

Lightning protection: getting it wrong

ABSTRACT

Lightning has become a significant threat to electronics in many countries where the natural phenomenon has previously been treated only as an occasional attacker of careless living beings. Most tropical countries, several southern states of the U.S.A., Japan, and several parts of Australia, experience heavy annual lightning occurrence density. These regions also record high levels of lightning related injuries and accidents. However, many European countries, far northern and southern sections of North and South America, and countries such as South Africa and New Zealand areas that had not previously paid much attention to lightning (except South Africa where lightning research started in the early 20th century) are now more vigilant due to increased industrial development, greater sophistication of electronics, and wide expansion of power and communication networks. The extensive dependence of society on automated systems makes countries increasingly vulnerable to lightning related hazards. We present here information that we have obtained in several countries with respect to lightning protection through our long term experience in operating in the Asian region as researchers, consultants, and advisors on this subject. Our findings are directly applicable and will be helpful to many other regions of the world.

Keyword: Lightning protection; ESE devices; Air-termination; Surge protective devices