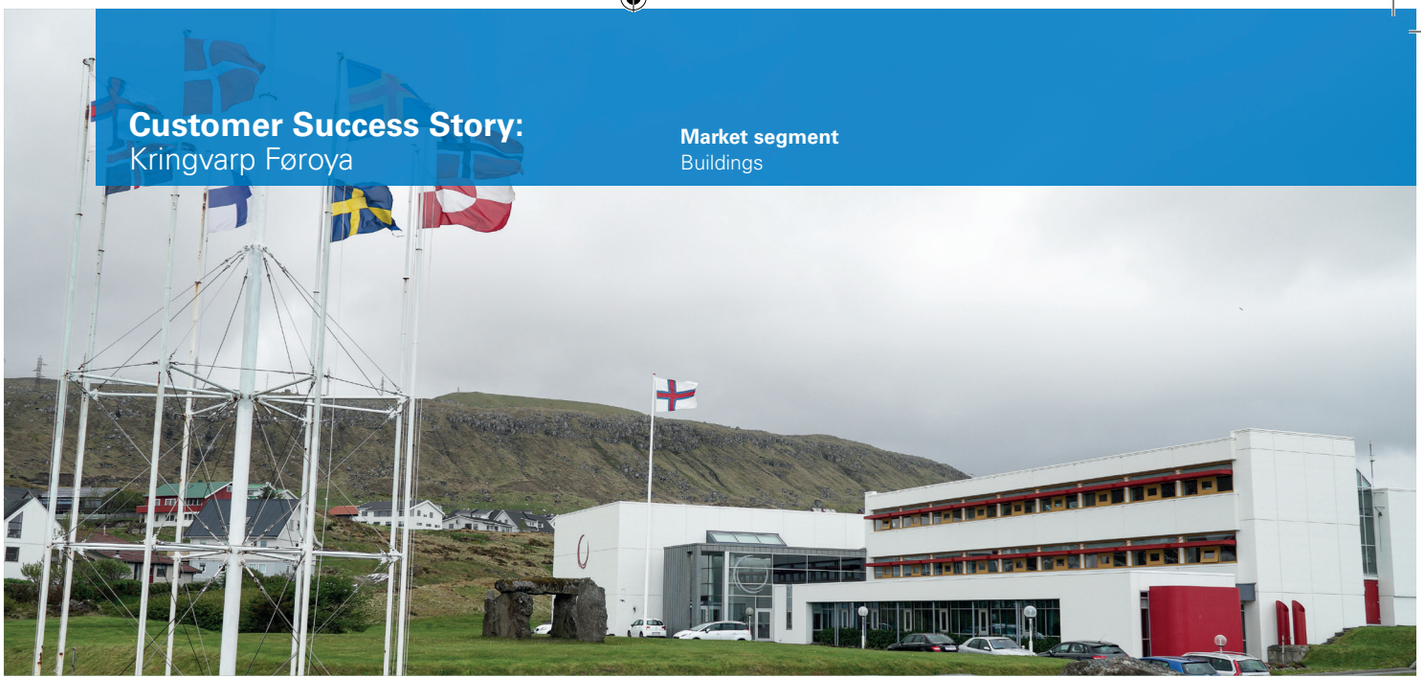

Customer Success Story:
Kringvarp Føroya

Market segment
Buildings

Eaton's complete back up power solution guarantees 24-hour TV and radio coverage for the Faroe Islands

Location:
Faroe Islands

Challenge:
Kringvarp Føroya is the national TV and radio station for the Faroe Islands. With an unstable main electric grid and on an island with no power connection to Europe, the station needs a robust back up power solution for its data center and to guarantee 24/7 coverage.

Solution:
Two Eaton 93PM UPSs ensure flexible back up power for the station's headquarters. Each UPS can provide enough power on its own for up to four hours in case the emergency standby generator is not operational and can also work in combination. In addition, the station uses Eaton UPS systems for its outward-bound filming vehicles and the national sports stadium.

Eaton also designed the new server room, aisle containment system and supplied racks, ePDUs, automatic transfer switches (ATS) and its Intelligent Power Manager software.

"Eaton's solution ensures that we will continue to operate even in a worst-case power outage scenario. The scale of the whole project, to install a new server room fit for both present and future higher definition TV broadcasting and then develop a failsafe emergency power system to guarantee 24-hour coverage, was very complex and required a bespoke solution. This investment has transformed us into a station ready to deal with all the challenges of the decades to come."

Background

Kringvarp Føroya is the TV and radio public broadcaster for the Faroe Islands. As the national broadcasting station, it needs to guarantee 24/7 radio transmission in case of an emergency. The station also has its own server room for IT and storage for all of its programs and other data.

