ExMC/801/R
October 2012

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

Title: Re-assessment Report for the continued acceptance of *TÜV NORD CERT GmbH* as an Accepted Certification Body (ExCB)

To: Members of the IECEx Management Committee, ExMC

Introduction

In accordance with the 5 year re-assessment plan for the surveillance and monitoring of bodies within the IECEx System, the following document contains the IECEx Re-assessment Report for *TÜV NORD CERT GmbH* as an Accepted Certification Body (ExCB)

This report is issued for endorsement during the 2013 Fortaleza, Brazil Meeting.

Chris Agius
IECEx Secretariat

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October 2012

IECEx ASSESSMENT REPORT FOR TÜV NORD CERT GmbH, Germany
IECEx Certification Body ExCB

Type of Assessment:

Initial Assessment for Candidate ExCB

Re-Assessment of ExCB **X**

Scope Extension of ExCB

1. OBJECT AND FIELD OF APPLICATION

1.1. Country:

Germany

1.2. Name of Candidate ExCB

TÜV NORD CERT GmbH

1.3. Members of the Assessment Team

Heinz Berger – IECEx Officer - IECEx Lead Assessor
Nick Ludlam – IECEx Expert Assessor

1.4. Place and Date of Assessment

TÜV NORD CERT GmbH
Hanover Office
Am TÜV 1
30519 Hannover
Germany

May 10th – 12th, 2011

1.5. Assessment References

i) IECEx 02 (current version)
ii) IECEx OD 003 (current version)
iii) IECEx OD 005 (current version)
iv) IECEx OD 009 (current version)
v) IECEx OD 007 (current version)
vi) IECEx OD 025 (current version)
vii) IECEx Document F-001 (QAR Form)

viii) ISO/IEC Guide 65:1996
ix) IECEx OD 17 (current version)

1.6. *Scope of Application*

Number	Title	Acceptance
60079-0 Ed. 3.1,4.0, 5, 6	Explosive atmospheres - Part 0: Equipment - General requirements	YES
60079-1 Ed. 4, 5, 6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures 'd'	YES
60079-2 Ed. 4, 5	Explosive atmospheres - Part 2: Equipment protection by pressurized enclosures 'p'	YES
60079-5 Ed. 2, 3	Explosive atmospheres - Part 5: Equipment protection by powder filling 'q'	YES
60079-6 Ed. 2, 3	Explosive atmospheres - Part 6: Equipment protection by oil immersion 'o'	YES
60079-7 Ed. 3, 4	Explosive atmospheres - Part 7: Equipment protection by increased safety 'e'	YES
60079-11 Ed. 4, 5, 6	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety 'i'	YES
60079-15 Ed. 1, 2, 3, 4	Explosive atmospheres - Part 15: Equipment protection by type of protection 'n'	YES
60079-18 Ed. 1, 2, 3	Electrical apparatus for explosive gas atmospheres - Part 18: Construction, test and marking of type of protection encapsulation 'm' electrical apparatus	YES
60079-25 Ed. 1, 2	Explosive atmospheres - Part 25: Intrinsically safe systems	YES
60079-26 Ed. 1, 2	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga	YES
60079-27 Ed. 1, 2	Explosive atmospheres - Part 27: Fieldbus intrinsically safe concept (FISCO)	YES
60079-28 Ed. 1	Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation	YES
60079-31 Ed. 1	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"	YES
61241-0 Ed. 1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements	YES
61241-1 Ed. 1	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures 'tD'	YES

Number	Title	Acceptance
61241-4 Ed. 1	Electrical apparatus for use in the presence of combustible dust - Part 4: Type of protection 'pD'	YES
61241-11 Ed. 1	Electrical apparatus for use in the presence of combustible dust - Part 11: Protection by intrinsic safety 'iD'	YES
61241-18 Ed. 1	Electrical apparatus for use in the presence of combustible dust - Part 18: Protection by encapsulation 'mD'	YES

1.7. *Candidate ExCB Persons Interviewed*

Name	Position
Klaus Oberste Lehn	Head of Certification Body
Claudia Käsehagen	Deputy Head of Certification Body
Karl-Heinz Schwedt	Head of Certification Body IECEx and Head of Department Explosion Protection
Andreas Meyer	Head of Test Laboratory
Herbert Peters	Deputy Head of Test Laboratory
Helmut Pfisterer	Quality Management Representative

1.8. *Legal Entity of the Candidate ExCB*

TÜV NORD CERT GmbH is a legally registered company. The company is registered under the number HRB 9976 by the Local Court in Essen, Germany. The validity is unlimited. The certification and testing processes for Ex proof equipment takes place at the Hanover office.

