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

Title: Re-assessment Report for continued acceptance of Physikalisch-Technische Bundesanstalt (PTB) as Ex Certification Body.

To: Members of the IECEx Management Committee, ExMC

Introduction

This document contains the IECEx Re-assessment Report for Physikalisch-Technische Bundesanstalt (PTB) of Germany as an Accepted ExCB in accordance with the 5-year re-assessment plan for the surveillance and monitoring of bodies under the IECEx Scheme.

This Report is issued for endorsement at the 2005 ExMC Buxton Meeting.

Chris Agius
IECEx Secretariat

Address:
SAI Building
286 Sussex Street
Sydney NSW 2000
Australia

Contact Details:
Tel: +61 2 8206 6940
Fax: +61 2 8206 6272
e-mail: chris.agius@iecex.com
http://www.iecex.com

IECEx RE-ASSESSMENT REPORT FORM
For ExCB
(Continued Acceptance as Ex Certification Body)

1. OBJECT AND FIELD OF APPLICATION

1.1 *Country*
Germany

1.2 *ExCB under Re-Assessment*

Physikalisch-Technische Bundesanstalt (PTB), 38116 Braunschweig

1.3 *Members of the Assessment Team*

Jim Munro, Lead Assessor
Heinz Berger, Expert Assessor

1.4 *Place and Date of Assessment*

PTB, Bundesallee 100, 38116 Braunschweig, Germany

September 2–3, 2004

1.5 *Assessment References*

Document:
i) IECEx 02 Second Edition
ii) IECEx Operational Document OD/009/V1
iii) ISO/IEC Guide 65 1996

1.6 Current *Scope of Acceptance*

Product Category	Standard
General Requirements	IEC 60079-0
Flameproof Enclosures "d"	IEC 60079-1
Pressurised Enclosures "p"	IEC 60079-2
Sand-filled Apparatus "q"	IEC 60079-5
Oil-immersed Apparatus "o"	IEC 60079-6
Increased Safety "e"	IEC 60079-7
Intrinsic Safety "i"	IEC 60079-11
Electrical Apparatus with Type of Protection "n"	IEC 60079-15
Encapsulation "m"	IEC 60079-18
Apparatus for combustible dusts	IEC 61241-1-1

1.7 *Any changes in Scope*

Intrinsically Safe Systems	IEC 60079-25

Group II Zone “0” Electrical Apparatus	IEC 60079-26
Field bus Intrinsically Safety concept (FISCO)	IEC 60079-27
Protection by Enclosures “tD”	IEC 61241-1
Protection Dust Overpressure “pD”	IEC 61241-4
Encapsulation “mD”	IEC 61241-18
Combustible dust - General requirements	IEC 61241-0
Resistance Trace heating (General requirements)	IEC 62086-1

1.8 *ExCB Persons Interviewed*

Name	Position
Dr. Hans Wehinger	Head of ExCB

1.9 *Any changes in Legal Status of the ExCB*

No change: Governmental Body of the Federal Republic of Germany

1.10 *Associated Testing Laboratories*

Names of Laboratories

PTB Division 3 with the following departments involved in IECEx activities:

3.4, 3.5, 3.6, 3.7 (see organizational structure in Annex 1)

There was no subcontracting according to surveillance assessment report of DAP dated March 23, 2004 (DAP: German Accreditation System). However, it was noted in this assessment that CTI testing is not done by PTB, with results generally being accepted from VDE.

1.11 *National Marks and Certificates*

No National Marks and Certificates.

1.12 *Financial Support*

PTB has the financial stability and resources required for the operation of the IECEx CB.

1.13 *Standards Accepted*

Product Category	Standard
General Requirements	IEC 60079-0
Flameproof Enclosures "d"	IEC 60079-1
Pressurised Enclosures "p"	IEC 60079-2
Sand-filled Apparatus "q"	IEC 60079-5
Oil-immersed Apparatus "o"	IEC 60079-6
Increased Safety "e"	IEC 60079-7
Intrinsic Safety "i"	IEC 60079-11
Electrical Apparatus with Type of Protection "n"	IEC 60079-15
Encapsulation "m"	IEC 60079-18
Apparatus for combustible dusts	IEC 61241-1-1
Intrinsically Safe Systems	IEC 60079-25

Group II Zone “0” Electrical Apparatus	IEC 60079-26
Field bus Intrinsically Safety concept (FISCO)	IEC 60079-27
Resistance Trace heating (General requirements)	IEC 62086-1
Combustible dust - General requirements	IEC 61241-0
Combustible dust - Protection by Enclosures “tD”	IEC 61241-1
Combustible dust – Type of protection “pD”	IEC 61241-4
Combustible dust – Type of protection “mD”	IEC 61241-18

Note: IEC 600079-27 is a Technical Specification, not a Standard. It is recommended that a decision be taken by the IECEx ExMC on the appropriateness of including a Technical Specification.

