

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

Ex Management Committee, ExMC

**TITLE: IECEx Re-Assessment Report for the continued acceptance of NEMKO AS
as an Accepted ExCB in accordance with the 5-year re-assessment plan for the
surveillance and monitoring under the IECEx Scheme and an extension of scope.**

INTRODUCTION

This document contains the IECEx Re-assessment Report for NEMKO AS as a continuing Accepted ExCB within the IECEx Scheme in accordance with the 5-year re-assessment plan for surveillance and monitoring under the IECEx Scheme. During this re-assessment the IECEx Assessment Team also carried out an assessment for an extension of scope.

The re-assessment report is submitted for information and for endorsement at the next ExMC Meeting to be held in Denver, September, 2007.

ExMC Members are asked to consider NEMKO AS request for an extension of scope.

Please consider this report and return the completed voting form to the Secretariat by **2007/08/12**.

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

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 FOR NEMKO ExCB (IECEX Certification Body)

Type of Assessment: (please mark)

Initial Assessment for Candidate ExCB

Re-Assessment of ExCB X

Scope Extension of ExCB X

1. OBJECT AND FIELD OF APPLICATION

1.1. Country:

Norway

1.2. Name of Candidate ExCB

Nemko AS

1.3. Members of the Assessment Team

Jim Munro	Lead assessor	Chairman of the Panel of Assessors
Nick Ludlam	Assessor	FM Approvals Ltd

1.4. Place and Date of Assessment

Gaustadalleen 30,
PO Box 73 Blindern
0314-Oslo Norway

20-22 November 2006

1.5. Assessment References

- i) IECEx 02 Second Edition 2003-06 IECEx Scheme rules of procedure
- ii) IECEx OD/003 IECEx Assessment procedures
- iii) IECEx OD 005V2 Quality System requirements for manufacturers
- iv) IECEx OD/009 Issuing of CoCs, ExTRs and QARs
- v) IECEx Document ExMC/161/CD Management of assessment and surveillance programs for manufacturers (includes QAR forms)
- vi) ISO/IEC Guide 65:1996
- vii) IECEx Document OD 17 Drawing and documentation guidance
- ix) application documents for scope change dated 16 October 2006

1.6. Scope of Application

Existing scope:

EC 60079-0 Part 0: General requirements
IEC 60079-1 Part 1: Flameproof enclosures 'd'
IEC 60079-2 Part 2: Pressurized enclosures 'p'
IEC 60079-7 Part 7: Increased safety 'e' –
IEC 60079-11 Part 11: Intrinsic safety 'i'
IEC 60079-18 Part 18: Construction, test and marking of type of protection encapsulation 'm' electrical apparatus

Proposed additional scope:

Number	Title
<u>60079-5</u>	Electrical apparatus for explosive gas atmospheres Part 5: Powder filling "q"
<u>60079-6</u>	Electrical apparatus for explosive gas atmospheres Part 6: Oil-immersion 'o'
<u>60079-7</u>	Electrical apparatus for explosive gas atmospheres Part 7: Increased safety 'e' – to include 4th edition
<u>60079-11</u>	Electrical apparatus for explosive gas atmospheres Part 11: Intrinsic safety 'i' – to include 5th edition
<u>60079-15</u>	Electrical apparatus for explosive gas atmospheres Part 15: Electrical apparatus with type of protection 'n' (Non-Sparking)
<u>60079-25</u>	Electrical apparatus for explosive gas atmospheres Part 25: Intrinsically safe systems
<u>60079-26</u>	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga
<u>60079-27</u>	Electrical apparatus for explosive gas atmospheres - Part 27: Fieldbus intrinsically safe concept (FISCO) and Fieldbus non-incendive concept (FNICO)
<u>61241-0</u>	Electrical apparatus for use in the presence of combustible dust Part 0: General requirements
<u>61241-1</u>	Electrical apparatus for use in the presence of combustible dust Part 1: Protection by enclosures 'tD'
<u>61241-4</u>	Electrical apparatus for use in the presence of combustible dust Part 4: Type of protection 'pD'
<u>61241-11</u>	Electrical apparatus for use in the presence of combustible dust Part 11: Protection by intrinsic safety 'iD'
<u>61241-18</u>	Electrical apparatus for use in the presence of combustible dust Part 18: Protection by encapsulation 'mD'
<u>62013-1</u>	Caplights for use in mines susceptible to firedamp Part 1: General requirements - Construction and testing in relation to the risk of explosion
<u>62086-1</u>	Electrical apparatus for explosive gas atmospheres - Electrical resistance trace heating - Part 1: General and testing requirements

Notes:

- The above scope includes updating to the latest editions of 60079-7 and -11. These have been actioned separately through the IECEx Secretariat.
- Nemko have also applied for extension of their scope to cover the Certified Service Facility Program this was also assessed during this visit and is covered by a separate report.

