

Report on 9 year continuous Lightning strike damage in the house of Sri. Shivadasan Nair,
Aneesh Bhavan, Near Kaithakootu Reethu Palli, Puthoor, Kollam District

Ref: Government Ltr. No. 153/K2/2017/DMD dated 17-01-2018

Investigation Series 2018
23-03-2018

Anupama N
Hazard Analyst

Kerala State Emergency Operations Centre (KSEOC)
Kerala State Disaster Management Authority(KSDMA)
Department of Disaster Management,
Observatory Hills, Vikas Bhavan P.O
Thiruvananthapuram, Kerala – 695033
Tel/Fax: 0471-2364424. Email: seoc.gok@gmail.com

This site inspection was carried out on 23-03-2018 based on the Government direction dated 17-01-2018. Lightning strikes occurred 9 years continuously in the house of Sri. Shivadasan Nair, Aneesh Bhavanm, Puthoor, and caused damage to the building, TVs, Fans and other electronic items. Many minor lightning strikes have been reported in this area. The vegetation type of the area is rubber and soil type is laterite.

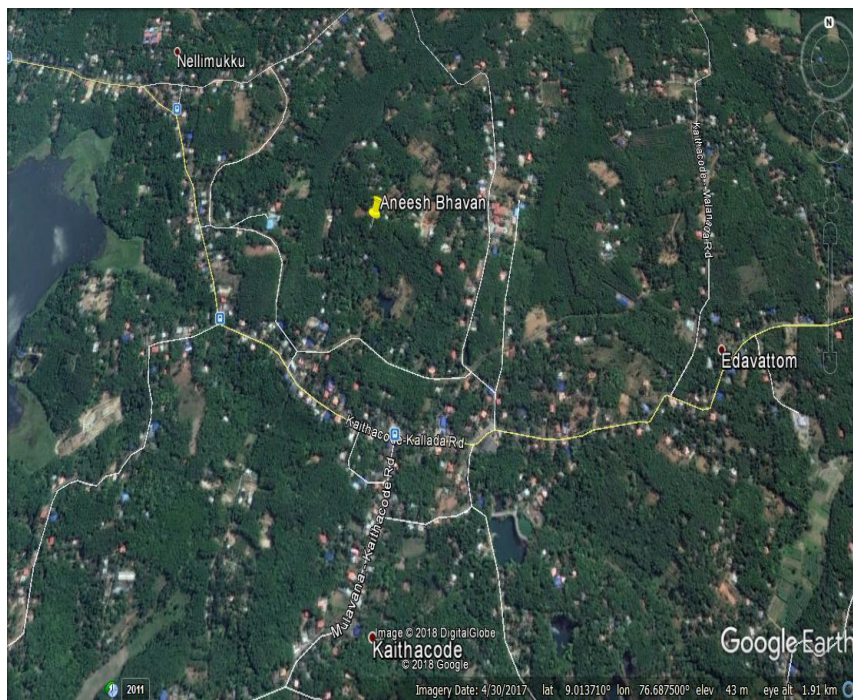


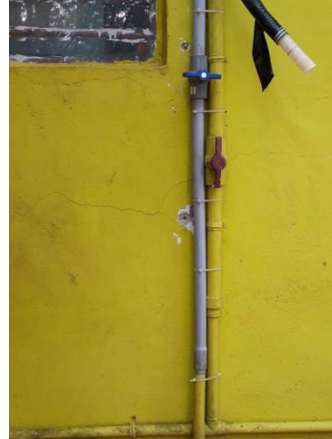
Image showing the area with location of Lightning

Description of the site

Lightning strikes were reported in the house of Sri. Shivadasan Nair, Aneesh Bhavanm, Puthoor, since 2007 till 2017. Frequency of the events is high during the months of October and March in this area. The victims of the events described as follows: ‘Following a big sound of thunder, the telephone box exploded. Family members were frightened and assembled in one room. After the event, the room was fully covered in smoke, damaging the TVs, Fans and other electronics items, cracks occurred in the wall and an adjoining tree was charred. We have incurred tremendous costs for repairing our house and replacing the damaged wiring and electrical and electronic gadgets’. A surge protector was installed in the house, but again on March 31st 2017 around 5.30 am a major lightning hit the house. This damaged even the septic tank of the house. The residents of the house have installed 3 electrical earthing as of now.



Residence of Sri. Shivadasan



Various marks of damage due to lightning strikes

Conclusions

Based on the site inspection, it is concluded that;

- The proximity of the house to the large number of tall trees (Rubber trees and other tall trees seen around the house) is an important reason for the lightning strikes. From the field evidences, it is suspected that lightning conducted through the tree, travelled through the ground and propagated into the electrical circuit of the house.



- Evidences also lead to believe that side-flashing events may be a cause of these continuous damages, specifically affecting the house.
- Proximity to electric posts and the undulating topography of the house may also be contributing to the exposure of the house to frequent lightning.

Recommendations

- The house has to establish a comprehensive structural earthing
- In order to avoid the flash current from reaching the house through ground, a ring conductor needs to be established
- Lightning grade surge protectors shall be installed to prevent damage to electrical and electronic gadgets

- Need for location specific lightning early is increasingly evident from the experience of this area
- As the house is repeatedly being affected by lightning and the house owner has done everything that is possible in his capacity to ensure the safety of his family, this may be considered as a case of 'rare severity' and Government may consider extending a suitable relief assistance within the limit of 'clause 9 (non-hilly) – severely damaged houses (Pucca)' of SDRF Norms for house damage as lightning is a declared State Specific Disaster vide GO (Ms) No. 343/2015/DMD dated 23-07-2015.