

Situations of serious and imminent danger: proposal of a methodology for preparedness in campsites

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ABSTRACT

Camping parks are work, recreational and leisure locations of high risk when facing situations of serious and imminent danger, especially during peak season, not only due to higher climatic temperatures but also due to an increase in visitors, motorized vehicles and diverse materials and equipment. During this season a large number of undifferentiated personnel have to be contracted and employed in order to deal with the increase in work load caused by increased demand. These parks generate employment although only with seasonal characteristics. Within this view of prevention, the objectives of this study concentrates and centers itself on the evaluation of a work place in relation to risks leading to situations of serious and imminent danger as well as the elaboration and development of preventive and protective measures. So as to substantiate those objectives a thorough analysis of the current legislation was performed in order to identify the deviances to the norms which have been verified for this specific location of study. These deviances resulted not only from direct observation but also from the analysis of documentation, the map of the park as well as direct contact with management and staff. This research was established with the support of an observation guide and accompanied by photographs of some of the situations. A management system is proposed through which the vulnerability of all the visitors is reduced by devising organizational measures as well as informational and training sessions for the employees and visitors. The preventive measures proposed try to respond in accordance with the regulatory requirement of the employees' rights of access to information and training in relation to health risks and safety as well as the interventional measures in case of situations of danger and emergencies.

Keywords: Risk, Serious and Imminent Danger, Emergency, Prevention

1. INTRODUCTION

Camping, especially in summer, is a popular and highly sought out activity in Portugal, not only by the Portuguese population but also by numerous foreigners attracted to Portugal due to its climate and beauty in order to rest and relax. Licensing for these touristic ventures must take into account the legal requirements, such as site location in order to safeguard people and possessions when faced with a possible natural or technological disasters as stated in article 5 in Act no. 39/2008, the 7th of March.

According to the Tourism Board of Portugal, in the year 2009 there were 225 camping parks actively working over an area of 1166 hectares and with a capacity of lodging 179 thousand campers. Privately owned camping parks account for 62% of the total, with 18% belonging to Federations and Clubs and 20% to local Governmental agencies.

In this context a large number of visitors concentrate in these areas over a very short period of time looking for an escape from their mundane, everyday life and as a result oblivious to all the possible dangers. With the concentration of these visitors and at the same time there is also an increase of motorized vehicles and other materials and equipment, some of which highly inflammable (tents) and others potentially explosive (camping gas bottles).

Camping parks in the sense of workplaces represent a very specific reality characterized by being seasonal and consequently the fluctuating employment of undifferentiated personnel. Due to these facts there is an increasing need to maintain staff up-to-date and highly trained in the area of safety.

Table 1 – Situations of Serious and Imminent Danger vs. Technological Risks

Act no. 102/2009		
Prevention	Function (Camping Parks)	
Situations of Serious and Imminent Danger	Technological and Social risks	
Training/Information	Employees (article 19)	Sudden increase in employment of non qualified employees during peak season (seasonal)
Organization of the preventive measures	Third Parties (article 15)	Sudden increase of campers in summer (Peak Season)

Act no. 102/2009, 10th of September, regulates the promotion and prevention of health and safety in the work place in accordance with what is foreseen in article 284 of the Labour Code regarding to prevention. Table 1 identifies the most relevant aspects of this Law in regards to this paper and study.

Apart from this problematic diversity, the reaction to situations of serious and imminent danger has to be quick, defined and adapted to the context of that moment. The main objective of this paper and study mainly centers itself in the

preventive spectrum, proposing to analyze these work and leisure locations, with a view to suggest corrective measures that will allow the necessary preparation for a rapid and effective reply to eventual emergency situations.

2. METHODOLOGICAL APPROACH

2.1. Materials and Methods

The methodology adopted was a case study when, besides consulting management and employees of the camping park, an investigation in two principal areas was carried out:

- On the one hand, an extensive analysis of legislation and regulation in force in Portugal, both specific and related, technical norms, text books and investigations carried out relating to the subject in study.
- On the other hand, an analytical observation of the site involved in this study, internal regulations, documented registers of visits, maps of the fire safety installations and documented photographs of some of the critical situations, with the aim of identifying those that could be the potential causes for accidents (Almeida, 2011).

