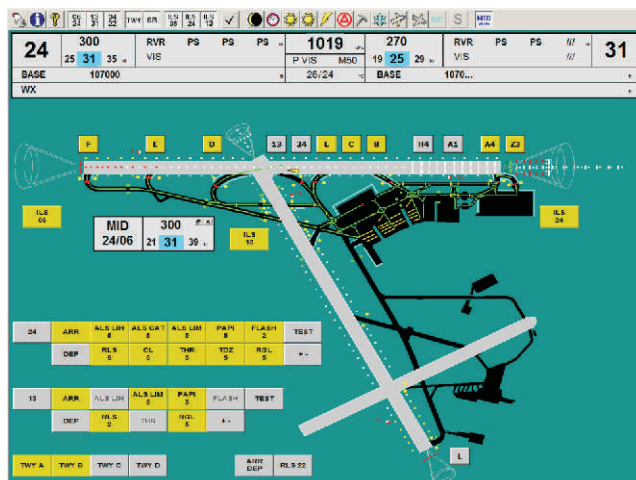


## CONTROL AND MONITORING OF AIRFIELD GROUND LIGHTING EQUIPMENT

### → Description of function

- airfield ground lighting equipment are shown on the screen representing the airport layout
- control of airfield ground lighting equipment is made by trackball and push-buttons situated at the bottom on the screen (touchscreen)



## CONTROL AND MONITORING CCR

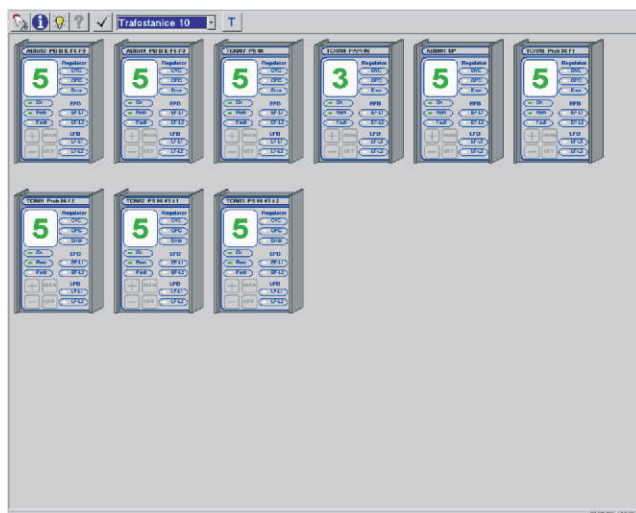
### → Application

- backgrounds a status of each CCR

### → Description/Properties

CCR's name (light system) is in its head. The regulators background own status via values:

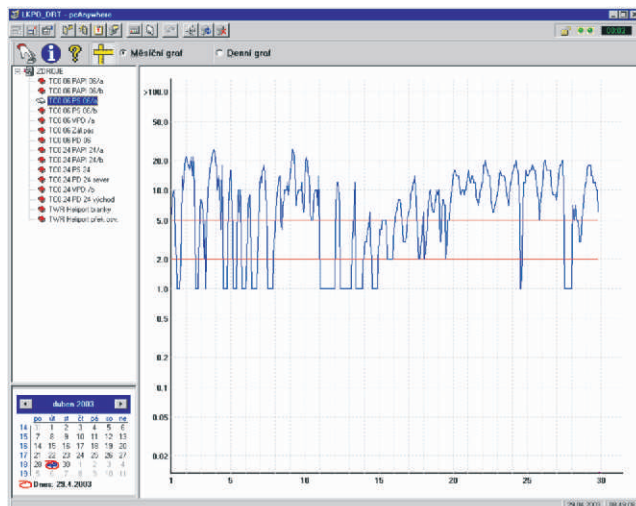
- ON/OFF
- Control mode remote/local
- Fault fault of regulation
- OVC over current
- OPC open circuit
- LF L1 lamp fault level 1
- LF L2 lamp fault level 2
- EF L1 earth fault level 1
- EF L2 earth fault level 2



### → Archive of ground fault detection TCR

Data selection by date or CCR or combination both. Select graph is windowing in main part of display:

- by days (graph of month)
- by hours (graph of day)



chapter:

