

12TH INTERNATIONAL SYMPOSIUM ON FIREWORKS – PORTUGAL 2010

PORTO

OCTOBER 2010

THEME: SAFETY ZONE FOR PYROTECHNICS ESTABLISHMENTS IN PORTUGAL

Safety zones of fireworks factories and storage establishments in Portugal are regulated by recent laws; however, there are many obstacles to its application in practice, to the licensing authorities either to the Industrial companies that want to fulfill that laws. The pyrotechnic factories, obviously, can't be located in urban areas but also are prohibited locating in agricultural and forestry areas. How do you solve this dichotomy in a country with strong traditions of pyrotechnic and widely dispersed population centers?

In this document is intended to provide an idea of the impasse created by the laws of 2002 and 2005 that take to the standstill of the bureaucratic procedures for licensing and adaptation of the business to the current legislation and their economic development, taking to situations of reduced security of the same.

Besides raising the current problems of the fireworks industry in Portugal, aims to complete this work with proposed solutions to ensure the law application and the continuity of the sector in Portugal.

The safety zone of fireworks factories and storage establishments of explosive products as defined in the Safety Regulations of the same establishments is a strong obstacle to the renewal of licenses to manufacture and storage of fireworks, as determined by the law nº 139/02 and 87/05 of May 23 all the licenses expired, and automatically converted to in Provisional License of the conduct of business.

It will be renewed only the licenses that comply all safety requirements required by the law applicable to the sector, highlighting the security zone as the first requirement, because the absence of space (land) with sufficient dimension to install the buildings, structures necessary for the operation of the establishment and to create the security zone

like is stipulated in the attached tables of law nº 139/2002, will not be permitted licensing or renewal of licenses.

To better understand the situation that we are living it seems interesting step back in time and follow the evolution of the concept of safety zone.

However, and to have a better understanding of the message convey to present a synthetic definitions about safety and security zone:

- SECURITY DISTANCE: it relates the distance between the origin of the explosion and the place where the effects of the same are felt with a minimum intensity defined as acceptable;
- SAFETY ZONE: the area surrounding the establishment that confers protection to the same and neighboring structures;
- TABLES: The values of the safety distances are fixed in tables annexed to law DL nº142/79 and DL nº139/02, according to the risk classification of the products concerned.

The legislative framework of this subject is scattered by a lot of legislation where we highlight the following laws:

- DL Nn139/02 of May 23, which approves the Regulation about the Safety of manufacturing and storage establishments of Explosives and Pyrotechnics products.
- DL No. 376/84 of November 30, which approves the Regulation on the Licensing of fireworks Production and Trade.

To better understand the situation we now find, it will be interesting looks back in time and follow the temporal evolution of the concept of safety zone.

The law nº 37925/1950 approves the Regulation of explosives substances, in which determines that you would not could install any establishment for the manufacture or storage of these products at a distance less than 160 m from any habitation, building river, railroad, waterway, dock or port.

In this regulation is also determined that in the vicinity of the implantation terrain of the establishment that should be established a security zone with a width specified by the national authority taking account the opinion of the explosives inspector, which should take the topographical conditions of the terrain.

The grounds of this security zone must be held by the owner of the establishment for final acquisition or leasing.

The acquisition of land that form the security zone may be waived when the pretender to submit statements of landowners that has nothing to oppose to the proposed installation.

Nineteen years after the Law nº 142/79 which updated the Safety Regulations of Manufacturing and Storage Establishments of Explosives approved by law nº 37 925, bringing together several rules and provisions scattered in various documents. It defines tables of safety distances of buildings from an establishment containing explosive products depending on the classification and amount of explosive products existing in the same and from the distances to neighboring buildings.

