



**International Conference on Lightning Protection (ICLP)**  
Executive Board

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General Director, Ms. Elena Santiago  
CENELEC  
Avenue Marni 17  
B - 1000 Brussels

May 7, 2012

Dear Ms. Santiago,

We would like to thank you for your letter dated 17.08.2011 in which you reiterate your view that ESE national standards are in force and that, in your opinion, there is no conflict with the EN 62305 series.

The purpose of this letter is not to prolong the discussion and we do not request any response from you. We would simply like to make you aware of the enormous responsibility taken by CENELEC in endorsing a technology that, according to the work of eminent, independent scientists, has no scientific basis and which may endanger human lives.

Unfortunately, the inability of the ESE rods to maintain the manufacturer-claimed protection area has already resulted in fatal injuries to two human beings who were within the so-called protective range of ESE conductors. These regrettable events are further evidence that ESE could be a threat not only to the buildings it claims to protect but also to human beings in their vicinity.

Over a period of more than 30 years, the manufacturers of ESE have tried repeatedly to get ESE or its derivatives included in a number of recognized standards, including IEC/EN standards, Australian/New Zealand Standards, and the American NFPA standard, but the acceptance has been denied each time by all due to the proven lack of protection. The Scientific Committee of ICLP strongly endorses the decisions made by these standardizing bodies.

The Scientific Committee of ICLP hopes that CENELEC will make a correct judgment with regard to the ESE issue. If necessary, we will be very happy to provide more information on this issue.

Yours sincerely,

ICLP President  
Prof. Farhad Rachidi

ICLP Vice President  
Prof. Vernon Cooray

Conclusions from the two papers prepared within the WG- 4.405  
“Lightning Interception”, Conveners : V. Cooray, T. Shindo) for  
publication in ELECTRA

Paper 1: A REVIEW OF SIMULATION PROCEDURES UTILIZED TO STUDY THE  
ATTACHMENT OF LIGHTNING FLASHES TO GROUNDED STRUCTURES

Paper 2: NON CONVENTIONAL LIGHTNING PROTECTION SYSTEMS

*Conclusions from Paper 1:* The research work related to electrical discharges and lightning flashes have progressed during the last several decades to such an extent that it is possible today to simulate, incorporating detailed physics, the attachment process of lightning flashes to power lines and other grounded structures. There are indeed several models of lightning available, which are capable to clarify lightning performance of grounded high structures such as transmission lines. Such procedures do not require much computer power and, therefore, they could be adopted easily for any engineering study dealing with lightning performance of power distribution and transmission lines. In the paper several of these models/procedures, which can be utilized in engineering studies, were outlined, stating clearly the pros and cons of each of them. The results presented show that the above mentioned tools can be utilized to complement electro-geometrical procedures used today to dimension the geometry of power lines to protect them against lightning flashes or in designing the lightning protection system of other grounded structures. Moreover, they could be an aid in evaluating the efficiency and accuracy of the current lightning protection procedures based on electro-geometrical methods. However, further accumulation of field data is inevitable to evaluate the validity of the proposed models more precisely and quantitatively and it is our future task to be conducted.

*Conclusion from Paper 2:* The paper deals with the non conventional lightning protection systems, namely, Dissipation Arrays and Early Streamer Emission Systems. Concerning dissipation arrays the paper concludes that the corona space charge generated by dissipation arrays are not capable of preventing lightning strikes either to the array itself or to the structures protected by it. Any observed decrease in the

lightning damage, if any, attributed to dissipation arrays is due to their function as a well grounded tall structure. Concerning Early Streamer Emission systems the paper concludes that the basic principle of the ESE devices, which is based on the experiments conducted with switching impulses in high voltage laboratory, does not work as expected in the field when the terminals are exposed to the electric fields generated by down-coming stepped leaders and there is no justification at present to assume that the ESE rods perform better than Franklin rods. As a conclusion, both these methods should not be included in any standard for lightning protection at present.



Prof. Vernon Cooray



Dr. Takatoshi Shindo