DRAFT INTERNATIONAL STANDARD

ISO/DIS 22315

ISO/TC **223**	Secretariat: **SIS**
Voting begins on: **2013-08-23**	Voting terminates on: **2013-11-23**

Societal security — Mass evacuation — Guidelines for planning

Sécurité sociétale — Évacuation de masse

ICS: 03.100.01

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
https://standards.iteh.ai/catalog/standards/sist/6f959745-876c-4e9d-a5f0-7db207b96ba8/iso-22315-2014

THIS DOCUMENT IS A DRAFT CIRCULATED FOR COMMENT AND APPROVAL. IT IS THEREFORE SUBJECT TO CHANGE AND MAY NOT BE REFERRED TO AS AN INTERNATIONAL STANDARD UNTIL PUBLISHED AS SUCH.

IN ADDITION TO THEIR EVALUATION AS BEING ACCEPTABLE FOR INDUSTRIAL, TECHNOLOGICAL, COMMERCIAL AND USER PURPOSES, DRAFT INTERNATIONAL STANDARDS MAY ON OCCASION HAVE TO BE CONSIDERED IN THE LIGHT OF THEIR POTENTIAL TO BECOME STANDARDS TO WHICH REFERENCE MAY BE MADE IN NATIONAL REGULATIONS.

RECIPIENTS OF THIS DRAFT ARE INVITED TO SUBMIT, WITH THEIR COMMENTS, NOTIFICATION OF ANY RELEVANT PATENT RIGHTS OF WHICH THEY ARE AWARE AND TO PROVIDE SUPPORTING DOCUMENTATION.

Reference number
ISO/DIS 22315:2013(E)

© ISO 2013

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
https://standards.iteh.ai/catalog/standards/sist/6f959745-876c-4e9d-a5f0-7db207b96ba8/iso-22315-2014

Copyright notice

This ISO document is a Draft International Standard and is copyright-protected by ISO. Except as permitted under the applicable laws of the user's country, neither this ISO draft nor any extract from it may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, photocopying, recording or otherwise, without prior written permission being secured.

Requests for permission to reproduce should be addressed to either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Reproduction may be subject to royalty payments or a licensing agreement.

Violators may be prosecuted.

© ISO 2013 – All rights reserved

Contents

Page

Foreword v

Introduction vi

1 Scope 1

2 Normative references 1

3 Terms and definitions 1

4 General aspects for mass evacuation planning 4
4.1 Introduction 4
4.2 Risk assessment 4
4.3 Compliance with legislation and policies 5
4.4 Information gathering and analysis 5
4.4.1 Assess the quality of information 5
4.4.2 Evidence-based analysis for planning 5
4.5 Planning operational resource allocation 6
4.6 Planning and documenting processes 6
4.7 Effective multi-agency partnering arrangements 6
4.8 Training and exercising 7
4.9 Evaluation and improvement 7

5 Prepare the public to react appropriately 8
5.1 Introduction 8
5.2 Identify how the public can prepare for mass evacuation 8
5.3 Use research findings when developing plans 8
5.4 Identify key characteristics of the population 9
5.4.1 General 9
5.4.2 Identify population characteristics 9
5.4.3 Evaluate each identified social group 10
5.5 Introduce products, services and activities which improve preparedness 10
5.6 Reduce barriers to preparing for mass evacuation 10
5.7 Disseminate information to social groups 11
5.7.1 General 11
5.7.2 Evaluate communication systems 11
5.7.3 Content of the message 11

6 Understand and visualize the affected area 11
6.1 Introduction 11
6.2 Map data about the area that is at risk 12
6.2.1 Mapping / visualization tools 12
6.2.2 Types of information to capture on maps 12
6.3 Use visualized data and maps to understand an area at risk 12
6.3.1 Identify data to visualize on maps 12
6.3.2 Maps to visualize an area that is at risk 13
6.3.3 Identify data needed to build maps 13
6.4 Ensure the compatibility of data to build maps 13

