issued test reports				Total
		2007	2008	2009	2010	
		N/A				
60079-0	Explosive atmospheres - Part 0: Equipment - General requirements	---	---	---	---	Part 0 included in numbers below
60079-1	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures 'd'	---	0	10	1	11
60079-2	Explosive atmospheres - Part 2: Equipment protection by pressurized enclosures 'p'	---	7	6	3	16
60079-5	Explosive atmospheres - Part 5: Equipment protection by powder filling 'q'	---	0	0	0	0
60079-6	Explosive atmospheres - Part 6: Equipment protection by oil immersion 'o'	---	0	0	0	0
60079-7	Explosive atmospheres - Part 7: Equipment protection by increased safety 'e'	---	1	6	3	10
60079-11	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety 'i'	---	3	10	2	15



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Standards	Title	Number of issued test reports				Total
		2007	2008	2009	2010	
		N/A				
60079-15	Explosive atmospheres - Part 15: Equipment protection by type of protection 'n'	---	8	5	5	18
60079-18	Electrical apparatus for explosive gas atmospheres - Part 18: Construction, test and marking of type of protection encapsulation 'm' electrical apparatus	---	1	3	1	5
60079-25	Explosive atmospheres - Part 25: Intrinsically safe systems	---	0	0	0	0
60079-26	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga	---	0	0	0	0
60079-27	Explosive atmospheres - Part 27: Fieldbus intrinsically safe concept (FISCO)	---	0	0	0	0
60079-28	Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation	---	0	0	0	0
61241-0	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements	---	---	---	---	Part 0 included in numbers below
61241-1	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures 'tD'	---	9	29	5	43
61241-1-1	Electrical apparatus for use in the presence of combustible dust - Part 1: Electrical apparatus protected by enclosures and surface temperature limitation - Specification for apparatus	---	0	0	0	0
61241-4	Electrical apparatus for use in the presence of combustible dust - Part 4: Type of protection 'pD'	---	0	0	1	1
61241-11	Electrical apparatus for use in the presence of combustible dust - Part 11: Protection by intrinsic safety 'iD'	---	1	2	1	4
61241-18	Electrical apparatus for use in the presence of combustible dust - Part 18: Protection by encapsulation 'mD'	---	1	2	0	3



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6. CALIBRATION

The calibration procedures SOP09.0-01 Rev O were reviewed. The calibration system for test equipment operated by BV adequately addresses the necessary requirements. The assessment verified use of calibrated equipment.

7. CONFIDENTIALITY

The confidentiality issue is described in the QM in clause 4. The Corporate Management Manual of Bureau Veritas is binding for each Bureau Veritas Group Member. It is outlined as management task to implement tools to assure confidentiality and conflict of interest. In addition, the employment contract deals with these issues and requires a written statement signed by the employees.

8. NATIONAL ACCREDITATION

BV Germany Türkheim holds an accreditation from the ZLS (German Accreditation Services) for ISO/IEC 17025 (**see ANNEX 2**). It is valid until 30.4.2013. BV Germany is also operating according to the ATEX directive 94/9/EG and is cleared for Group II, categories 1, 2 and 3 for all protection types (all Group II standards under the ATEX directive). See **ANNEX 3a and 3b**.

9. RECOGNITION AND AGREEMENTS

Several agreements are in force concerning areas other than Ex.

10. INTERNAL AUDIT AND PERIODIC REVIEW

This is described in the QM clause 5.4 of the quality manual and associated procedures (SOP's). The Internal Audit Plans for 2010/2011 were present as well as full set of audit documentation. The IECEx requirements are fulfilled.

The last Periodic Management Review was held at the end of August 2009. The minutes with the action plan was issued on September 1st, 2009. The next management review is planned for early 2011. The IECEx requirements are fulfilled.

11. COMPLAINTS AND APPEALS (Including appeals to IECEx)

The complaints procedure is described in the QM, clause 16. It was checked during the assessment and found to meet the requirements of the IECEx.

