

Transformer Service

Reliable, professional solutions for safe operation



Siemens Energy power transformers are characterized by extremely high availability and long service life. We recommend several selected modules from our service portfolio to ensure that this availability remains consistently high over years and decades and to prevent any unscheduled outages.



Our service portfolio

Transformer diagnostics

All planning is first based on a detailed diagnosis of the technical conditions on site. We provide the requisite personnel, measuring equipment and our many years of expertise.

The following parameters can be checked on site:

- Inspection including visual and functional check
- Oil sampling and oil analysis
- Noise emission measurements
- Electrical measurements on the transformer and bushings
- Application of a mobile test bay for high-voltage tests
- Partial discharge measurements (acoustical and electrical)



Transformer assessment and maintenance

Our specialists keep track of all relevant factors in the technical assessment of a transformer. This also includes a mechanical and electrical inspection as well as the analysis of the oil used. The resulting findings are evaluated following our standardized assessment methodology. The customer thus receives a meaningful diagnostics report on the actual condition of its transformer including a recommendation for action. Maintenance measures can then be derived from

this in order to ensure availability in the future. We are pleased to offer regular maintenance by our qualified specialists to cover these measures.

Spare parts

Our service department offers spare parts solutions for all transformer models. The selection is based on Siemens Energy's technical specifications. No compromise is made in quality of the spare parts used.

Installation activities

The life cycle of a power transformer extends over several decades. It may be necessary to replace parts or assembly groups over this service life. This maintenance work may necessitate that the transformer be opened. We offer complete service packages to ensure that this proceeds as smoothly as possible. We start from the basis of the above technical analysis and the preparation of design and process documents. This is followed by provision of the requisite spare parts and assembly parts. Finally, we deploy an installation team with professional and technical longtime experience. With this complete solution, we take over the full responsibility for a complex process with many interfaces.





Oil treatment

An important factor for ensuring availability is the condition of the insulating oil. The condition of this oil determines the extent to which safe, continuous operation of the transformer is possible. Moisture, degradation products and acids in the oil jeopardize safe operation and also shorten service life. It is therefore important to regularly check the condition of the oil and to take appropriate action in the event of a decrease in oil quality. Siemens Energy offers the following solutions:

- **SITRAM DRY**

If the moisture content of the insulating oil is too high, the use of SITRAM DRY is recommended. This system effectively removes moisture from both the insulating oil and from solid insulating materials such as paper, pressboard and plywood. This increases the dielectric strength of the current-carrying components and counteracts the aging process of the insulating materials.

- **SITRAM REG**

If the insulating oil contains a high fraction of degradation products and acids, it can be

completely regenerated using the SITRAM REG system. The regeneration process cleans the oil and restores it to the quality level of new oil. The regeneration process is highly cost-effective, as it is especially time-saving and does not require the transformer to be shut down.

Depending on the initial condition, the application of both systems retains or improves the technical parameters of the insulating oil used. This significantly reduces transformer aging and improves operating reliability. The application of these systems is a plus for sustainability and conservation of resources.





24/7 phone service and on-call service

On request, our transformer service provides you with telephone support 24 hours a day, 7 days a week.

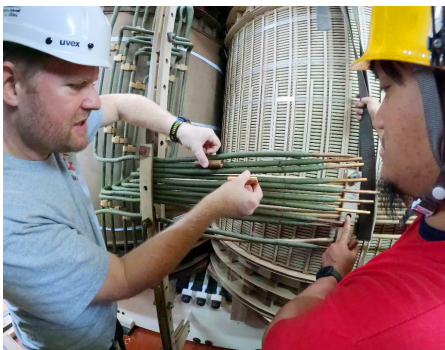
Our Support Center is your contact point, processing incoming calls and forwarding them to our specialists and technicians.

We are pleased to offer our customers individual telephone service and on-call contracts upon request. Our service includes the following components:

- Component 1:
Return call by a specialist within a defined time
- Component 2:
Arrival of a service technician within a defined time

Overhaul and repairs in the manufacturing plant

Depending on the initial situation, it may be expedient from an economic standpoint to have an older or damaged transformer overhauled at one of our Siemens Energy production locations. Based on our experience, an overhaul restores transformer availability for an extended time with no restrictions in operating reliability. There are advantages over the production of a new transformer. An overhaul and restoration are usually significantly more cost-effective and time-efficient. Our customers also experience significantly shorter outage times.



On-site repairs

In many cases, it is not possible or cost-effective to bring the transformer to one of our manufac-



turing plants for repair because of the necessary heavy transport.

In these cases we can offer our customers on-site repair. An individual solution may be elaborated depending on the existing infrastructure.

Training and education

We are pleased to pass on the necessary knowledge to the user to ensure trouble-free operation of a specific transformer. The training instruction is adapted to customer requirements.



Worldwide transformer service

Our service concept is based on a global network of technicians and experts. We offer you the service you need on site, wherever your power transformer is implemented. Contact us. We will be pleased to provide our experience and expertise to you.

Contact:

- Phone: +49 (0) 911 6505 6505
- Email: t1m.de@siemens-energy.com

Published by

Siemens Energy Global GmbH & Co. KG
Grid Technologies Service

Humboldtstr. 64
90459 Nuremberg, Germany

Customer Support Center
Phone: +49 911 6505 6505
Email: support@siemens-energy.com

siemens-energy.com/gt-service

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