3. RESULTS AND DISCUSSION

With the information and materials obtained from the camping park subject of this study an evaluation of the preventive measures and preexisting measures of combat in situations of serious and imminent danger was performed, identification of the deviations relating to the legislative orientations and evidence of good practices was carried out and finally proposals of promotional alterations for better management of prevention in case of serious and imminent danger were given so that they could be put into practice by Higher Technician of Work Safety and Hygiene in the work place or by someone responsible for safety .

In order to obtain more reliable results, various registered documents were studied that permitted the gathering of data relating to the year 2010, namely the rate of occupation, number of cars, tents, trailers and camp sites during each month of the year.

3.1. Characterization of Case Study

Concerning the rate of occupation, the Campsite show the months of July and August are the months of higher demand, while January and December the months of reduced demand. On the limit, the difference between the maximum and minimum occupation rate sits on a ratio of 112 to 1, as shown in Figure 1.

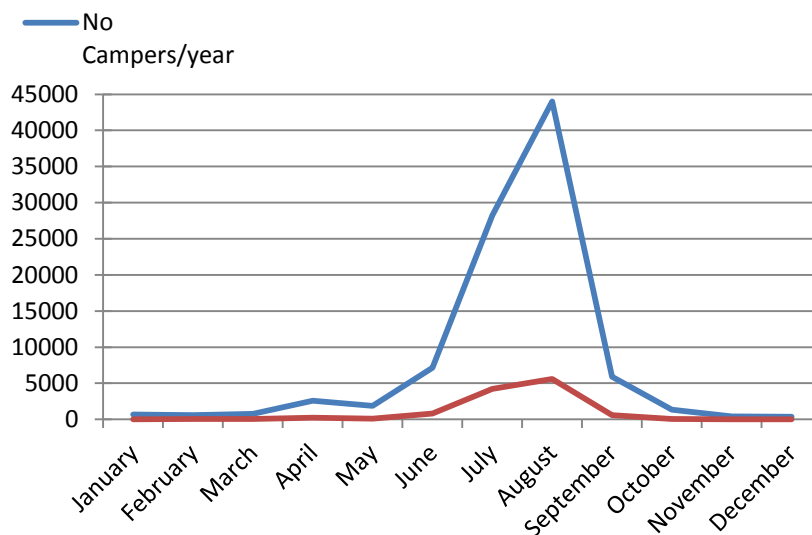


Figure 1 – Occupation for the year 2010

The data obtained from this touristic camping park shows the existence of two distinct phases, high season and low season, confirming the figures for the national tendencies in relation to data obtained from the Portuguese Tourism Board for the year of 2009.

In what concerns the occupation of the individual camp sites, many of these individual camp sites are occupied by so called resident campers which keep their caravans there all year round. During peak season, a significant increase in the number of vehicles and tents is seen, which in relation to vehicles, the number totals 15142, giving an average of 450 vehicles per day. Figure 2 shows these numbers.

