

INTERNATIONAL STANDARD

NORME INTERNATIONALE



Protection against lightning – Thunderstorm warning systems

Protection contre la foudre – Systèmes d'alerte aux orages



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THUNDERSTORM WARNING SYSTEMS****FOREWORD**

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INTRODUCTION

Natural atmospheric electric activity and, in particular, cloud-to-ground lightning poses a serious threat to living beings and property. Every year severe injuries and even deaths of humans are caused as a result of direct or indirect lightning strikes.

Lightning:

- may affect sport, cultural and political events attracting large concentrations of people; events may have to be suspended and people evacuated in the case of a risk of thunderstorm;
- may affect industrial activities by creating power outages and unplanned interruptions of production processes;
- may interrupt all kinds of traffic (people, energy, information, etc.);
- has led to a steady increase in the number of accidents per year due to the wider use of electric components that are sensitive to the effects of lightning (in industry, transportation and communication);
- may be a hazard for activities with an environmental risk, for example handling of sensitive, inflammable, explosive or chemical products;
- may be a cause of fire.

During the last decades, technical systems including systems devoted to real-time monitoring of natural atmospheric electric activity and lightning, have experienced an extraordinary development. These systems can provide high quality and valuable information in real-time of the thunderstorm occurrence, making it possible to achieve information which can be extremely valuable if coordinated with a detailed plan of action.

Although this information allows the user to adopt anticipated temporary preventive measures, it should be noted that all the measures to be taken based on monitoring information are the responsibility of the system user according to the relevant regulations. The effectiveness will depend largely on the risk involved and the planned decisions to be taken. This International Standard gives an informative list of possible actions.

Lightning and thunderstorms, as with many natural phenomena, are subject to statistical uncertainty. It is not possible therefore to achieve precise information on when and where lightning will strike.

Other lightning protection standards do not cover the use of thunderstorm warning systems.