



STRATEGIC BUSINESS PLAN – ISO/TC 92 FIRE SAFETY

Executive summary

ISO/TC 92 *Fire safety* is a horizontal committee, addressing all aspects of fire safety not specifically within the scopes of other Technical Committees. This wide scope reflects both the traditional recognition of the special expertise required for valid fire safety assessment of products and the growing importance of fire safety engineering as a specialized field needed to make decisions to achieve fire safety objectives, often in settings where other, non-fire-related objectives must also be achieved. In addition to its normal activities in producing standards, in May 1995 ISO/TC 92 was entrusted with a co-ordinating role by ISO/TMB and is now the forum for all standardization matters related to fire.

Fire safety impinges on nearly every aspect of human endeavour. The market for ISO/TC 92's standards and guidance is extremely broad. They are used for the assessment and control of fire risk of materials, products and structures in the broadest sense. The main stakeholders are industry, in particular the construction industry, national and international regulators (e.g. IMO), consumer groups, research and testing organisations, fire safety practitioners, and certification bodies.

The overall size of the market for ISO/TC 92 standards is very large. All geographical regions have an interest in fire safety. In most nations of the developed world, fire claims the lives of 1 to 60 people per million of the population per year. The large majority of fatal fires in those countries occur in occupied buildings. Direct property losses amount to 0.1-0.3% of GDP per year. Together with the costs of the emergency services, fire protection in buildings, fire insurance administration and the consequential losses to commerce, the total cost is approximately 1% of GDP in the developed countries. The gross output of the construction sector amounted to approximately 6% of GDP in the OECD countries of the developed world in 2008. Fire protection costs are estimated from 2- 4% of construction costs overall in the developed countries and up to 12% of construction costs for non-residential buildings in the U.S. Construction is one of the largest sectors in terms of employment, for example, providing jobs for 7% of the working population in Europe and 4% of U.S. employment, even in the high-unemployment year of 2010.

The work of ISO/TC 92 concerns safety, health and environmental issues. The standards developed by ISO/TC 92 are intended to save lives, reduce fire losses, reduce technical barriers to trade, provide for international harmonization of tests and methods and bring substantial cost savings in design. ISO/TC 92 standards are expected to be of special value to developing countries, which are less likely to have national standards. In addition to supporting fire safety design and providing for advanced measurements, ISO/TC 92 standards also are simple to use at low cost. These standards are suitable for use in prescriptive regulations and provide for a proven route to increased fire safety. It is recognized that several ISO/TC 92 members are utilizing fire safety engineering for the design of fire protection systems in place of systems based on traditional prescriptive requirements. ISO/TC 92 will emphasize the development of standards to assist P-members in this transition, especially in developing guidance on assessing the safety equivalence of the two design methods.

The main objectives of ISO/TC 92 are:

To develop standards and other documents to satisfy market needs, be timely, cost effective and cover:

- 1 Fire safety engineering, design and evaluation methods used to verify that selected fire safety objectives are achieved and to support fire safety management. This includes risk reduction to people, property and the environment.



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- 2 The performance under fire conditions of materials, products, elements of structure, structures and systems and their contents, where appropriate in end-use conditions.
- 3 Characterisation of occupant performance and behaviour when subjected to fire conditions and fire like emergency situations.
- 4 Large outdoor fires and the built environment
- 5 Fire fighter safety
- 6 Vocabulary and Fire Statistics data collection



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 and to allow ISO/TCs to prioritize among different projects, to identify the benefits expected from the availability of 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 Electrotechnical, 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 some 164 countries (organizations representing social and economic interests at the international level), supported by a Central Secretariat based in Geneva, Switzerland.

The principal deliverable of ISO is the [International Standard](#).

An International Standard embodies the essential principles of global openness and transparency, consensus and technical coherence. 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) as solutions to market needs. These ISO products represent lower levels of consensus and have therefore not the same status as an International Standard.

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 fora, comprising only participants with direct interest, and so it is not accorded the status of an International Standard.



2 Business Environment of the ISO/TC

2.1 Description of the Business Environment

The following political, economic, technical, regulatory, legal and social dynamics describe the business environment of the industry sector, products, materials, disciplines or practices related to the scope of this ISO/TC, and they may significantly influence how the relevant standards development processes are conducted and the content of the resulting standards:

The market for ISO/TC 92's standards and guidance is extremely broad. They are used for the assessment and control of risk of materials, products and structures in the broadest sense. The main stakeholders are industry, in particular the construction industry, national and international regulators, consumer groups, research and testing organisations and certification bodies.