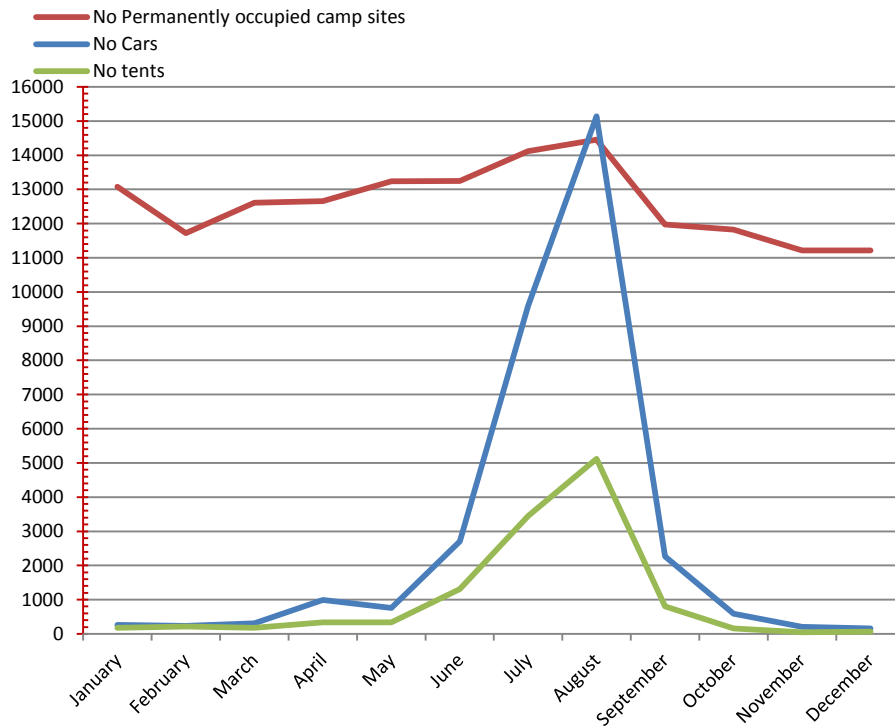


Figure 2 – Number of installed materials and equipment

This high concentration of materials and equipment, especially during peak season, generates on the one hand an increase of situations of serious and imminent danger and on the other hinders the access of emergency vehicles in a situation of crises. The safety issue in situations of serious and imminent danger is the preoccupation and responsibility of all citizens (Delicado & Gonçalves, 2007). So, as for this, it is the target of particular attention by responsible entities and by the State. The possibility of these situations occurring is permanently present.

An analysis of the conditions and means of evacuation and possible situations due to landslides (The fall of rocks or stones, cracks in the floor) depending on the location of the camping park are equally taken into consideration (DECO, 2006).

Bearing in mind the fire safety legal framework for buildings and sites, regulated by law decree no. 220/2008, publishing the “Legal policy of security against fire in buildings (RJ-SAFB) and Ordinance no. 1532/2008 of 29th December approving the Technical regulation against fire in buildings (RT-SAFB)”, the data analysis performed allowed for the visualization of these sites as well as to better understand the risk factors.

In accordance with article 198, foreseen in article 21 of the law decree no. 220/2008: “Achievement of the auto protective measures” of the RT-SAFB, the auto protective measures asked for by law are the safety records, the procedures in cases of emergency, raising awareness, training in SAFB and simulations.

The provisions contained in the safety regulation of electrical installations for camping parks and marinas approved by law decree no. 393/85, of 9th October and through Ordinance no. 1320/2008, of 17th November, establishes the requirements for installation and functioning of camping parks allowed for the analysis of irregularities pertaining to this domain.

From the analysis of the data, a number of potentially dangerous situations were verified which could lead to situations of serious and imminent danger that compromises a better management of action and prevention, namely:

- Non-compliance of the fire safety installations, signage and measures of auto protection;
- Non-compliance of the internal regulation on the part of the employers/site license holders relating to fire and the safety rules against the risks of fire (Bontempo, 2006);
- Non-compliance relating to circulation and parking of vehicles, hindering the access of emergency vehicles in situations of crisis.

From the results obtained concerning risk evaluation it shows a necessity of implementing effective preventive measures for the protection and safety of the employees and the employers, namely:

- Analysis and presentation of a plan for the reorganization of the fire safety installations and safety signage;
 - Definition of a method for the placement and distance between trailers and tents;
 - Proposal of corrective measures for the users: problems with the individual utilization and placement of camping gas bottles in the exterior of trailers and tents;
 - Definition of emergency procedures, in case of “missing people” considering the high rate of occupation.
- Elaboration of proposals for better training and information awareness:
 - Conception of flyers with instructions related to prevention of situations of serious and imminent danger directed at employees;

- Conception of flyers about action to be taken in case of emergency situations directed at campers;
- Elaboration of chips with the action procedures, allowing for easy and rapid reading on the part of the executors (Cruz,et al,2010).

