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## **BUSINESS PLAN**

### **ISO/TC 264**

#### **Fireworks**

### **EXECUTIVE SUMMARY**

Fireworks are one of the most important commodities in the global economy. The displaying of fireworks has more than a thousand years of history, more than 150 countries and regions in the world have a tradition of displaying fireworks.

Fireworks are not merely a kind of commodity and are also taken as the symbol of culture and civilization. The fireworks consumption is huge in celebrating ceremonies and major events in New Year. Billions of people are getting joys from the artistic effects of fireworks displaying. Especially since 21st century, the consuming amount has been greatly increased annually. As we know, there are more than 7, 000 fireworks manufacturers in the world, with a number of 3,500,000 working staff engaged in the process of production, storage and displaying. Its annual marketing sale is up to 10 billion US dollars.

Fireworks are any articles containing explosive substances or explosive mixtures of substances designed to produce heat, light, sound, gas or smoke or combination of such effects through self-sustained exothermic chemical reactions. Its intrinsic dangerous leads to safety risk in the procedure of production and storage. In recent years, the fireworks accidents occurred occasionally all over the world. In order to strengthen the management of the fireworks and reduce accidents, many countries have developed a variety of laws, regulations and standards for fireworks. These laws, regulations and standards have played a great role, but they have great divergences on type, category and safety and quality performance. This divergences bring large difficult in the management of safety of fireworks, cause greater risks and costs for the international trade, could not ensure the customer properly using the products, and is prone to cause accidents and endanger the safety of the public and consumer as well.

The main purpose to establish TC264 is to develop the standardization of fireworks on quality control, including development of definition, terminology, classification, categorization, labeling,

test method, basic safety requirements of fireworks and etc. These international standards are designed to standardize the technical requirements of the safety and quality of fireworks to reduce the occurrence of fireworks safety accidents and to ensure the protection of employees and promote the healthy development of the fireworks international trade.

## **1 INTRODUCTION**

### **1.1 ISO technical committees and business planning**

The extension of formal business planning to ISO Technical Committees (ISO/TCs) is an important measure which forms part of a major review of business. The aim is to align the ISO work programme with expressed business environment needs and trends, to allow ISO/TCs to prioritize among different projects, to identify the benefits expected from the availability of the International Standards, and to ensure adequate resources for projects throughout their development.

### **1.2 International standardization and the role of ISO**

The foremost aim of international standardization is to facilitate the exchange of goods and services through the elimination of technical barriers to trade.

Three bodies are responsible for the planning, development and adoption of International Standards: ISO (International Organization for Standardization) is responsible for all sectors excluding Electro technical which is the responsibility of IEC (International Electrotechnical Committee), and most of the Telecommunications Technologies, which are largely the responsibility of ITU (International Telecommunication Union)

ISO is a legal association, the members of which are the National Standards Bodies (NSBs) of 140 countries, supported by a Central Secretariat based in Geneva, Switzerland.

The principal achievement of ISO is the International Standards.

An International Standard embodies the essential principles of global publicity and transparency, consistency and technical coherence. (The ISO Technical Committee (ISO/TC) represents all interested parties played a supervision role during the formulation of the standards through the opinion soliciting phase.) These are safeguarded through its development in an ISO Technical Committee (ISO/TC), representative of all interested parties, supported by a public comment

phase (the ISO Technical Enquiry); ISO and its Technical Committees are also able to offer the ISO Technical Specification (ISO/TS), the ISO Public Available Specification (ISO/PAS) and the ISO Technical Report (ISO/TR) solutions to market needs. These ISO products represent lower levels of consistency and have therefore not the same status as an International Standards.

ISO offers also the International Workshop Agreement (IWA) as a deliverable which aims to bridge the gap between the activities of consortia and the formal process of standardization represented by ISO and its national members. An important distinction is that the IWA is developed by ISO workshops and forum, comprising only participants with direct interest, so it is not in accordance with the legal process of International Standards.

## **2 BUSINESS ENVIRONMENT OF THE ISO/TC 264**

### **2.1 Description of business environment**

Fireworks are assigned to Class 1-Explosives stipulated by UN Regulation. In recent years, the fireworks accidents have occurred occasionally all over the world. According to incomplete statistics, fireworks product accident rate has declined.