ISO/TC 92 is a horizontal committee, addressing all aspects of fire safety not specifically within the scopes of other TCs. This wide scope reflects both the traditional recognition of the special expertise required for valid fire safety assessment of products and the growing importance of fire safety engineering as a specialized field. The documents produced by TC 92 are also used by other technical committees to assess fire performance of various products. These include ISO/TC 21, ISO/TC 38, ISO/TC 61, ISO/TC 136 as well as IEC/TC 20 and IEC/TC 89.

National standards are often based on international standards but are modified slightly to meet the requirements of the local conditions. Sometimes this process of modification and adoption involves a first step by other standards bodies. ISO fire standards are for example cited in some ASTM International standards.

In Europe harmonized standards are used in support of the construction products regulations (CPR regulation EU 305/2011). These standards are then implemented in the building regulations of EU member states plus the countries having agreements with EU. The standards EN ISO 1182, EN ISO 1716, EN ISO 9239-1 and EN ISO 11925-2 are published as EN ISO standards and the European Commission makes normative references to them. The standards are important for the CE-marking of building products which allows free trade in Europe and are continuously revised by ISO/TC 92 SC1 in co-operation with CEN under the Vienna agreement if necessary. For railways EN 45545-2 defines a classification standard in which ISO standards from ISO/TC 92 are used namely ISO 5658-2, ISO 5660-1, EN ISO 9239-1 and EN ISO 11925-1.

The International Maritime Organisation (IMO) Safety of Life at Sea Convention (SOLAS) makes normative references to ISO/TC 92 standards in its documents, for example the Fire Test Procedures Code refers to EN ISO 1182 and EN ISO 1716, and the High-Speed Craft Code refers to ISO 9705-1 and ISO 5660-1.

ISO 834 was used as a basis of the Fire Test Procedures Code Part 3, ISO 5658-2 is referred to in the FTP Code Part 5 and ISO 19702 is referred to in FTP Code part 2. The ISO TR 13387 series of Technical Reports is referred to in the Guidelines on Alternative Design and Arrangements for Fire Safety, MSC/Circ.1002, 26 June 2001. These IMO instruments referring to ISO standards developed by TC 92, are widely and obligatorily used in countries that ratify SOLAS.

ISO 834-2 and the requirements in ISO 834-6 are incorporated into the Canadian National Standard for fire resistance which is referenced in the national building regulations.

There is a clear trend towards the adoption of international standards at national level. ISO/TC 92 standards are being used by national building regulators without modification to demonstrate compliance with fire safety requirements in their countries. In Japan, the new Building Code refers to ISO 5660-1, ISO 9705 and ISO 17431. ISO/TC 92 standards on reaction to fire are being used in Australia, China and New Zealand. The Building Regulations in England were recently updated strengthening EN 13501-1 classifications using ISO 1182, 1716 and/or 11925-2 over the original Class system using BS 476-6 and -7. The direction of travel is likely to replace these. IMO uses the



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ISO/TC 92 standards extensively for fire safety on board ships. Similarly, US Coast Guard through



adoption of IMO regulation recognises ISO 834 and ISO 1182.

ISO 9705 - *Room corner test* was used as reference scenario for interior room surface linings in the European system for classification and CE marking of building products. Australia uses ISO 9705 in its building regulations. The ISO 9705-1 *Room corner test* also appears in the IMO regulations. ISO 9705 is used in Canada and is adopted as a National Standard. If this trend continues, a true worldwide standard for the classification of lining materials will develop based on the same concept, a fire in a small room typified by ISO 9705.

It is also recognized that IEC/TC89 "Fire hazard Testing" uses the ISO standards on Fire safety developed by ISO/TC92 in various standards within IEC 60695 series. In particular, Fire Safety Engineering is used in IEC 60695-1-10 "Guidance for assessing the fire hazard of electrotechnical products - general guidance", IEC 60695-1-11 "Guidance for assessing the fire hazard of electrotechnical products - Fire hazard assessment" and IEC 60695-1-12 "Guidance for assessing the fire hazard of electrotechnical products - Fire safety engineering".