In this case study and in accordance with the current legislation the fire safety system must guarantee the coverage of all the occupied areas, which is not present in the particular camping park. The fire safety installation is undoubtedly insufficient, covering only 9% of the total area of the camp site. This rate is considered extremely low. Also, the length of the hoses is not sufficient for water to reach the entire camp sites. For this reason a proposal is given for the reorganization of the fire safety system as well as for the division of the park into sectors destined for each type of equipment, with maximum limits of occupation in conformity with no. 1 of article no. 281, ordinance no. 1532/2008: 20 camping tents; 20 caravans and auto caravans, in this way guaranteeing access to water points in all areas.

The access roads and internal circulation between sectors should have a minimum distance of 3,5 metres so as to guarantee the accessibility of rescue units. In each sector two reels with hoses of 20 metres each should be installed, as shown in figure 3.

In this perspective, all the camp sites would be covered by the hoses in the reels, guaranteeing in this way a better efficiency in the prevention of the spread of a fire.

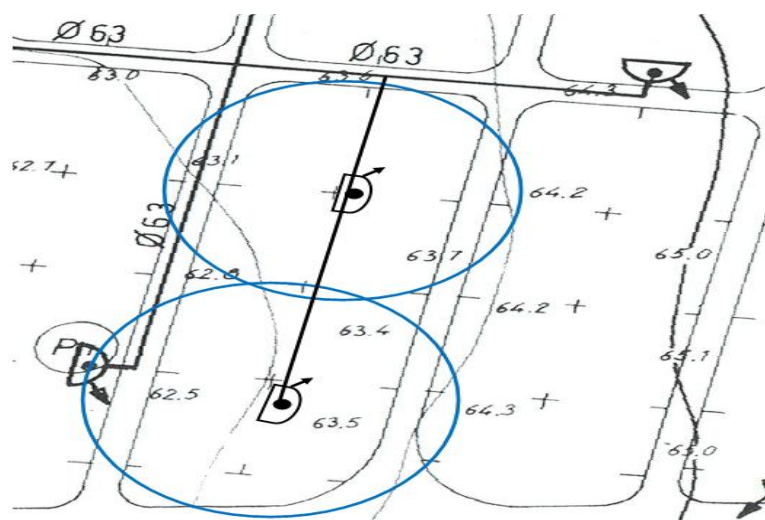


Figure 3 - Reorganization of camp sites in a sector X

In order to carry out a decision made in a situation of fire an emergency algorithm of easy and intuitive reading is suggested, where the various procedures are outlined, as shown in figure 4

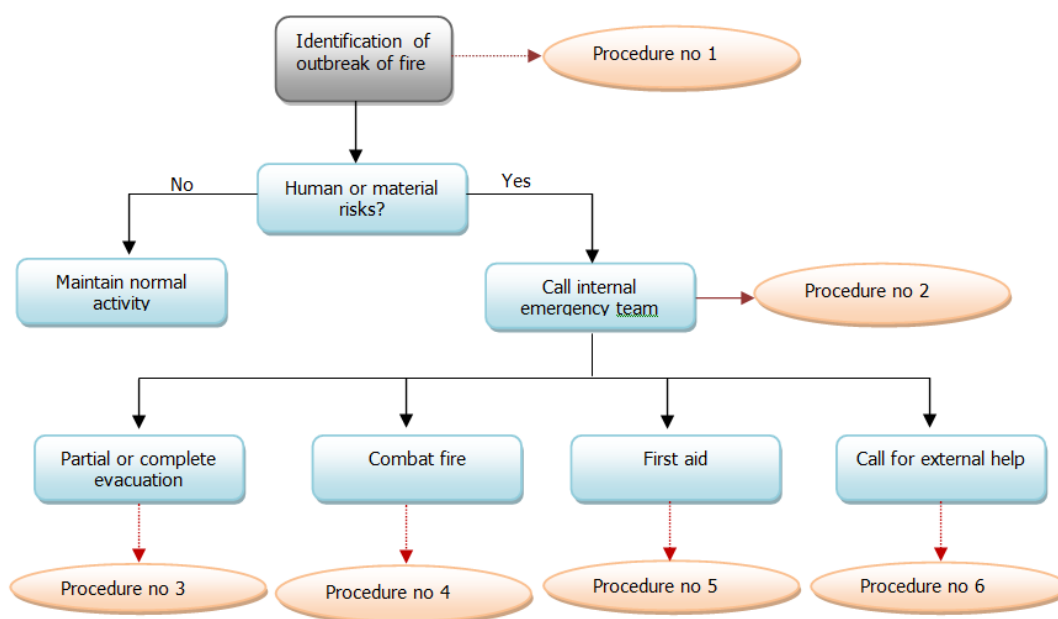


Figure 4 – Decision making algorithm

In the algorithm various procedures are listed in order to be worked on by the Higher Technician of Work Safety and Hygiene. In figure 5, used as an example, shows procedure no. 1.

