

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Ex Management Committee, ExMC

Supplementary Report Regarding the Assessment of TUV Nord as an IECEx ACB and ExTL

Introduction

Documents ExMC/68/DV and ExMC/69/DV, *Reports from the IECEx Assessment Team assigned to assess TUV Nord's application for acceptance as an IECEx ACB and ExTL*, were considered during the 2000 ExMC Braunschweig meeting where a number of issues were raised with ExMC agreeing to request further assessment by the IECEx Assessment Team. Refer to ExMC minutes, ExMC/80/RM for details.

This supplementary report has been prepared by the IECEx Assessment Team Leader, Mr Sollie with the endorsement of the Team Members, Mr Hanco and Mr Bossert.

This supplementary report is submitted for consideration by ExMC during the next ExMC meeting in Berne, Switzerland, October 10-12 2001.

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Re.: IECEx assessment of TÜV Nord Germany

Report on follow-up of member comments during the Braunschweig 2000 meeting

Report by: Trond Sollie , as lead assessor, in cooperation by the assessment team members, Mr. Janos Hanko and Mr. John Bossert

Date: 2001-07-06

**Ref.: -Assessment reports ExMC 68/DV and 69/DV
-Minutes of meeting ExMC/80/RM**

Since the concerns were raised , particularly by LCIE France (and also some other members) during the Braunschweig meeting as referred in the abovementioned minutes, a series of actions and correspondence have taken place to re-check and resolve the issues queried, involving the candidate TL/ACB, the assessment team and the IECEx secretariat. For checking the technical matters, particularly Mr. Hanko has been involved as expert.

Attached follow lists showing responses to each of the French comments (for ACB and TL respectively). Also attached are Mr. Hanko's report of June 6. 2000 concerning IEC 79-3 Spark Test Apparatus.

The assessment team has seen written statements from both IBExU and PTB that they may undertake the questioned subcontracted testing for TÜV Nord . However, TÜV Nord has since purchased new gas mixture pump for gas group IIA and IIB, so subcontracting of the relevant spark tests are no longer necessary.

The assessment team has verified that TÜV Nord have valid ZLS accreditations for the scope concerned, (see attached English translation of certificates), and also seen evidence that the Lloyds ISO 9000 certification is renewed.

It should be noted that the candidate did not apply for testing/certification of Exd protection, so the inclusion of this in the assessment report was a misprint.

Conclusion:

On this basis, the assessment team confirms its recommendation to accept TÜV Nord as IECEx ACB and TL for the scope applied for .

Comments to the france questions concerning recognition of ACB

1. Clarification is sought regarding identification of all TÜV Nord testing subcontractors																	
Page5/13 §3 we would appreciate to have a list of the tests that are sub-contracted standards by standards and to precisely whom?	<p>The ACB gives examination orders to the ExTL of TÜV Nord Anlagentechnik GmbH and possess treaties with IBEXU and PTP for placing subcontracts.</p> <p>CTI tests are general electrical tests and will be subcontracted to IBExU.</p> <p>In case of ex relevant spark tests for gas group IIA and IIB we subcontract to the laboratory of PTB as a participant of the IECEx scheme. A treaty for cooperation between TÜV Nord and PTB exists since 1990, see also the message of Dr. Wehinger from PTB.</p>																
2. The record of number of test reports issued is not clear, what standards and period of time																	
Page6/13 §6 on which period of times are these statistics? could this be detailed by standards?	<p>The statistic is given over the time period from July 1996 to March 1999:</p> <table> <thead> <tr> <th>Standard</th><th>Number of certificates</th></tr> </thead> <tbody> <tr> <td>EN 50020</td><td>110</td></tr> <tr> <td>EN 50019</td><td>15</td></tr> <tr> <td>EN 50015</td><td>0</td></tr> <tr> <td>EN 50017</td><td>2</td></tr> <tr> <td>EN 50028</td><td>10</td></tr> <tr> <td>EN 50021</td><td>24</td></tr> <tr> <td>EN 50016</td><td>24</td></tr> </tbody> </table>	Standard	Number of certificates	EN 50020	110	EN 50019	15	EN 50015	0	EN 50017	2	EN 50028	10	EN 50021	24	EN 50016	24
Standard	Number of certificates																
EN 50020	110																
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EN 50028	10																
EN 50021	24																
EN 50016	24																