There are published seven distinct but complementary tables. Table I. refers to a safe distance between storage buildings of a single establishment, Table II at a safe distance between manufacturing buildings in a single establishment, Table III at a safe distance between manufacture and storage buildings of a single establishment, Table IV at a safe distance between buildings of an establishment and the communication routes and residential buildings (considering the residential buildings as those that are not in possession of the owner of the manufacture or storage factories). Table V refers to safety distances between underground bunkers and inhabited buildings. Table VI determines the safety distances to antennas emitting radio waves, and finally, Table VII regulates the required distances between distribution of electricity power airlines and buildings containing products in risk of explosion.

Yet, the law 142/79 establishes for the sizing of the security zone a strip of land attached to the implantation area of the same with a minimum width of 150 m. Article 2 of this law safeguard that in the applying of this regulation to the manufacturing or storage factories already approved based on previous legislation shall only be to impose the changes deemed necessary to eliminate dangerous situations which perhaps may occur to the analyze the security conditions in the face of the new provisions.

In practice there weren't changes in the safety zone of most existing establishments licensed by the previous legislation.

In 1985 the COMMITTEE OF EXPLOSIVES, licensing entity on the date notified all municipalities with establishments of this type installed in their area of jurisdiction by submitting a site plan, in which were drawn the limits of the safety zone of these establishments, based on a criterion that in the case of pyrotechnic workshops defined to a fire deposit with a maximum of 500 kg gross weight of fireworks a wide safety zone of 40 m, moving to the other sections of the workshop the distances between them of 10 m even lower.

Only a few municipalities included this restriction in the plan constraints (Municipal Master Plan) PDM.

The law nº 139/02 of May 23, which sought to restructure the activity of this sector, updates the Security Regulation approved by law 142/79 and establish the decrepitude of the licenses within one year, requiring new updated statements of land owners covered by the safety zone.

This new diploma provides for a wide-area of the safety zone a constant safety distance of the Table IV, the residential buildings, with a minimum of 60 m, regardless of local conditions and the risk associated with the establishment. Moreover, the same law extending the deadline for the expiry of licenses to business for over two years, after which firms must comply in full the new legislation.

Currently in force law nº 87/05 of May 23 which introduced amendments to the previously mentioned law and determines the termination of all licenses being the same automatically converted in a provisional license to pursue the activity, keeping the requirement of ownership land covered by the safety zone with statements updated of the respective land owners belonging to the safety zone.

In the Article 6, paragraph 4, of this law is determined that while the safety zone were under the Municipal Master Plan, are admissible for the purpose of this law, all figures and legal

regimes that provide to the holder the exercise of ownership over the terrain that integrates the safety zone.

In the real scene it appears that the safety zone of most pyrotechnic workshops is of dimension (width) much lower than the value required by the current legislation applicable to the sector, a situation exacerbated by the recent classification by default of pyrotechnic entertainment.

The longevity of most pyrotechnic establishments in this country justifies the smallness of the area of terrain forming part of the safety zone of pyrotechnic factories and also embarrasses the formalization of the possession of those lands.

In this context, to comply with current requirements for sizing the safety zone is not easy, nor cheap, and even, in most cases an almost impossible task because it is imperative:

- Acquiring the land annexed to the implantation area of production and storage workshops, or,
- Celebrate leases with neighborhood property owners, or even,
- Get the non-opposition documents about the operation of the factories if a wish to continue in the same place and the acquisition it's impossible, regardless of the reasons thereof.

These objectives are not easy to achieve as it isn't always possible to identify or locate the owner or the heirs of the property, many of them immigrants, or simply because they are not interested in the continuity of the facilities in its grounds.

Due to the age of factories are also many situations where there are no public records of farm buildings (terrain) in the Registries of Land Registry, which complicates the identification of the owner as the boundaries of the land.

There are situations where the owner does not want to sell the land and refuses to negotiate or simply attaches to the land an exorbitant and impeditive amount for any business that enables business continuity in the location where they remain, in some cases, account already over a century.

In this theme of difficulties with developing of the business of manufacture and storage fireworks at the place where they have existed for several decades, and where another barrier to continuity not exists but only the question of ownership of land, it must be pointed the slow and complex bureaucratic process that was built to materialize the intention and effort of pyrotechnics for the refurbishment of old plants or installing new units pyrotechnics in Portuguese territory.