1.7. Candidate ExCB Persons Interviewed

Name	Position
Rolf Hoel	Certification Manager. Ex Products
Lars Jørgen Aas	Quality Manager
Magne Løvaas	Resource Manager, Industrial Products
Asgeir Holt	ATEX & IECEx Lead Auditor, Certification Department

1.8. Legal Entity of the Candidate ExCB

The Norwegian Board for Testing and Approval of Electrical Equipment (NEMKO) is a private Foundation established pursuant to the Act of 23 May 1980 No. 11 on Foundations, etc. The Foundation was established with effect from 1 January 1991. It is a direct continuation of the electrical equipment testing and approval activity established by the Association of Norwegian Power Plants in 1933, separated-off as an independent institution in 1970. The main office of the Foundation is in Oslo.

1.9. Associated Testing Laboratories

The ExTL is part of the same organization but there are separate sections for certification and testing.

1.10. Associated Certification Functions

Nemko covers a large range of certification activities, such as machinery, EMC, low voltage, medical devices, marine, ISO systems, Ex for ATEX. They are also an accepted body under the IECEE Scheme. They are continuing to expand the scope of their testing.

1.11. National Marks and Certificates

Nemko has its own national mark which is an N within a circle. It also operates as a notified body under ATEX.

1.12. Financial Support

Nemko is a not-for-profit organization and its testing is funded from income from its testing, certification and other activities.

1.13. History

Nemko started its activity in 1933 acting on behalf of the Government. In 1959, the activity was moved to the present address. Nemko became independent from the Government in 1990.

From 1991, Nemko became a private Foundation, and from 1996 Nemko AS was established as an operating company of the Foundation.

Since 1991 the Nemko Group has expanded internationally and is today present in many parts of the world:

Since January 2006 the two Norwegian Nemko companies Nemko certification AS and Nemko Comlab AS were merged into Nemko AS as one company.

It commenced testing and certification in the Ex field in the 1960s.

1.14. **Standards Accepted**

See clause 1.6 of this report

National Differences to IEC Standards

National differences to IEC standards are listed in the latest version of the IECEx Scheme Bulletin.

2. ORGANISATION

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

Name	Title	Experience
Geir Hørthe	Certification Manager (for all of Nemko)	
Rolf Hoel	Certification Manager, Ex Products	20 years in Ex

Note: Nemko has process managers and resource managers. Only the resource managers have responsibility for staff.

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

Name	Title	Experience
Lars Jørgen Aas	Quality Manager	25 years including 6 as Quality Manager at Nemko.

2.3. *Name and Title of Nominated Principal Contact*

Name	Title	Comments
Rolf Hoel	Certification Manager, Ex Products	

2.4. *Name and Title of Signatories for Certification*

Name	Title	Comments
Rolf Hoel	Certification Manager, Ex Products	
Arne Hortman	Senior Project Engineer	
Asle Kaastad	Engineer	
Geir Hørthe	Certification Manager	

The above responsibilities are noted in the Quality Manual Section C302.

2.5. Other Employees in ExCB activity

Name	Title	Responsibility
Rolf Hoel is in the Certification Department which has a staff of approximately 25. He is the only person there dedicated to Ex		

2.6. Organizational Structure

There are several main areas involved on the Ex certification process. The Front Line which receives the application and issues the quote, the test department, and the certification department which has separate areas responsible for carrying out factory surveillance and of issue of the Ex certificate. The structure of the organization is shown in Annexes 1 and 2.

2.7. Administration

2.7.1. Administrative Structure
See Annexes 1 and 2

2.7.2. Indemnity Insurance
Nemko has indemnity insurance for 'mistakes and errors' for 25 million NOK (approximately 8 million Euro).