3. Scope of the assessment conducted was not clear	
Page3/13 was the scope of the candidate really checked? particularly does the request for IEC 79-5 and and IEC-6 have been fully validated?	<p>The types of protection sand filled and oil emersed are seldom on the german market. Nevertheless the competence to review technical reports concerning this types of protection are present.</p> <p>Even this types of protection are covered by the German Electrotechnical Commission committee K 241 (see also General remarks).</p>
Page10/13 Annex2A : could the scope of the accreditation be translated into english? did the auditing scheme had a look to the report of ZLS? Which standards are actually covered by the scope?	<p>The scope of the national accreditation by the ZLS is published at the Official journal of the European Commission. Actually the scope of certification of quality assurance systems is upgraded.</p> <p>Please find the translation in trans.pdf. This is not authorised by the accreditation body.</p>
4. General remarks	
Page6/13 §4 Are these committees related to Ex activities?	<p>Mr. Stürwold is working in the national standardisation committees K 241 (Electrical apparatus for explosive atmospheres) mirroring the TC 31, in K 241.0.13 (Ex p) and in addition in WG/CLC/SC 31-52.</p> <p>Mr. Schwedt is working in K 241.0.14 (Ex i) and in the European Ex NB group.</p>

Page8/13 where stands physically the testing and the certification?	<p>The assessment by the assessment team was conducted in the premises of the ACB and ExTL.</p> <p>Please see enclosed pictures in picture.pdf.</p>
Page13/13 Lloyds Register : the expiry date of this document is 31/10/1999, as the audit took place the 6 and 7th of December 1999 did the audit team requested an up dated document?	<p>The valid ISO 9000 certificate was submitted with the application for the recognition as an ACB. After the audit of our certification body LRQA in November 1999 the certificate was extended to October 31th 2002.</p> <p>A copy is enclosed in ISO9000.pdf.</p>

Comments to the france questions concerning recognition of ExTL

1. Clarification is sought regarding identification of all TÜV Nord testing subcontractors	
Could it be possible to have a detailed list of sub contracted tests by standards and to whom.	All tests according to IEC 79-0 ... IEC 79-18 except CTI-tests and tests with the spark test apparatus for gasgroup IIA and IIB are conducted in the test laboratory.
<p>Page 6/15 §3 Could you formally confirm that CTI test is subcontracted to PTB?</p> <p>Why sub-contracting spark test for IIA and IIB? why just performing IIC? to whom these tests are subcontracted? As these are major tests for IEC 79-11, is the technical capability present?</p>	<p>CTI tests will be subcontracted to IBEXU. A corresponding promise for the performance of tests is issued by IBEXU.</p> <p>With the spark test apparatus we are able to test intrinsic safety equipment gas group IIC. This is because manufacturers mostly apply for group IIC since this gas group is frequently requested on the market.</p> <p>At present we have ordered a new gas mixture pump for the gas supply and a calibration equipment to be able to test IIA and IIB equipment in our laboratory, too.</p>
How can it be say that all other equipment are present as other tests are subcontracted to apparently IBExU see previous document?	<p>All tests according to IEC 79-0 ... IEC 79-18 except CTI-tests and tests with the spark test apparatus for gas group IIA and IIB are conducted in the test laboratory.</p> <p>The equipment is listed in a table included in the quality assurance program of the laboratory. The program and the equipment was made available to the assessment team.</p>