12. SPECIAL FACTS TO BE NOTED

12.1. *Supporting Documentation*

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



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- On-Site Assessment report (IECEX OD 006)
- Details of issues raised and how these have been resolved
- Checklist for ISO/IEC 17025
- Completed technical guidance notes (TGDs)
- Photos of the facilities and test set up's

12.2. Tests Witnessed

- Flameproof pressure determination (Group IIC)
- Use of spark test apparatus, on a power supply and including a check of the sensitivity of the spark test apparatus for gas mixtures IIB according to 10.1.3.1 IEC 60079-11:2006
- Temperature rise, of a luminaire (was performed on a power supply)
- IP6X/5X test
- Intrinsic Safety Battery Test according to 60079-11

13. COMMENTS (Including issues found during assessment)

During the initial site assessment visit, a number of issues were found. It concerned the Quality Manual, the advisory board, the indemnity insurance, IECEx specific training, subcontracting and the quality assessment activities. Responses to the open issues were checked during a post assessment conducted on 9-10 December 2010 as part of the follow up site visit. As a result of the second site visit and off site reviews enabled the assessment team to resolve all the issues raised to the satisfaction of the assessment team.

14. RECOMMENDATION

Based on the initial assessment performed from 7th to 9th July 2010 and the post assessment from 9th to 10th of December 2010, the TL of Bureau Veritas Consumer Product Services (Germany) GmbH is recommended for acceptance in the IECEx System (IECEX 02) as an IECEx Testing Laboratory (ExTL) according to the scope of the standards listed in this document. Given the limited experience, the assessment team recommends, up to three projects each of the following standards shall be presented to the assessment team prior to the issue of a CoC:

IEC 60079-1, IEC 60079-11 and IEC 60079-15.

Lead Assessor
Heinz Berger

Expert Assessor
Alexander Zalogin

Expert Assessor
Nicholas Ludlam

Date: December 10th, 2010



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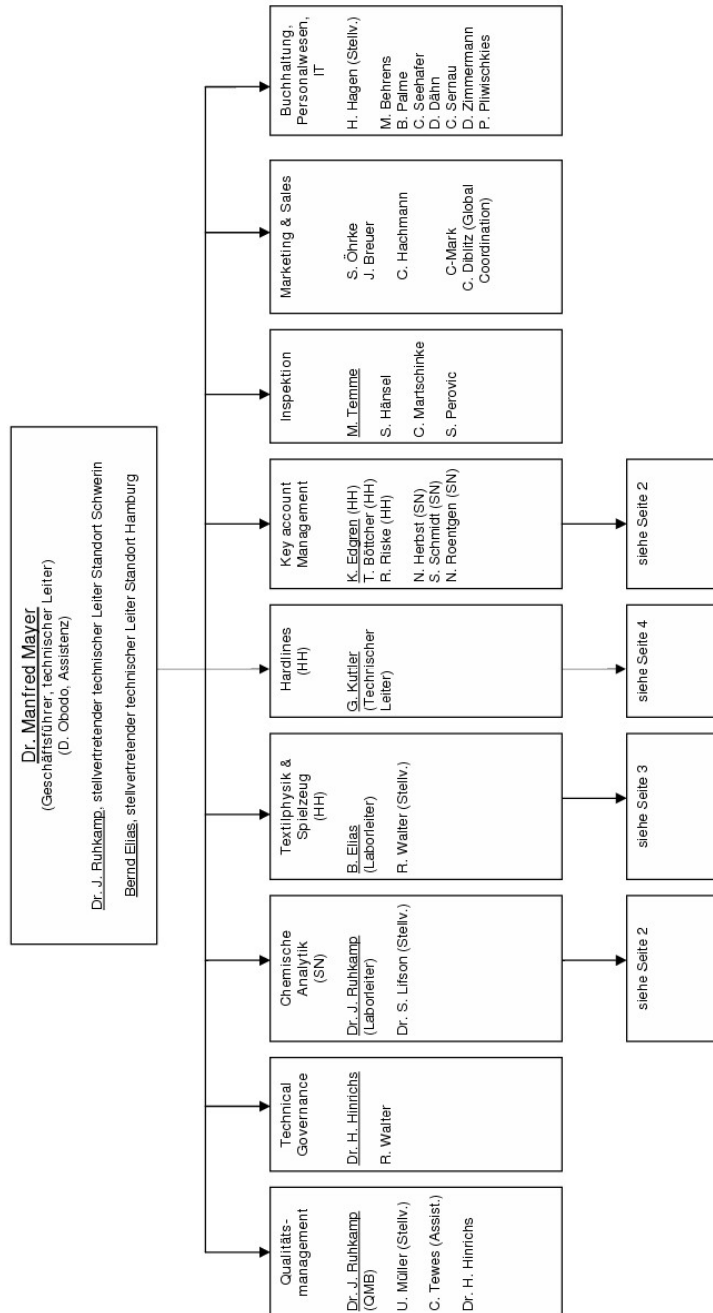
List of Annexes:

Annex 1a: Organization Chart of Bureau Veritas Germany (Overall)
Annex 1b: Organization Chart of Bureau Veritas Türkheim, Germany
Annex 1c: Detailed Organization Chart of BV Germany Türkheim incl. Ex activities
Annex 2: Accreditation Certificate for ISO/IEC 17025
Annex 3a und 3b: Notification document for ATEX Notified Body No. 2004
Annex 4: List of Subcontractors

Annex 1a

CONSUMER PRODUCT SERVICES - Germany

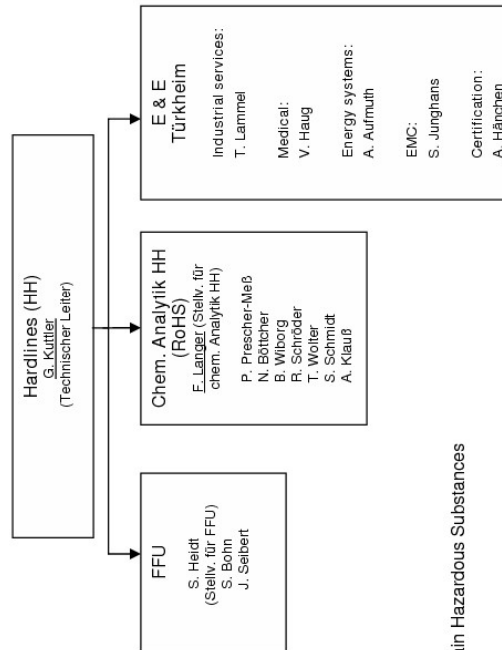
Organigramm 31.12.2009



Annex 1b

CONSUMER PRODUCT SERVICES - Germany

Organigramm 31.12.2009



Erläuterungen:

FFU = Fit for Use

RoHS = Restriction of certain Hazardous Substances

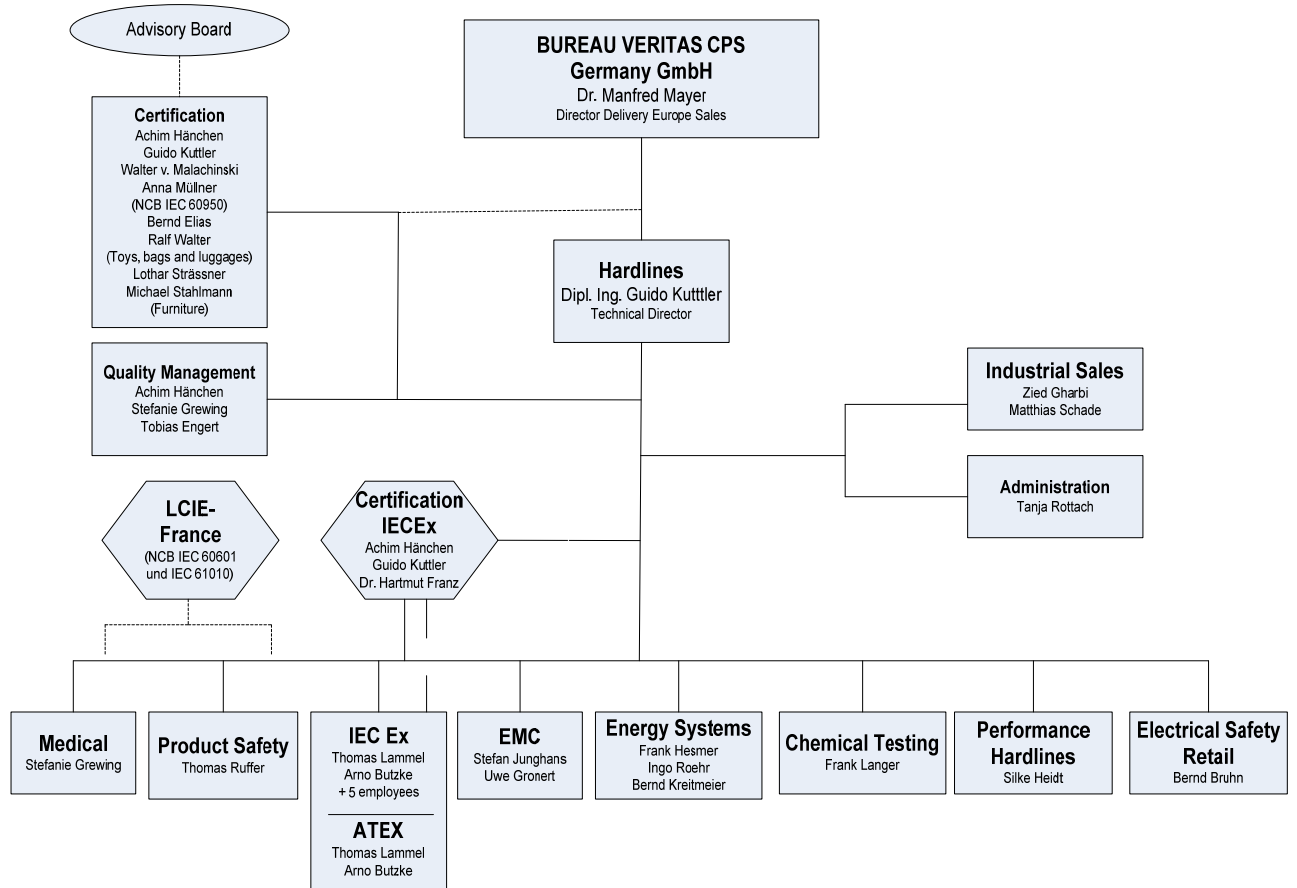
E & E = Electric/Electronic



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Annex 1c

Organigramm



Annex 2

AKKREDITIERUNG



Die Zentralstelle der Länder für Sicherheitstechnik (ZLS)

bestätigt hiermit, dass das

**Prüflaboratorium
der
Bureau Veritas E&E Product Services GmbH
Businesspark A96, 86842 Türkheim**

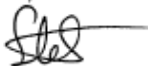
die Anforderungen des § 11 Abs. 1 des Geräte- und Produktsicherheitsgesetzes
und der Norm DIN EN ISO/IEC 17025 erfüllt und die Kompetenz besitzt,

Geräte für den Einsatz in explosionsgefährdeten Bereichen
im Geltungsbereich des GPSG und der EG-Richtlinie 94/9/EG
entsprechend den Bestimmungen des Akkreditierungsbescheides
Nr. ZLS-G3926.1-2008/1
zu prüfen.

Die Akkreditierung ist gültig bis zum **30.04.2013**.

