

## Lightning & Surges

### Lightning & Hazards

The effects of lightning strikes are disastrous, whether it is direct or indirect. So are the effects of surges & transients. Lightning storms are on the increase globally – including United Kingdom where more than 420,000 lightning strikes to ground were recorded in 1994. Industry's reliability on sensitive electronic instrumentation, enterprise application software (SCM, CRM, ERP), computers, & communication networks depends on effective LP systems. In this Risk Note, an attempt is made to clear all the common myths relating to lightning.



### Lightning Myths & Facts

S. No.	Myth	Fact
1.	Lightning strikes the tallest object	Not necessarily. It generally hits the best conductor on the ground. The unpredictability aspect of lightning is truly amazing.
2.	Lightning never strikes a place / building / structure twice	Another myth. Unpredictability aspect again! Empire State building was struck 25 times in one year!
3.	If LP system is installed & maintained as per standards, lightning will not destroy building /	Cannot really say. Damage due to lightning strikes depends on many factors such as severity of



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4.	<p>structure</p> <p>You are safe inside a metal-bodied car during lightning.</p>	<p>lightning strike, point of strike, efficacy of LP system &amp; earthing, etc.</p> <p>In June 1998, 13 people were badly injured during a rock concert in Baltimore. This stadium was provided with LP!</p> <p>Not completely true! A direct strike to your car will flow through the frame of the vehicle and usually jump over or through the tires to reach ground. Most lightning incidents to cars result in one or more flat tires and damage to the electrical system, but no injury to the occupants.</p> <p>If lightning does hit your car, stop and abandon it immediately. It's not uncommon for a strike to ignite fuel and result in a fire or explosion.</p> <p>If you keep one leg inside the car &amp; another outside, the potential difference will exist and you can be struck.</p>
5.	<p>If LP is installed for the building where electronic system is installed, separate Electronic System Protection (ESP) is not required.</p>	<p>Another common myth! ESP protection should be separate.</p>
6.	<p>All UPS systems has in-built surge / transient protection.</p>	<p>Not necessary. In fact, majorities of UPS equipment do not have Surge Protection Devices (SPDs).</p>
7.	<p>LP system once installed is virtually maintenance-free.</p>	<p>No. LP system for structures and buildings is to be tested every 12 months as per standards and after</p>



# Myths & Facts

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8.	TV aerial used as a lightning conductor.	every lightning strike. No. The aerial should be within the zone of protection of the LP system. Additionally, the aerial should be bonded into the air termination network.
9.	Lightning never strikes a group of people	Not predictable. At a Soccer match in Republic of Congo (October 1998), 11 team members were killed by lightning.
10.	Ben Franklin was struck by lightning	No way! Contrary to popular school teachings, Mr. Franklin was very lucky to survive his experiment. The spark he saw was a product of the kite/key system being in a strong electric field. Had the kite/key actually been struck, Mr. Franklin would surely have been killed!

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**To have more information on areas of 'Lightning Risk Management', please write to [sreejithPG@chola.murugappa.com](mailto:sreejithPG@chola.murugappa.com)**

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