# 2.3 SOFTWARE



## METEOROLOGICAL EQUIPMENT

### Application

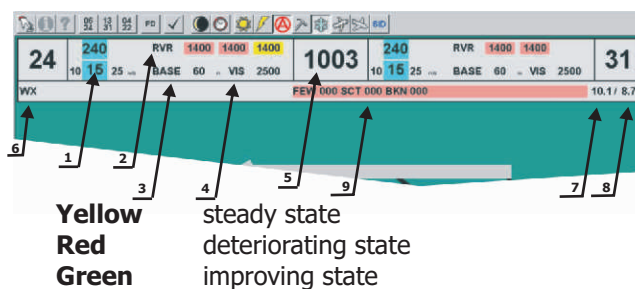
- meteorological data for air traffic controller (for sending on board of the air-plane)
- automatic regulation of luminous intensity of airfield ground lighting equipment (data base the on measurement of runway visual range from the METAR/SPECI report)

### Connection

- serial lines RS-232 or TCP/IP
- working site Meteo is connected via the LAN network

### Representation

- basic meteorological data are shown in the report "Airfield ground lighting" at the top part of the screen in meteorological ruler. This ruler contains a selection of the most important meteorological data.
- color shading gives to the air traffic controllers information about trend of the measured data, or about manually entered values
- remaining meteorological data (among others also QFE) are in the data windows Metreport, which can be opened from the top bar
- extended meteorological information is shown in the data window Meteo
- it is possible to switch representation of meteorological in requested runway directions
- tendency of the runway visual range is expressed by color shading of RVR, if the visual range is below 1500 m:



### System provides the following information

1. direction and strength of wind with max and min values
2. RVR if it is measured on RWY at corresponding number of measuring points
3. value BASE
4. VIS general visibility
5. QNH
6. WX
7. temperature
8. dew point
9. bottom base of clouds

Meteo information (RVR) is used for automatic control of luminous intensity of individual sets.

### Failure states

- in case of unavailability of meteorological information the whole panel changes its color to violet
- if this unavailability last for more than 5 minutes, all the data will disappear

## RADIO-NAVIGATION EQUIPMENT (LLZ, GP, MM, OM, FFM, DME)

### Description/Properties

- system AMS sends a request and waits for data
- monitoring is performed continuously, regardless of state of the system

### Control of ILS

- control is effected by the air traffic controller with use of mouse (trackball) and cursor on display
- control is always selected in such a manner that only one working site may control ILS equipment, and control of ILS from other working sites is blocked



## CONTROL AND MONITORING LVP/LVTO

### → Application

- preparation of low visibility procedures (Prep LVP)
- operation LVP
- preparation of low visibility take-off (LVTO)
- operation LVTO

### → Description/Properties

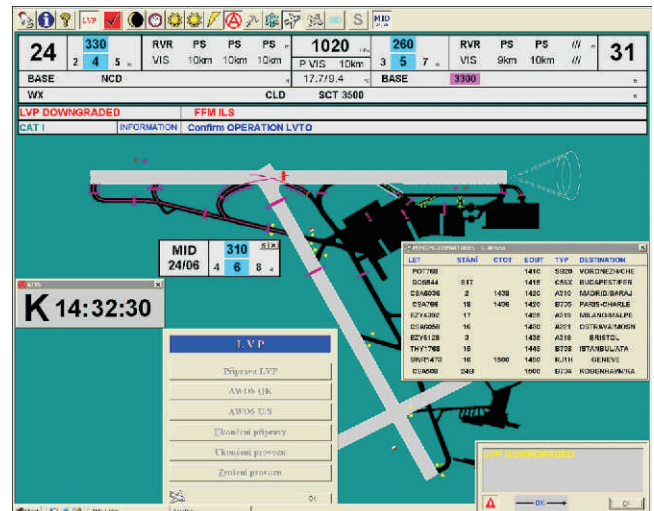
- system AMS performs control of parameters determined by the system for individual phases and it offers to bodies of air traffic control a possibility to acknowledge or cancel the proposed mode of operation
- after declaration of LVP or LVTO the system checks operating ability of individual devices of aviation safety technics (hereinafter AST) designed for the given mode of operation and meteorological conditions
- in case of AST change it degrades in depending on character of failure operation gradually from higher level to lower level, or directly to CAT I
- in case meteorological conditions are changed with improving/deteriorating tendency it proposes to bodies of air traffic control change to the mode of operation, which corresponds to the current meteorological situation at the airport

System AMS displays in the text window under the meteorological ruler the following:

- selected mode of operation corresponding to failure of AST
- information, which is to be sent to the crew on board of the airplane