7 Planning to make the evacuation decision 13
7.1 Introduction 13
7.2 Develop an evacuation decision-making process 14
7.2.1 Decision-makers 14
7.2.2 Decision-making process 14
7.2.3 Evacuation activation points 14
7.3 Use evacuation objectives 14
7.3.1 Identify evacuation objectives 14
7.3.2 Resolve conflicting evacuation objectives 15

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
https://standards.iteh.ai/catalog/standards/sist/6b59745-87cc-4e94-a5f0-7db207b96ba8/iso-22315-2014

© ISO 2013 – All rights reserved

7.4 Measure evacuation objectives ... 15
7.4.1 Data gathering ... 15
7.4.2 Research and measure objectives ... 16
7.5 Identify the information needed to make the decision to order an evacuation ... 16
7.6 Establish clear communications between information-producing organizations and decision-makers ... 16
7.7 Factors that drive decisions for specific risks ... 16
7.8 Systems to track and log decisions made ... 17

8 Public warning ... 17
8.1 Introduction ... 17
8.2 Systems to warn and inform the public ... 17
8.3 Promote a community-based warning system ... 17
8.4 Protocols for communication with various stakeholders ... 18
8.4.1 The public ... 18
8.4.2 Special facilities ... 18
8.5 Design and test a template for the warning message ... 18
8.6 Analyse the anticipated time to warn the public ... 19

9 Analyse evacuee movement ... 19
9.1 Introduction ... 19
9.2 Understand evacuees' transportation behaviour ... 19
9.3 Identify demand and availability of the transport network ... 20
9.4 Identify transport performance measures and targets ... 20
9.5 Analyse transport strategies and policies ... 21
9.6 Communicate transport information to the public ... 21

10 Assess evacuee shelter requirements ... 21
10.1 Introduction ... 21
10.2 Estimate shelter demand ... 22
10.3 Identify suitable shelters ... 22
10.4 Establish shelter agreements ... 22
10.5 Analyse shelter availability during the incident ... 22
10.6 Manage evacuee registration and support services ... 23
10.7 Organize shelter supplies and mutual aid ... 23
10.8 Develop a safe return plan ... 23

11 Evaluation and continual improvement ... 23

Bibliography ... 25

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
https://standards.iteh.ai/catalog/standards/sist/6f959745-876c-4e9d-a5f0-7db207b96ba8/iso-22315-2014

 © ISO 2013 – All rights reserved

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 22315 was prepared by Technical Committee ISO/TC 223, *Societal security*.

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
https://standards.iteh.ai/catalog/standards/sist/6f9b9745-876c-4e9d-a5f0-7db207b96ba8/iso-22315-2014