Many building design proposals are being accepted as compliant with national regulations based on performance-based analysis rather than traditional direct assessment of compliance with prescriptive requirements. Advances in fire safety science and engineering and related measurement and calculation capabilities have enabled this shift to performance-based regulations and performance-based assurance of compliance, which provide a more integrated and fundamentally grounded approach to fire safety while also relaxing or reducing obstacles to innovation in construction products and methods. There is a need for ISO to continue developing standards that satisfy these demands and extend past successes. In order to facilitate the national adoption and referencing of the fire safety engineering standards of ISO/TC 92 in national regulations, ISO/TC 92 will emphasize the development of standards that are practical and useful for public policy and regulation."

2.2 Quantitative Indicators of the Business Environment

The following list of quantitative indicators describes the business environment in order to provide adequate information to support actions of the ISO/TC:

All geographical regions have an interest in fire safety. The mean rate of fires per 1000 inhabitants per year in 2012-2016 was 2.1. The mean rate of fire deaths per 100 thousand inhabitants per year in 2012-2016 was 1.5. The mean rate of fire injuries per 100 thousand inhabitants per year in 2012-2016 was 5.0. The large majority of fatal fires in those countries occur in occupied buildings. ["World Fire Statistics," Geneva Association Information, 2018 No. 23].

Direct property losses amount to 0.1-0.3% of GDP per year. Together with the costs of the emergency services, fire protection in buildings, fire insurance administration and the consequential losses to commerce, the total cost is approximately 1% of GDP in the developed countries. ["World Fire Statistics," Geneva Association Information Newsletter, No. 29, October 2014]

The gross output of the construction sector amounted to approximately 6% of GDP in the OECD countries of the developed world in 2008. [OECD Policy Roundtables: Construction Industry 2008, www.oecd.org/dataoecd/32/55/41765075.pdf]

Fire protection costs are estimated from 2-4% of construction costs overall in the developed countries up to 12% of construction costs for non-residential buildings in the U.S. ["World Fire Statistics," Geneva Association Information 2018 No. 23; John R. Hall, Jr., Total Cost of Fire in the U.S., National Fire Protection Association, Fire Analysis and Research Division, March 2010]

The major product categories covered by ISO/TC 92 include all construction products,



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particularly structural elements, building envelope linings and building contents (e.g. furniture, furnishings) but recently also areas such as transport related industry. Industrial market players, therefore, include materials producers, product manufacturers and operators. Other interest groups include building contractors, transportation organisations, designers, architects, regulators and enforcers of regulations. Engineered fire safety design is the main growth area relating to the work of the TC, with the regulators and design engineers trying to improve fire safety and cost effectiveness, and to encourage design innovation.



3 Benefits expected from the work of the ISO/TC

The work of ISO/TC 92 permits the user to measure or calculate with greater accuracy the effects of design and other choices for likely fire losses of life, health, property, business, environmental quality, or cultural heritage. With this improved fire performance information, users can more accurately select products and make choices that favour less harm rather than more harm, and the result will be more choices that are safer, resulting in lives and property saved that otherwise would not have been saved, as well as more choices that achieve equivalent safety at lower cost.

ISO/TC 92 SC1 provides evaluation tools for product involvement in fire initiation, SC2 for products providing resistance to fire for structural integrity, and SC3 for fire effects on life, health, and environmental quality. SC4 provides engineering tools for analysis of fire performance of designs for whole buildings or other built environments.

The work of ISO/TC 92 also provides benefits by reducing costs in international trade associated with the work required to demonstrate that a product produced in one location achieves the fire safety objectives of different countries and users anywhere in the world. This has long been achieved through harmonisation of test standards and is now being achieved through harmonisation of calculation standards.

Examples of risk reduction benefits tend to follow a sequence, beginning with the development of a global consensus that certain types of fires involving certain types of products create an unacceptably high risk or are producing unacceptably high losses. Operating in the ISO/TC 92 process, experts and interested parties develop and reach agreement on procedures to assess the magnitude of risk associated with a defined class of products. With this new or improved product fire performance information, the market shifts to reduce usage of existing poorly performing products and supports the introduction of innovative better performing products.

A recent example is the European standardisation of testing and classification of products for trains based on the ISO/TC 92 standards. Harmonisation research was then conducted to provide necessary quantification for improved standards for testing and classification of products used in this environment.

In another example, an Australian study has demonstrated a gain of 10% in useable floor area through reductions in the number of required fire stairs, based on innovative smoke control design using the techniques of fire safety engineering developed in ISO/TC 92 SC4.