1.9. *Associated Testing Laboratories*

The ExTL is integral with the ExCB.

1.10. *Associated Certification Functions*

TÜV NORD CERT is the Certification Body for the TÜV NORD Group. This covers almost all Quality Management System certifications as well as product certification on voluntary basis and in a number of European regulated fields including lifts, machinery, medical devices, consumer products (e.g. German GS Mark), outdoor noise and Directive 94/9/EC (ATEX) for products used in hazardous areas. The company is also accepted within the IECEE scheme.

1.11. *National Marks and Certificates*

TÜV NORD CERT is a notified body (Number 0044) under the ATEX directive in Europe.

1.12. *Financial Support*

The operation is financed from its operations in testing, quality assessment and certification.

1.13. *History*

The history of TÜV NORD dates back to 1873. TÜV's was first involved in the testing of steam boilers and mining. Later it expanded in to a number of other fields, including pressure vessels and motor vehicles. The TÜV NORD GROUP has now 10300 employees worldwide in 70 countries. Product certification covers a number of areas including material testing.

TÜV NORD CERT GmbH is a merger of TÜV NORD and RW TÜV registered on first of April 2006 in the city of Essen and employs 340 employees. The present group "Explosion protection" has been involved in Ex-Certification since 1989, has been accepted as a notified body according to the ATEX Directive in 1996, and within the IECEx Scheme in 2001.

1.14. *Standards Accepted*

See clause 1.6 of this report.

1.15. *National Differences to IEC Standards*

The national differences of Germany are declared and detailed in the current edition of the IECEx Bulletin.

2. ORGANISATION

2.1. *Names, Titles and Experience of the Senior Executives*

Name	Title	Experience Ex/Overall
Klaus Oberste Lehn	Head of the Certification Body	7 / 24 years
Claudia Käsehagen	Deputy Head of the Certification Body	-- / 25 years
Karl-Heinz Schwedt	Head of the IECEx Certification Body and Head of Department Explosion Protection	15 / 33 years
Andreas Meyer	Head of Test Laboratory	20 / 22 years
Herbert Peters	Deputy Head of Test Laboratory	24 / 24 years

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

Name	Title	Experience
Helmut Pfisterer	Quality Management Representative	34 years
Hakan Sen	Deputy Quality Management Representative	5 years

2.3. *Name and Title of Nominated Principal Contact*

Name	Title	Comments
Karl-Heinz Schwedt	Head of the IECEx Certification Body	**kschwedt@tuev-nord.de**

2.4. *Name and Title of Signatories for Certification*

Name	Title	Comments
Karl-Heinz Schwedt	Head of the IECEx Certification Body	**kschwedt@tuev-nord.de**
Andreas Meyer	Deputy Head of the IECEx Certification Body	**ameyer@tuev-nord.de**
Herbert Peters	Deputy Head of the IECEx Certification Body	**hepeters@tuev-nord.de**

2.5. *Other Employees in ExCB activity*

Name	Title	Responsibility and Experience in Ex
Claudia Käsehagen	Head of Certification Services	
Dirk Drommershausen	Head of Order Services	
Gabriele Badendick	Team Assistance	
Yvonne Lademacher	Team Assistance	

Several CV's were checked during the assessment. The main issues checked were education, confidentiality agreements and training.

2.6. *Organizational Structure*

See attached organization charts in **ANNEXES 1a, 1b and 1c.**

2.7. *Administration (including Indemnity Insurance)*

TÜV NORD CERT has two supporting departments. Order Service and Certification Service. For these two activities about 50 people are involved.

TÜV NORD holds an insurance contract from the HDI Gerling Insurance Company. The contract number is 39-130133-01020 and is valid from 1.1.2012 to 1.1.2013. It can be renewed every year for a further year. The coverage was checked during the assessment and found to be adequate.

