

TLM 2019

13th Transformer-Life-Management Conference



**NEW:
2 Workshops**

September 16th -17th
HKK Hotel****
Wernigerode

powered by
ENERGY SUPPORT



Gold Sponsor



Silver Sponsor



Workshops:
- 2D-Method for Condition Assessment
- Risk Assessment with Examples



The focus of the Transformer-Life-Management conference (TLM) is safe and reliable transformer operations and optimized service. For over 12 years the TLM is a forum for experts, engineers, manufacturers and exhibitors that exchange information necessary for long operation times, high dependability, low maintenance costs and reduced failure times of transformers.

Topics are new insulation materials, diagnostic measurements and their interpretation, monitoring systems, asset management, recent developments in the energy sector as well as research and development. The approx. 20 speakers are operators, developers and manufacturers, that like to share their experience and scientists, that present their research activities in diagnostics and material science. The exhibition with approx. 25 exhibitors provides room for practice-oriented discussions.

This year the conference will also include two Workshops:

MR presents a workshop on asset management: „Practical Use of a two dimensional Method for Condition Assessment and Fleet Management of Power Transformers.“

Con-for-m offers a work safety workshop with the title: **„Risk Assessment – with the Examples Oil Sampling and Service of Power Transformers on-site.“**

Topics

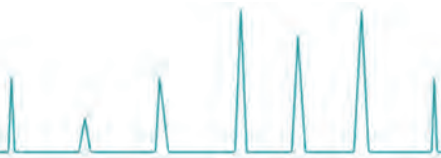
- **Introduction: Energy Transition and Fault Cases**
- **New Products**
- **Asset Management**
- **New Monitoring- and Diagnostic Systems**
- **Research and Development**





Partners





Program

Day 1: Monday September 16th 2019

11:00 - 12:00 : Check-in and Welcome Snack

12:00 - 14:00 : Topic I - Introduction

- ▶ **Welcome and Introduction**
Prof. Dr.-Ing. Peter Werle (Leibniz Universität Hannover, Schering-Institut)
- ▶ **Keynote1: Changing Markets and Customers – ABB Power Grids Adjusts its Strategy**
Pascal Daleiden (Head of Marketing & Distribution Power-Grids ABB AG)
- ▶ **Keynote 2: Challenges in the Grid due to the Energy Transition**
Dr. Adolf Schweer (Mitteldeutsche Netzgesellschaft Strom mbH)
- ▶ **Are Claims Increasing due to the Energy Transition? Insights from an Insurance Company**
Dr. Frank Hillmann (HDI Global SE Hannover)
- ▶ **Real Cases of Transformer Failures and how they can be Diagnosed**
Dr. Michael Krüger (OMICRON electronics GmbH)

14:00 - 15:30 : Coffee break and Exhibition

14:30 - 15:15 : Workshops

Room A: Practical Use of a two dimensional Method for Condition Assessment and Fleet Management of Power Transformers
(MR / Messko)

Room B: Risk Assessment – with the Examples Oil Sampling and Service of Power Transformers on-site (con-for-m)

15:30 - 17:15 : Topic II - New Products

- ▶ **RESIBLOC® Rail - a Component to Improve Efficiency in Regional Trains**
Johannes Triegel (Stadler Pankow GmbH)
Frank Cornelius (ABB AG, Brilon)
- ▶ **Optimized Grid Operation with Voltage Regulators**
Jürgen Präcklein (SÜC Energie und H2O GmbH)
- ▶ **High Temperature-Transformers in Distribution Networks**
Mark-André Thelen (Cargill Deutschland GmbH)

Approx. 19:00 : Evening Event with Technical Program





Program

Day 2: Tuesday September 17th 2019 Morning

8:15 - 9:45 : Topic III - Asset Management

- ▶ **New Methods for Monitoring and Diagnosis to Support the Asset Management of Components in the High Voltage Grid**
Dr. Horst Günter Bender (TenneT TSO GmbH)
- ▶ **Asset Transformer - an Infrastructure Element at BASF Antwerp**
Rudi Marien (BASF Antwerpen N.V)
- ▶ **Asset Management at Hydro Aluminium - Past, Present and Future**
André Etzweiler (Hydro Aluminium)