Many fires start from a glowing cigarette igniting for example a piece of furniture. A way of reducing the number of such fires would be to introduce cigarettes that self-extinguish when not being smoked. This was done in the US and the European Union has also introduced the same requirements. The supporting standard was developed in cooperation with ISO/TC 92 and the ISO committee on tobacco. ASTM made available the US standard on which the work was based.

There are numerous recent examples of the ISO role in harmonisation of standards in Europe, with associated reductions in costs and barriers for trade. In particular, the following standards through adoption by CEN are being used for harmonisation in support of the Construction Products Regulation in Europe: EN ISO 1182, EN ISO 1716, EN ISO 9239-1 and EN ISO 11925-2. These standards are now mandatory in CEN members and used in conjunction with the CE-marking of construction products. Efforts continue between ISO/TC 92 /SC2/WG4 and EN TC127TG4 towards harmonization of the requirements for fire resistance of dampers.

ISO/TC 92, working closely with ISO/TC 21 and IEC, has published ISO 13943 - Fire safety – Vocabulary, which is widely quoted as a normative reference in many fire standards, encouraging the use of a common terminology across the committees that produce fire standards.

ISO/TC 92 standards are expected to be of special value to countries, not having full coverage of



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national standards for fire safety. In addition to supporting fire safety design and providing for advanced measurements, ISO/TC 92 standards also are simple to use at low cost. These



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standards are suitable for use in prescriptive regulations and provide for a proven route to increased fire safety. The benefits of the fire safety engineering standards of ISO/TC 92 are yet to accumulate. However, development of these standards at ISO has been vehicle to transfer this technology across countries.

4 Representation and participation in the ISO/TC

4.1 Membership

<https://www.iso.org/committee/50492.html?view=participation>

4.2 Analysis of the participation

The major players represented on ISO/TC 92 include materials producers and product manufacturers, designers, testing laboratories, researchers and national regulators. Greater involvement from industry and national regulators is actively encouraged.

The P-membership of ISO/TC 92 is very broad. Many representatives of the developing nations are O-members of ISO/TC 92. However, some EU countries are currently concentrating their resources on CEN participation at the expense of ISO, largely because CEN standards will be mandatory in support of national building regulations within member countries, unlike ISO standards. A strong and increasing interest in ISO/TC 92 is seen from Asia/Pacific countries, such as the Republic of Korea (KATS), China, Australia and New Zealand.

5 Objectives of the ISO/TC and strategies for their achievement

5.1 Defined objectives of the ISO/TC

The main objectives of ISO/TC 92 are:

To develop standards and other documents to satisfy market needs, be timely, cost effective and cover:

- 1 Fire safety engineering, design and evaluation methods used to verify that selected fire safety objectives are achieved and to support fire safety management.
- 2 The performance under fire conditions of materials, products, elements of structure, structures, constructions such as tunnels and systems and their contents, where appropriate in end-use conditions.
- 3 Characterisation of occupant performance and behaviour when subjected to fire conditions and fire like emergency situations.
- 4 Large outdoor fires and the built environment
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- 6 Fire Vocabulary and Fire Statistics data collection

Defined objectives of SC 1 – Fire initiation and growth

Test protocols, measuring techniques and reaction to reference fire scenarios in support of fire safety engineering and performance codes

- a) Test protocols, measuring techniques and procedures for obtaining data of fundamental fire properties
- b) Test protocols, measuring techniques and procedures for input data to FSE models
- c) Fire test protocols relating to reference fire scenarios and characteristic fire growth of products
- d) Test protocols, measuring techniques and procedures for fire calorimetry

Maintain and improve existing SC 1 standards

- a) Updating of tests

already in use Test validation:

- a) Protocols to determine the precision and accuracy of fire test procedures
- b) Test protocols for validation of fire growth

predictions Instrumentation:

- a) Protocols for measurement technologies used in fire test procedures including calibration methodologies, used in fire test procedures

Defined objectives of SC 2 – Fire containment

Maintain and improve existing ISO standards:

- a) Improve current measurement techniques and review their application in all appropriate standards. Review the acceptance criteria and data output formats for all fire resistance standards with the intent of applying them uniformly across all assembly types.
- b) Improve conditioning of test specimens
- c) Improve reproducibility of test results. This must be done by considering specimen construction, restraint details, conditioning and test exposure conditions.
- d) Characterize laboratory ambient conditions and measurement of unexposed surface temperatures