3. RESOURCES

TÜV NORD CERT has 17 persons employed for the Ex certification and administration.

4. COMMITTEES / Governing Board / Appeals / Advisory Board

Procedure CERT-VA-013 and related procedures cover the operation of the central council/advisory board. It has the involvement of interested parties, covering Government, manufacturers, users and research. The board is independent of the operation, meets yearly and provides feedback and advice on policy, including monitoring of the activities. During the assessment, the procedure, the confidentiality agreements as well as the minutes were checked and found to meet the requirements of the IECEx

5. CERTIFICATION OPERATIONS

5.1. *National Approval/Certification Methods*

TÜV NORD CERT operates as a notified body in the field of the European Directive 94/9/EC (ATEX).

5.2. *Certification Policy*

Chapter 01 of the Quality Management Handbook deals with certification. TÜV NORD CERT operates according to the "Testing and Certification Regulations for the Field of Product Testing and Certification".

5.3. *Application for Certification*

Applications are handled according to procedure P17-VA-01 referring to the TÜV NORD CERT intranet as well as to the documents on the IECEx website concerning equipment certification (IECEx 02, following document P17-F-600).
The general order handling is described in CERT-AA-010. Applications/orders are handled on a “project sheet”. Contract review is documented.

Certification Decision - The certification decision is described in document P17-VA-01. All details are documented in form P17-F-150. The documents were checked during the assessment and found to meet the requirements of the IECEx.

5.4. *Suspension and Cancellation of Certificates*

Suspension and cancellation of certificates is described in document P17-VA-01-A4. The document was checked during the assessment and found to meet the requirements of the IECEx.

6. STATISTICS

6.1. Certificates Issued

Number of **certificates** issued under the IECEx, national schemes in the preceding four years for each type of protection:

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Standards	Title	Number of issued certificates				
		2008	2009	2010	2011	Total
60079-0	Explosive atmospheres - Part 0: Equipment - General requirements					**Part 0 included in numbers below**
60079-1	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures 'd'	6	6	9	7	28
60079-2	Explosive atmospheres - Part 2: Equipment protection by pressurized enclosures 'p'	---	---	1	---	1
60079-5	Explosive atmospheres - Part 5: Equipment protection by powder filling 'q'	---	---	---	---	---
60079-6	Explosive atmospheres - Part 6: Equipment protection by oil immersion 'o'	---	---	---	---	---
60079-7	Explosive atmospheres - Part 7: Equipment protection by increased safety 'e'	1	1	2	2	6
60079-11	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety 'i'	31	25	40	13	109
60079-15	Explosive atmospheres - Part 15: Equipment protection by type of protection 'n'	11	4	13	8	36
60079-18	Electrical apparatus for explosive gas atmospheres - Part 18: Construction, test and marking of type of protection encapsulation 'm' electrical apparatus	---	---	---	---	---
60079-25	Explosive atmospheres - Part 25: Intrinsically safe systems	---	---	---	---	---
60079-26	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga	---	---	---	---	---
60079-27	Explosive atmospheres - Part 27: Fieldbus intrinsically safe concept (FISCO)	---	---	---	---	---

Standards	Title	Number of issued certificates				
		2008	2009	2010	2011	Total
60079-28	Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation	---	---	---	---	---
60079-31	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"	---	---	---	---	---
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'	8	1	7	5	21
61241-4	Electrical apparatus for use in the presence of combustible dust - Part 4: Type of protection 'pD'	---	---	1	---	1
61241-11	Electrical apparatus for use in the presence of combustible dust - Part 11: Protection by intrinsic safety 'iD'	7	7	20	5	39
61241-18	Electrical apparatus for use in the presence of combustible dust - Part 18: Protection by encapsulation 'mD'	---	---	---	---	---

Some of the CoC's may cover more than one type of protection.

7. DOCUMENTATION

7.1. Quality Manual

The quality system of TÜV NORD CERT is described in the document "Document Structure". The first part concerns the TÜV NORD GROUP. The second part concerns TÜV NORD CERT in general. The Ex department is part of TÜV NORD CERT. The third part of the quality manual concerns all departments where the Ex department is following documents starting with the number P17. Documents within P17 are structured as follows: VA: Procedures, AA: Work instructions; F: forms and MU: additional documents.