<p>Page 7/15 §10 is it possible to join to this report a copy of the mentioned MRA with PTB with its scope?</p>	<p>The treaty between PTB and TÜV Nord covers different aspects of the business relations. Referring to tests for gas group IIA and IIB a letter of acknowledgement by PTB is given. In this letter Dr. Wehinger confirms that beside the tests for gas group IIA and IIB PTB is able to do also tests for gas group IIC. Because spark tests for gas group IIC can be conducted in our laboratory we will not subcontract such tests to PTB.</p>																
<p>Are there any agreements or contracts for subcontracting?</p>	<p>CTI tests will be subcontracted to IBEXU. A corresponding promise for the performance of tests is issued by IBEXU.</p>																
<p>2. The record of number of test reports issued is not clear, what standards and period of time;</p>																	
<p>Page 6/15 § 5.1 over which period is given the statistics? Standards by standards?</p>	<p>The statistic is given over the time period from July 1996 to March 1999:</p> <table> <tr> <th>Standard</th><th>Number of test reports</th></tr> <tr> <td>EN 50020</td><td>160</td></tr> <tr> <td>EN 50019</td><td>15</td></tr> <tr> <td>EN 50015</td><td>0</td></tr> <tr> <td>EN 50017</td><td>10</td></tr> <tr> <td>EN 50028</td><td>10</td></tr> <tr> <td>EN 50021</td><td>24</td></tr> <tr> <td>EN 50016</td><td>94</td></tr> </table>	Standard	Number of test reports	EN 50020	160	EN 50019	15	EN 50015	0	EN 50017	10	EN 50028	10	EN 50021	24	EN 50016	94
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EN 50028	10																
EN 50021	24																
EN 50016	94																
<p>How can be explained the difference in number between issued certificates and test reports as previously mentioned for the CBTL candidate?</p>	<p>The number of test reports is different from the number of certificates. That is because in some cases the test laboratory of TÜV Nord Anlagentechnik GmbH is a subcontractor for PTB certification body.</p> <p>We have applied for recognition as an ExTL not as CBTL.</p>																

3. Scope of the assessment conducted was not clear	
<p>Page4/15 § 1.6 was the scope of the candidate really checked? Particularly does the request for IEC 79-5 and IEC-6 have been fully validated?</p> <p>Annex 2 from this table it is understood that there is no expertise for "o" and "q " is this interpretation correct?</p>	<p>Equipment with type of protection Sand-Filled or Oil-Emersed are scarcely manufactured and seldom on the market at least in Germany. As it is shown in the list of issued test reports some tests were conducted by our Mr. Hoferichter, employee of the test laboratory. Because of the minor importance of this kind of protection for the ExTL they are not mentioned in the matrix of functions and activities.</p>
4. The applicant's capability for testing/assessment of Intrinsic safety is questioned, as the report is not clear whether subcontractors are involved or not.	
<p>Page9/15 "supplementary report" from this report it is understood that the spark test apparatus was scarcely used? is this interpretation correct?</p>	<p>It stands to reason that the spark test apparatus has been used in the past. Arrangement and calibration needs indeed some efforts. Guided by the requirement of the assessment team we have simplified the calibration circuit and the installation of air for the composition of the explosive test mixture in order to reduce the time consuming procedures.</p>

ANNEX B

Report from Mr Hanko

Subject: Acceptance of Testing Laboratory of TÜV Nord Anlagetechnik GmbH.
Second assessment and control check of IEC 79-3 Spark Test Apparatus
in the framework of IECEx Scheme TÜV Nord Anlagetechnik D-30 519
Hannover, 31st May 2000

Preamble: During the first assessment of TÜV Nord Anlagetechnik GmbH performed on 6th and 7th December 1999 with the participation on the part of IECEx Scheme Mr. John Bossert and Mr. János Hankó (Lead assessor Mr. Trond Sollie), the operation of the IEC 79-3 Spark Test Apparatus failed to meet the requirements. The calibrating circuit did not ignite the H₂ + air mixture.

According to the co-ordination made with TÜV Nord during the local discussion, the apparatus was modified as follows:

- a) Both the combustible gas (H₂) and the air enter the mixing system at a value exceeding atmospheric pressure and get onto the inlet of the Wösthoff pump through the fine pressure regulator.
- b) Air humidity is extracted from the air (in a tank containing silica gel).
- c) A buffer tank has been used at the outlet of the Wösthoff pump in order to eliminate pulsation.
- d) The calibrating circuit has been constructed in a single unit of linear construction.