Develop new fire standards where need is identified

Integration of fire resistance tests and calculations with fire safety engineering

- a) Generate data which allow prediction of the fire performance of the material, product, or assembly, in the orientation in which it might be installed in practice.
- b) Specify the exposure conditions to correspond to those to which the material, product or assembly that are credible and severe that can reasonably be expected in practice.
- c) Provide numerical output in such a way that there can be electronic storage and access of results in a uniform manner.
- d) Define, in measurable units, any external force, restraint, stress or pressure applied to the sample.
- e) Account for special testing conditions (for example, edge effects), or justify the corresponding lack thereof, to enable the data to be applied to actual installation conditions.
- f) Describe in the appendix or scope of each standard that fire safety engineering is a potential use of the standard.

Defined objectives of SC 3 – Fire threat to people and environment

General

- a) Provide appropriate guides and calculation methods, along with instrumentation, measurement and validation procedures for analysis and assessment of the impact of fire and its effluent on people and the

- environment.
- b) Develop guidance on the use of such procedures in fire safety engineering, including the standardization of methods for estimating the limits of tenability for those people attempting to leave a facility, those who cannot leave, those who are located in a place of refuge and those who have an action on the fire like firefighters.
 - c) Within the context of fire safety engineering, develop the basis for identifying the combinations of common fire scenarios and combustibles for which the fire effluent does not merit special attention, i.e., where generic potency values can be used. Note that data on the harmful effects of fire effluent are only to be used in the context in which assessment is performed.

Projects for the coming years

Chemical species produced in fires (includes both gases and smoke)

- a) Standards for sampling, instrumentation and procedures as well as validation methods for the measurement and analysis of fire-generated gases and aerosols
- b) Documentation of chemical yields and formation rates relative to fire types and stages, including stability, transport and decay rates.
- c) Standards for measuring the concentrations of chemicals from fire in air, soils and water, for environmental impact

Generation of data on yields of chemical species in fires

- a) Criteria for appraising bench-scale test apparatus for this purpose
- b) Standardization of apparatus that meet these criteria to a degree sufficient for useful fire safety engineering estimates
- c) Data collection from real-scale experiments
- d) Calculation methods of species yields, equivalence ratios and combustion efficiency

Acute toxic effects – incapacitation (inability to effect ones own escape) – sub-incapacitating effects of combustion gases

- a) Quantification of the impact of asphyxiant and irritant fire gases on people
- b) Procedures and guidance for establishing exposure criteria
- c) Analysis of blood for asphyxiant toxicants

Chronic and delayed toxic effects (as the results of pre-normative work becomes available)

- a) Protocols for the collection and measurement of chronic and long-term toxic compounds that have been identified as substantively increasing risk to human health
- b) Procedures and guidance for establishing exposure

criteria Heat effects

- a) Quantification of the effects of both radiant and convective heat in causing thermal burns, hyperthermia and respiratory distress of people
- b) Procedures and guidance for establishing exposure

criteria Smoke effects

- a) Guidance for establishing visibility criteria for people
- b) Guidance for estimating sub-incapacitating effects of smoke

Environmental effects of fires including wildland fires

- a) Guidance on environmental effects for which international standardization is appropriate
- b) Identification (definition) of gaseous, liquid, and solid contaminants that have been identified as substantively increasing risk to environmental preservation
- c) Methodologies for assessment of environmental damage from fires
- d) Incorporating the consequences of fires into models on environmental

impact Guidelines for the use of effluent potency information in fire safety engineering

Defined objectives of SC 4 – Fire safety engineering

The objective of SC4 is to develop and maintain a coherent set of ISO documents supporting effective and correct application of fire safety engineering (FSE), which includes both performance-based fire safety design and fire safety management. More specifically, the objectives are to develop documents for:

1. engineering design and evaluation methods to be used for verifying that appropriate fire safety objectives are achieved,
2. the appropriate calculation or other assessment methods, including determination of their accuracy and limitations, and validation procedures.

Developed documents should be relevant for FSE in the built environment, i.e., buildings and other structures/systems, and should cover both existing and novel techniques and materials. The objective is, furthermore, to develop documents that are both useful and practical for end users and can be applied worldwide irrespective of the degree of experience in and implementation of FSE.