9:45 - 11:00 : Coffee Break and Exhibition

10:00 - 10:45 : Workshops

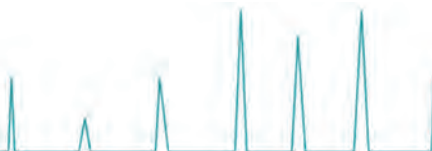
Room A: Practical Use of a two dimensional Method for Condition Assessment and Fleet Management of Power Transformers
(MR / Messko)

Room B: Risk Assessment - with the Examples Oil Sampling and Service of Power Transformers on-site (con-for-m)

11:00 - 12:30 : Topic IV - New Monitoring and Diagnostic-Techniques

- ▶ **Innovative Sensors for the Condition Assessment of Power Transformers**
Jörg Preusel (Gridinspect)
- ▶ **Influence of the Pressure during Drying of the Winding and the Operating Conditions on the Stability of the Clamping Pressure during Operation and its Monitoring**
Peter Heinzig (Weidmann Electrical Technology AG)
- ▶ **Condition Assessment and Fault Detection for Transformers on-site**
Christian Gassner (ABB AG, Servicewerk Halle)

12:30 - 13:30 : Lunch and Exhibition





Program

Day 2: Tuesday September 17th 2019 Afternoon

13:30 - 15:30 : Topic V - Research

- ▶ **Ageing of the Oil-Paper-Insulation of Power Transformers**
Tobias Münster (Leibniz Universität Hannover, Schering-Institute)
- ▶ **New Approaches for the Condition Assessment of Power Transformers**
Prof. Dr.-Ing. Gerd Valtin (HTW Dresden)
- ▶ **Diagnostic Measurements with Programmable low-cost Measurement Systems**
Prof. Dr.-Ing. Michael Hartje (Hochschule Bremen)
- ▶ **Overview of the Cigré WG D1.56 „Field Grading in Electrical Insulation Systems“ with Special Focus on Power Transformers**
Prof. Dr.-Ing. Christian G. Staubach (Hochschule Hannover)

15:30 - 15:45 : Closing Session

- ▶ **Conclusion**
Prof. Dr.-Ing. Peter Werle (Leibniz Universität Hannover, Schering-Institut)

Approx. 15:45 : End of Conference





Workshops

Maschinenfabrik Reinhausen / Messko

Practical Use of a two dimensional Method for Condition Assessment and Fleet Management of Power Transformers



Power Transformers are essential assets for utilities and in the industry. Responsible asset managers are forced to optimize the availability of the asset at all times. The goals are high availability and long lifetime while working in tight financial constrains.

In this workshop a fleet management concept is introduced, which directly approaches different groups within the company. Two indices are used, which are directed to the persons in charge of CAPEX and OPEX. The advantages and the procedure as well as the strategic consequences for the asset management are shown in practical examples.

Conform systems GmbH

Risk Assessment - with the Examples Oil Sampling And Service of Power Transformers on Construction Sites



The risk assessment is the basis of occupational health and safety. From the identified risk factors, appropriate measures have to be taken. This includes all fields of occupational safety: medical prevention, audits and inspections, operating instructions and technical and organisational Improvements. The consideration of rules and requirements imposed by legislature and trade associations is equally important as assessment of individual performance prerequisites of each employee.

For oil sampling and service of power transformers on-site Typical risk assessments will be performed in this workshop.



Registration for:

Transformer Life Management Conference 2019

September 16th to 17th, 2019 - HKK Hotel****, Pfarrstr. 41, 38855 Wernigerode



Please resend to:

E-Mail: info@energy-support.de or fax: + 49 2131403 9608 or

Invoice address:

Company name	
Contact	
ZIP, City, Country	
E-Mail	
Telephone	

Participant:

Surname, Name	
E-Mail	

2. Participant:

Surname, Name	
E-Mail	

3. Participant:

Surname, Name	
E-Mail	

Included in the fee of 695 € + VAT for each Person:

- Colloquium materials
- Welcome drinks
- All Snacks
- Lunches
- Official dinner

Invoice must be paid before conference starts.

