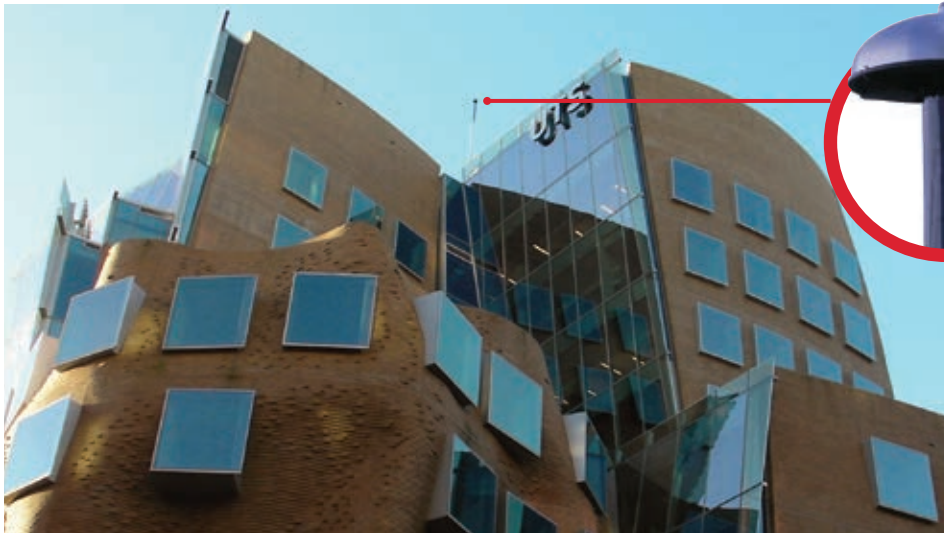


Lightning Protection For A 'Brown Paper Bag'

CASE STUDY



In 2009, famed Canadian – American architect Frank Gehry visited an old Dairy Farmers site in Ultimo and scribbled a design for a building shaped like a tree house. Six years later, on opening the building in Sydney, Australia, Governor General, Sir Peter Cosgrove described it as, “The most beautiful squashed brown paper bag I have ever seen”.

The ‘Brown Paper Bag’ is officially titled the Dr. Chau Chak Wing Building and is part of the Business School at the University of Technology Sydney (UTS). Construction started in November 2012 with the \$180 million building coming in on time and on budget.

The 12-story building has only one straight column and the length of the longest unbroken column is only 13.78 meters.

Another notable feature is the undulating façade made up of 320,000 bricks, which

created one of the biggest construction challenges, said Patrick Woods, UTS Deputy Vice Chancellor.

Among those challenges was providing a functional lightning protection system. Many conventional lightning protection designs utilize columns about the perimeter to provide multiple downconductors, connecting the air terminal network at the top of the building to the earthing system that will safely dissipate the lightning discharge.

Another option would be to utilize the façade, if it were metallic. However, the Dr. Chau Chak Wing Building has none of these features. A conventional approach would therefore require dedicated downconductors to be installed, which would usually be placed on the exterior of the building. In this case, installed downconductors would present further

challenges and likely detract from the appearance of the building.

Nonetheless, another option was available to the project team; Install a more advanced lightning protection system with proven technology, nVent ERICO System 3000.

This system is comprised of an enhanced air terminal, the nVent ERICO Dynasphere, with a single insulated nVent ERICO Ericore screened downconductor. The other benefit of this downconductor arrangement is the reduced risk of side flash and prospect of induced voltages within the building as a result. Another benefit of the system is that it can be installed in any riser or cavity that does not have electrical services which would be running parallel. In the case of the Dr. Chau Chak Wing Building, it was placed in one of the mechanical risers.

System 3000 is a technically advanced lightning protection system. The unique features of this system allow the achievement of reliable lightning capture and control.

The Dynasphere air terminal provides a preferred point for lightning discharges which would otherwise strike and damage an unprotected structure and/or its contents. The Dynasphere is optimally connected to an Ericore downconductor and low impedance grounding system to provide a totally integrated system.

Visit nVent.com/ERICO today to learn more about lightning protection and nVent ERICO's facility electrical protection solutions.