Planned areas of standards development of SC4

In addition to maintaining and updating already developed documents, SC4 aims to initiate new projects in identified strategic areas of development. These areas are presented below in relation to the FSE process as defined by ISO 23932 (see Figure 1)

1. Set FSE project scope
No areas currently identified
2. Identify fire safety objectives
No areas currently identified
3. Identify functional requirements
No areas currently identified
4. Select risk analysis approach

Procedures for qualitative analysis

Combination of prescriptive and performance-based fire safety design Comparative methods to verify fire safety design in buildings

Probabilistic methods to verify fire safety design in buildings

5. Identify performance criteria

Use of tenability criteria in FSE

6. Create fire safety design plan

No areas currently identified

7. Determine design scenarios

Selection of design fires for probabilistic analysis

8. Select engineering methods

Use of fire models (e.g. CFD)

Use of evacuation models

9. Evaluate design (scenario-based)

Sub-incapacitating effect of fire on occupants

Use of fire test data for input in FSE calculation methods Treatment of fire safety system reliability in FSE design Control of FSE design by regulatory authorities

10. Document in final report

11. Implement fire safety design plan

FSE during building process Control in the building process

12. Execute fire safety management

Fire safety management procedures

In addition to the areas above, which were presented in relation to the steps of the FSE process according to ISO 23932, the following general areas of development have been identified:

- Application of FSE for new building materials and methods
- FSE analysis for Wildland-Urban Interface (WUI) fires