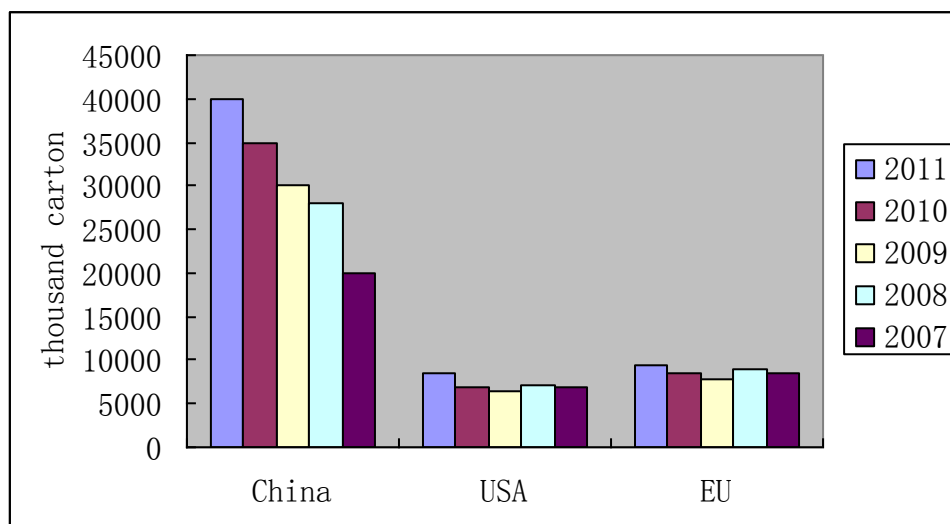
In view of the safety consideration, the countries in the world successively promulgated the regulations, rules and standards to regulate the management of the safety and quality of fireworks and reduce the accidents happened. The U.S. Consumer Product Safety Commission developed CPSC1500 and 1507 standards in 1987 under the Federal Hazardous Substances Act 15 U.S.C & 1261 to strengthen the management of fireworks; The Canadian Explosives Authority (ERD) established Consumer and Display Fireworks Standards in 2001; The European Union published the Directive 2007/23/EC in 2007 and implemented on July 2010, set up a series of fireworks standards corresponding to the Directive, such as EN 15947, pr EN16261, pr EN 16256 etc, and carried out CE accreditation management on fireworks; Brazil designed the Technical Regulations– Fireworks, Pyrotechnics and Similar Devices; Russian developed regulations and standards for fireworks in 2009; China, as the largest fireworks producer and consumer countries, enacted a number of national standards, such as GB10631, etc, in the 1980s and promulgated "Safety Management Regulations for Fireworks" in 2006 to strengthen the supervision on the full process of fireworks production, storage, transportation and consumption. Other countries around the world have their own provisions to manage fireworks products.

### **2.2 The world trade in fireworks**

The beautiful and splendid fireworks (that have been loved) favored by the people all over the

world are the main supplies (happy symbol) in the festival celebrations and ceremonies. From the southernmost to the northernmost of the world, from west to east, from the U.S. Independence Day, to China National Day, from Christmas in the West to the Chinese Spring Festival, all previous Olympic Games and Football World Cup, and so on, all are the fireworks shine stages.

In 2011, the fireworks consumption in the world was about 70 million cartons and the annual trade volume was around 10 billion USD, among which the major consumption countries and regions were China with 40 million cartons, the United States, 8.5 million cartons, the European Union, 9.5 million boxes respectively from the inspection and quarantine data. China's consumption amount accounted for 57% of the global, while 90% of these fireworks were made in China. Fireworks world trade in recent years has maintained a steady growth (except for the world financial crisis in 2008 and 2009), among which China is the fastest growing country with consumption growth from 20 million cartons to 40 million cartons in the last five years. Besides, the fireworks consumption of other emerging countries is also growing rapidly, with the United States and the EU remained relatively stable.



### 3 BENEFITS EXPECTED FROM THE WORK OF THE ISO/TC

Standards developed by ISO/TC 264 are primarily specifications and test methods which provide the means to enable objective assessment of process and product and so assist the liberalization of world trade in fireworks, as emphasized by the World Trade Organization.

Standards impose exacting demands on industry in terms of quality and safety performance of the fireworks during the process of production and consumption. The results from the testing used those standards give the requisite safety information to the consumers as well. The diversity of the ISO/TC 264 work programme includes these demands and all the indications are its published standards and the projects in development are relevant to the continued prosperity of the market.