3. RESOURCES

Rolf Hoel is in the Certification Department which totals about 25 people, but is the only person there dedicated to Ex in relation to review of ExTRs, QARs and the issue of certificates. There is also another person in another part of the department who carries out the assessment of manufacturers.

4. COMMITTEES / Governing Board / Appeals / Advisory Board

The Council is the Foundation Nemko's governing body. The Council also acts as General Assembly for the operating company Nemko AS. The composition, appointment, election, meetings and tasks of the Council are specified in the document Bylaws of the Foundation NEMKO.

The Board of Directors of Nemko AS is appointed by the Council. It is the governing body of Nemko and is responsible for the satisfactory management of the company. The composition, election, meetings and tasks of the Board are specified in the document Articles of Association of Nemko AS

There is an appeals committee. This is included in the appeals procedure Quality Manual Part 9.

5. CERTIFICATION OPERATIONS

5.1. National Approval/Certification Methods

Ex certification is done under the ATEX directive for which Nemko is a Notified Body (Number 0470).

5.2. Certification Policy

Nemko has a Quality Policy on Section 3.2 of its Quality Manual that includes its certification operations. This policy sets out a number of principles, including one for international standardization.

5.3. Application for Certification

There is an application form which has provision to indicate if IECEx certification is required. The application for certification normally goes to the 'Front Line' who manage the quotes for testing, assessment and certification and often the subsequent planning. Where necessary they will talk to relevant areas. Once the quote is accepted they will liaise directly with the relevant areas including testing and the auditing area of certification. At the end of the process Rolf Hoel does the review of the QAR and ExTR before the certificate is issued.

Most applications and associated documentation are kept only in electronic form. Where possible information is sought in electronic form but in some cases may be scanned. For large amounts for hard copy documentation a physical file will be used.

There was no information in the procedures to clearly identify the responsibilities for signing the relevant parts of the ExTRs. This was subsequently resolved by the revision of Quality Manual Section C320.

5.4. Withdrawal and Cancellation of Certificates

Procedures for withdrawal or cancellation of certificates are covered by procedure Quality Manual Section C320. The IPU is involved with the process with the laboratory concerned responsible for putting forward the case. When clients are informed about the cancellation they are also informed of their rights of appeal.

6. STATISTICS

6.1. Certificates Issued

Nemko have issued eight IECEx certificates over the last two years covering Ex d, Ex i and Ex e.

7. DOCUMENTATION

7.1. Quality Manual

There are a number of bodies worldwide but Nemko AS is the body based in Oslo that has the Ex testing and certification as part of its scope. Nemko AS is in the process of producing one Quality Manual to cover the amalgamation of the three organizations into one. Most of this has now been done. The manual resides on the computer system with only two paper copies. One of these is signed off by the President.

7.2. Procedures

There are also procedures for various parts of the system, including for certification and for testing. Within certification there is a specific procedure for the IECEx Scheme, Quality Manual Section C320. This lists the critical documents for the Scheme. At the time of the assessment this was being updated to include reference to the relevant documents for the IECEx Scheme, and there was no reference to the ExTAG decision sheets. The later revision of the Quality Manual Section C320

included reference to relevant IECEx documents including the ExTAG decision sheets.

There are manuals for some activities such as for personnel and for data. The Personnel Manual includes the duty statements for the various positions.

7.3. Work Instructions

There are no work instructions for the ExCB. There are 'local procedures' for the test areas which are the responsibility of the relevant test managers.

7.4. Records

IECEx forms are taken from the website.

7.5. Document Change Control

This is covered in Part 4 and Part 1.5 of the quality manual. For the quality system the electronic versions of documents are generally the controlled versions. There is a controlled hard copy version of the Quality Manual signed by the President. It was identified that there would be a need for some control of hard copy documents used for testing purposes e.g. for gas mixing. This was subsequently done.

8. CONFIDENTIALITY

Staff are required to sign a declaration of secrecy when they are employed. Examples were sighted. There are also requirements specified in the quality manual Part 2.12 on ensuring confidentiality of material. The various parts of Nemko are secured by key card access or by keys.

9. PUBLICATIONS

Most information is found on the company website. Various brochures are produced about Nemko's activities.

