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Data Sheet 10.1/2

## Erection, Commissioning, Training and Service of High-Voltage Test Systems

When a HV test system has been delivered to the user the close cooperation of the user and HIGHVOLT is a must to erect the system, to commission and to test it, to train the future operators and to ensure the correct maintenance. HIGHVOLT recommends that all these tasks shall be executed under HIGHVOLT's responsibility. This should be part of the contract between both sides and ensures that the supplier's guarantee is fully effective.

The project shall be organized on site by the user, because he knows all local details and interfaces as arrangement in the test field, power supply, safety concept, interactions to other test systems, etc. The responsibility will be divided: HIGHVOLT overtakes that for erection, commissioning and testing of the HV test system, the user that for the integration of the system into his test field.

In detail, HIGHVOLT will take care for

- the erection (supervision of the personnel of the user),
- the commissioning and the acceptance test,
- the training of the personnel of the user,
- the maintenance of the system (based on a separate contract).

All necessary interfaces, performances and further details should be agreed with the delivery contract for the test system. HIGHVOLT can propose this part of the contract.

### 1. Erection

Usually HIGHVOLT overtakes the supervision of the user's personnel as well as the responsibility for the erection as a whole.

The HIGHVOLT supervisor engineer will take care for

- the unpacking of the goods,
- the assembling of the components to the system including their connection to the foundations,
- the laying of the cables and control links (as far as they belong to the delivery),
- the electric connection of all components,
- the supply of all special tools.

All other preparations and support measures for the erection are under the responsibility of the user, e.g.

- the completion of the construction works at the erection site of the test system before start of erection,
- the correct construction of the foundations for the test system,
- the cable ducts and earthing connections,
- the cable connections (which do not belong to the HIGHVOLT delivery),
- the power supply,
- the availability of general tools, cranes, fork lifts, ladders, cleaning material etc.,
- the availability of manpower,
- continuous working time without interruptions (coordination with other processes),
- full responsibility for the occupational health and safety (according to local rules).

## **2. Commissioning and Acceptance Test**

Commissioning and acceptance test include the following processes under HIGHVOLT responsibility:

- adjustment and functional check of all control and measuring functions,
- adjustment and functional check of all safety installations,
- execution of the trial operation,
- demonstration of the functions and of the parameters of the system (as they are agreed in the acceptance test program),  
If test objects are necessary for this acceptance test, they have to be supplied by the user. If such a test object is damaged during the correctly executed acceptance test, HIGHVOLT cannot overtake the responsibility for this damage.
- preparation of the test record.

## **3. Training**

The training includes the detailed instruction of the operator personnel for the optimum utilization of the HV test system as well as for its basic maintenance. Additionally hints for the elimination of misoperations of the system are given.

The first part of the training shall start in parallel to the erection, commissioning and the acceptance test. After that the training at the overhanded system will be continued. It is recommended, that the details of the training program shall be agreed as a part of the delivery contract.

## **4. Service**

HIGHVOLT recommends that a separate service and maintenance contract shall be concluded. Thereby the user ensures the following advantages for the time after the guarantee period

- the professional maintenance of the HV test system,
- the high availability of the HV test system,
- a budget cost planning for the service.

A service contract is especially recommended

- under extreme climatic conditions,
- when the system is part of production processes, e.g. routine testing,
- for the case that several systems operate together.

The service contracts can consider

- regular maintenance (agreed periods) and
- emergency (average) case service.

Well designed and manufactured products, their careful erection, commissioning and testing on site as well as the training of the operator personnel and the correct maintenance must be considered as a unit, when the optimum utilization of the HV test system and the maximum availability shall be guaranteed. HIGHVOLT asks you to use the opportunities offered in this paper. Your satisfaction with the HIGHVOLT products and services is our highest obligation.