Date, Signature, Stamp

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Equipment for Transformer Oil Analysis



Contamination Free Oilsampling Set

- to get a reliable Oilsample according to IEC/ASTM Standard
- to avoid any misinterpretation of your Laboratory results
- measure the Oil Temperature
- avoid any contamination with ambient air or dirt particles



MobilGC

- Portable DGA Equipment for Analysis 9/11 Gases
- according ASTM D3612/IEC 60567
- direct Analysis of Buchholz gases
- with Partial Vacuumdegassing Unit
- with Software Package Expertsystem

TOP TOGA

- DGA Analysis according to ASTM D3612/IEC 60567
- with Autosampler 16/32 Syringe 50/100ml
- fully automatic Vacuumdegassing
- with Analysis of 11 Gases with high sensitivity
- with Software Package Expertsystem



Breakdown Voltage Measurement

- BA 75/100 KV
- according to all usable Standards
- smallest Breakdown Voltage Analysator
- USB drive, Software controlled
- Battery operated



Pocket TitratorKF

- Water content measurement using Karl Fisher Method
- full automatic with high precision
- measuring low concentrations



TDM 4000

- Automatic Dielectric Constant Tan Delta & Resistivity Measurement
- Heating Chamber with automatic Temperaturcontrol
- automatic drainage of your Oilsample
- with Printer and Calibrator



www.energy-support.de

Contamination Free Oilsampling Set



Avoid Misinterpretation of your Oilsamples

ENERGY Support developed the Contamination Free Oilsampling Set with temperature control, to avoid any misinterpretation of Oilsamples.

Results are strongly dependent on Temperature and Oil Ageing Conditions.

Temperature in C°	80	15	46
Dielectric Strength (kV/mm)	13	70	45
Water in Oil (mg/kg)	48	10	20

- Where does the water come from?
- Moisture can be in the insulation when it is delivered from factory.
- If the transformer is opened for inspection or has a leak, the insulation can absorb moisture from the atmosphere.
- Moisture is also formed by the degradation of insulation as the transformer ages.
- Additional benefit is the sampling with gas-tight syringes according to standard IEC 60475/ASTM D 923.
- The aim of proper sampling is to ensure that the result of the dissolved gas analysis are not distorted by contamination with ambient air or dirt particles.
- This guarantees a reliable and exact dissolved gas analysis and a solid decision basis for the further treatment of your Transformer.

With this in mind, we organise our TLM Conference 2016. To achieve a stable integrated electricity network, generation, transmission and distribution companies must employ best practice performance methodologies to achieve optimal resilience and a future-proof grid.

Interested in learning more and share your knowledge at Transformer Life Management Conference?

www.energy-support.de



Quality service

Analysis and inspection

Sound strategic planning through engineering solutions. ABB offers oil diagnostics, online monitoring and on-site inspection tools. Several ABB-designed components are now established standards in the sector; for example, the impulse voltage generator.
abb.com/transformers





Advanced technology

Tradition and technology

100 years of experience: In our Halle factory we overhaul and maintain transformers of up to 800 kV. Every year about 400 inspected units are sent out to clients all over the world. Additionally ABB provides field services and spare parts.

abb.com/transformers





Fachgebiet

Hochspannungstechnik und Asset Management

Schering-Institut

Prof. Dr.-Ing. Peter Werle

Leistungsangebot

- Beratung und Gutachten im Bereich der Hochspannungstechnik
- Begutachtung von Schäden an Hochspannungskomponenten (Transformatoren, Kabel, GIS, Motoren/Generatoren)
- Hochspannungsprüfungen von Geräten und Isolierstoffen
- Unterstützung bei Entwicklungsprojekten
- Prüfung von Isolierstoffen für Motoren (e-Mobility)
- Kolloquien und Seminare

