Lightning protection risks for communication base station energy storage systems

How should a lightning protection System (RBS) be formed?
The earthing network of an RBS should be formed by a ring loopsurrounding the tower,equipment room and fence,at a minimum. The mean radius re of this ring loop should be not less than l1,as indicated in Figure 1 and this value depends on the lightning protection system (LPS) class and on the soil resistivity.

Is a telecommunication tower impacted by lightning?
If the antenna is installed on the top of telecommunication tower,e.g.,antenna positions 1 of Figure 29,it is considered to be impactedby or exposed to direct lightning strikes. Refer to [IEC 62305-3]for detail information about the protection angles and volume protected by an air termination system.

What is a lightning protection system (LPS)?
3.2.3 lightning protection system (LPS): Complete system used to reduce physical damage due to lightning flashes to a structure. NOTE - An LPS consists of both external and internal lightning protection system.

Are rooftop antennas protected from lightning strikes?
If the antenna is installed on the rooftop,e.g.,antenna positions 2 of Figure 29,depending on the relative height of building and the installation of the antenna system,it may be considered to be inherently protectedfrom direct lightning strikes or be impacted by or exposed to direct lightning strikes.

How to protect the navigation light system in the equipment room?
Figure 12 shows protection of the navigation light system in the equipment room. If the NL has internal control circuits or it is based on LED technology, then an SPD is required on the top of the tower to protect the lamp. This SPD can be integrated into the lamp box.

What is a radio base station (RBS) earthing network?
The most important objective of the radio base station (RBS) earthing network is to minimize the differences in potential between the conductive parts within the RBS site (equipotential bonding), which is beneficial for the safety, lightning protection and electromagnetic compatibility (EMC) performance of the equipment.

When a single lightning strike can disable power base stations serving 50,000 users, why do 43% of telecom operators still use outdated surge protection? The lightning arrestor - often ...

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