



**INTERNATIONAL ELECTROTECHNICAL COMMISSION SCHEME FOR
CERTIFICATION TO STANDARDS FOR EXPLOSIVE ATMOSPHERES (IECEx
SCHEME)**

Ex Management Committee, ExMC

**TITLE: IECEx Assessment Report for acceptance of "TL NANIO CCVE" as
an Ex Test Laboratory**



This document contains the IECEx Assessment Report for the acceptance of NANIO CCVE as an Ex Test Laboratory (ExTL) within the IECEx Scheme.

The report is hereby submitted for voting

Please consider the assessment report and return the completed voting form to the Secretariat by **2004 10 04**. Your speedy response to the voting process will be very much appreciated.

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

Address:
IECEx Secretariat
SAI Building
286 Sussex Street
Sydney 2000
Australia

Tel: +61 2 8206 6940
Fax: +61 2 8206 6272
Email: chris.agius@iecex.com
Internet: www.iecex.com



Voting Form

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

"TL NANIO CCVE"

- ☐ Yes. I agree with the acceptance of **"TL NANIO CCVE"** as an
Ex Test Laboratory
- ☐ No. I do not agree with the acceptance of **"TL NANIO CCVE"** as an
Ex Test Laboratory within the IECEx Scheme, for the following reasons

Signature: _____

Name: _____

Member Body: _____

Date: _____

Please complete and return by **2004 10 04** to:

Mr Chris Agius
IECEX Secretariat

Contact Details:
E-mail: chris.agius@iecex.com
Tel: +61 2 8206 6940
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IECEx ASSESSMENT REPORT FORM (TEST LABORATORY – ExTL)

Type of Assessment:

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

1. OBJECT AND FIELD OF APPLICATION

1.1 *Country:*

RUSSIA

1.2 *Name of Candidate TL*

“TL NANIO CCVE”

Testing Laboratory of Non-profit independent research organisation
„Certification Centre of explosion-proof and mine electrical equipment”
Mail address: P.O. Box 22, Moscow, 109377, Russian Federation
Telephone/Fax No: (095) 557-82-44, 558-8141, 558-8353
e-mail: ccve@ccve.ru
<http://ccve.org>

1.3 *Members Of The Assessment Team*

MUNRO, Jim	lead assessor
HANKÓ, János	assessor
DILL, Wolf	assessor

1.4 *Place And Date Of Assessment*

“TL NANIO CCVE” MOSCOW
April 26-27, 2004

1.5 *Assessment References*

Document:

- i) IECEx 02 Second Edition 2003
- ii) IECEx Assessment procedures ExMC/100/CD
- iii) ISO/IEC 17025
- iv) IECEx Technical Guidance Documents, TGDs
- v) ExTL application documents
- vi) IECEx Operational Document OD009

1.6 Scope Of Application

Standard	Product Category
IEC 60079-0	Electrical apparatus for explosive gas atmospheres – Part 0: General requirements
IEC 60079- 1	Electrical apparatus for explosive gas atmospheres – Part 1: Flameproof enclosure “d”.
IEC 60079- 2	Electrical apparatus for explosive gas atmospheres – Part 2: Electrical apparatus, type of protection 'p' (Pressurization)
IEC 60079- 5	Electrical apparatus for explosive gas atmospheres – Part 5: Powder filling "q"
IEC 60079- 6	Electrical apparatus for explosive gas atmospheres – Part 6: Oil-immersion 'o'
IEC 60079- 7	Electrical apparatus for explosive gas atmospheres – Part 7: Increased safety 'e'
IEC 60079-11	Electrical apparatus for explosive gas atmospheres – Part 11: Intrinsic safety 'i'
IEC 60079-15	Electrical apparatus for explosive gas atmospheres – Part 15: Electrical apparatus with type of protection 'n' (Non-Sparking)
IEC 60079-18	Electrical apparatus for explosive gas atmospheres – Part 18: Encapsulation 'm'