Control Test

1. Control of the calibrating circuit

L	Specified	Measured
	95 mH	95.3 mH

Applied instrument: HAMEG HM 8018
Calibrated by: TÜV 02-19/34-92-001
Calibration valid till: 12th January 2002

U I	Specified	Measured
	24 V	24.02 V
	30 mA	30.41 mA

Applied instrument: Voltkraft M-3860 M
Calibrated by: TÜV QS Nr. 3044-2029
Calibration valid till: April 2002

2. Applied combustible gas: H₂
Produced by: Linde 933, GA320
Accuracy: 5.0 (5 times 9)

3. Spark test using the calibrating circuit (30 cycles)

No.	Ignition occurred at the following spark numbers	The result is acceptable	The result is not acceptable
1	194	Y	
2	22	Y	
3	415	Y	
4	4	Y	
5	366	Y	
6	18	Y	
7	249	Y	
8	175	Y	
9	74	Y	
10	99	Y	
11	99	Y	
12	3	Y	
13	95	Y	
14	45	Y	
15	59	Y	
16	93	Y	
17	99	Y	
18	99	Y	
19	79	Y	
20	3	Y	
21	95	Y	
22	99	Y	
23	199	Y	
24	11	Y	
25	87	Y	
26	11	Y	
27	87	Y	
28	50	Y	
29	48	Y	
30	24	Y	

4. Conclusion

Each control test performed on the apparatus was successful. Accordingly its reliability is 100 %.

I am proposing the full acceptance of the laboratory.

János Hankó
6th June 2000
Budapest

ACCREDITATION

Federal states' central office for safety engineering (ZLS¹)

**- represented in the German accrediting council -
hereby confirms that**

**TÜV² CERT – certification body for products of the
TÜV Hanover/Saxony-Anhalt e.V.³
Am TÜV 1, 30519 Hanover/Germany**

meets the requirements laid down in §9 subsection 2 of the German law on
equipment safety as well as the standard DIN EN 45 011 and is also competent
**to certify
equipment or protective systems intended for use in potentially
explosive atmospheres**

in the sense of directive 94/9/EC in accordance with the provisions
of the accreditation contract No. IIZLS/3302/568/95.

The accreditation is valid until 31 July 2001
DAR reg. no.: **ZLS-ZE-089/96**

Munich, dated 12 July 1996
p.p.

Feitenhansl
Head of the central office

Central office for safety engineering in the Bavarian Ministry responsible for employment and the social system, families, women and health,
80792 Munich

Comments by translator:

¹ "ZLS" is the German abbreviation for "Zentralstelle der Länder für Sicherheitstechnik" (Federal states' central office for safety engineering)

² "TÜV" is the German abbreviation for "Technischer Überwachungsverein" (technical control board)

³ "e.V." is the German abbreviation for "eingetragener Verein" (registered association)

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TÜV² Hanover/Saxony-Anhalt e.V.³

Am TÜV 1, 30519 Hanover/Germany

meets the requirements laid down in §9 subsection 2 of the German law on equipment safety as well as the standard DIN EN 45 001 and is also competent

to test

equipment or protective systems intended for use in potentially explosive atmospheres

in the sense of directive 94/9/EC in accordance with the provisions of the accreditation contract No. IIZLS/3302/569/95.

The accreditation is valid until 31 July 2001
DAR reg. no.: **ZLS-P-105/96**

Munich, dated 12 July 1996
p.p.

Feitenhansl
Head of the central office

Central office for safety engineering in the Bavarian Ministry responsible for employment and the social system, families, women and health,
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Am TÜV 1, 30519 Hanover/Germany**

meets the requirements laid down in §9 subsection 2 of the German law on
equipment safety as well as the standard DIN EN 45 012 and is also competent
to certify

**quality assurance systems for equipment or protective systems
intended for use in potentially explosive atmospheres**

in the sense of directive 94/9/EC in accordance with the provisions
of the accreditation contract no. IIZLS/3302/158/96.

The accreditation is valid until 31 July 2001
DAR reg. no.: **ZLS-ZQ-035/96**

Munich, dated 12 July 1996
p.p.