10. NATIONAL ACCREDITATION

Accreditation for ISO/IEC Guide 65 is from Norwegian Accreditation (NA), certificate PROD 001 (Annex 3). This covers a range of fields including 'equipment for explosive atmosphere'.

11. RECOGNITION AND AGREEMENTS

Nemko have inter-laboratory agreements; these include FM Approvals in the USA, CQST in China, KOSHA in Korea, CSA International in Canada, US Coast Guard and Japan.

12. INTERNAL AUDIT AND PERIODIC MANAGEMENT REVIEW

The requirements for internal audits are covered in Section 3.8 and Annex 5 of the Quality Manual. The audit system has recently been changed to do 'vertical audits'. There is an audit plan developed for the year. This covers the various areas and also a product audit for CENELEC.

Annual review is in section 3.7 and Annex 5 of the Quality Manual. A standard agenda is used for these meetings covering the critical elements of the Quality System and the meeting is chaired by the President. The report for the meeting of 14 March 2006 was viewed. There is also a monthly quality meeting.

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

Nemko strives to provide facilities for all tests to avoid having to subcontract. One test that would require sub-contracting is the resistance to light test. There is no subcontracting of certification activities.

Part 12 of the Quality Manual deals with subcontracting. There is also a checklist to be used where work is subcontracted covering things like calibration, traceability, confidentiality and the need for compliance with ISO/IEC 17025.

Part 12 also deals with work done at manufacturers' premises. This is sometimes done, for example, for large motors.

14. TRAINING

There is no special training given for certification personnel. The people who were chosen for Ex certification or deputizing for signing of certificates were chosen on the basis of their experience in the Ex field.

There is a competency matrix covering the standards and other areas such as manufacturer and workshop assessments. It covers certification and testing personnel. There is a CV listed for each person and this includes any courses done.

15. ASSESSMENT OF MANUFACTURERS AND ISSUE OF QARS

There is a separate section within the certification department, Field Services, which is responsible for the assessment and surveillance of manufacturers.

Once the job comes to this area, it is reviewed, an order registration form is completed and contact is made to agree on an audit time. An agenda and checklist is sent. Two types of reports are issued. One is the notes from an audit. The other is the formal report. There was one auditor primarily involved with the assessment of manufacturers who was based in head office and interviewed for this assessment. He has a background in testing for Ex as well as training for auditing. Nemko will use local Nemko people do to assessments. At the assessment it was indicated that a training session for these auditors was planned for early 2007 in Oslo.

A file containing a sample QAR, NO/NEM/QAR/06.0004/00 was reviewed. Nemko have also issued an ATEX QAN based on a QAR issued by another ExCB.

16. COMPLAINTS AND APPEALS (Including appeals to IECEx)

Complaints are handled by the Internal Procedures Unit (IPU). Details are included on Annex 6B of the Quality Manual. Nemko also has an appeals procedure that is addressed in the Quality Manual Part 9. There is an appeals committee within Nemko which consists of people from outside Nemko to handle appeals. Provision is made in the procedures to advise applicants of the further rights of appeal including those related to 'international cooperation'.

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
- Checklist for ISO/IEC Guide 65

18. COMMENTS (Including issues found during assessment)

A number of issues were found during the assessment related to responsibilities, with reference to ExTRs, appeals, subcontracting and in the review of an ExTR. Some details are noted earlier. These are further detailed in the site report together with information on how they were all resolved.

19. RECOMMENDATION

Based on the re-assessment performed on 20 to 22 November 2006 Nemko is recommended for continued acceptance in the IECEx scheme as a Certification Body (ExCB) according to the scope of the standards listed in this document, including the extension of scope.