1.7 Candidate TL Persons Interviewed

Name	Position
CHERNOV, Boris Vladimirovich	Engineer, Head of "TL NANIO CCVE", Dr Sc. (Techn)
RAFALOVICH, Boris Alexandrovich	Engineer, Deputy Head of TL CCVE
VINOGRADOV, Viktor Pavlovich	Engineer of TL CCVE, Dr Sc. (Techn)
SEROV, Viktor Ivanovich	Professor, Dr Sc. (Techn), General Director of CCVE
ZALOGIN, Alexander Sergeevich	Engineer, Managing Director of NANIO "CCVE", Dr Sc. (Techn)

1.8 Legal Entity Of The Candidate TL

The Testing Laboratory is part of Non-profit independent research organisation Certification centre of Explosion-proof and Mine electrical equipment ("TL NANIO CCVE")



1.9 Associated ExCB

Address

“CB NANIO CCVE”

P.O.Box 22, Moscow, 109377, Russia
Tel./Fax: +7(095) 557 82 44
Tel: +7(095) 558 81 41, 558 83 53

Names of Laboratories

Address

Associated ExCB “CB NANIO CCVE” and test laboratories are located under address: OJSC Plant ECOMASH VUGI, Lyubertsy Moscow region 140004, Russian Federation
Telephone/Fax N°: (095) 557-82-44, 558-81-41, and 558-8353

1.12 Financial Support

In accordance with the Regulation for Non-profit independent research organisation without any government support.

1.13 History

The laboratory was part of the former Skochinsky Institute of Mining, which have been in operation since 1927. In 1997 NANIO "CCVE" was changed to a Non-profit independent research organisation.

1.14 Relevant Standards

See p. 1.6

2. ORGANISATION

2.1 Names, Titles

Experience Of The Senior Executives

CHERNOV, Boris Vladimirovich,

Head of “TL NANIO CCVE”
Dr Sc. (Techn)

RAFALOVICH, Boris Alexandrovich,

Deputy Head of “TL NANIO CCVE”
Engineer

2.2 Name, Title

**Experience Of The Quality
Management Representative**

RAFALOVICH, Boris Alexandrovich,

Deputy Head of “TL NANIO CCVE”
Engineer
Formal qualification and experience in
Quality Management Systems

2.3 Name And Title Of Nominated Principal Contact

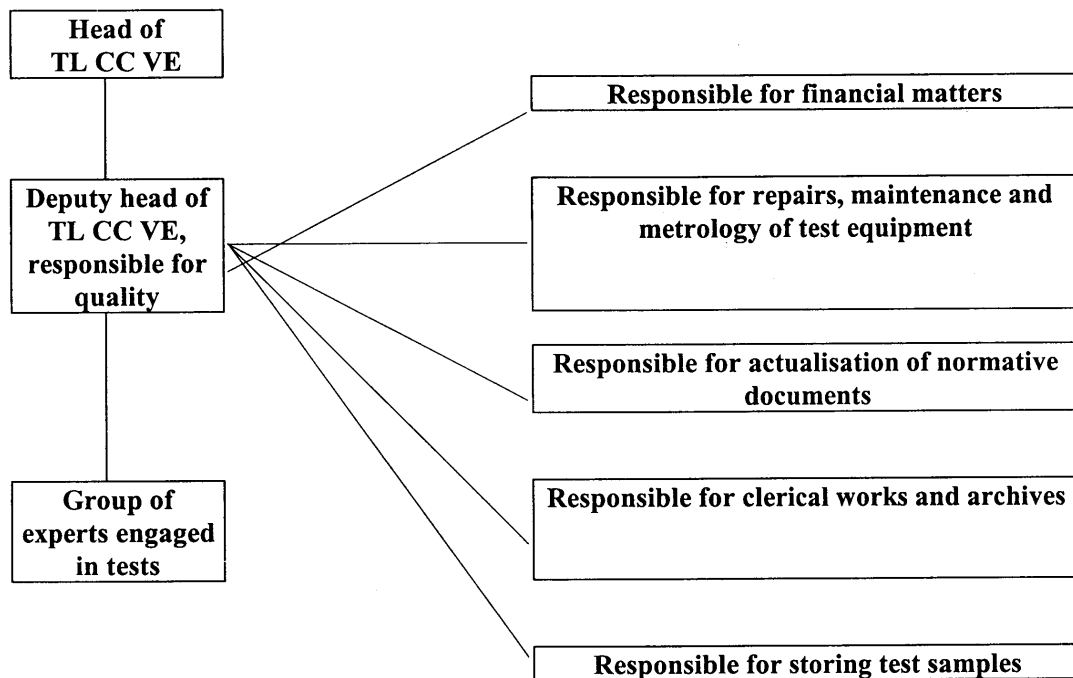
ZALOGIN, Alexander Sergeevich,	Managing Director of "NANIO CCVE"
RAFALOVICH, Boris Alexandrovich,	Deputy Head of "TL NANIO CCVE"

