NORWEGIAN POWER CONTAINER STRUCK BY LIGHTNING

Case Study

Incident

A Norwegian company invented a 20-foot closed ship container with a built-in converter letting shore power in and converting it to the ship's needs. Developing heat, the container is ventilated with filters that protect it from pulling in too much salt from the environment. The unit was built to be moved around where needed with standard container transport means and tools.

During idle connection based in Stavanger, Norway, this unit was struck by lightning. The producer was alerted about smoke and electrical failure and upon arrival, opened a smoke-filled container. Everything within the container was contaminated and bad thermal damage hit the upper-left corner of three to four switch panels containing lots of cable and cable trays as well as the components in the top of the installations, the smoke detector, and other armatures. As units were built halon-free, there was no concern regarding corrosive ions. When the loss adjuster arrived on site, he noticed indications of corrosion forming on the galvanized surfaces.

▲ Reassembly of electrical switchboards and container

Challenges & Logistics

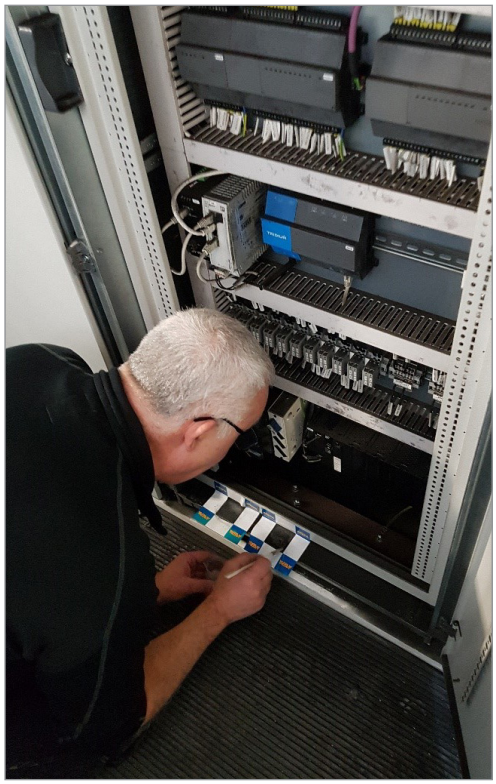
AREPA was called in and instructed to pick up the unit at the harbor in Stavanger, Norway and bring it to AREPA's warehouse in Silkeborg, Denmark.

During the restoration efforts, AREPA specialists determined that the cables in the installation were halon-free however, AREPA tested 5-22 µgCl/cm^2 that were produced in PVC. All components and panels, except for very heavy coil, were dismantled out of the container, wall coverage flooring was removed and everything was washed down. All surfaces were painted to complete the overall cosmetic look and neutralize any remaining odors.

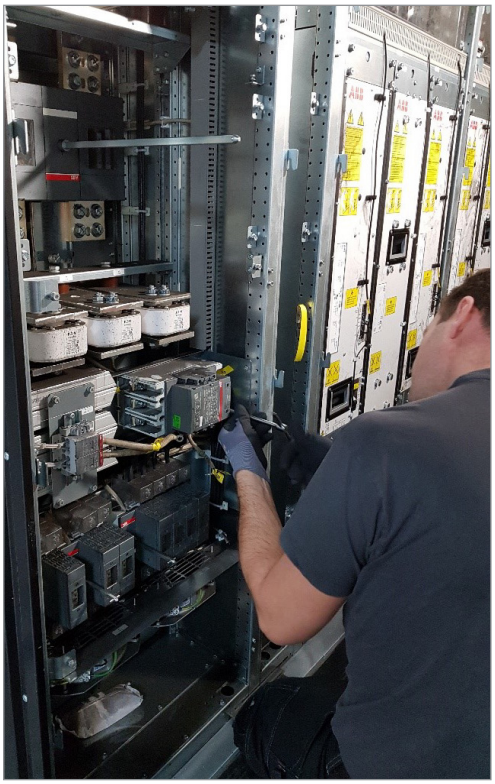
The switch gears were emptied, converter modules and breakers disassembled completely, and all surfaces were thoroughly cleaned. The unit was returned back to the producer to install new components for the burned/thermal damaged components.

Outcome

AREPA was able to successfully decontaminate and restore the container within six months. AREPA provided the client a warranty that covered any mistake and/or malfunction resulting from the decontamination efforts which offered the client peace of mind. The cost was around 12 percent of the cost of a new unit, and due to high demands, would have had a lead time of more than one year.

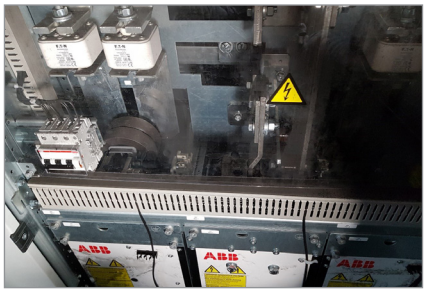


▲ AREPA expert performing scientific analysis to determine the risk of corrosion

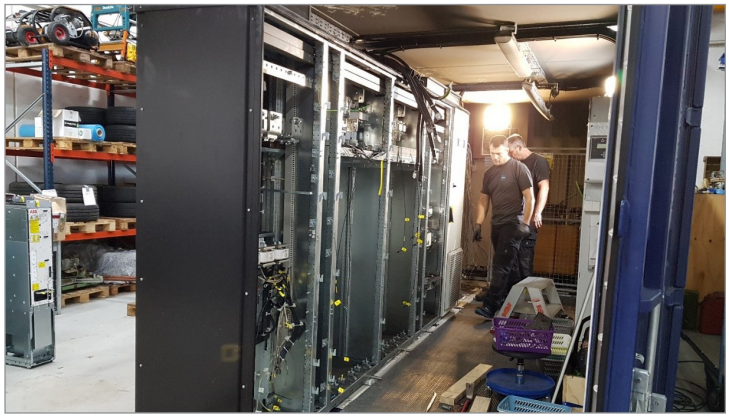


▲ The container and switchboards being disassembled

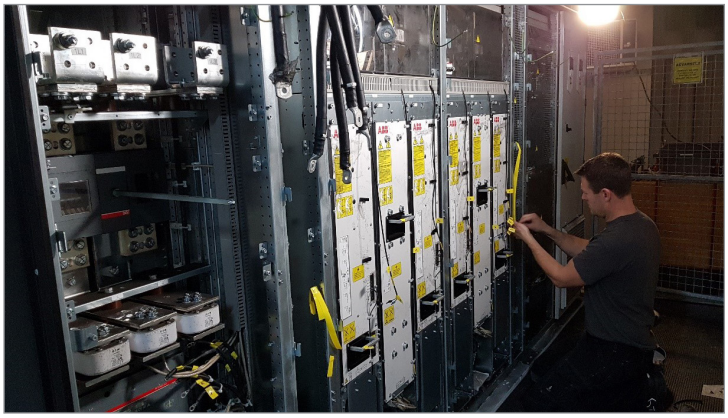
AREPA In Action



▲ Photos show contamination on the equipment



▲ AREPA experts performing decontamination



▲ AREPA expert performing decontamination