



NKT

Power Cables Onshore Service Products

Modular based service agreement for high-voltage cable systems adapted to your needs.

nkt.com

We offer a range of service products. Regardless of cable type, you can select everything from an individual service to a turnkey service solution.



Extensive experience and competence

Outstanding service delivery, regardless of cable type

Different cable systems require different maintenance and monitoring to operate optimally, without unplanned outages. The risk of failure in a well-managed cable system is very low, but should it occur, time is of the essence to minimize revenue losses.

Service quality must be excellent to avoid future problems. The service provider must have a proven skill set of competence, craftsmanship, safety awareness, spare parts availability, agility and speed. NKT can provide all this and more.

There are many different types of cable in the installed base of onshore cables, e.g. gas pressured cables, oil filled cables and extruded cables (XLPE). NKT has a long tradition producing and servicing all of these.

Although gas filled cables are no longer produced, NKT still has the service skills necessary, which is continuously refined at our global "Gas Cable Competence Centre". Using the steel pipes of existing gas cable systems, NKT has developed the Valfit® CityCable to replace old gas

cables with new XLPE cables. NKT also has unique knowledge of oil filled cables, which is maintained and developed for the global market by our "Oil Cable Competence Centre". Transition joints are delivered for all oil and gas pressure cables.

The width and depth of our knowledge and capabilities make our service scope unique in the market. Take advantage of our systematic approach to service and let us take care of your cable systems – so that you can focus on your core business.

Minimize revenue losses in case of a fault

Signing a service level agreement (SLA) with NKT is the safest way to minimize downtime in the event of cable damage. SLA customers are prioritized and guaranteed an agreed service level under all circumstances.

The agreement ensures that maintenance and repair services are carried out rapidly, safely and cost effectively. It is designed as a framework for your service activities

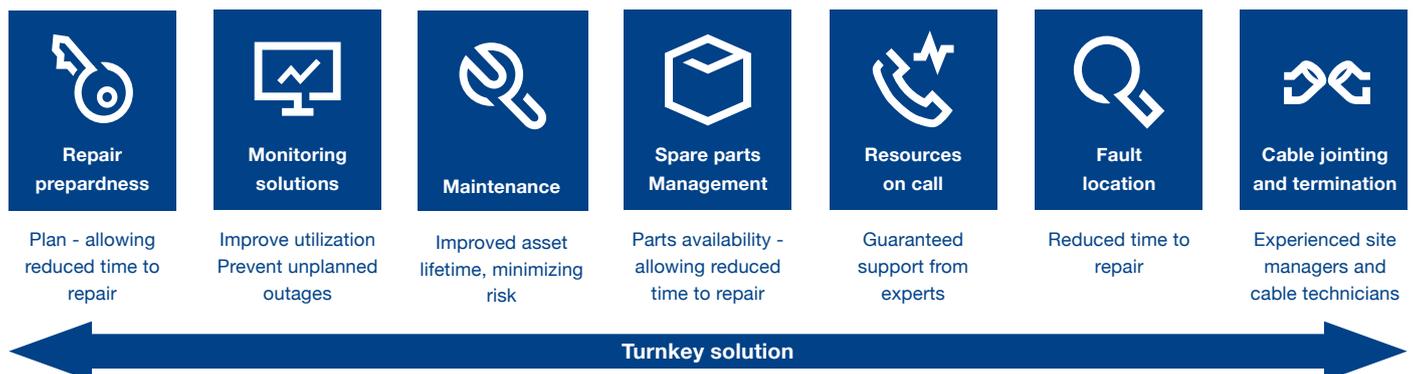
and is flexible in terms of the extent of planned and unplanned service.

You can customize an SLA to contain some or all of our cable services. The agreement stipulates precisely what you can expect from our service delivery.

Each service is quantified by parameters so that you can measure and follow up that we deliver according to agreement.

Fees, rates, scope of support, service provision and pre-agreed contracts are defined under a customer specific framework.

The SLA specifies the extent of each service component, the frequency of service provisioning, the time to service provisioning and the resources allocated for service provisioning. NKT's SLA is offered worldwide.



From tailored service packages adapted to specific requirements to turnkey service agreement providing all services in the portfolio.

A repair plan and a monitoring solution put you in control of your cable operations, ensuring the highest possible cable system availability.



Preparation and monitoring prevent problems

Repair preparedness

Preparation is key to successful repair work. For asset owners, repairs are luckily rare, as maintaining and developing competence, methods and systems can be a challenging task.

You may have all the necessary equipment and parts. But if drawings and permits are not prepared, commercial conditions not agreed, personnel not trained or holding the required certificates, repairs will be delayed at best.

For us at NKT Service, with our global customer base, this is daily routine.

We can tailor a preparedness plan for you, outlining e.g. the data, permits, certificates, contacts and repair scenarios necessary to carry out repairs rapidly and safely.

The plan is periodically reviewed – based on technical developments and market, environmental and asset conditions – in cooperation with our customer in a cable repair preparedness workshop.

Monitoring solutions

Monitoring a cable system is about optimizing availability. You need to be able to optimize the load depending on changing conditions and, whenever possible, increase the usable capacity.

It must be possible to check the cable's health to enable effective maintenance strategies. Any risk of cable damage must be identified and, if possible, prevented so that you can reduce your insurance fees. NKT can help you with all this.