Feitenhansl
Head of the central office

Central office for safety engineering in the Bavarian Ministry responsible for employment and the social system, families, women and health,
80792 Munich

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Prof. Dr. rer. nat. T. Redeker

Fax an: 0511-986 1459; 1 Blatt

Wissenschaftlicher Leiter u. Geschäftsführer

IBExU Institut für Sicherheitstechnik GmbH, Fuchsmühlentweg 7, D-09599 Freiberg

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für Produkte des TÜV Hannover /
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D 30519 Hannover

Brand- und Explosionsschutz Störfallvorsorge

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Internet: <http://www.ibexu.de>
E-mail: post@ibexu.de

Freiberg, 26.04.2001
Red/nb

Prüfungen von CTI-Tests nach IEC 112 durch IBExU

Hier: Ihr Fax vom 25.04.01-Stürwold

Sehr geehrter Herr Stürwold,

im Rahmen der Unterstützung gegenseitiger Zusammenarbeit als *Benannte Stellen nach Richtlinie 94/9/EG* erklärt sich IBExU bereit, als Auftragnehmer für den TÜV Nord Anlagentechnik GmbH Prüfungen von CTI-Tests nach IEC 112 durchzuführen.

Die ZLS erhält eine Kopie dieses Schreibens.

Mit freundlichen Grüßen





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Max-Greve-Str. 30
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26. März 2001

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(02 34) 58 33 93

email
woesthoff@woesthoff.com

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DE 124089231

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Datum

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19.03.2001

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Zeit der Leistung, Versandtag 21.03.01	Versandart	Post	
Versandanschrift TÜV Hannover / Sachsen-Anhalt e.V. Am TÜV 1 30519 Hannover	Versandvorschrift Bereich AE-H, Herr Schwedt	Anzahl der Packstücke und Zeichen 1 Paket	

Pos.-Nr.	Gegenstand	Menge Einheit	Vermerk	Vermerk
1	DIGAMIX 5KA 25/5, Nr. 25.836 Gasmischpumpe für korrosive Gase theoretische Fördermenge: ca. 40 - 55 l/h für Gasgemische von 3 % - 25 %, mit Wechselrädern einstellbar für 5,25 % + - 0,1 % 7,8 % + - 0,1 % 8,3 % + - 0,1 % 21,0 % + - 0,2 % allg. Ausführung gemäß Prospekt 511 maximaler Ausgangsdruck: 20 mbar zum Anschluß an 230 V, 50 Hz	1		
2	Konsole Typ KGM 1, 511-2/22 mit 2 Perlgefäßen an den Gaseingängen sowie aller weiteren Glasteile einschl. kompletter Verschlauchung	1		
.../2				

Zahlungsbedingungen

innerhalb 30 Tagen netto ohne Abzug

Beanstandungen innerhalb 8 Tagen

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Pos.-Nr.	Gegenstand	Menge Einheit	Vermerk	Vermerk
	<u>Zubehör:</u> 1 Service-Box LV 25/6 100 ml Paraffinöl 2 Gebrauchsanleitungen <u>1 Radsatzkasten mit:</u> 1 Radpaar 14:86 für 5,25 % 1 Radpaar 20:80 für 7,8 % 1 Radpaar 2,9 % für 8,3 % 1 Radpaar 8,0 % für 21 % 1 Radpaar 10 % für 25 %			
	Gesamt-Netto-Gewicht: <u>6.500</u> kg Gesamt-Brutto-Gewicht: <u>8.000</u> kg Abmessungen: <u>42</u> x <u>35</u> x <u>48</u> cm			



**Contract under public law
to change the accreditation contract
dated 12 July 1996, No. IIZLS/3302/158/96**

The Federal State of Bavaria, represented by the
**Federal states' central office for safety
engineering (ZLS)**
of the Bavarian Ministry responsible for employment and the social
system, families, women and health
**Winzererstraße 9
80797 Munich**

- Accrediting authority –

and the

TÜV Hanover/Saxony-Anhalt e.V.
Am TÜV 1
30305 Hanover/Germany

- Applicant –

conclude the following contract:

1. The accreditation contract no. IIZLS/3302/158/96 between the ZLS and the TÜV Hanover/Saxony-Anhalt e.V. dated 12 July 1996 for the accreditation of a certification body for quality assurance systems for equipment or protective systems intended for use in potentially explosive atmospheres within the purview of directive 94/9/EC is changed as follows:

The scope of accreditation is extended as applied for.

The Appendix mentioned in sub-section 1 of the aforementioned accreditation contract is reworded. The **Appendix** of the contract with reference number IIZLS/3302/158/96 dated 12 July 1996 therefore expires.