It is a card, with the sequence of steps to be taken, included in the action protocol, allowing for easy and rapid reading by the executors.

Acampar PROCEDURES Nº 1 Safety against fire Ficha 2/10

When alarm is triggered in the security guard's quarters, proceed in the following way:

1. Perform a rapid analysis of the location;
2. Use fire extinguishers or hose reels for fire;
3. Inform the Safety Manager (SM) who must act in conformity with the predictable advancement of the fire;
4. Proceed with the electrical cut of the affected area, ordered by the SM;
5. Check if there are people in danger and inform the SM;
6. Check and clear all emergency exits, if necessary;
7. Seal off the area ordered by the SM;
8. Evacuate the area ordered by the SM.

DONE BY VERIFIED AUTHORISED

Figure 5 – Card with procedure no.1

In accordance with ordinance no. 1532/2008, article 288 refers that “The internal regulations of camping parks should include the preventive and auto protective measures against fire and in turn issued to each camper”. As a result of this, it is essential to have informative flyers which are given to campers when checking into the park. Two types of flyers are suggested: The first, a simple but insightful flyer that will help patrons in using the correct protective measures as shown in figure 6, the second, a flyer whose objective is to orientate and guide the patrons in situations of a fire outbreak, indicating how to trigger the alarm, security measures to be taken and how to initiate and combat the fire, as shown in figure 7.

Fire Prevention

Extreme care with fire, never use any type of fire in insecure conditions, take into account all the preventive measures to avoid an outbreak.

Only use the barbecues available;

Do not light fires, except for cooking equipment previously authorised in accordance with the Park's internal regulation and meets all the safety requirements for the type of equipment in question ;

The area between the tents must be kept clean and clear of only objects at all times;

Do not use lit coal in or near the tents;

Always obey the signage and the orders of the person responsible for the park;

Set up your equipment within the area allocated so as to maintain the minimum distance of 2 metres between the other campers;

Maintain the area destined for camping and for the equipments clean and in good conditions of conservation and hygiene.