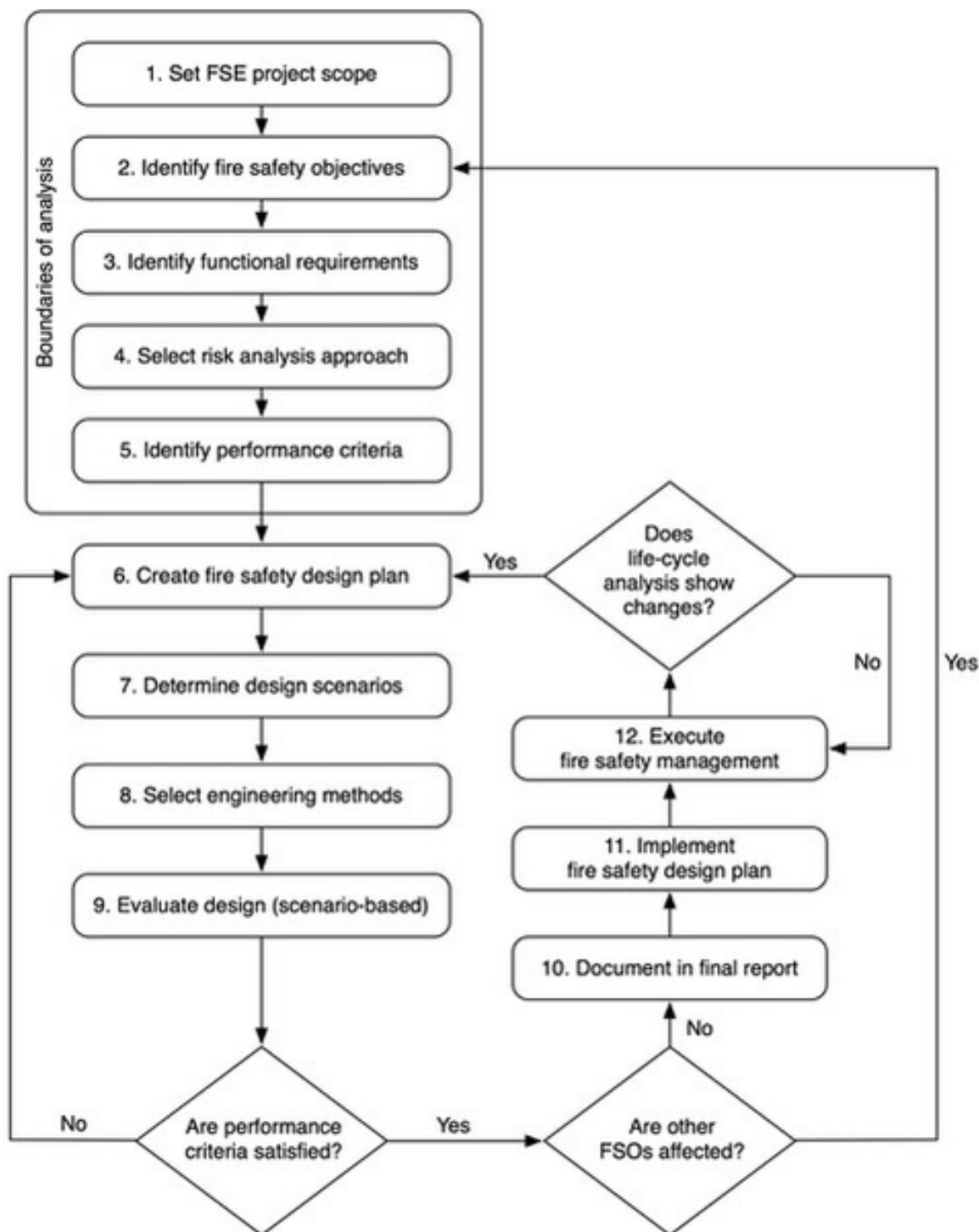


Figure 1 The fire safety engineering (FSE) process as defined in ISO 23932

5.2 Identified strategies to achieve the ISO/TC’s defined objectives

ISO/TC 92 will maintain its high level of technology and impartiality when developing standards and other documents in the area of fire. A particular challenge is the development of new standards to meet the needs of fire safety engineering. ISO/TC 92

will also maintain and improve the standards that are currently in use, particularly those referenced in regulations.

ISO/TC 92 standards need to be user-friendly. Using principles of fire safety engineering involves complex systems and sets of standards may be used to provide a solution to a design problem. It should be explored how ISO/TC 92 standards interact and how they could be grouped into packages for use in fire safe design.

ISO/TC 92 has a long of tradition of work in the area of fire safety in buildings, but in 1995 its scope was extended to fire safety in general and ISO/TC 92 became a horizontal committee, with responsibility for coordination of all fire activities in ISO. The possibility of ISO/TC 92 moving into areas such as transportation, tunnel safety and forest fires is being explored. Fire investigation is a growing discipline and ISO/TC 92 could become involved in this area.

ISO/TC 92 will strengthen its links with the users of its standards. National and international regulators, fire services and industry are examples of typical users and closer liaison with these organisations will be established. IMO is an important user of ISO/TC 92 documents and an active liaison should be maintained. Much of the work of ISO/TC 92 requires pre- normative research. Where this research concerns the construction sector, the TC seeks the input of CIB W 014.

The needs of countries that do not have formal systems for fire safety should be covered. Standards that are simple to use and require only small investment in technology should therefore be maintained within ISO/TC 92.

The flow of ISO standards to regional bodies and other international organisations is encouraged. The possibility of a broader circulation of documents than only to standardisation organisations should be explored.

ISO/TC 92 should increase its efforts in dissemination of its work. Opportunities to present ISO/TC 92 activities at conferences as well as articles and other publications should be considered. The official ISO server and website as well as members' own websites should be used to promote the work of ISO/TC 92.

ISO/TC 92 should encourage internal networking. A large advantage of ISO/TC 92 is the availability of different expertise, often world leading in specific areas. Members are given the opportunity to exchange technical information as well as discuss the goals of ISO/TC 92 at plenary meetings, usually held in conjunction with its sub-committees and working groups.

6 Factors affecting completion and implementation of the ISO/TC work programme

Limited resources are available in the fire community, with a small number of volunteer fire experts able to devote their time to standardisation activities. In every nation and region, there is a trend toward volunteers being less able to afford full participation in ISO activities and often forced to limit their standardisation activities to their national and regional bodies due to limited resources.

The implementation of ISO standards depends on such factors as the willingness of regulators, insurance companies and other organisations to implement standards, the situation of the market, the availability of the standards and the level of understanding of the technology used. These factors are mainly outside the control of ISO/TC 92 but it is important to maintain a good working relationship with the users of the standards and to meet the market needs in a timely manner.

7 Structure, current projects and publications of the ISO/TC

Information on ISO online

The link below is to the TC's page on ISO's website:

[ISO TC 92 on ISO online](#)

Click on the tabs and links on this page to find the following information:

- About (Secretariat, Committee Manager, Chair, Date of creation, Scope, etc.)
- Contact details
- Structure (Subcommittees and working groups)
- Liaisons
- Meetings
- Tools
- Work programme (published standards and standards under development)

Reference information

[Glossary of terms and abbreviations used in ISO/TC Business Plans](#)

[General information on the principles of ISO's technical work](#)