

Protection of electrical installations and monitoring of a SEVESO-classified site



The customer

CECA, a subsidiary of the ARKEMA Group is one of the world leaders in the specialty chemicals sector*

The Company achieved **annual sales of €244 million in 2009**, and **employs 950 people** who design, manufacture and market absorbents, intermediate products and specialty additives.

CECA relies on its global spread of 16 production sites, including Feuchy near Lille. Proactivity and quick response are the hallmarks of its manufacturing plants, most of which have the 2008 version of the ISO 9001 certification. CECA chose the ISO 14001 reference benchmark to reflect its environmental commitment, and in recognition of its 'Responsible Care' programme.

The **Feuchy site** is primarily involved in the production:

- of basic products for washing detergents,
- bitumen additives,
- additives for oil and gas.

The site is **SEVESO-classified** (EU Directive 'Seveso 2' dated 9 December 1996), with a high risk level which requires special accident and emergency plans, and the UPS system takes this factor into account.

* The products here have defined properties, and are intended for specific forms of use (paint, varnish, bonding agents, adhesives). Special, i.e. customised, products can be supplied to its industrial customer base on request.

Aims and requirements

Even though the production process can tolerate power cuts, site safety requires and obliges users to protect applications and to provide solutions to uphold safety standards on site.

An Uninterruptible Power Supply is required to deliver power to:

A. The auxiliary transformer stations

The site and various MV/LV stations are supplied with power via an MV loop rated at 20 kV. The aim is to supply the auxiliaries of MV/LV stations, such as the relays located in MV cells, the motors which maintain tension on operating springs in MV cell circuit breakers, and coils on the primary LV circuit breakers.



B. The PCC control/monitoring station

This involves supplying power to a Foxboro system. This system incorporates automated units and monitoring screens, and requires an HQ power supply. Primary selection criteria for this form of power supply are reliability and continuity of supply, i.e. availability.



C. The automated control/monitoring units employed in production

These automated units are primarily designed to monitor the process continually, also in the event of incidents and even after production downtime, therefore maintaining high standards of safety on site.



D. The isolation valves

To operate its process, the factory draws water from a neighbouring river, then releases it afterwards upstream of the intake point. Very stringent criteria apply to this operation (flow rates, temperature, pH balance etc) and these are subject to continuous monitoring operations. Should any of these criteria not be met, the isolation valves enable this water to be directed into dedicated holding tanks, therefore avoiding any possibility of pollution.



Solutions

A. The auxiliaries of the transformer stations are often connected to a DC power supply, but here this function takes the form of an AC power supply protected by a **Masterys BC**. This UPS unit is installed in the station not far from the cells and the HV/LV transformer.



B. The main monitoring station receives its power from 2 UPS **Masterys IP** units connected in parallel (N+1), to provide redundancy and ensure the desired level of availability in the event of a system fault. Each of these 2 UPS units is supplied with power from its own station, i.e. two different power sources. They incorporate the galvanic isolation transformers essential for optimum operation of the installation, based on the chosen 'neutral arrangement'.



C. The choice of power supply for the automated unit enclosures (i.e. control cabinets) was the **Masterys BC** type of UPS, which is ideally suited to providing power for this kind of load profile. The control room, air-conditioned and scrupulously clean, does not require any specific measures to be taken, and the only selection criteria governing the type of UPS here were the electrical characteristics of its load profile.



D. The isolation valves and the monitoring process for the waste water are powered by the **Mastery IP** type of UPS. The UPS module is installed in a prefabricated station located close to the applications to which it supplies electrical power. The robust nature of the design of the **Masterys IP** makes it entirely suitable for this environment.



System advantages

The following design features played a significant part in CECA's decision to choose the **Masterys** solutions:

High availability

- Fault-tolerant architectures.
- Integrated automatic bypass line.

High-quality power supply

- Optimum characteristics for IT/PLC loads and industrial loads.

Increased integration with the electric supply grid

- Sinusoidal input voltage, even with non-linear loads.
- High input power factor (> 0.98).
- Current draw with harmonic content of less than 3 %.

Easy to use

- Easy installation / connection.
- Interactive display.
- Full compatibility with SNMP protocol.

Service

- Optimised Maintenance contract.
- Maintenance carried out by local Socomec after-sales team which has wide-ranging expertise and site knowledge.

Savings

- High efficiency.
- Small footprint, freeing up space for future requirements.
- Low requirements for cooling, from low losses.



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Focus on

CECA (ARKEMA GROUP):

- €244 M turnover.
- 950 staff worldwide.
- 17 production plants.
- 5 office locations.

SOCOMECS UPS solutions:

- Architecture N or N+1 according to criticality of the application.
- 2x// **Masterys IP** 10 kVA (N+1).
- 1 **Masterys IP** 10 kVA.
- 2 **Masterys BC** 8 kVA.

The advantages

- High availability thanks to selected architecture.
- High security linked to purpose-built design for industrial environment compliance.
- Small footprint, freeing up space for future requirements.

CECA
ARKEMA GROUP



"In Socomec we have found a partner who always advises us over the choice of solutions tailored to suit our needs. These solutions take full account of the specific environment as well as our requirements, in terms of the availability of energy saved for our critical processes."

M. Marc Ruquier
Technical Manager at CECA

HEAD OFFICE

SOCOMECS GROUP

S.A. SOCOMECS capital 11 303 400 € - R.C.S. Strasbourg B 548 500 149
B.P. 60010 - 1, rue de Westhouse - F-67235 Benfeld Cedex

SOCOMECS UPS Strasbourg

11, route de Strasbourg - B.P. 10050 - F-67235 Huttenheim Cedex- FRANCE
Tel. +33 (0)3 88 57 45 45 - Fax +33 (0)3 88 74 07 90
admin.ups.fr@socomec.com

SOCOMECS UPS Isola Vicentina

Via Sila, 1/3 - I - 36033 Isola Vicentina (VI) - ITALY
Tel. +39 0444 598611 - Fax +39 0444 598622
hr.ups.it@socomec.com

www.socomec.com

SALES, MARKETING AND SERVICE MANAGEMENT

SOCOMECS UPS Paris

95, rue Pierre Grange
F-94132 Fontenay-sous-Bois Cedex - FRANCE
Tel. +33 (0)1 45 14 63 90 - Fax +33 (0)1 48 77 31 12
dcm.ups.fr@socomec.com

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Innovative Power Solutions **UPS**