

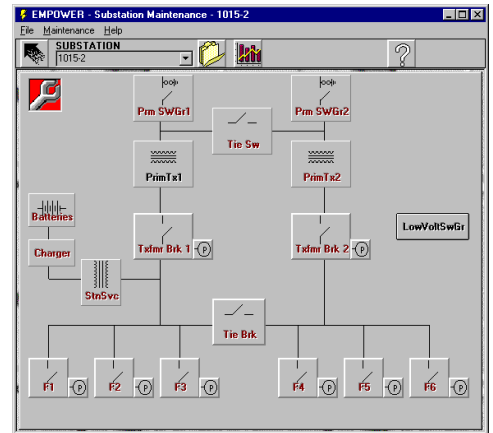


# **EMPOWER - Equipment Maintenance for POWER Industries**

The **EMPOWER** software package provides the power industry user with a state-of-the-art tool for maintenance scheduling, detailed record keeping, powerful search and retrieval of data, and creation of management reports.

**EMPOWER** was developed with the express purpose of allowing its users to:

- *accurately track the state of equipment maintenance in the transmission and distribution systems.*
- *eliminate space-consuming manual records and dramatically reduce time requirements for data entry, organization and recall.*
- *produce up-to-the-minute summary and detailed reports on up-coming requirements over various time bases, equipment overdue for service, percentage completion versus forecast as a bar chart, and many other concise and easy-to-read presentations.*
- *be provided with advance warning warranty expiration and other important upcoming dates on individual pieces of equipment.*
- *increase system security, reduce customer outages through enhanced maintenance of all aspects of the utility system.*
- *prove reasonable care in legal liability issues through documented history of due diligence*



MAINTENANCE	
Primary	CHECKED
Bushings	
Secondary	LUBRICATED
Oil Analysis	
<input checked="" type="checkbox"/> Sampled	Die-electric Test 1.3
<input checked="" type="checkbox"/> Report Pending	Oil Analysis
PCB	
<input checked="" type="checkbox"/> PCB Sample	PCB Content 65
<input checked="" type="checkbox"/> Contaminated	
Peripherals	
Fans	LUBRICATED
Fan Temp Gauge	CALIBRATED
Oil Level	LOW ADDED
Oil Pressure	NORMAL
Gas Ratio Test	6.63
Voltage Regulation	
Tap Changer	<input checked="" type="checkbox"/> On Load <input type="checkbox"/> Off Load <input checked="" type="checkbox"/> Operated
SERVICE DATE	
Last	Aug-14-1996
Next	Apr-16-1998
Comments	
Serviced By	user
[Schedule next visit soon for conservator leaking]	

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**EMPOWER** is sold in seven distinct modules, the first of which contains the core Relational Data Base (built upon Microsoft Access) and Graphical User Interface (GUI). The other six modules provide the following functionality:

1. **Substation Maintenance**
2. **Line Switch Maintenance**
3. **Distribution-Class Transformer Maintenance**
4. **Pole Inspection and Replacement**
5. **Cable Fault and Area Outage Tracking**
6. **Streetlight Maintenance**

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**The Graphical User Interface** is extremely user-friendly, providing complete windowed "point-and-click" capabilities. For example, in the Substation Maintenance module, the user creates a single line diagram of each substation using drag and drop techniques to place objects such as Switchgear, Transformers, Breakers, Protective Devices, Battery & Charger, etc. Each object represents a physical device with a historical sequence of records in the data base, and the current maintenance record can be recalled to a "fill-in-the-blanks" template format by clicking the object.

**The design philosophy** is that each device may be individually maintained (i.e. at different times, by different crews, etc.). If a displayed device is due for maintenance, it is color-coded to so indicate, and will remain so until the maintenance record for that object is "signed-off". Reports of work completed or to be performed for a user-specified period into the future are available on demand, and worksheets may be generated for field work over the next day, week, or month. The user is automatically warned of upcoming equipment warranty expiration to assist in assigning priorities to maintenance needs. Management reports are available to provide an "at-a-glance" overview of scheduled work to be done versus available time for all types of equipment within the electrical network.

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**The theme throughout the EMPOWER suite of modules is reduced operating costs to the user through detailed historical record-keeping, efficient search and retrieval techniques, and versatile management reporting capabilities.**

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With **EMPOWER**, no other third-party licensing fees are applicable, and a one-year update service is included, as is 90-days full telephone support. Contract services are available for data base entry should the customer wish to out-source that work. The package runs under Windows 95/98, or Windows NT/2000 and requires a 486 CPU or better, 16MB of RAM, and 30 Mb of hard disk space.