2. The applicant undertakes to only issue a certificate in accordance with Appendix IV and VII of Directive 94/9/EC if a prototype test certificate for the appropriate product category is available. Otherwise, the contract dated 12 July 1996 remains in effect without any changes regarding the content or term.

Munich, dated 15 September 1999

for the accrediting authority:
p.p.

Klinger
Doctor of Engineering
Textmarke nicht definiert.

Industrial Director

for the applicant:

Wimmer⁴
TÜV Hanover / Saxony-Anhalt e.V.^{Fehler!}

Am TÜV 1 Tel.: (0511) 955-0
30519 Hanover

⁴ hand-written signature on the original document

Appendix

to contract no. IIZLS/3926-1/7/99 dated 15 September 1999

between the **ZLS**

and the **TÜV Hanover / Saxony-Anhalt e.V.**

for accreditation as a quality assurance certification body

Scope of accreditation

1. Equipment

- 1.1 Electrical apparatus of equipment group I,
equipment categories M1 and M2
Headlamps
Measurement functions for explosion protection
- 1.2 Electrical apparatus of equipment group II,
equipment categories 1, 2 and 3
Measurement functions for explosion protection
- 1.3 Electrical apparatus for the types of ignition protection
- | | | | |
|------------------|------|-----------------------|-----|
| Oil immersion | "o"; | Pressurised apparatus | "p" |
| Powder filling | "q"; | Flameproof enclosures | "d" |
| Increased safety | "e" | Intrinsic safety | "i" |
| Encapsulation | "m" | Special safety | "s" |
- 1.4 Non-electrical apparatus with ignition sources such as
- | | |
|---------------------------------|-------------------------|
| - mechanically generated sparks | - flames and hot gases |
| - hot surfaces | - ultrasonics |
| - static electricity | - electromagnetic waves |
| - adiabatic compression | - chemical reactions |
- 1.4.1 Non-electrical apparatus in equipment group I,
equipment categories M 1 and M 2
- 1.4.2 Non-electrical apparatus in equipment group II,
equipment categories 1, 2 and 3
- 1.5 Machines such as
- | | |
|-------------------------------|---|
| - internal combustion engines | - mechanical conveyors |
| - industrial trucks | - dust removal systems |
| - fork-lift trucks | - ventilators, fans |
| - mills | - aggregates operated with compressed air |
| - pumps | - drying systems |
| - industrial vacuum cleaners | - machine tools |
- 1.5.1 Machines in equipment group I
equipment categories M1 and M2

- Monitoring facilities

1.5.2 Machines in equipment group II equipment categories 1,2 and 3

- Monitoring facilities

2. Autonomous protection systems

of equipment groups I and II, of equipment categories M1, M2, 1, 2 and 3
(incl. determination of explosion-technical parameters)

2.1 Explosion pressure relief facilities such as

- bursting discs and foils
- explosion valves
- crack-rod-protection
- flameless relief facilities
- pressure relief valves

2.2 Explosion suppression systems

2.3 Blanketing systems

2.4 Suction systems

2.5 Decoupling systems such as

- | | |
|-----------------------------|---|
| - mechanical flame barriers | - automatic chemical isolation barriers |
| - water tank barriers | - quick closing gate sliders and valves |
| - rotary gate valves | - relief chimney stacks |
| - immersions | - liquid shutter |

2.6 Compression-proof casing facilities such as

- explosion-proof construction of containers, equipment and pipes
- construction of containers, equipment and pipes which is resistant to impact by explosion pressure

3. Components

3.1 Spray facilities

3.2 Overfill prevention devices

3.3 Trigger facilities for protection system detectors for

- pressure
- flame
- gas
- dust
- temperature

3.4 Leak indicators

3.5 Liquid level measuring heads

3.6 Measuring facilities for explosion protection

Gas measuring facilities for

- combustible gases
- oxygen

3.7 Explosion protection detectors for combustible gases and oxygen

3.8 Leak indicators for combustible gases and oxygen

4. Safety, monitoring and control units

4.1 Units for the safe operation as parts of equipment

4.2 Units for the safe operation as parts of autonomous protection systems

4.3 Units for the safe operation as parts of components, insofar as these are not included
in clause 3.

Contract under public law for the accreditation of a testing laboratory

The Federal State of Bavaria, represented by the
**Federal states' central office for safety
engineering (ZLS)**
of the Bavarian Ministry responsible for employment and the social
system, families, women and health
**Winzererstraße 9
80797 Munich**

