

**APPLICATION:** HEALTHCARE

**CUSTOMERS:** 2 HEALTHCARE FACILITIES

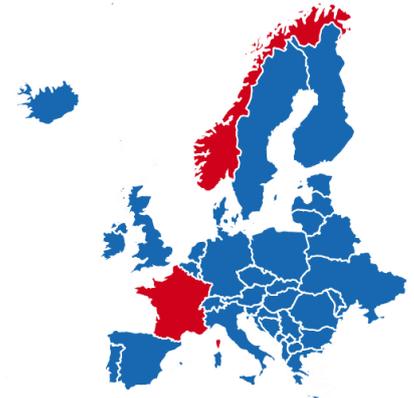
**POWER PLANTS:**

- 1 x 1250 kVA + 1 x 1800 kVA
- 2 x 1350 kVA + 1 x 1800 kVA

**LOCATION:** SAINT-GREGOIRE (FRANCE) AND TROMSØ (NORWAY)



Photo credit: Frode Abrahamsen, UNN  
Photo credit: www.chpsaintgregoire.com



## COUPLING GENERATING SETS WITH DIFFERENT POWER RATINGS AND FROM COMPETITOR BRANDS TO SAFEGUARD HEALTHCARE FACILITIES

A reliable power system plays a major role in helping healthcare facilities ensure the safety of their patients. Generating sets should start providing backup power within seconds of a break in the grid power supply, and changeover switches should reestablish the power supply from the grid before the generating sets are shut down. This safety provision is vital in enabling healthcare facilities to run smoothly.

### Healthcare facilities are constantly developing

Healthcare facilities are continually adapting to changing demand and new treatment technologies. Rising patient numbers mean that, increasingly, bed shortages are making it impossible to provide adequate medical care while maintaining the quality of treatment and follow-up. Meanwhile, medical organizations are regularly joining forces to optimize their services within a given geographic area.

To meet these requirements, existing buildings are routinely extended or new ones built. Emergency power plants must also be regularly updated to ensure that they can supply emergency power in case of grid outages.

To keep investment costs down, technical solutions can be employed to enable a generating set to be added to an existing power plant if there is sufficient space for installation.

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*KOHLER-SDMO can go further, proposing the addition of a generating set that can operate when coupled to one of the installation's existing gensets, even where this is of a different power rating or brand.*

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These options offer greater financial flexibility to healthcare establishments by spreading the investment over several years and replacing or expanding the power plant only when necessary.



## Expanding the installations and upgrading the emergency power plant for two hospitals

To meet their expansion requirements, two healthcare facilities issued calls for tender:

- 1- The Centre Hospitalier Privé Saint-Grégoire treats 70,000 patients and delivers 2400 babies every year. It employs nearly 750 staff and has 24 operating theaters and a round-the-clock emergency department.
- 2- The University Hospital of North Norway in Tromsø specializes in satellite-based telemedicine, employs 4500 staff and treats around 5000 patients every year. Situated 1000 km north of the Arctic Circle, the city of Tromsø is the world's most northerly city of over 50,000 inhabitants.

It was KOHLER-SDMO's expertise in upgrading existing power plants that won it the contract. The engineering team put forward a solution involving partial replacement of the power plants to best meet the customer's requirements both in terms of safety and budget.

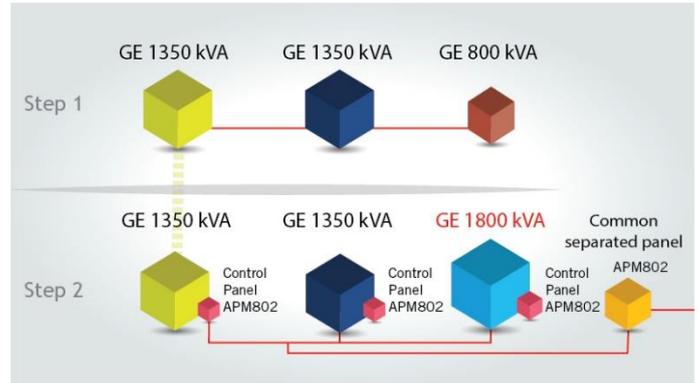
### A new generating set for the University Hospital of North Norway in Tromsø

The University Hospital of North Norway in Tromsø had a power plant comprising three 1350 kVA generating sets. The generating sets were of different makes and coupled together. An expansion project led hospital management to seek solutions to increase the power of the emergency plant without the need to build a new one.

