CASE STUDY

Banking Data Center, Italy
4 x 880 kW I 3,5 MW@20 kV

SUMMARY

Location: Rome (Italy)
Power required: 2,6 MW with power factor 0,8 (3250 kVA)
Power installed: 4 x 880 kW = 3520 kW (4400 kVA)
Genset model: PE1000SWD
Version: soundproof container
Genset noise level (indoor): 70 dB(A)@1 meter
Genset noise level (outdoor): 60 dB(A)@1 meter
Dimensions: 12190 x 2500 x 2990 mm (L x W x H)
Remote communication: SCADA system

Configuration: 20 kV output voltage with LV and MV sections inside the same container, automatic motorized louvers, leakage detection system, automatic fire-fighting detection and extinguishing system, monitoring of the cooling air flow and temperature inside the installation room with management of separated electro-fans, parallel operation, remote monitoring and control through Ethernet TCP/IP link to SCADA, noise level as per the applicable regulation for residential areas.

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PURPOSE

The existing Data Center required a revamping of the old back-up power systems (diesel turbines) with a brand new solution, taking into account the site total emergency load and fitting of the following requirements:

- 2,6 MW backup power @20 kV
- N+1 redundancy system
- Reusing the existing installation room previously used for the turbines
- Connecting to the ATS @20 kV located 1 km far from the installation room
- Interfacing with the new SCADA system
- Complying with new regulations in terms of safety and noise level for residential areas

SOLUTION

Ausonia supplied Nos. 4 x 880 kW diesel generators installed in soundproof containers, able to operate in parallel mode with selectable “hot redundancy” or “dynamic rotation of the priority” and equipped with a 20 kV output voltage by including, inside an insulated and ventilated compartment of the container, a “MV section”, consisting in a step-up transformer 0,4/20 kV and a motorized MV power breaker.

The units have been designed with exhaust gas outlets ready to be connected to the inlet of the existing chimney by a specific system of elastic joints, duly engineered by Ausonia to meet the installation requirement at site.

Inside each DG container, a motorized louvers system has been installed at the air inlets and outlets, having a full automatic control to remove any risk of mixing the cool air with the hot air flow.

The built-in fuel tanks have been equipped with a leakage detection system, and a floor mounted liquid sensor has been installed in the gensets room. Additionally, smoke detectors and temperature sensors have been duly interfaced to both the DGs controllers and the SCADA system of the facility, and a fire suppression system, consisting of CO_2 cylinders, pipes and nozzles, has been sized and installed to protect the entire volume of the gensets installation room.

The PLC and SCADA system of the Data Center facility has been interfaced to the DGs controllers via TCP/IP port, allowing a complete remote monitoring and control of the back-up power systems.

Moreover, the new power center has been equipped with several accessories and functionalities in order to be compliant with the applicable regulations.

For further information on our standard and optional features, please contact our sales office at: sales.dept@ausonia.net

Ausonia S.r.l. - Via Favara (SP 62) 452/C, 91025 Marsala (TP), Italy - T +39 0923 722311 - F +39 0923 721274 - ausonia@ausonia.net - www.ausonia.net