Technische Ausstattung

- Prüfquellen:
 - Stoßspannung 3 MV, 300 kJ
 - Wechselspannung 800 kV, 1A, 50 Hz
 - Stoßstrom 200 kA, 300 kW
 - Gleichspannung 800 kV, 100 mA
- Geschirmte Räume für Teilentladungsmessung und Teilentladungsortung
- Klimatisierte Messzellen für dielektrische Untersuchungen an flüssigen und festen Isolierstoffen
- Verlustfaktormesseinrichtungen: bei Hochspannung (50 Hz) und Niederspannung (10 Hz - 100 kHz)
- Nachbildung direkter und indirekter Effekte von Blitzentladungen
- Dauerversuchsstände für Materialuntersuchungen mit hohen Losgrößen
- Anlagen zur Herstellung von Prüfkörpern mit Kunststoffpressen, Extrudern und Harz-Gießanlage
- Umfangreiches Labor zur Analyse von Isolierflüssigkeiten sowie von gelösten und ungelösten Gasen

SERVICE AM TRANSFORMATOR. UNSERE WISSENSTRÄGER. IHR EXPERTENTEAM.



Erfahren Sie mehr über den praktischen Einsatz einer zwei-dimensionalen Methode zur Zustandsbewertung und Flottenmanagement von Leistungstransformatoren. Besuchen Sie unseren Workshop auf der TLM.



Unser Leistungsspektrum umfasst den Aufbau und die Optimierung von Managementsystemen bei gleichzeitiger Erzielung folgender Effekte:

- Gesunde und sichere Arbeitsbedingungen
- Erhöhung der Umweltleistung
- Erhöhung der Kundenzufriedenheit
- Sicherstellung der Rechtskonformität

Kunden der conform systems GmbH werden beim Aufbau und der ständigen Verbesserung von Energie-, Qualitäts-, Umwelt- und Arbeitsschutzmanagementsystemen unterstützt.



Arbeitssicherheit

- Externe Fachkraft für Arbeitssicherheit
- Beratung beim Aufbau und der Aufrechterhaltung von Arbeitsschutzmanagementsystemen (ISO 45001)
- Durchführung interner System- und Complianceaudits



Umwelt & Energie

- Beratung beim Aufbau und der Aufrechterhaltung von Umwelt- und Energiemanagementsystemen (ISO 14001, ISO 50001, SPaEfV, EMAS-Verordnung (EG) Nr. 1221/2009)
- Durchführung interner System- und Complianceaudits



Qualität

- Beratung beim Aufbau und der Aufrechterhaltung von Qualitätsmanagementsystemen (ISO 9001)
- Durchführung interner Systemaudits