ISO/TC 264 is structured to develop fireworks international standardization development plan, to establish fireworks international standardization system and to write and modify the international fireworks standards. The international fireworks standardization involves the following fields:

General standard for fireworks terms, type and category and etc;

Safety and quality requirements and test method for fireworks;

Product design specification and design rules for fireworks based on consumer safety, industrial art design and principle of pyrotechnics technology;

Service standard for fireworks, including the standardization work of fireworks sales and display, and other service areas;

Technical requirement standard for fireworks;

Label requirement for fireworks.

The following standards are planned to be finished within 5 years:

--Terminology on fireworks.

--Types and categories for fireworks;

--Safety requirements and labeling for fireworks;

--Test method for fireworks.

These procedures also assist in improving the safety and quality of fireworks and so reduce the consequential losses of human life or properties due to the production, and displaying of fireworks.etc.

To recognize the need for consistency on a broad base, the TC 264 works in very close association with GHS & TDG under United Nations Economic and Social Council.

#### **4 REPRESENTATION AND PARTICIPATION IN THE ISO/TC 264**

##### **4.1 COUNTRIES/ISO MEMBERS BODIES THAT ARE P AND O MEMBERS OF THE ISO COMMITTEE**

Globally ISO/TC 264 comprises 30 members with 14 Participating countries (P member) and 16 Observing countries (O member). For a detailed presentation of the whole TC, see table below.

Table 4.1 Member list of ISO/TC 264 (Sep 15<sup>th</sup>, 2012)

	Developed Economies	Developing Economies	Economies in Transition
P member	Belgium(NBN) France(AFNOR) Germany(DIN) Japan(JISC) Korea, Republic of (KATS) Spain(AENOR) Sweden(SIS) Switzerland(SNV)	China(SAC) India(BIS) Kenya(KEBS) South Africa(SABS) Sri Lanka(SLSI) Israel ( SII )	
O member	Australia ( SA ) Austria ( ASI ) Czech Republic ( UNMZ ) Denmark ( DS ) Finland ( SFS ) Italy ( UNI ) USA ( ANSI ) United Kingdom ( BSI ) Hong Kong, China ( ITCHKSAR ) (Correspondent member)	Argentina (IRAM) Bosnia and Herzegovina ( BAS ) Iran, Islamic Republic of ( ISIRI ) Namibia ( NSI ) Serbia ( ISS ) Slovakia ( SUTN ) Brazil ( ABNT )	

## 4.2 ANALYSIS OF THE PARTICIPATION

In Sep 2012 the committee had 14 P members, 16 O members. Two fifth of the 30 members of ISO/TC264 are developing countries. Participants come from all regions of the world. However, participation from Africa and the Middle East could be increased.

ISO/TC264 encourages the establishment of national mirror committees and its members to ensure that their delegations and positions reflect the public and represent broad constituencies.

ISO/TC264 supports the broadest possible participation of ISO member bodies and liaisons, and recognizes that special attention must be given to the needs of several groups, such as developing countries.

## 5 OBJECTIVES OF THE ISO/TC AND STRATEGIES FOR THEIR ACHIEVEMENT

### 5.1 DEFINED OBJECTIVES OF THE ISO/TC 264

**ISO/TC264'S OBJECTIVES ARE TO:**

- Ensure that ISO/TC264 is aware of the relevant international policy developments and trends within its scope.
- Ensure that market needs are served.
- Ensure global participation in the development, revision, acceptance and use of ISO/TC264's standards
- Ensure the continual relevance and quality of ISO/TC264's standards.

## **5.2 IDENTIFIED STRATEGIES TO ACHIEVE THE ISO/TC' S DEFINED OBJECTIVE**

- Ensure that ISO/TC264 is aware of the relevant international policy developments and trends within its scope.
  - a. To elaborate standards within the scope of committee.
  - b. Identify and register organizations and initiatives which influence or which are affected by the work of ISO/TC 264 and track their activities.
  - c. Collected fireworks related information and communicate relevant trends to TC 264 members through workshops, reports, etc.
  - d. Encourage TC 264 members to participate in relevant activities held in their countries and regions and to report to the TC 264 membership.
  - e. Regularly communicate relevant trends to TC264 members.
- Ensure that market needs are served.
  - a. Continually monitor the structure of the TC264 to accurately reflect the changing work programme and the needs of the fireworks industry as well as the consumers and the concerned parties.
  - b. Monitor the acceptance and use of TC 264's products.
- Ensure global participation in the development, revision, acceptance and use of ISO/TC264's standards
  - a. Exchange of information in order to grantee the consistency in all the documents between the UNSEC( GHS&TDG ) and the TC264.
  - b. Develop international standards on performance requirements, test methods for fireworks as well as for the consumers and concerned parties.
  - c. Update and enhance the TC 264 communication and outreach plan to communicate the important role of ISO/TC264in fireworks activities and markets worldwide.