It's not the objective of this work just raise problems and difficulties encountered by national pyrotechnic industry in the current context, as already been shown to the Portuguese authority, but also and above all, to show the intention of the industrials to continuing invest and developing this traditional activity, which undoubtedly is part of Portuguese culture and very well represent Portugal in the World outside.

So, after being exposed the current situation of Portuguese industry in this sector, we follow with some contributions that may be the solution of most problems created by the current Portuguese legislation, which could be considered, either by industrials in the presentation of their investment projects, either by Portuguese government in the outcome of lengthy administrative procedures.

Therefore, given the impossibility of extending the safety zone of the establishment to comply with rules in the current law, appears as an alternative the hypothesis to the reduction of production capacity, passing the pyrotechnic to purchase components already manufactured to incorporate in their products, which require the creation of conditions for their storage. This alternative limits the production capacity and, thus, when applicable, can only be a solution for a limited period of time, since it limits the possibilities for economic development of the company, making it mandatory that be created other solutions.

The Portuguese territorial planning is too dispersed with small villages and towns, so, a good solution would be the relocation of such establishments to highlighted areas of agricultural or forestry reserve areas, where such option is compatible. It would not be an unpublished option and even already tested elsewhere, but that would have the advantage of enabling the construction of infrastructure for fireworks manufacturing and storage with the necessary safety conditions to the existence of a modern and competitive pyrotechnics industry.

Normally the buildings of a pyrotechnic establishment are scattered and meet rules of distances between themselves, which together with the safety radius make up the required safety zone. The hypothesis that arises here is the creation for a company of two or more discontinuous areas, each individually satisfying all safety requirements required. This solution would have not only allowing the continuation of basic facilities at their place of origin but also its development and growth. For example, the area of manufacturing would be installed in the place that has always existed and the storage area would be installed in an area geographically distinct, giving rise to two safety zones for the same license.

Also the use of fireworks storage in underground bunkers, given the configuration of the contours of the safety zone of this type of bunkers, may be enable a better use of available land and the installation of bunkers at local border, closer to the limits of the safety zone.

In this range of solutions is still considering the situations in which the Municipal Master Plans (PDM) has already provided a specific area for installation of pyrotechnics or explosives infrastructure. Now, this area is not more than one area of land defined and registered under the law, in force today, which is only permitted to occupy the land solely for activities of this nature, so in these cases, the certificate of PDM should be considered document sufficient and / waive the license holder of the document in possession of such land.

The governmental authorities also are part of the solution simply by act on the intent demonstrated throughout this thorny process of remodeling of the pyrotechnics industry.

In effect, since the preamble to the law nº 87/2005 the Portuguese Government defined as objectives of the legislation that "what is at stake is the search for the maximum degree of safety for personnel working on the premises and the neighborhood, without undermining a traditional industry in our country, before adding the modernization and development, among industrialists and professionals of the sector, a culture of demanding and rigorous in security materiel."

The reconciliation of these objectives is not easy and not so far has been achieved, so to be out of this impasse was created by the Government a Working Group (Order nº 23 932 /

2007) involving the Government, Police Authorities and the Industrials of the sector whose mission is to analyze and make proposals to solve the problems in the explosives sector.

The mission of the Working Group is, in short term, to survey the issues and bureaucratic obstacles facing the business, provide measures to modernize and streamline the licensing procedures and operation of the sector, undertake analysis, interpretation and harmonization the current legal framework and medium and long term: to develop a National Plan for the Safety of Explosives, analyze and study the current legal framework with view to its revision and updating, responding to safety needs and economic development of the sector.

In conclusion, possible solutions and intentions are exposed. On the industry side, investment projects are developed, on the side of the state, the objectives have been expressed, it remains only to give continuity to perform the tasks listed in this mission.

Porto, Portugal, August 2010

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