- Accrediting authority –

and the

**TÜV Hanover/Saxony-Anhalt e.V.
Am TÜV 1
30519 Hanover/Germany**

- Applicant –

conclude the following contract:

1. According to the regulations of the German law on equipment safety in its version as published on 23 October 1992, the ZLS accredits the applicant as a **testing laboratory for equipment or protective systems intended for use in potentially explosive atmospheres** within the purview of directive 94/9/EC, implemented by the eleventh regulation regarding the law on equipment safety (at present draft version), for the technical work equipment shown in the appendix.
2. The accreditation is valid for five years. The expiration of the term is stated in the accreditation document to this contract.
3. Changes with regard to the technical scale of accreditation within the purview of the directive mentioned in section 1 are possible on application.

4. The applicant conducts testing of products on a technical scale according to section 1 on the basis of the German law on equipment safety and directive 94/9/EC, complying with the regulations of the German law on equipment safety and the rules of DIN EN 45 001.
5. The applicant agrees that the rights mentioned in § 9 sub-section 4, clauses 2 to 5 of the German law on equipment safety are exercised by the ZLS.
6. The applicant undertakes to take the necessary measures to ensure that the requirements which result from future EC directives and due to changes of recognised engineering standards are met.
7. The applicant undertakes to immediately notify the ZLS, if any important changes in his company which are significant for accreditation should occur. The ZLS reserves the right to decide in the individual case, whether – in view of these changes - the company still meets the conditions for accreditation.
8. The applicant undertakes to bear the costs arising from the accrediting procedure (fees and expenses) within the scope of the cost guideline of the ZLS⁴ which was brought to his notice.
9. If the applicant should violate the obligations shown in sections 4 to 8, the ZLS is authorised to take back or revoke the accreditation.

Munich, dated 12 July 1997

for the accrediting authority:
p.p.

Feitenhansl
Certified engineer
Head of the ZLS^{Fehler! Textmarke nicht definiert.}

for the applicant:

Wimmer⁴

reference number: IIZLS/302/569/95
2 of 2 pages

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⁴ hand-written signature on the original document

to contract no. IIZLS/3302/569/95 dated 12 July 1996

between the

ZLS

and

TÜV Hanover / Saxony-Anhalt

for accreditation as a testing laboratory

Scope of accreditation

1. Equipment

1.1. Electrical apparatus for the types of ignition protection

Oil immersion	“o”;	Pressurised apparatus	“p”
Powder filling	“q”;	Flameproof enclosures	“d”
Increased safety	“e”	Intrinsic safety	“i”
Encapsulation	“m”		

1.1.1. Electrical apparatus in equipment group II,
equipment categories 1, 2 and 3

1.2 Machines

- internal combustion engines
- industrial trucks

2. Components

of the equipment mentioned above

3. Safety, monitoring and control units

3.1. Units for safe operation as parts of equipment and components.

ACCREDITATION

Federal states' central office for safety engineering (ZLS)

**- represented in the German accrediting council -
hereby confirms that**

**TÜV Nord Anlagentechnik GmbH
Am TÜV 1, 30519 Hanover/Germany**

meets the requirements laid down in §9 subsection 2 of the German law on
equipment safety as well as the standard DIN EN 45 001 and is also competent

to test

**equipment or protective systems intended for use in potentially
explosive atmospheres**

in the sense of directive 94/9/EC in accordance with the provisions of the
accreditation contract No. IIZLS/3926-1/6/99.

The accreditation is valid until 31 July 2001
DAR reg. no.: **ZLS-P-259/99**

Munich, dated 15 September 1999
p.p.