Jim Munro
Team Leader

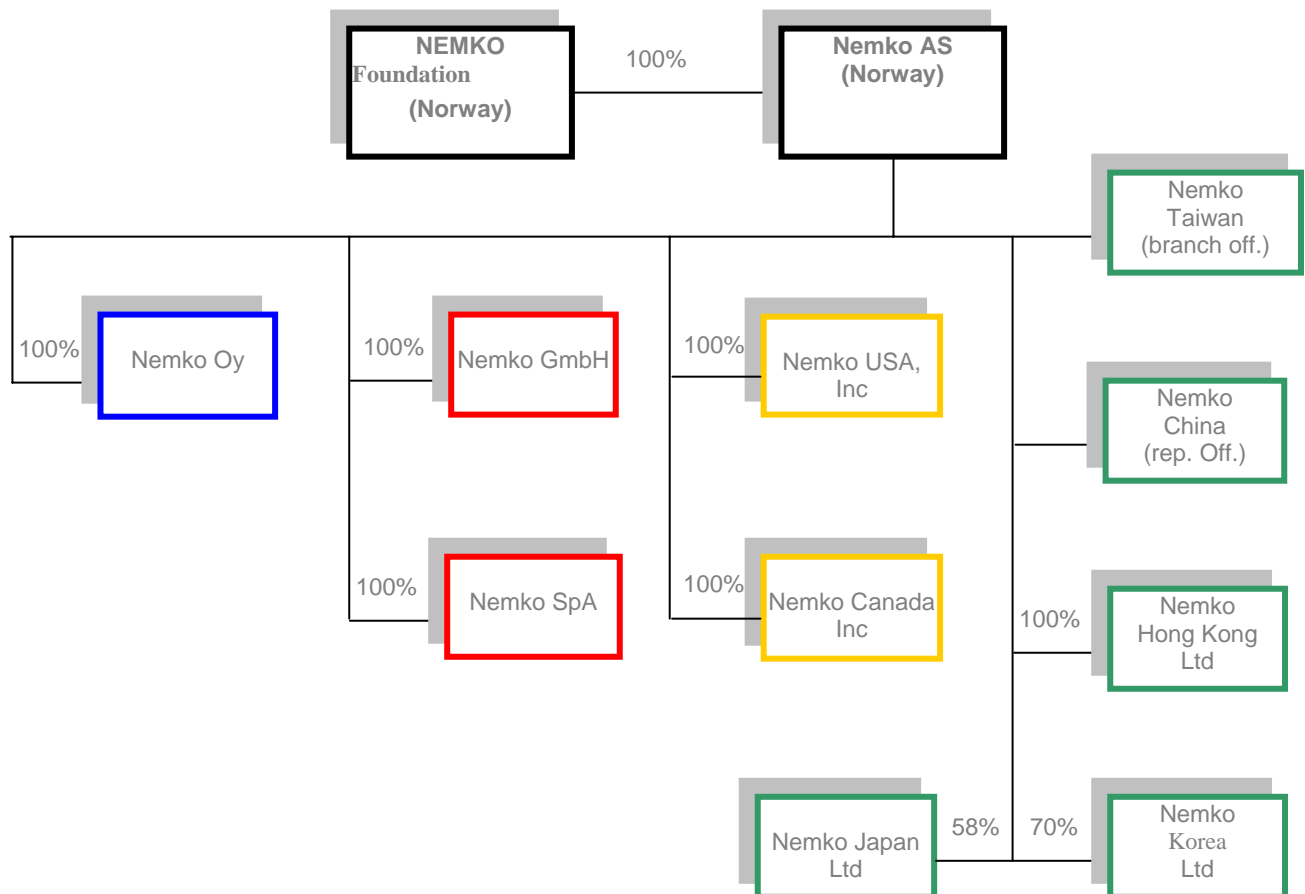
Nick Ludlam
Expert Assessor

Date: 4 April 2007

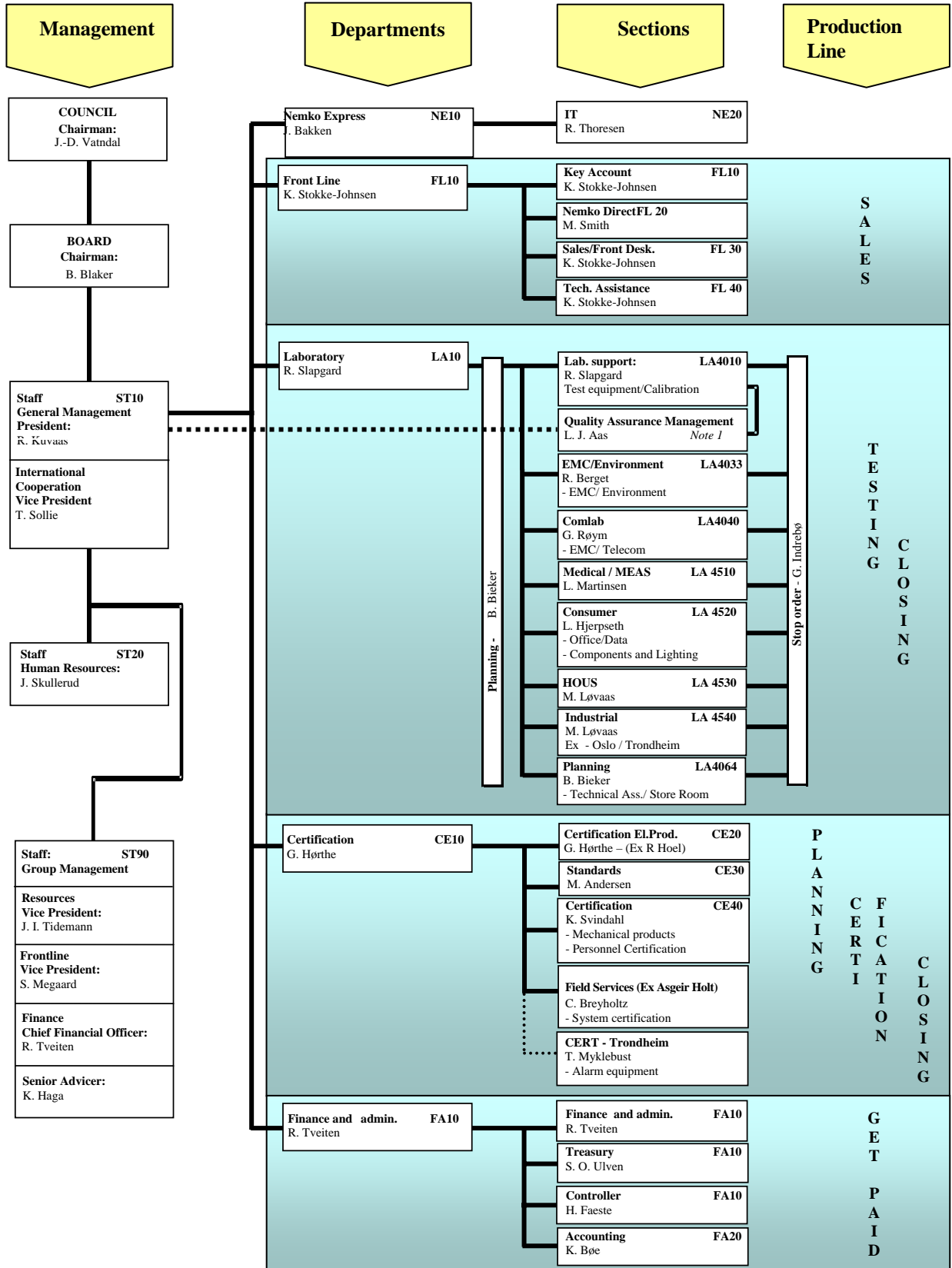
List of Annexes:

1. Organization Chart for the Nemko Group
2. Organization Chart of Nemko AS
3. Accreditation Certificate for Guide 65

Annex 1
Organization chart for Nemko Group



Annex 2
Organization chart for Nemko AS, Norway



Note 1: ■■■■■ Reporting line concerning quality assurance. QA is executed through the Line Organization.

Note 2: Reporting line concerning certification in Trondheim

Annex 3
Accreditation of Nemko for Guide 65



AKKREDITERINGSBEVIS
ACCREDITATION CERTIFICATE

Nemko AS

er den 19.09.1994 akkreditert av Norsk Akkreditering som
sertifiseringsorgan for produkter
og tilfredsstiller kravene i NS-EN 45011 (ISO/IEC Guide65)

*is accredited on 19.09.1994 by the Norwegian Accreditation as certification body for products
and complies with the requirements of NS-EN 45011 (ISO/IEC Guide65)*

Akkrediteringens omfang og varighet fremgår av gjeldende akkrediterings-
dokument, og akkrediteringen forutsetter regelmessig oppfølging.

*The scope and conditions of the accreditation are specified in the accreditation document,
and the accreditation is subject to regular surveillance.*

Akkrediteringsnummer: **PROD 001**
Accreditation number

NORSK AKKREDITERING
Norwegian Accreditation


Direktør/Director