KOHLER-SDMO proposed replacing one of the 1350 kVA generating sets with a new 1800 kVA genset.

The generating set's original central control-command console was replaced. A control cabinet was also added to control the electrical installation's shared switching unit and allow the power plant to be coupled to the grid.

New central control consoles were installed by a technician from SATEMA - KOHLER-SDMO's partner in Norway - then the new power plant was commissioned by a KOHLER-SDMO technician.



Adapting the emergency power plant at the University Hospital of North Norway in Tromsø



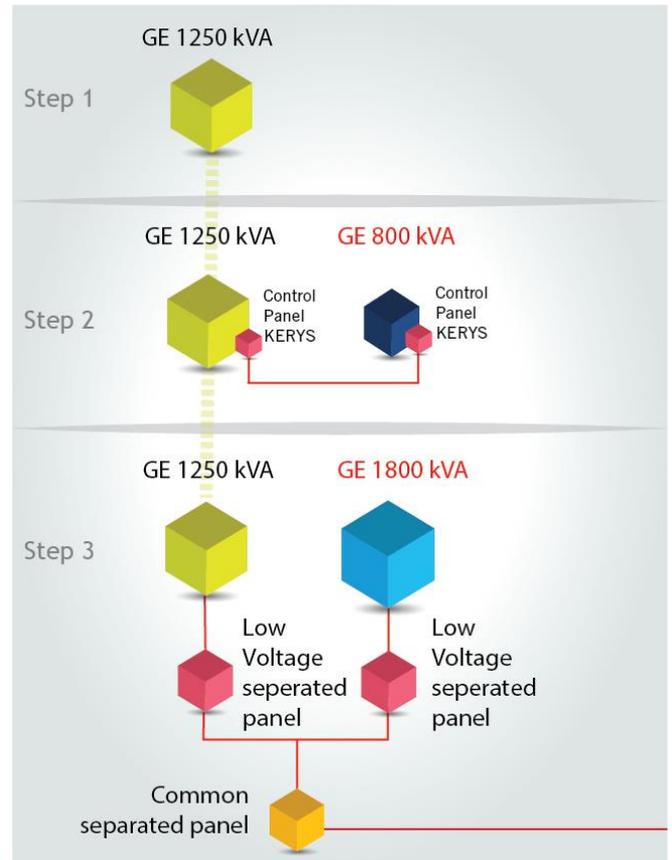
The 1800 kVA generating set installed in Tromsø is the first product from the KD SERIES range to be commissioned in Norway



## Upgrading the Saint-Grégoire power plant for dead bus synchronizing operation

Following numerous successive extensions, KOHLER-SDMO was required to upgrade the emergency power plant at the Centre Hospitalier Privé Saint-Grégoire in several stages:

- 1- Update the old competitor generating set to replace the central control-command console and the alternator regulator
- 2- Carry out factory tests to validate the coupling operation
- 3- Recommission the hospital's old generating set for automatic emergency operation
- 4- Install the new generating set with a different power rating at the hospital site
- 5- Install control cabinets, including those for coupling to the grid at low voltage
- 6- Carry out nighttime tests and commissioning to minimize the impact on the hospital's operations (specifically at times when the operating theaters were the least busy)



*Successive adaptations to the emergency power plant at the Centre Hospitalier Privé Saint-Grégoire*

The installation is cooled by a separate low-speed dry cooler installed on the roof of the building dedicated to the generating set power plant. This cooling improves the power plant's sound level to the required level of 50 dB(A) at 10 m. A 10 m external chimney was also added to the installation to comply with standard 2910 concerning pollutant emissions.

These two examples clearly illustrate the importance of expertise in adapting the technical solution to each individual project, in particular for existing installations with generating sets of different makes and power ratings. KOHLER-SDMO can help you upgrade your existing power plants, even those with existing generating sets of other makes.