### → Control and monitoring of the following airport systems

- control of airfield ground lighting (for runways and taxiways - AGL), including system BRITE II and stop bars
- monitoring system for Low Visibility Procedures (LVP) and Low Visibility Take Off (LVTO)
- radionavigation equipment and systems (ILS, DME, NDB)
- radionavigation equipment En Route (VOR, DME)
- electric power systems (EPS)
- meteorological equipment (ME) - AWOS
- protection zones
- central time
- AFTN
- data FPL Arrivals
- data FPL Departures
- RWY in USE - SID



- monitoring and processing of basic information (weather, traffic restriction, emergency cases) designated for air traffic control
- ATIS information, including comparison of changes between the last 2 messages
- delivery of information (data) for central monitoring and control system

chapter:

## 2.3

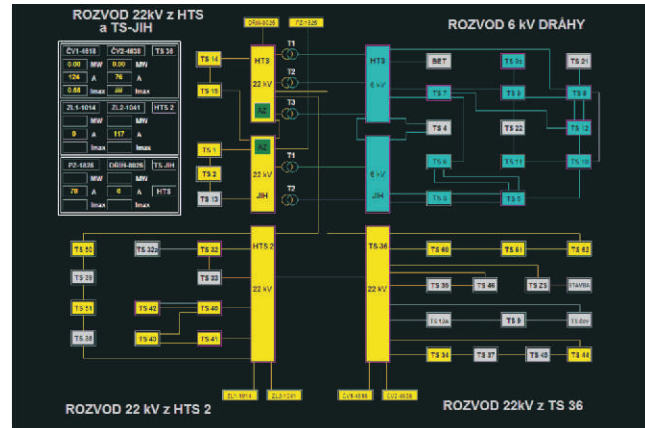
## SOFTWARE



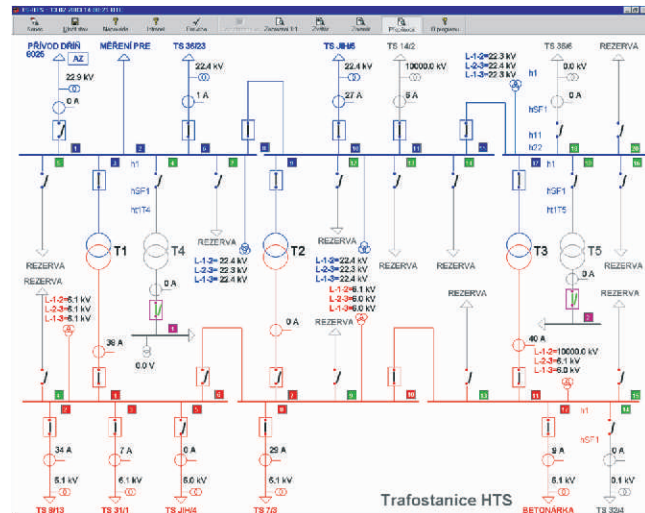
## ELECTRIC POWER SYSTEMS

## Application

- control and representation of state of the airport electric power system
- interactive diagrams of the whole airport power system
- interactive representation of individual transformer sub-stations with control of individual compartments and distributor fields in low and high voltage sections
- it sends data about power system to the airport monitoring system CAT II and CAT III
- archiving of all events occurred in the system
- optical and acoustical indication of change of condition