With the Faroe Islands more than 1000 kilometers from Denmark and more than 400 kilometers from the coast of Northern Europe, they can only rely on their own main grid for power.

Challenge

Unfortunately, the main power grid for the Faroe Islands is unreliable with an average of 15 power outages per year. While each of these is typically between 15 minutes and an hour long, Kringvarp Føroya needs to plan for a worst-case scenario; so, they needed an UPS that could provide 4 hours of emergency power in case they were maintaining or repairing their emergency generator while there is a power outage.

In addition, the main grid produces a lot of Electromagnetic Interference (EMI) which can adversely affect sensitive equipment such as microphones and editing equipment, so any solution had to filter this noise out for certain circuits.

As part of an ongoing refurbishment, the station also decided to invest in an upgraded server room or data center to future proof its IT systems and data storage capability with its TV broadcasts moving to HD and 4K.

Its existing solution consisted of a server room, an emergency generator and a UPS.

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Solution

Working closely with Eaton the first phase of the installation was to upgrade its server room before moving on to its back up power solution in phase two of the refurbishment.

For the server room, Eaton supplied modified racks and designed a bespoke aisle containment solution since the room was quite small and the broadcaster wanted plenty of capacity as it upgrades to HD and 4K TV programming.

Eaton also supplied the Enclosure Power Distribution Unit (ePDU), automatic transfer switches in case of an outage and its Intelligent Power Manager (IPM) software which ensures system uptime and data integrity by allowing you to monitor, manage and control devices on your network.

Having installed its new data center, the next step was to upgrade and install the new emergency power system.

Again, Eaton designed a bespoke solution to meet the unusual layout of the building. A small room with a constant temperature of 20°C contains the batteries; while the UPS is in an area that connects via trapdoors to another room with air conditioning. Temperature sensors control the opening and closing of these trapdoors to provide extra cooling.

While Kringvarp Føroya has a generator set to provide longer term emergency power, the broadcaster still wanted the UPS system to provide 4 hours of power in case they were maintaining or repairing it when a grid outage occurs. The broadcaster also wanted double redundancy with the UPS suppling separate A and B power supplies with further back up from a second UPS system as an extra failsafe.

This means that the station can receive power from the grid, it's standby generator or either one of the two UPS systems, which can also combine to work in tandem. Both UPSs have Eaton's Variable Module Management System (VMMS) so they only use the amount of power modules needed for the load used by the station. This saves a significant amount of energy and cuts the station's electricity bill.

Eaton identified the critical loads that need emergency power if there is an outage and designed both UPS systems to carry the entire load across these circuits for more than 4 hours. The Intelligent Power Manager software controls the whole system with the two UPSs connected via a panel to ensure power in the unlikely event that one fails to operate.

The station also has issues with EMI noise on the grid, so all power to sensitive equipment, such as microphones and editing equipment, runs through the UPS which has noise reducing filters.

The installation of the UPS system took place in two stages. Contractors installed the first UPS system while the existing old system was still operational to ensure continuity of supply. They then installed the second UPS system in the same location as the old system.

In addition to providing a new server facility and back-up power system to the station's main building, Eaton also supplied UPS systems for its outside broadcast vehicles and the national sports stadium broadcasting area.

The outside broadcasting vehicles have four single phase UPS installed, to replace an older three phase system. These smaller units allow more flexibility inside each vehicle to allow it to house other critical equipment and personnel.

Results

Says Eyõbjørn viõ Skipá, technician at Kringvarp Føroya:

"Eaton's solution ensures that we will continue to operate even in a worst-case power outage scenario. The scale of the whole project to install a new server room fit for both present and future higher definition TV broadcasting and then develop a failsafe emergency power system to guarantee 24-hour coverage was very complex and required a bespoke solution. This investment has transformed us into a station ready to deal with all the challenges of the decades to come."

The two modular Eaton 93PM UPSs have a capacity of 80kVA each and allow scalability of the solution up to 200kVA. This offers Kringvarp Føroya further future proofing as its IT and data needs expand in the future.

The mains power feeds through the UPS to the critical loads which account for 60 percent of the circuits. Filters within the UPS also protect the sensitive equipment on these circuits from the EMI generated from the main grid.

Kringvarp Føroya staff has full visibility of the circuit status and the emergency power system at all times via the Eaton Intelligent Power Manager Software.

With the latest UPS systems installed at the station's headquarters, in their outward-bound broadcasting vehicles and in the national sports stadium, the station can continue broadcasting to the Faroe Island's population from wherever they are and guarantee availability 24/7 to meet its obligations.

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