1.14 *National Differences to IEC Standards*

No German National Differences apply.

2. ORGANISATION

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

Name	Title	Experience
Hans Wehinger	Dr.	23 years
Uwe Klausmeyer	Dr.	20 years
Heyno Bothe	Dr.	23 years
Ulrich Johannsmeyer	Dr.	30 years

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

Name	Title	Experience
Hans-Günter Gillar	Dr.	5

2.3 *Name and Title of Nominated Principal Contact*

Name	Title	Experience
Uwe Klausmeyer	Dr.	20

2.4 *Names and Titles of Signatories for Certification*

Name	Title	Experience
Hans Wehinger	Dr.	23 years
Uwe Klausmeyer	Dr.	20 years
Heyno Bothe	Dr.	23 years
Ulrich Johannsmeyer	Dr.	30 years
Martin Thedens	Dr.	10 years
Uwe Völkel	Dipl. Phys.	13 years
Martin Kremer	Dipl. Ing.	17 years
Reinhard Wilkens	Dipl. Ing.	14 years
Michael Beyer	Dr.	13 years

Udo Gerlach	Dr.	11 years
Frank Lienesch	Dr.	11 years

The above mentioned signatories are used in their technical fields of competence.

2.5 *Other Employees in ExCB activity*

Name	Title	Responsibility

None

2.6 *Organisational Structure (Including Changes since Last Assessment)*

See Annex 1.

3. RESOURCES

A total of 15 people are involved in IECEx certification activities (technical and commercial) and relevant quality management requirements.

4. COMMITTEES

According to PTB Procedure number QM-VA-14.

5. CERTIFICATION OPERATIONS

5.1 *National Approval/Certification Methods*

According to the German Accreditation Services under number ZLS-ZE-306/01 and DAP-ZE-306/2 (see Annex 2 and Annex 3)

5.2 *Certification Policy*

According to Quality Manual, section 2.1

5.3 *Staff Work Instructions*

Staff work instructions were shown during the assessments.

5.4 *Application for Certification*

According to PTB Procedure number QM-VA-18

6. STATISTICS

IECEx Certificates or ExTRs issued during the past 2 years:

Protection Type:	IECEx:	Other than IECEx (e.g. ATEX) (numbers according to PTB report 2003)

flameproof	d	2	197
intrinsic safety	i	9	153
increased safety	e	6	510
powder filled	q	none	9
encapsulated	m	2	15
type (zone 2)	n	none	50
pressurised	p	none	20
Apparatus for Dusts		none	100

There are a lot of other activities in Ex not fitting to the table above.

7. NATIONAL ACCREDITATION

PTB is accredited by the German Accreditation Service as ATEX Notified Body (NB) under registration number 0102.

Annex 2: DAP Accreditation Certificate
Annex 3: German Accreditation Certificate for NB

8. LIABILITY INSURANCE

PTB is an organization owned by the Government and is fully covered by its Government. This statement is based on the intermediate audit report of the DAP.

9. QUALITY MANUAL

PTB is maintaining a comprehensive quality manual.

10. INTERNAL AUDIT AND PERIODIC REVIEW

According to PTB Procedure number QM-VA-02. The 2004 Internal Audits were performed between June and September. The records are filed in excellent manner and open issues are checked based on a fixed schedule.

11. COMPLAINTS

According to PTB Procedure number QM-VA-14. The supervising institution is a department in the Federal Ministry of Economy and Labour.

12. APPEALS

See Clause 4 (Committees)

13. WITHDRAWAL AND CANCELLATION OF CERTIFICATES

No withdrawals and cancellations. Procedure according to PTB basic certification contract provisions Clause 6.

14. REVIEW OF ISSUED CERTIFICATES AND EXTRS

A review of issued CoCs along with the supporting documentation, (ExTRs and QARs) was performed by the Lead Assessor. Refer to Item 11 of ExMC/261/R (Re-assessment Report of PTB for ExTL)

15. FINDINGS FROM THE ASSESSMENT

A couple of issues were found during the assessment and reported to PTB. These were both satisfactorily resolved. A record of these issues, including subsequent actions, has been provided to the IECEx Secretariat.

16. RECOMMENDATIONS

Based on the results gained during the Re-Assessment performed during September 2 – 3, 2004, the assessment team recommends continuation of acceptance of PTB as IECEx Certification Body under the scope of standards listed in Clause 1.13 of this report.