2.4 Employees

Total staff number of Test Laboratory: 29 persons
The number in assessment and testing laboratory for which recognition is being sought: 18 persons
Total number of professionally qualified staff in the area for which recognition is being sought: 14 persons

2.5 Organisational Structure

TESTING LABORATORY TL CC VE STRUCTURE



3. RESOURCES

During the on-site assessment it was confirmed that "TL NANIO CCVE" has the equipment, facilities and staff to conduct testing and assessment in accordance with requirements as defined by the IECEx Technical Guidance Documents.

4. TEST METHODS

4.1 Procedures

All procedures described in Quality Manual PK 01.1-03 and Flow process diagram УП7b-2004 were found to be suitable in defining the various test procedures reviewed when compiling the various TGDs.

4.2 Staff Work Instructions

Staff work instructions are given in separate documents. These work instructions provide the necessary guidance to ensure that testing and assessment are conducted in accordance with the Standards.

5. TEST REPORTS AND RECORDS

5.1 Test Reports Issued

	d		e		i		n		p		o		m		q	
	Test	Re-Test	Test	Re-Test	Test	Re-Test	Test	Re-Test	Test	Re-Test	Test	Re-Test	Test	Re-Test	Test	Re-Test
	74	38	26	28	79	26	1	5	2	3	1	0	2	6	0	0
N° of test reports	112		54		105		6		5		1		8		0	

5.2 Test Records

All necessary test data are recorded. With a very effective system for the retention of records

6. CALIBRATION

Inspection and calibration of measuring devices is conducted by the independent organisation Rostest-Moscow, accredited by Gosstandart of the Russian Federation for this work.

The calibrated equipment had calibration labels indicating the dates of the last and next calibration.

7. DOCUMENTATION

7.1 *Quality Manual*

The assessment team reviewed the Laboratory Quality Manual and Procedures Manual having confirmed that they comply with the IECEx Rules and Procedures, IECEx 02 and Operational Documents

7.2 *Document Change Control*

The system of document change control is operational and ensures appropriate control over any changes.

8. CONFIDENTIALITY

There are comprehensive procedures on confidentiality and all staff sign confidentiality agreements. All documents are kept and handled in accordance with rules of confidentiality (See QM p.10 "Confidentiality" (КОНФИДЕНЦИАЛЬНОСТЬ П 10)).

9. NATIONAL ACCREDITATION

"TL NANIO CCVE" holds national accreditation for testing to many standards, the following are examples:-

- Accreditation Certificate of Gosstandart of the Russian Federation №POCC RU.0001.21ГБ04 (See Annex C);
- Accreditation Certificate to ISO/IEC 17025 of the German Accreditation System DAP № DAP-PL-3472.00, a copy of the Accreditation Certificate is attached as Annex B, for testing to the following standards:

EN 50014 1997-06	Electrical apparatus for potentially explosive gas atmospheres. General requirements
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+ Corrigendum: 1998-04
+A1: 1999-02
+A2: 1999-02

EN 50015 1998-09	Electrical apparatus for potentially explosive gas atmospheres. Oil-immersion 'o'
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EN 50016 1995-10	Electrical apparatus for potentially explosive gas atmospheres. Pressurized apparatus 'p'
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EN 50017 1998-09	Electrical apparatus for potentially explosive gas atmospheres. Powder filling 'q'
EN 50018 2000-11	Electrical apparatus for potentially explosive gas atmospheres. Flameproof enclosures 'd'
EN 50019 1998-07	Electrical apparatus for potentially explosive gas atmospheres. Increased safety 'e'
EN 50020 1994-08	Electrical apparatus for potentially explosive gas atmospheres. Intrinsic safety 'i'
Pr EN 50020 2001-04	Electrical apparatus for potentially explosive gas atmospheres. Intrinsic safety 'i'
EN 50028 1987	Electrical apparatus for potentially explosive gas atmospheres. Encapsulation 'm'

10. RECOGNITION AND AGREEMENTS

“TL NANIO CCVE” has numerous Mutual Recognition Agreements (MRAs) with overseas bodies.