Persons needing access to these documents can see them on the Intranet, Extranet and Internet. They are all password protected. The administration of all these documents is centralized and updated on a regular basis. Only documents available on electronic means are valid.

Some of these documents were checked during the assessment and found to meet the requirements of the IECEx.

7.2. Procedures

Two procedures one for testing and one for certification rule the work with ex proof equipment. In addition various instructions and forms are available. The documents were checked during the assessment and found to meet the requirements of the IECEx.

7.3. Work Instructions

Work instructions are included in the documents mentioned above.

7.4. Records

Procedure CERT-AA-010 describes the order process including records. This procedure is a superimposed procedure for all certification departments of TÜV NORD CERT.

7.5. Document Change Control

Document change control is described in procedure CERT-VA-007, to be applied by all TÜV CERT departments. Responsible for the changes concerning IECEx is the Head of the IECEx CB. Changes of documents are compiled according to CERT-MU-010 and CERT-MU-011.

8. CONFIDENTIALITY

Every employee is required to sign an employment contract that includes a provision to ensure confidentiality of company and customer information with the potential penalty of immediate dismissal and possible criminal action. Several agreements were checked and found to meet the requirements of the IECEx.

9. PUBLICATIONS

There is information included on the TÜV NORD CERT intranet, extranet and website. Employees are encouraged to publish information about their work in technical journals.

10. NATIONAL ACCREDITATION

The accreditation is from ZLS – Central State Board for Safety Technology, the accreditation is valid until April 13th, 2017. See Annex 2 for the certificate. Further evidence was provided during the assessment to grant certification competence.

11. RECOGNITION AND AGREEMENTS

There are agreements on mutual acceptance of reports with Nanio CCVE in Russia and NEPSI in China and KOSHA in Korea.

12. INTERNAL AUDIT AND PERIODIC MANAGEMENT REVIEW

Internal audits are described in procedure CERT-VA-008. During the assessment, the internal audit plan for 2010 and 2011 were checked as well as the minutes from the 2010 internal assessment including the resolution of open issues. It was found to meet the requirements of the IECEx.

Management reviews are described in procedure CERT-VA-022. The last management review was held on January 27th, 2011. During the assessment the procedure and the minutes were checked and found to meet the requirements of the IECEx.

13. SUBCONTRACTING, USE OF OTHER LABS AND USE OF OTHER LOCATIONS

Subcontracting is described in procedure P17-VA-02.

TÜV NORD CERT is using subcontracting in the following areas:
IECE 60079-0: Small component ignition, resistance to light, resistance to chemical agents
IEC 60079-1: Annex B bubble test
IEC 60079-7: Bi-pin lamps
IEC 60079-28: Ignition tests

All contracts were presented and found to meet the requirements of the IECEx.

14. TRAINING

Training is described in procedure CERT-AA-013. Training is defined in annual meetings with personnel and according to new requirements given by the IECEx System.

The training plan and its performance was checked during the assessment and found to meet the requirements of the IECEx.

The TÜV NORD GROUP is presently implementing the system "CARUSO" which will give a comprehensive overview about the status of education and training.

15. ASSESSMENT OF MANUFACTURERS AND ISSUE OF QARS

The QAR process is described in procedure P17-VA-01 and also follows the requirements of the IECEx Scheme.

The following QARs were checked during the assessment and found to meet the requirements of the IECEx:

- QAR 10 202 38228, manufacturer in Germany, protection types is, e and tD

- QAR TUN 07.0002, manufacturer in Germany, protection types is and "is op"
- QAR 11 216 390935, manufacturer in Germany, protection type e
- QAR 09 204 555405, manufacturer in Germany, protection types i, e, d and m

All activities concerning QARs as well as the validity surveillance is made by means of a newly implemented database. This new database was demonstrated during the assessment.

16. COMPLAINTS AND APPEALS (Including appeals to IECEx)

Complaints and appeals are described in procedure CERT-VA-012. The complaints and appeals are handled using an electronic system. The procedure was checked and found to meet the requirements of the IECEx. The demonstration of the electronic system showed the high efficiency of the system.

