Data Engineering Tool, DE400

**Application**

The DE400 tool is an application for data engineering entry of the SPIDER system. The tool is used for both the initial process data entry and for the process data maintenance.

The data entry for the process pictures and all process objects is integrated in one step. Object identifiers are derived from the location of objects.

DE400 is consistent with MS Office type of PC applications and is therefore easy to learn for persons with such experience.

**Functions**

**Multi-user Support**

Several users create or can modify the graphics and data describing a network at the same time (multi-user support).

In order to keep data consistent and to avoid concurrent changes of the same data, the user locks a part of the network in the graphical editor, before the graphics can be modified. Related changes are allocated to a change set. A group of change sets define a load set that can be loaded and tested in the on-line system before approval and making the changes permanent.

**Graphical Editor**

Enables the operator to describe the network in a graphical environment. The entered data in the network topology (electrical connectivity) is entered by drawing of the network configuration by means of a graphical editor. The data for each object is then entered using object-specific forms.

DE400 is consistent with MS Office type of PC applications and is therefore easy to learn for persons with such experience.

**Forms**

The Forms are based on Oracle Forms and provide powerful browsing capabilities.

The Forms are organized in the style of a spreadsheet to show tabular groups of data, which belong together. They are used for data entry of object's parameter data, indirect component data and administrative data for data
Functions, continued

processing can be directly perceived through graphical symbols and colours.

The Network Topology (network connectivity) is simply specified by drawing the network.

Copy and Paste
To support mass data entry by exploiting the similarity of network configurations a flexible mechanism allows the user to select individual components, arbitrary groups of elements, aggregates like substations or even groups of stations with the lines connecting them and to take a copy to a clipboard. While pasting, the rules of change set and context constraints are checked.

When hierarchical naming rules are used, the pasted elements adjust their names to the new environment. The user may then modify the copied elements. If two or more connected elements are copied and pasted graphically, their connectivity is preserved. The relevant tabular parameter data are also copied along with the graphical objects, "deep copy".

On-line Help
The On-line Help allows quick navigation to the information needed when entering data. From a data entry field in a dialog, the related Help library entry can be reached without searching.

Background Map
It is possible to import drawings in DXF format to DE400. These drawings can be used as background to process pictures. The drawings can be adjusted to the desired position and zoom level.

Import of Data
DE400 supports import of data from existing SCADA systems including an automated conversion of the data with preserved quality.

Background map with overview of the foreground

Technical data

**DE 400, Data Engineering Tool**

- A Microsoft Office Styled Data Engineering Tool
- Multi-user support
- Easy-to-use graphical human machine interface
- Intelligent graphics – symbols know their meaning
- Network topology derived from graphics
- Graphical navigation to network components
- Copy and paste of arbitrary selections of network components for mass data entry
- On-line help
- World map picture presents the entire network
- Extensive plausibility checks
- To-do list
- Powerful spreadsheet functionality
- Powerful browsing capabilities
- Form function selection
- Unlimited query
- Multi changes
- Special field types
- Multi site
- Versioning mechanism