11. INTERNAL AUDITS AND PERIODIC REVIEW

Internal audit is carried out annually. Periodic review is achieved through the development of annual quality plans. Covered in QM p.8.5 “Betterment” (П 8.5 УЛУЧШЕНИЕ)

12. COMPLAINTS MECHANISM

There is a procedure to deal with complaints covered in QM p.11 “Submission and consideration of appeals” (П 11. ПОДАЧА И РАССМОТРЕНИЕ АПЕЛЛЯЦИЙ). This was found to comply with IECEx requirements

13. SPECIAL FACTS TO BE NOTED

The following observations were made:

“TL NANIO CCVE” is a very well controlled and very well managed facility. The staff at every level demonstrates experience and considerable competence in the area of Ex testing.

During the site assessment some minor items were raised concerning internal documents such as the following-

1. Some look-up tables or charts were being used in test situations without references to those documents being part of the quality management system and hence subject to document control.
2. Where standards were referenced in test documentation/records, the issue status or year of issue was not stated.

Updated documentation was received and reviewed by the assessment team and were found to fully comply with IECEx requirements.

14. COMMENTS

The Assessment Team, however, are fully satisfied that all requirements of IECEx 02, ISO/IEC 17025 and TGDs have been fully met.

1. A specimen of the IECEx Assessment and Test Report given in App. № 9 (Exi-IEC 60079-11) and is retained on file by the IECEx Secretariat.
2. For high current circuit the "TL NANIO CCVE" Laboratory uses two additional spark test apparatuses.. These spark test apparatuses are designated for testing currents higher than 10 A only. IEC 60079-3 apparatus with $d = 0,3$ mm respectively 0,4 mm tungsten wire diameter is applicable up to 10 A.
3. The Laboratory can carry out test for lower temperatures ($-40^{\circ}\text{C}/-55^{\circ}\text{C}$).
4. TGDs were not available for types of protection Ex q and Ex o. However, due to general technical competence of laboratory demonstrated for a range of other techniques the team formed the view that the laboratory has capability of testing for these techniques.

15. RECOMMENDATION

Based on the initial assessment performed during 26 and 27 April 2004 and follow up reviews "TL NANIO CCVE" is recommended for acceptance into the IECEx scheme as an ExTL according to the scope of the standards listed in this document.



LIST OF ANNEXES

- Annex A Organisation Chart**
- Annex B Copy of Accreditation Certification to ISO/IEC 17025**
- Annex C Translation of Accreditation Certification to GOST R
Certification System**
- Annex D Photographs**

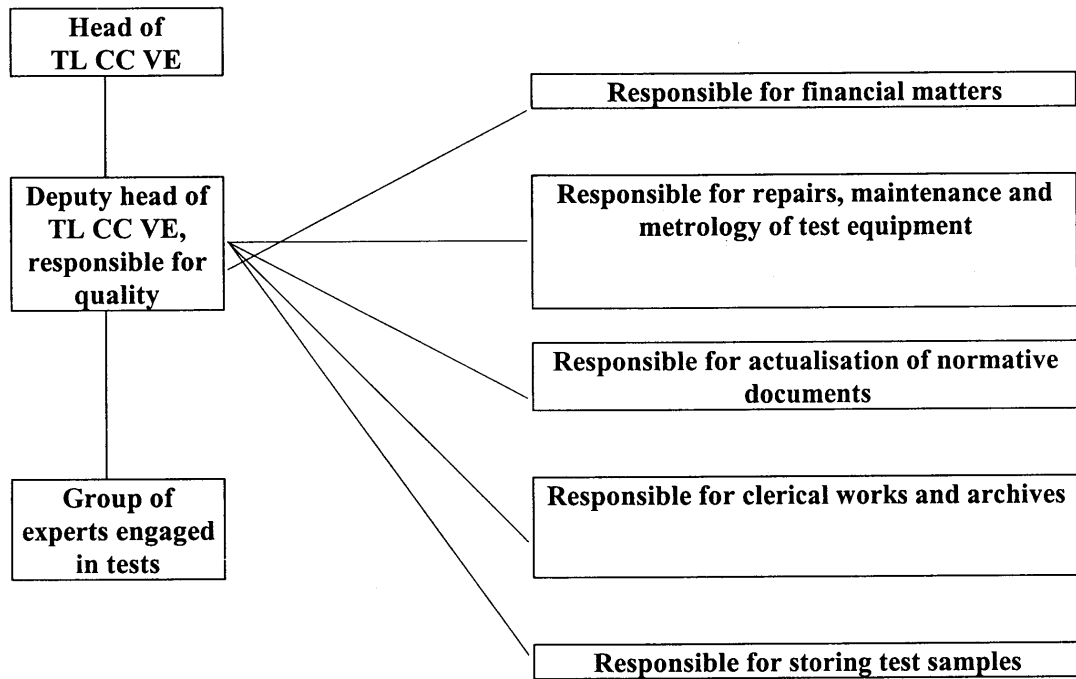
Jim Munro
**IECEx Assessment
Team Leader**