© ISO 2013 – All rights reserved

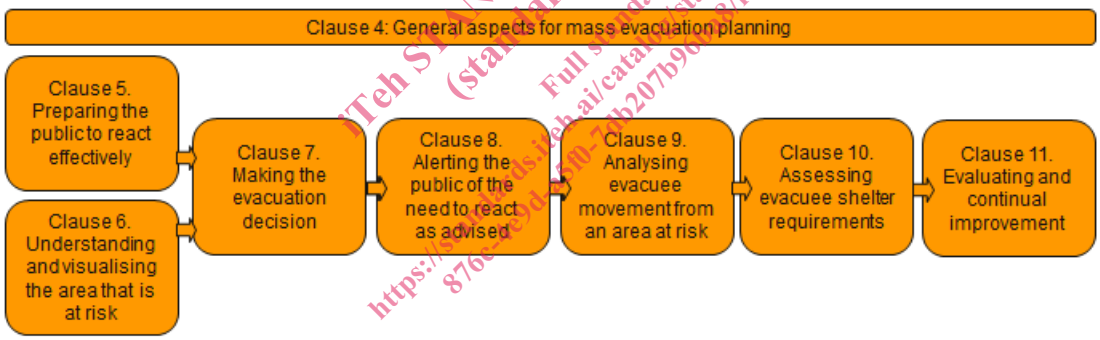
Introduction

This International Standard provides guidance on planning for mass evacuation. An evacuation in response to a risk or threat is the movement of people from a designated area. In this context, a mass evacuation is characterized by the need for multi-agency collaboration and resources. Typically, this involves a larger number of people or wider area being at risk. It's difficult to define mass evacuation in terms of numbers or scale because disasters, communities and responder capabilities differ. However, it can be considered in terms of the number of evacuees exceeding an everyday scale of response.

The need for evacuation can arise from naturally occurring events, human induced events (both intentional and unintentional) and events cause by technology. Some events require an immediate or spontaneous evacuation while others provide advanced warning.

Effective planning is important to help to save human life and reduce suffering. Planning helps to deliver an effective response and is part of emergency management. This document provides guidance for developing mass evacuation plans, supporting decision-making, increasing the potential for an effective response, and strengthening preparedness of the public and organizations. It also recognizes that there are barriers that could hinder people from evacuating such as: concern for pets, valuable possessions, or items that sustain livelihoods.

This International Standard is intended for use by those responsible for establishing mass evacuation plans as well as preparing locations to receive evacuees on a mass scale. It includes the following eight activities and these provide the structure to the eight clauses in this International Standard (Clauses 4–11).



iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard.
https://standards.iteh.ai/catalog/standards/sist/6f0597a5-87b8-4c9d-8510-7db207b90c78/iso-22315-2014

Figure 1 – The structure of this International Standard

This figure illustrates that there are some general aspects for mass evacuation planning (Clause 4) (for example, risk assessment and training/exercising) and these support the provisions contained in Clauses 5–11. A plan to prepare the public to react effectively (Clause 5) and a plan to understand and visualize an area (Clause 6) provide decision-makers with the information about an area that is at risk and enable them to decide whether to call an evacuation. A plan to make the decision to call an evacuation (Clause 7) aims to ensure that the decision-making process, objectives and participants are appropriate. A plan to alert the public of the need to react as advised (Clause 8) considers protocols for communication and community-based warning systems. Plans also consider the analysis of evacuee movement from an area that is at risk to an area of safety (Clause 9), for example, to understand transportation needs, demands and availability. Plans also aim to assess evacuee shelter requirements (Clause 10). For example, they can identify the demand for shelters and establish agreements to provide shelters. A plan for evaluating and continually improving evacuation plans (Clause 11) concludes this International Standard.

While this International Standard recognizes the importance of stabilizing the affected area after an evacuation, as well as the importance of protecting property and preserving the environment, these aspects are not its main focus.

© ISO 2013 – All rights reserved

Societal security — Mass evacuation — Guidelines for planning

1 Scope

This International Standard provides guidelines for planning for mass evacuation for each aspect of establishing, implementing, monitoring, evaluating, reviewing and improving preparedness. It is applicable to all types and sizes of organizations, such as local, regional, and national governments; statutory bodies; international and non-governmental organizations; businesses; and public and social groups.

This International Standard is intended for use by organizations with responsibility for, or involvement in, part or all of the planning for mass evacuation. It establishes a framework for each activity in mass evacuation planning for all-hazards. It aims to help organizations to develop plans that are evidence-based and that can be evaluated for effectiveness.

This International Standard covers planning for mass evacuation in order to gain a more effective response during the actual evacuation. It aims to support organizations to meet their obligation of saving human life and reducing suffering.

This International Standard does not cover activities to stabilize the affected area after an evacuation; protect property; and preserve the environment.