17. SPECIAL FACTS TO BE NOTED

17.1. Supporting Documentation

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

- Details of issues raised and how these have been resolved
- Competence Matrix
- List of Subcontractors
- Checklist for ISO/IEC Guide 65

18. COMMENTS (Including issues found during assessment)

During the assessment non conformances were found in the area of accreditation, subcontracting and appeal board. These were subsequently addressed by TUV NORD, reviewed by the assessment team and found to meet the requirements of IECEx.

19. RECOMMENDATION

Based on the re-assessment performed from May 10th to 12th, 2011, the ExCB of TÜV NORD CERT GmbH is recommended for continued acceptance in the IECEx Scheme as an IECEx Certification Body (ExCB) according to the scope of the standards listed in this document.

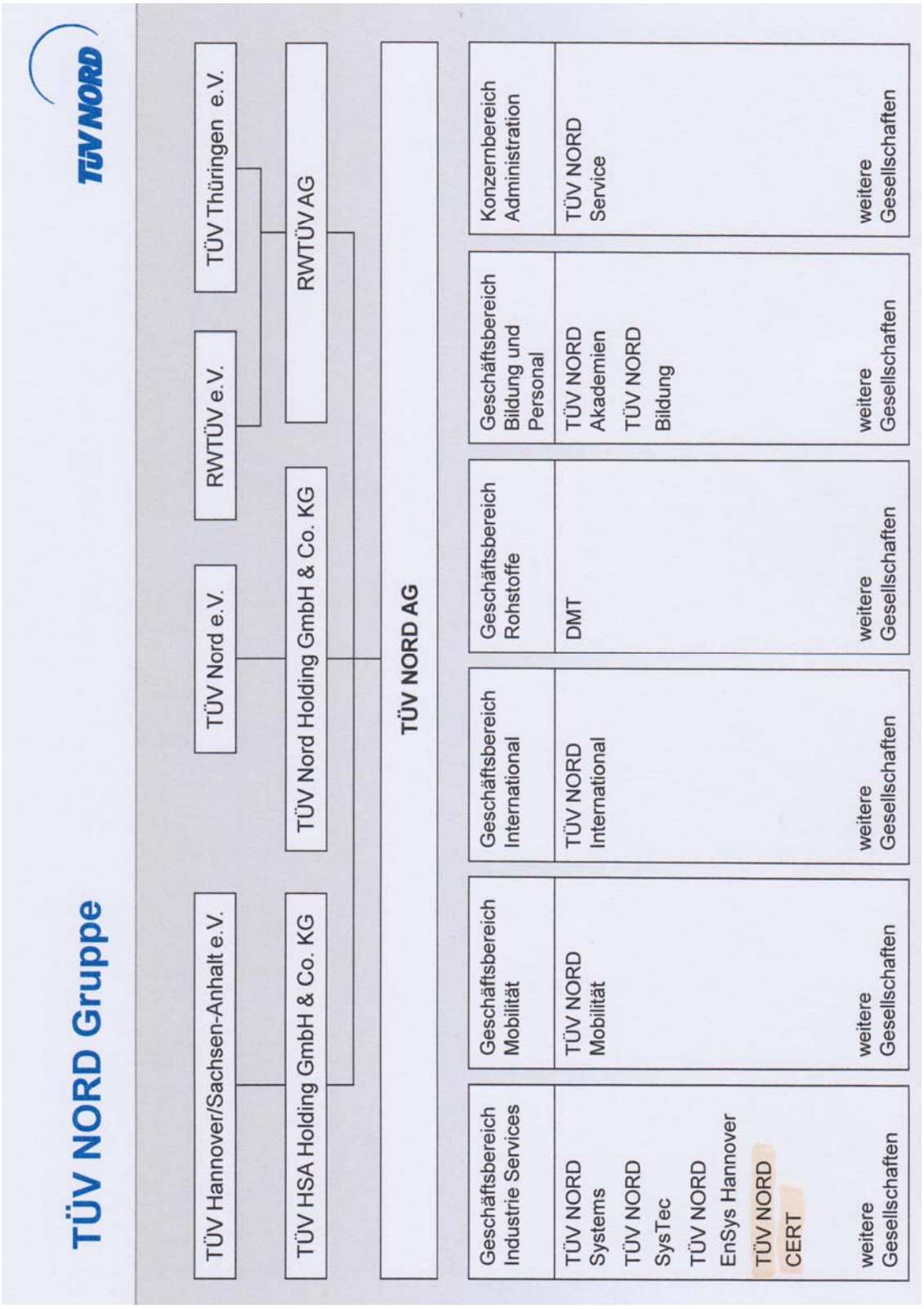
Lead Assessor	Expert Assessor
Heinz Berger	Nick Ludlam