LIST OF ANNEXES

Annex 1: Division 3 Organization Chart
Annex 2: DAP Accreditation Certificate
Annex 3: ZLS Accreditation Certificate

Jim Munro
Lead Assessor

Heinz Berger
Expert Assessor

14 January 2005

Abteilung 3 - Chemische Physik und Explosionsschutz

Hemminger

3.1 Metrologie in der Chemie

Güttler

- **Anorganische Analytik** Schiel **3.11**
- **Organische Analytik** Henrion **3.12**
- **Elektrochemie** Spitzer **3.13**

3.2 Analytische Messtechnik und Druck

Ulbig

- **Analytische Messtechnik und Feuchte** Scholz **3.21**
- **Gaseigenschaften** Ulbig **3.22**
- **Druck** Sabuga **3.23**

3.3 Chemisch-physikalische Stoffeigenschaften

Bauer

- **Kalorische Größen** Sarge **3.31**
- **Flüssigkeitseigenschaften** Wolf **3.32**
- **Festkörperdichte** Bettin **3.33**
- **Viskosität umweltgerechter Schmierstoffe** Klingenberg **3.34**

3.4 Grundlagen des Explosionsschutzes

Bothe

- **Kenngrößen des Explosionsschutzes** Brandes **3.41**
- **Explosionsdynamik** Förster **3.42**
- **Berechnungsverfahren und Datenbanken für den Explosionsschutz** Möller **3.43**
- **Beratung der Ministerien im Explosionsschutz** Bothe **3.44**

3.5 Zünddurchschlagsprozesse

Klausmeyer

- **Druckfeste Kapselung** Klausmeyer **3.51**
- **Modellierung von Flammendurchtritten** Markus **3.52**

3.6 System- und Eigensicherheit

Johannsmeyer

- **Eigensicherheit** Johannsmeyer **3.61**
- **Explosionsgeschützte Feldbus- und Speisesysteme** Gerlach **3.62**

3.7 Zündquellensicherheit

Wehinger

- **Zertifizierungsstelle für Explosionsschutz** Wehinger **3.71**
- **Explosionsgeschützte elektrische Antriebssysteme** Lienesch **3.72**
- **Physikalische Zündvorgänge** Beyer **3.73**

ANNEX 2

DAP Deutsches Akkreditierungssystem Prüfwesen GmbH

vertreten im

Deutschen AkkreditierungsRat

Akkreditierung

Die DAP Deutsches Akkreditierungssystem Prüfwesen GmbH bestätigt hiermit, dass die

Physikalisch-Technische Bundesanstalt (PTB)

Bundesallee 100
38116 Braunschweig

mit ihrer

Zertifizierungsstelle für Explosionsschutz

die Kompetenz nach DIN EN 45011 besitzt, Konformitätsbewertungen im Bereich

Produkte, wie Geräte, Schutzsysteme, Sicherheits-, Kontroll- und Regelvorrichtungen sowie Komponenten zum Einsatz in explosionsgefährdeten Bereichen, einschließlich Bestimmung explosionsschutztechnischer Kenngrössen

wie in der Anlage aufgeführt, auszuführen.
Die Akkreditierung ist gültig vom 21-03-2002 bis 20-03-2007.
DAR-Registriernummer: **DAP-ZE-3062.01**
Berlin, 21-03-2002

Dr.-Ing. K. Berner
Geschäftsführer
DAP Deutsches Akkreditierungssystem
Prüfwesen GmbH

DEUTSCHES AKKREDITIERUNGSSYSTEM PRÜFWESEN
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DAP
EA DAR TGA
MITGLIED

Dr.-Ing. W. G. Dill
Verantwortlicher Begutachter der DAP GmbH
Deutsche Montan Technologie GmbH
Dortmund-Derne

Siehe Hinweise auf der Rückseite.

2. Ausfertigung

Annex 3

AKKREDITIERUNG

Die Zentralstelle der Länder für Sicherheitstechnik (ZLS)
– vertreten im Deutschen Akkreditierungsrat –
bestätigt hiermit, dass die

Physikalisch-Technische Bundesanstalt (PTB)
Bundesallee 100, 38116 Braunschweig

die Anforderungen des § 9 Abs. 2 Gerätesicherheitsgesetz (GSG)
und der Norm DIN EN ISO/IEC 17025 erfüllt sowie die Kompetenz besitzt,
Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen
im Geltungsbereich der EG-Richtlinie 94/9/EG entsprechend den
Bestimmungen des Akkreditierungsbescheides Nr. 5.ZLS/3926-1/19/01
zu prüfen.

Die Akkreditierung ist gültig vom **01.08.2001** bis zum **31.07.2006**.
DAR-Reg.-Nr.: **ZLS-P-361/01**

München, den 23. Januar 2002

Dr.-Ing. Klinger
Ministerialrat

ZLS im Bayerischen Staatsministerium für Gesundheit, Ernährung und Verbraucherschutz, 80792 München