Janos Hanko

Wolf Dill

ANNEX A


TESTING LABORATORY TL CC VE STRUCTURE



ANNEX B

DAP Deutsches Akkreditierungssystem Prüfwesen GmbH
represented in the

Deutschen AkkreditierungsRat



Accreditation

The DAP Deutsches Akkreditierungssystem Prüfwesen GmbH herewith confirms that the

Non-commercial scientific-research organisation
„Certification Centre of explosion-proof
and mine electrical equipment IGD”

Dukhovskoi pereulok 17, building 11
113191 Moscow, Russian Federation

(Mailing address: 109377, Moscow, P.O. box 22)

with ist

Testing Laboratory
(TL CCVE)

is competent under the terms of ISO/IEC 17025:1999 to carry out tests in the field

**Electrical apparatus used in Potentially
Explosive Atmospheres**

for the testing fields listed in the annex.

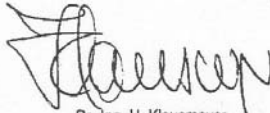
The laboratory has proved for its testing activities that it operates a quality system which also
complies with the requirements of ISO 9002:1994.

The accreditation is valid from 20-11-2001 to 19-11-2006.

DAR registration number: **DAP-PL-3472.00**
Berlin, 20-11-2001



Dr.-Ing. K. Berner
Managing Director
DAP Deutsches Akkreditierungssystem
Prüfwesen GmbH



Dr.-Ing. U. Klausmeyer
Technical Expert for DAP GmbH
Physikalisch-Technische Bundesanstalt
Braunschweig



ExMC/192/DV

August 2004

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ANNEX C

**CERTIFICATION SYSTEM GOST R
GOSSTANDART OF RUSSIA**

№ 010776

**ACCREDITATION CERTIFICATE OF TESTING LABORATORY
N POCC RU.0001.21ГБ04**

Valid till “ 05”November 2006

THE PRESENT CERTIFICATE CERTIFIES THAT THE NONPROFIT INDEPENDENT RESEARCH ORGANIZATION

name of testing

“CERTIFICATION CENTRE OF EXPLOSION-PROOF AND MINE ELECTRICAL EQUIPMENT”

laboratory (centre)

(TESTING LABORATORY) ROOM 403, 5 ELECTROLITNY PROYEZD, 115230 MOSCOW

address

HAS BEEN ACCREDITED AS A TECHNICALLY COMPETENT AND INDEPENDENT TESTING LABORATORY.

The scope of accreditation is specified in the Appendix to the present Certificate.

Deputy Head of Gosstandart of Russia

V.N. KRUTIKOV

signature

initials, name

official stamp

Registered in the State Register
“05” November 2003

ANNEX D

Photographs



Chamber for water ingress testing



IP access probes



Environmental test chambers



Flameproof test chamber (at atmospheric pressure)



Flameproof test chamber (autoclave for pressure above atmospheric)



Dust testing chamber



Impact test apparatus