Reg.-Nr.: **ZLS-P-762/08**

München, den 16.05.2008



Dipl.-Phys. Stelz
Ministerialrat



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Annex 3a

Notification of a Body in the framework of a technical harmonization directive

From : Bundesanstalt für Arbeitsschutz und Arbeitsmedizin, Gruppe 2.1
"Produktbeschaffenheit, Grundsatzfragen"
Friedrich-Henkel-Weg 1-25
D-44149 Dortmund
Germany

To : **European Commission**
Enterprise Directorate-General
-
B 1049 Brussels
Other Member States

Reference : Directive : 94/9/EC Equipment and protective systems intended for use in potentially explosive atmospheres

Body name, address, telephone, fax, email, website :

Bureau Veritas E & E Product Services GmbH
Businesspark A96
86842 Türkheim
Germany
Phone : +49 (8245) 968100
Fax : +49 (8245) 9681099
Email : achim.haenchen@de.bureauveritas.com
Website : <http://www.bureauveritas.com>

Body :

NB 2004

Created : 19/12/2007 | **Last update :** 22/04/2010

Period of validity of the notification :

Valid until : Unlimited

The body is designated for :

EN 45012 - EN ISO/IEC 17021
EN 45011

The competence of the body was assessed by :

The assessment of the body covers the product categories and conformity assessment procedures concerned by this notification : Yes



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Annex 3b

Tasks performed by the Body :

Created : 21/09/2009 | Last update : 22/09/2009

Product family, product /Intended use/Product range	Procedure/Modules	Annexes or articles of the directives
Equipment in equipment group II, category 1G as follows - Non electrical equipment Equipment in equipment group II, categories 2G and 3G as follows - Non electrical equipment Equipment in equipment group II, category 1 as follows - Electrical equipment Equipment in equipment group II, categories 2 and 3 as follows - Electrical equipment	Production quality assurance Product verification EC type-examination	Annex IV Annex V Annex III

ANNEX 4

List of Subcontractors for IECEx Activities BV Germany

<u>Number:</u>	<u>Name of Subcontractor:</u>	<u>Standards and clauses:</u>	<u>Description:</u>	<u>Accreditation Info:</u>	<u>Date/Validity of Accreditation:</u>
1	Contract checked and OK	<i>IEC 60079-1, 19.2.1</i> <i>IEC 60079-7, 6.2</i> <i>IEC 60079-7, 6.3</i> <i>IEC 60079-7, 6.6</i> <i>IEC 60079-7, 6.8</i> <i>IEC 60079-7, 4.4</i> <i>IEC 60079-15, 33.8</i> <i>IEC 60079-15, 33.9</i> <i>IEC 60079-5, 5.1.1</i> <i>IEC 60079-5, 5.1.4</i> <i>IEC 60079-6, 5.1.1</i> <i>IEC 60079-6, 5.1.2</i> <i>IEC 60079-6, 5.1.3</i>	CTI Testing Test of rotating electrical machines Test of luminaires designed for mains supply Test of secondary batteries Resistance heating devices and resistance heating units CTI Testing Test for screw lamp-holders Test for starter holders for luminaires Pressure type test of enclosure Dielectric strength test of the filling material Overpressure test on sealed enclosures Reduced pressure test on sealed enclosures Overpressure test on un sealed enclosures	IECEx Testing Lab	Accreditation checked and OK
2	Contract checked and OK	<i>IEC 60079-15, 33.10</i> <i>IEC 60079-15, 33.12</i>	<i>Test for electronic starters for fluorescent lamps and for ignitors for high pressure sodium or metal halide lamps</i> <i>Mechanical shock tests for</i>	IECEx Testing Lab	Contract checked and OK



ANNEX 4

		<i>IEC 60079-15, 33.14</i>	<i>batteries Additional ignition tests for large or high-voltage machines</i>		
3	<i>Contract checked and OK</i>	<i>IEC 60079-0, 26.5.11</i>	<i>Thermal conductivity of the used wood dust</i>	<i>IECE 17025 accredited Lab</i>	<i>Contract checked and OK</i>