We have used all our experience and technical skills to develop a range of constant monitoring systems, among others VALCAP®, along with complementary measurement systems.

We are therefore able to ensure the highest possible cable system availability, regardless of the specific customer conditions.

Equipped to manage any disturbance

Maintenance

All cable systems need maintenance to operate satisfactorily, some more than others. Procedures provided by NKT include inspection, cleaning, checking of consumables, measuring, refilling, data collection and reporting.

With its manufacturing and service experience, both of old and new cable systems, NKT is your perfect maintenance partner.

Our local service organizations are well trained, experienced and ready to design a customized maintenance plan for you – and deliver service according to it.

Spare part management

Should a cable problem occur, it is important to know that all the necessary spare parts are readily available. Every power cable system requires spare parts during repairs.

As parts age, their function deteriorate over time. Including tape and other consumables. NKT's spare part management service is a structured method to ensure spare parts are available at all times.

For gas pressured cable systems, NKT owns and holds a stock of spare parts for the global market at its warehouse in Cologne. Customers can order parts from there whenever service or repairs are needed.

For oil filled and XLPE cable systems, spare parts will be handled by a customer owned, NKT supported setup.

The NKT service team will inspect your spare part inventory to make sure the stock is sufficient for cable repairing, focusing mainly on cables, joints and cable accessories. If required, NKT will provide storage, efficiently maintained and fully allocated for each customer.

After inspection, a yearly report will be submitted to the customer including recommendations and prioritizations for corrective action, for example the replacement of expired spare parts and consumables.

Depending on preference, you can perform the recommended parts replacements yourself, or hand over this task to NKT.

Every cable system needs maintenance to function optimally. Should a failure happen, you want the relevant spare parts to be accessible fast.



We make sure your cable system is back in operation as fast as possible after a failure, through efficient fault reporting, detection and repair.



Guaranteed availability – should the unlikely happen

Resources on call

Cable downtime can be costly and it is crucial to act fast. For SLA customers, the resources on call service ensures NKT experts are always available for you in case of a cable problem.

At a fixed daily rate, you are offered the peace of mind knowing that there is no price negotiating necessary to add to the stress if downtime and loss of revenue strikes.

You are guaranteed an instant telephone contact with one of our cable engineers within 30 minutes. Depending on the problem, initial fault analysis will be carried out after taking part of the customer's fault reporting over the phone.

The fault report and data from monitoring systems like VALCAP®, form the basis of our evaluation of the problem and of the preparation work on site.

Fault location

Mobilizing a repair operation can begin immediately after an incoming call, if necessary.

NKT service vans are equipped with tested and calibrated equipment to make any necessary field measurement possible by our skilled and experienced service engineers.

Backed by its technical department, NKT's service engineers use and combine different methods to find and locate the section of a cable where a fault has occurred.

Cable jointing and termination

Cable jointing is a craft that requires solid experience, whether it is about extruded, mass impregnated (MI), oil filled or gas filled cables.

NKT's jointing personnel are sourced from our inhouse installation department, which means they spend all of their time on jointing and termination work.

Jointing is a craftsmanship that takes many years to learn, especially for gas pressured cables. We deliver complete jointing solutions, which besides

the expertise of our personnel, include all the equipment necessary for jointing.

Equipment includes, for example, jointing houses, pipe welding and bending tools, oil filling tools, peeling tools, etc.

As a provider of complete solutions, NKT offers to assume total responsibility for the whole jointing and termination process.

Turnkey Service Contract: Our top-class service offering

One point of contact

Whatever your problem, you can always contact your dedicated service person who will handle your issue until it is properly solved.

Pre-negotiated and clear commercial conditions

Last thing you want is to negotiate during a crisis situation. With NKT, terms and conditions are set from day one of service commitment.

Engineering work prepared

When you use an NKT service, you don't have to do any cable preparation tasks, all the necessary engineering work is included.

Documentation gathered

We assemble all the documentation necessary to ensure a smooth service delivery, e.g. drawings, data, permits, certificates, contacts, etc.

Repair eventualities and scenarios outlined

As part of a repair preparedness plan, we will outline any possible repair scenarios to carry out repair work rapidly and safely.

System monitored and maintained

Constant monitoring systems, such as VALCAP®, helps us identify and, if possible, prevent the risk of a cable failure before it happens.

Spare parts available in right numbers and in right condition

Whenever maintenance is required, and time is critical, it is crucial to have fast access to the right spare parts, in right quantity and condition.

Guaranteed availability of expert support

By using our Resources on call service, you are guaranteed the immediate support of NKT's experts in case of a cable problem.

Trimmed, tested and calibrated equipment

Our service vans are equipped with tested and calibrated equipment so that our service engineers can perform efficient measurements in the field.

HSE plan ensures highest standards

NKT works according to the highest HSE standards. Every operation begins by preparing a health, safety and environment (HSE) plan, which must be approved by the customer.

Experienced, certified and highly skilled jointers, site managers and project managers

You can expect the highest competence, craftsmanship, safety awareness, agility and speed from all of our service specialists.

Service highlights:

- All NKT cable service included
- All cable locations and voltage levels covered
- Certified NKT service personnel only
- HSE plan ensures highest standards

Main benefits:

- Highest Quality
- Cost control
- Reduced risk
- Reduced time to repair

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towards superior quality.