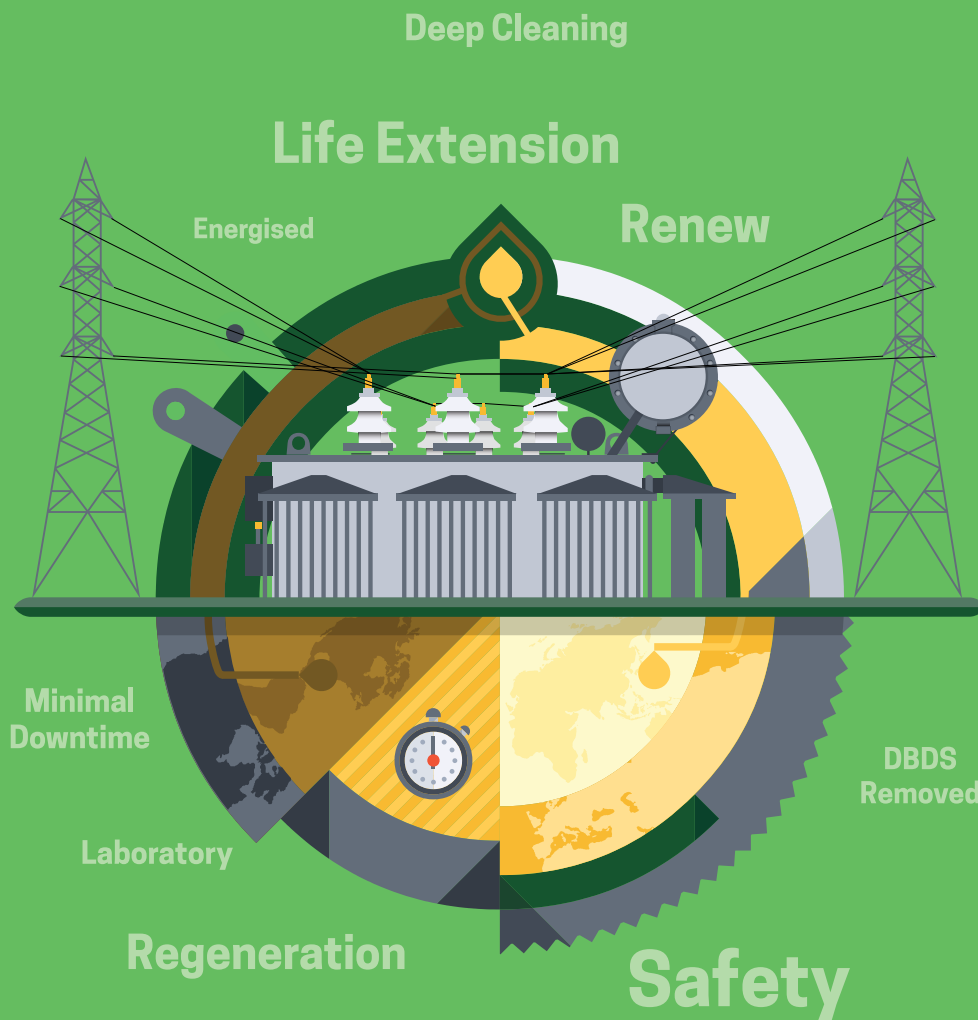


Rechtskataster

- Erstellung von Rechtskatastern für die Rechtsgebiete Arbeitsschutz-, Umwelt- und Energierecht einschließlich Delegation von Unternehmerpflichten inkl. Aktualisierungsdienst
- Implementierung in die betriebliche Organisation: Durchführung von Führungskräfteworkshops, schriftliche Pflichtenübertragungen
- Durchführung von Compliance-Audits

conform systems GmbH

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E-Mail: info@con-for-m.de
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eos
TRUSTED PURITY

Extend transformer life with oil regeneration

Avoid long outages and “deep clean” your transformer insulating system (oil and paper) using on-site regeneration to extend asset life. Electrical Oil Services (EOS) is a leading specialist in transformer oil treatment and regeneration, and can offer a complete solution:

- ◊ Vacuum filling of new transformers with oil drying and degassing
- ◊ Transformer life extension with on-site regeneration
- ◊ Reconditioning of transformer oil in service
- ◊ Comprehensive laboratory and technical support
- ◊ Closed-loop model for collecting, storing and reclaiming used transformer oil (including PCB removal) to as-new oil quality (IEC 60296)

For more than 60 years, we have supported the electricity supply industry and large industrial energy users in conserving valuable resources. Purity you can trust.

Neues Windungsverhältnisprüfgerät - TRT400

- Zuverlässigere Messung mit höchster einphasigen Prüfspannung von 430 V AC
- Höchste echte dreiphasige Prüfspannung von $3 \times 250\sqrt{3}$ V AC
- Automatische Erkennung der Schaltgruppe
- Großes 7-Zoll grafisches Touchscreen-Display
- 3 Jahre Garantie
- Auswechselbare Messleitungen mit Wicklungsohmmeter und Stufenschalterprüfgerät TWA
- Das genaueste tragbare Windungsverhältnisprüfgerät auf dem Markt





Tomorrow's energy
just got cleaner

The shift to renewable energy sources requires efficient and reliable transformer solutions. Nynas transformer oils are high-performance, they have a low maintenance cost and are 100% recyclable after being used for 40-50 years.

www.nynas.com > transformer oils

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