Date: May 12th, 2011

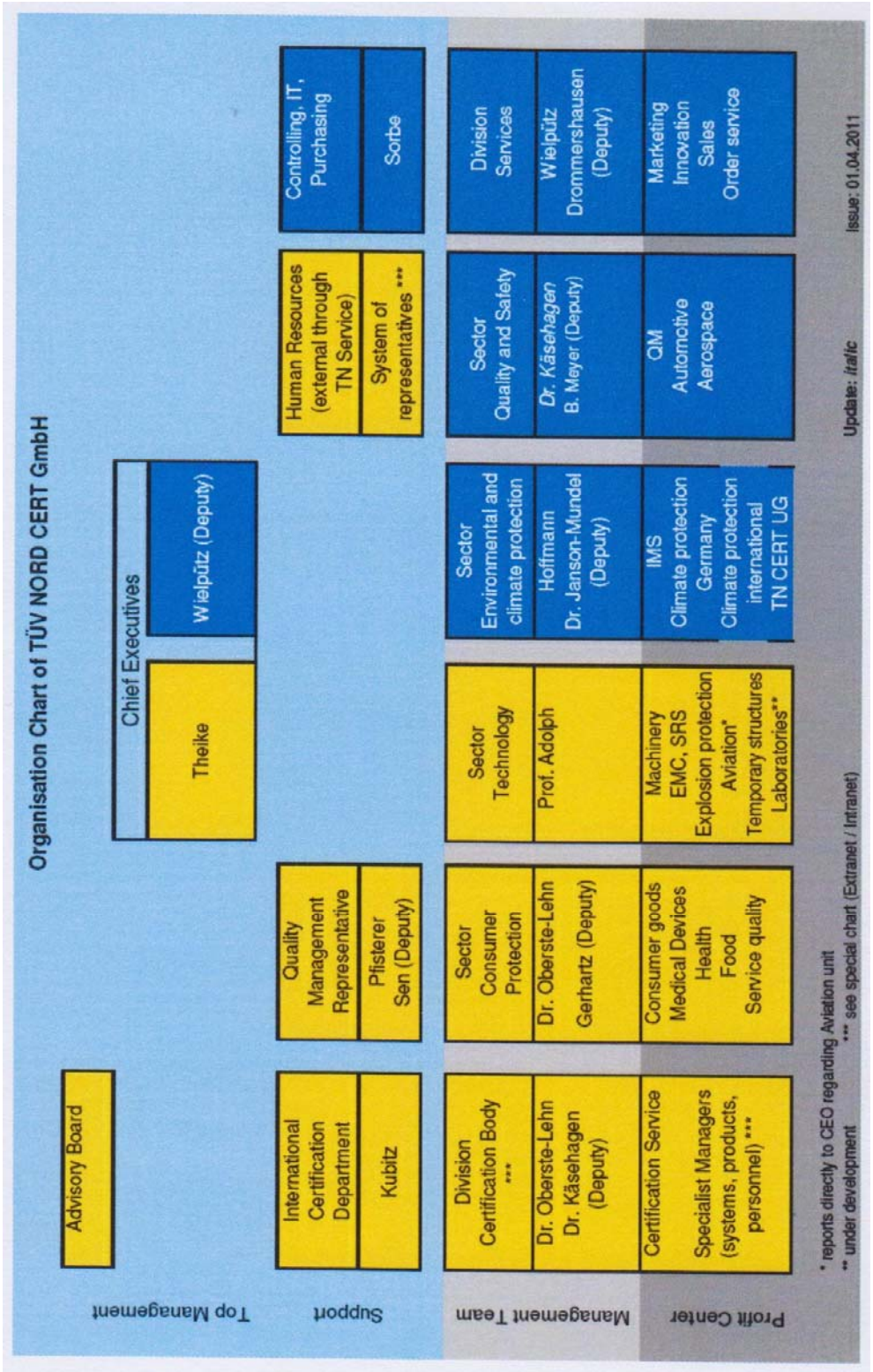
List of Annexes:

Annex 1a: Overall Organization Chart of the TÜV NORD GROUP AG
Annex:1b: Organization Chart of TÜV NORD CERT
Annex 1c: Organization Structure of Certification Body
Annex 2: Certificate for ExCB from ZLS

ANNEX 1a: Organization Chart of the TÜV NORD GROUP



ANNEX 1b: Overall Organization Chart of TÜV NORD CERT GmbH



ANNEX 1c: Organization Structure of Certification

TÜV NORD CERT GmbH
Zertifizierungsstelle *Certification Body*

TÜV NORD

Zertifizierungsteam = Zertifizierungsstellenleiter + Fachleiter
Certification team = Head of Certification Body + Specialist managers

Bereich Zertifizierungsstelle / *Division Certification Body*
Zertifizierungsstellenleiter / Head of Certification Body — ZSL (Seewald) [Dr. Käsehagen]

Administration *Administration* / Zertifizierungsservice *certification service* — FL (Dr. Käsehagen, Drommershausen)

Notifizierte / Benannte Stelle 0044 *Notified Body*
Zertifizierung von Produkten und Anerkennung von QS / QM
Certification of Products and assessment of QS / QM
(DIN EN 45011, ISO 17021 und EU-Richtlinien)**

Konsumgüter/Spielzeuge *Consumer Products /Toys* (88/378/EEC) (2006/95/EC)	FL	(Eck)*) [Bulka, Wucherpfennig, Laborenz]
Explosionsgeschützte Geräte *Explosion-proof Equipment*** (94/9/EC), IECEx	FL	(Schwedt)*) [Meyer, Peters, Stürwold]
Medizinprodukte *Medical Devices*** (90/385/EEC) (93/42/EEC) (ISO 13485)	FL	(Dr. Schacht)*) [Jung, Paske, Hartweg]
Maschinen *Machinery*** (98/37/EC)	FL	(Wucherpfennig)*) [Bulka, Eck, Prof. Adolph, Laborenz]
Sicherheitsbauteile von Aufzügen *Safety components of lifts*** (95/16/EC)	FL	(Prof. Dr. Adolph)*) [Laborenz]
Outdoor Noise (Geräte und Maschinen) *(Devices and Machines)* (2000/14/EC)	FL	(Achgelis)*) [Werner, Spellerberg]
Bauprodukte *Construction Products* (89/196/EEC)	FL	(Schwedt)*) [Laborenz, Prof. Dr. Adolph]

*) Leiter der Benannten / Anerkannten Stelle gemäß EU-Richtlinien *Head of Notified Body for the relevant EC Directives Head oft he IECEx CB*

FL: Fachleiter / Leitung Zertifizierungsgebiet/ Leitung notified body *Specialist Manager* (Leiter) [Deputy]
ZSL: Zertifizierungsstellenleiter / *Head of Certification Body*

ANNEX 2: Certificate for ExCB from ZLS

Zentralstelle der Länder für Sicherheitstechnik

ZLS

Befugniserteilung

Die Zentralstelle der Länder für Sicherheitstechnik (ZLS)

bestätigt hiermit, dass die

TÜV NORD CERT GmbH
Langemarckstraße 20, 45141 Essen

gemäß § 15 Abs. 1 des Produktsicherheitsgesetzes (ProdSG)
befugt ist, für

Geräte zur bestimmungsgemäßen Verwendung
in explosionsgefährdeten Bereichen

im Geltungsbereich des ProdSG und der Richtlinie 94/9/EG entsprechend den Bestimmungen des Bescheides Nr. II6/0076.461-1/9

Konformitätsbewertungsverfahren durchzuführen.

Die Befugnis ist gültig bis zum 13.April 2017.
Reg.-Nr.: **ZLS-NB-56/12**

München, den 30.04.2012

Dipl.-Phys. Franz Xaver Stelz
Stellvertretender Leiter der ZLS

ZLS im Bayerischen Staatsministerium für Arbeit und Sozialordnung, Familie und Frauen
Winzererstraße 9, 80797 München