PROIBIDO FUMAR E FOGUEAR

Figure 6 – Fire prevention Flyer

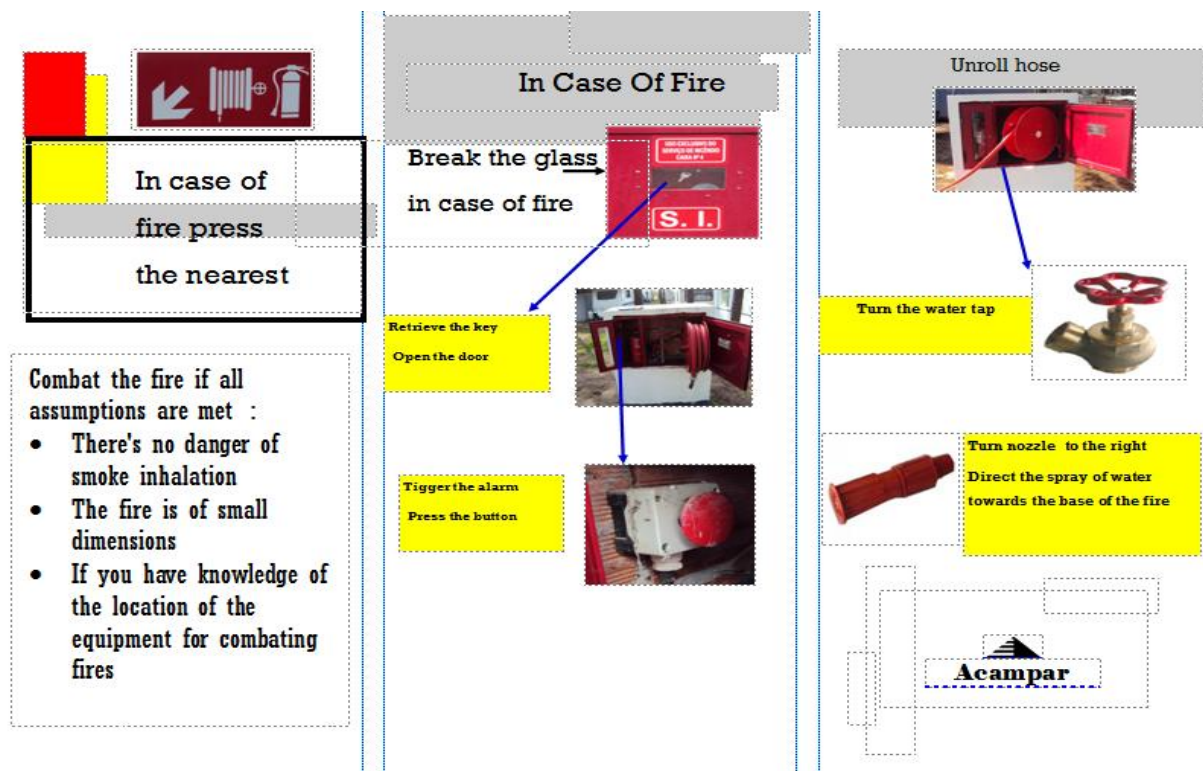


Figure 7 – Flyer indicating procedures in case of fire

All the proposed measures are in conformity bearing in mind the classification and methodology previously presented. In this context, the intervention of a Higher Technician of Work Safety and Hygiene for the work place whose responsibility it is to evaluate and assure the organization of an effective prevention plan is justified. This plan must contain the organization of the fire network, auto protection measures including information and staff training, instructions and measures to be adopted in case of situations of serious and imminent danger for a wide range of possible risk factors. This intervention is of the utmost importance due to the fact that in peak season a large number of people are employed many of which unqualified and also due to the exponential increase of visitors to the park.

Bearing in mind the good practices in terms of prevention and action to be taken in situations of serious and imminent danger and the main areas of health and safety in the work place, foreseen in article 98 of the law decree 102/2009, interventional strategies are presented so that they can be developed by a Higher Technician of Work Safety and Hygiene in the sense of which measures to adopt. The preventive measures proposed take into account better preventive management, namely, the necessity of information and training so that better decision making can occur (Fernandes, R.C, 2009), the organization of the fire plan network, signage and identification of the deviances of the auto protective measures in cases of emergency.

4. CONCLUSION

The preventive measures proposed try to respond in accordance with the regulatory requirement of the employees' rights of access to information and training in relation to health risks and safety and also the interventional measures in case of situations of danger and emergencies. In this sense, they can be an important auxiliary resource that will permit strengthening of these organizations with the necessary means for a more effective reply in situations of serious and imminent danger always remembering the high numbers of visitors concentrated at certain times of the year.

The importance of camping parks amongst all the different touristic offers gains higher importance due to the current situation, besides not generating high rates of employment and the quality of employment being unstable (significant ratio of precariousness in this area of business compared to employment of 3 to 4 months but with a legal and binding term contract). Never the less, with new social awareness regarding nature, these parks could become factors of quality and development.

Simultaneously, as a consequence of the increase of visitors and workers temporarily employed during the summer months and in order to respond to the abrupt increase of the percentage of occupation of the parks, the necessity of contracting a Higher Technician of Work Safety and Hygiene justified in order to coordinate the measures to be adopted in case of situations of serious and imminent danger as well as assure the organization and management of a preventive plan for a wide range of possible risks.

In the future it would be interesting and useful to see a comparison of the various different types of existing parks depending on their locations (beach, urban, forest and mountain), seeing that they reveal different social and economical

realities due to the different social status of visitors, employment that they generate, the ambient in which they are located and the preventive risk measures both professionally as well as environmental (Almeida,2011).

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