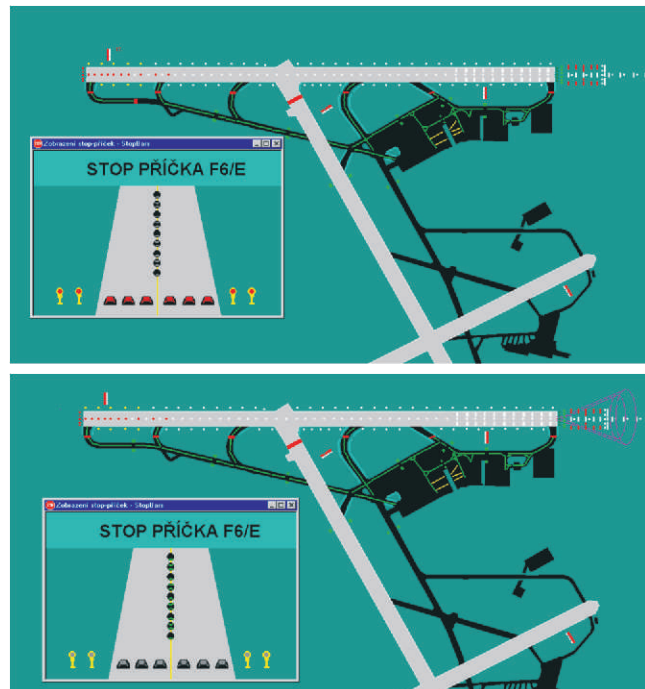
## TRAFOSTATION HTS



## CONTROL AND MONITORING STOP BARS

## Description/Properties

- stop bar ON
- stop bar OFF, following by centreline TWY



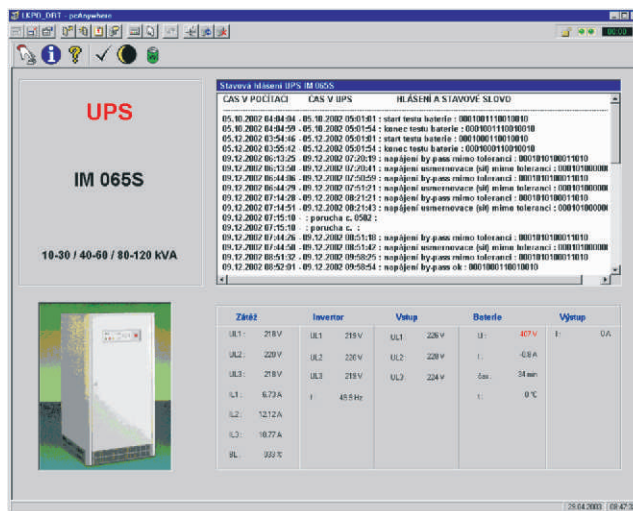


**MONITORING UPS**

➔ **Description/Properties**

The UPS backgrounds own status via values:

- start and end test of battery
- operation for battery (time)
- operation - regime by-pass
- low battery
- supervision request

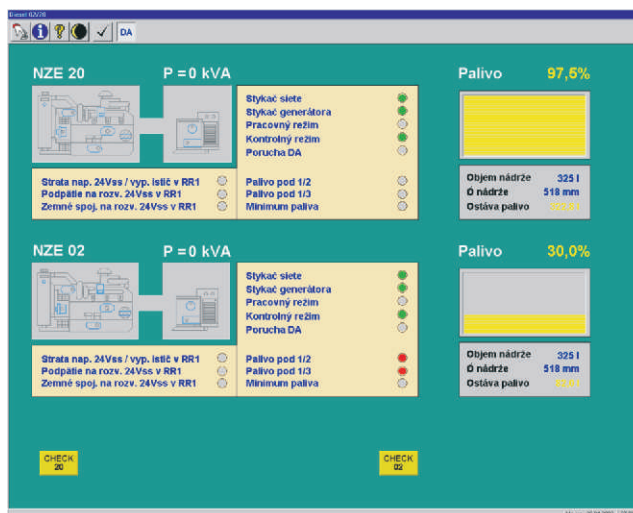


**MONITORING EMERGENCY POWER SUPPLY**

➔ **Description/Properties**

The PS backgrounds own status via values (for example):

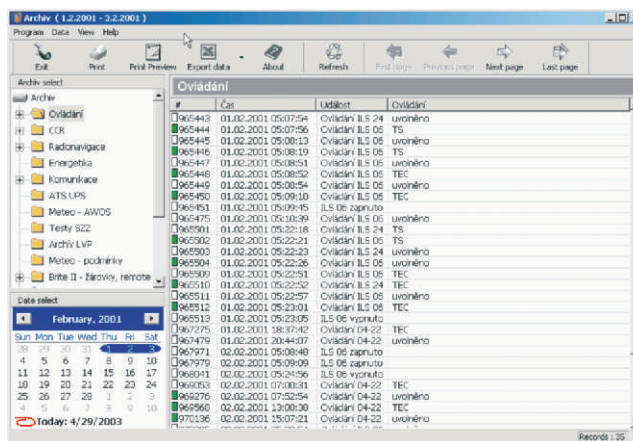
- fuel in %
- operation power supply
- status of battery
- fault PS



**SOFTWARE FOR ARCHIVES**

➔ **Description/Properties**

- all the data concerning operation of control workstations and information workstations, commands, handing over of control, requirements concerning constant current regulators and monitored signals are archived at central archive
- the data are archived for 1 year, after elapsing of one year they are automatically being deleted
- printing of archived data is possible on printer, which can be connected to any control or informative workstation



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**2.3****SOFTWARE**

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