- d. Build awareness and understanding to help stakeholders participate effectively in standardization, e.g. by encouraging international or regional workshops.
- e. Monitor the potential need for changes in TC 264 procedures, to adjust the existing work programme to be relevant to the stated needs of the fireworks industries as well as the consumers and concerned parties and enable the progress of the work programme.
- f. Encourage translation of ISO/TC 264 standards into appropriate non-official ISO languages, in order to facilitate the global sharing ISO/TC264 standards.
- Ensure the continual relevance and quality of ISO/TC 264's standards
  - a. Identify trends and emerging issues affecting fireworks and respond as necessary
  - b. Evaluate information about the applicability and effectiveness of ISO/TC 264's standards; protect the brand and the integrity of the usage of the ISO/TC 264's standards.
  - c. ISO/TC264's Standard should comply with the most of the national security requirements
- Ensure ISO/TC264 working target, the secretariat will set up four work groups.
  - Types and Categories Group,
  - Safety requirements and Labeling Group,
  - Test Method Group,
  - Terminology Group.

## **6. FACTORS AFFECTING COMPLETION AND IMPLEMENTATION OF THE ISO/TC 264 WORK PROGRAMME**

The following factors have been identified which may affect, to a lesser or greater degree, the development of particular standards in accordance with the objectives and strategies of this business plan.

- a. In such a competitive and rapidly changing market, there is a continuing difficulty in finding both the appropriate project leaders who have the available resource to drive the work and new expert participants at WG level. This can lead to an imbalance of relevant stakeholders.
- b. The increasing number of participating member countries, observer countries, and international liaisons means a common understanding of the content of the standard has to be developed for new participants. ISO/TC 264 will help to justify the participation for their members.
- c. Increasing number of work items may strain member bodies' ability to provide appropriate resources since participants can have difficulty in sustaining technical expertise and consistent funding. It is important to ensure the development of standards in an acceptable time frame in ISO/TC 264.

- d. The cost of hosting the meetings and attending meetings can limit the ability of ISO/TC264's member bodies, delegates and liaisons to participate. Electronic meeting, collective WGs meetings are encouraged to save the cost. Meeting schedules of ISO/TC 264 should be determined as far in advance as possible.
- e. Worldwide recognition and acknowledgement of the value of ISO/TC 264's standards by influential public and private institutions, e.g. larger testing laboratories, certification bodies or government agencies, would increase the acceptance of these standards.
- f. Effective education/training programs that ensure appropriate service providers, evaluators, consultants related to determination of the safety and quality of fireworks are critical.
- g. Compatibility among ISO deliverables for example ensuring compatibility with existing ISO standards and relevant documents of other ISO/IEC committees, In addition, compatibility among relevant laws and standards of member bodies, especially, fireworks are dangerous articles, will promote their acceptance and implementation.
- h. Harmonized working progress and sufficient information exchange between different projects would facilitate the implementation and the adoption of ISO/TC 264's standards.
- i. Due to the global relevance of the work in ISO/TC 264 it is essential that the ISO member bodies implement the deliverables from the committee.
- j. As fireworks are inflammable and explosive, we should consider its characteristic when developing standards.

## **7. STRUCTURE, SCOPES AND WORK PROGRAMME OF THE ISO/TC264.**

This section gives an overview of ISO/TC264's structure, scopes of the ISO/TC264's and any existing subcommittees and information on existing and planned standardization projects, including resources needed for their completion.

### 7.1 Structure of the ISO technical committee

(The heading is linked to <http://www.iso.org/tc264>)

### 7.2 Current projects of the ISO technical committee

(The heading is linked to <http://www.iso.org/tc264>)

### 7.3 Publications of the ISO technical committee

(The heading is linked to <http://www.iso.org/tc264>)