Klinger
Doctor of Engineering
Industrial Director

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**Contract under public law
to change the accreditation contract
dated 12 July 1996, No. IIZLS/3302/569/95**

The Federal State of Bavaria, represented by the
**Federal states' central office for safety
engineering (ZLS)**
of the Bavarian Ministry responsible for employment and the social
system, families, women and health
Winzererstraße 9, 80797 Munich

- Accrediting authority –

and the

TÜV Nord Anlagentechnik GmbH
Am TÜV 1
30519 Hanover/Germany

- Applicant –

conclude the following contract:

1. The accreditation contract no. IIZLS/3302/569/95 dated 12 July 1996 for the accreditation of testing laboratory for equipment or protective systems intended for use in potentially explosive atmospheres within the purview of directive 94/9/EC between the ZLS and TÜV Hanover/Saxony-Anhalt e.V. is changed as follows:

The name of the organisation has changed to:

TÜV NORD Anlagentechnik GmbH

Am TÜV 1

30519 Hanover/Germany

2. Otherwise, the contract dated 12 July 1996 remains in effect without any changes regarding the content or term.

Munich, dated 15 September 1999

for the accrediting authority:
p.p.

Klinger
Doctor of Engineering
Industrial Director

for the applicant:

Wimmer⁵
TÜV NORD ANLAGENTECHNIK GMBH
Am TÜV 1
30519 Hanover

reference number: IIZLS/3926-1/6/99
2 of 2

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⁵ hand-written signature on the original document

**Contract under public law
for the accreditation of a certification body**

The Federal State of Bavaria, represented by the
**Federal states' central office for safety
engineering (ZLS)**
of the Bavarian Ministry responsible for employment and the social
system, families, women and health
**Winzererstraße 9
80797 Munich**

- Accrediting authority –

and the

TÜV Hanover/Saxony-Anhalt e.V.
Am TÜV 1
30305 Hanover/Germany

- Applicant –

conclude the following contract:

1. According to the regulations of the German law on equipment safety in its version as published on 23 October 1992, the ZLS accredits the applicant as a **certification body for equipment or protective systems intended for use in potentially explosive atmospheres** within the purview of directive 94/9/EC, implemented by the eleventh regulation regarding the law on equipment safety (at present draft version), for the technical work equipment shown in the appendix.
2. The accreditation is valid for five years. The expiration of the term is stated in the accreditation document to this contract.

3. Changes with regard to the technical scale of accreditation within the purview of the directive mentioned in section 1 are possible on application.
4. The applicant conducts the certification of products on a technical scale according to section 1 on the basis of the German law on equipment safety and directive 94/9/EC, complying with the regulations of the German law on equipment safety and the rules of DIN EN 45 011. A test report by an authorised body in accordance with §9 sub-section 2 or 3 of the German law on equipment safety is prerequisite for certification.
5. The applicant agrees that the rights mentioned in §9 sub-section 4, clauses 2 to 5 of the German law on equipment safety are exercised by the ZLS.
6. The applicant undertakes to take the necessary measures to ensure that the requirements which result from future EC directives and due to changes of recognised engineering standards are met.
7. The applicant undertakes to immediately notify the ZLS, if any important changes in his company which are significant for accreditation should occur. The ZLS reserves the right to decide in the individual case, whether – in view of these changes - the company still meets the conditions for accreditation.
8. The applicant undertakes to bear the costs arising from the accrediting procedure (fees and expenses) within the scope of the cost guideline of the ZLS⁴ which was brought to his notice.
9. If the applicant should violate the obligations shown in sections 4 to 8, the ZLS is authorised to take back or revoke the accreditation.

10.

Munich, dated 12 July 1997

for the accrediting authority:

p.p.

for the applicant:

Feitenhansl
 Certified engineer
 Head of the ZLS^{Fehler! Textmarke nicht definiert.}

Wimmer⁴

⁴ hand-written signature on the original document

to contract no. IIZLS/3302/568/95 dated 12 July 1996

between the **ZLS**

and the **TÜV Hanover / Saxony-Anhalt**

for accreditation as a certification body for products

Scope of accreditation

1. Equipment

1.1. Electrical apparatus in the ignition protection types

Oil immersion	“o”;	Pressurised apparatus	“p”
Powder filling	“q”;	Flameproof enclosures	“d”
Increased safety	“e”	Intrinsic safety	“i”
Encapsulation	“m”		

1.1.1. Electrical apparatus in equipment group II,
equipment categories 1, 2 and 3

1.2 Machines

- internal combustion engines
- industrial trucks

2. Components

of the equipment mentioned above

3. Safety, monitoring and control units

3.1. Units for safe operation as parts of equipment and components