ColdLogik

CASE STUDY

Dong Energy,

New build data center

2009

USystems
A brand of legrand

DONG
energy

The Client

DONG Energy was established in 2006 by the merger of six Danish energy companies: DONG, Elsam, Energi E2, Nesa, Københavns Energi and Frederiksberg Forsyning.

It was created as a vehicle to develop Danish energy activities. The company has expanded significantly through organic growth and acquisitions both in Denmark and across Europe.

The merger brought together a wide range of experience, resources, and activities, including oil and natural gas exploration and production, electricity generation at power stations and renewable energy facilities and natural gas and electricity distribution.

DONG Energy is an integrated energy company based in Fredericia, Denmark. DONG has since expanded its productivity since its inception and is now Denmark's largest energy company.

The Brief

In 2009 Dong Energy required an energy efficient cutting-edge design for the cooling of their state of the art new build data centre in Denmark.

The site had to retain a small footprint whilst maximising the density and be highly efficient 340kW - for this they requested 15kW - 30kW capacity for each cabinet of the 23 cabinets, including the cooling of 6 IBM SAN cabinets using the same system. The water supply temperature of 15°C was required for the chillers and dry air cooler already chosen for the external space.

The Cooling Solution

USystems installed 17 x USpace ColdLogik compliant 42U cabinets with CL20 C8 rear coolers within the white space of the data centre build. This enabled them the packaging densities required with capacity to increase heat loads in the future within the same footprint. Each rack had the cooling capacity of 7kW to 30kW giving them a total of 340kW.

One of the team's biggest challenges was to deal with the cooling of the IBM SAN cabinets. The design of these cabinets meant heat would be distributed into the cold aisle - furthermore the enclosure design incorporated an electromagnetic shielding (EMC) which meant that the IBM SAN door had to retain its integrity. To overcome this USystems designed a special rear cooler which incorporated the unique Zero Aisle overhead system which meant the integrity of the IBM SAN door was not compromised.

The external plant comprised of 2 chillers and a dry air cooler which ran at 15°C water temperature were brought together and controlled the entire solution via a small ColdLogik Room Management System (RMS).

As the ColdLogik solution offered a 90% saving on the CRAC based design Dong Energy had previously been quoted for, they have subsequently replaced an existing CRAC based system with ColdLogik CL20's and are planning further upgrades in the future.

Dong Energy Receives prestigious environmental award

ENERGY GLOBE
The world award for sustainability

In 2013 Dong Energy received the Energy Globe environmental award demonstrating their commitment to sustainability and efficiency throughout their company ethos.

The energy efficiency and environmental savings associated with the ColdLogik solution was a major factor in their selection of ColdLogik throughout their many data centre projects.

Project Summary

Energy efficiency and cost savings

- Low CAPEX and fast ROI
- Low PUE
- Year on year energy savings
- Low carbon
- Reduced footprint
- 340kW cooling capacity
- Energy and money saving free cooling

Security and control

- RMS full access and remote monitoring and control
- N+1 redundancy

"Since having the system installed we have now replaced other CRAC based systems with ColdLogik and are planning further upgrades to ColdLogik in other Dong data centre projects"

DONG energy

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