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
https://standards.iteh.ai/catalog/standards/sist/6f959745-876c-4e9e-a5f0-db207b96ba8/iso-22315-2014

2 Normative references

The following referenced documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

There are no normative references. This clause is inserted to preserve the ISO clause numbering.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
all-hazards
naturally occurring events, human induced events (both intentional and unintentional) and technology caused events with potential impact on an *organization* (2.2.9), community or society and the environment on which it depends

[SOURCE: ISO 22300]

3.2
command and control
activities of target oriented decision-making, situation assessment, planning, implementing decisions and controlling the effects of implementation on the *incident* (2.1.15)

NOTE These activities are continuously repeated.

[SOURCE: ISO 22320]

© ISO 2013 – All rights reserved

3.3
coordination
way in which different *organizations* (3.11) or parts of the same organization work or act together in order to achieve a common objective

[SOURCE: ISO 22320]

NOTE 1 Coordination integrates the individual response activities of involved parties (including e.g. public or private organizations and government) to achieve synergy to the extent that the incident response has a unified objective and coordinates activities through transparent information sharing regarding their respective incident response activities.

NOTE 2 All organizations are involved in the process to agree on a common incident response objective and accept to implement the strategies by this consensus decision-making process.

3.4
disaster
situation where widespread human, material, economic or environmental losses have occurred which exceeded the ability of the affected *organization* (**3.7**), community or society to respond and recover using its own resources

[SOURCE: ISO 22300]

3.5
event
occurrence or change of a particular set of circumstances

NOTE 1 An event can be one or more occurrences, and can have several causes.

NOTE 2 An event can consist of something not happening.

NOTE 3 An event can sometimes be referred to as an 'incident' or 'accident'.

NOTE 4 An event without consequences can also be referred to as a 'near miss', 'incident', 'near hit' or 'close call'.

[SOURCE: ISO 22300]

3.6
exercises
process to train for, assess, practice, and improve performance in an organization

NOTE 1 Exercises can be used for: validating policies, plans, procedures, training, equipment, and inter-organizational agreements; clarifying and training personnel in roles and responsibilities; improving inter-organizational coordination and communications; identifying gaps in resources; improving individual performance and identifying opportunities for improvement; and a controlled opportunity to practice improvisation.

NOTE 2 A test is a unique and particular type of exercise, which incorporates an expectation of a pass or fail element within the goal or objectives of the exercise being planned.

[SOURCE: ISO 22300]

3.7
geographical information system (GIS)
system designed to capture, store, manipulate, analyse, manage, and present all types of geographical data.

3.8
hazard
source of potential harm

NOTE A hazard can be a risk source.

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
https://standards.iteh.ai/catalog/standards/sist/6f959745-876c-4e9d-a5f0-1db20fb96ba8/iso-22315-2014

© ISO 2013 – All rights reserved

[SOURCE: ISO 22300]

3.9
incident management system
system that defines the roles and responsibilities of personnel and the operating procedures to be used in the management of incidents

3.10
organization
person or group of people that has its own functions with responsibilities, authorities and relationships to achieve its objectives

NOTE The concept of organization includes, but is not limited to sole-trader, company, corporation, firm, enterprise, authority, partnership, charity or institution, or part or combination thereof, whether incorporated or not, public or private.

[SOURCE : ISO 22300]

3.11
partnership
organized relationship between two bodies (public-public, private-public, private-private) which establishes the scope, roles, procedures and tools to prevent and manage any *incident* (2.1.15) impacting on *societal security* (2.1.1) with respect to related laws

[SOURCE: ISO 22300]

3.12
preparedness
knowledge and capacities developed to effectively anticipate, respond to and recover from the impact of likely imminent or current hazard events or conditions

3.13
process
set of interrelated or interacting activities which transforms inputs into outputs

[SOURCE : ISO/IEC Directives, Part 1 – Consolidated ISO Supplement – Procedures specific to ISO]

3.14
risk
effect of uncertainty on objectives

NOTE 1 An effect is a deviation from the expected: positive and/or negative.

NOTE 2 Objectives can have different aspects (such as financial, health and safety, and environmental goals) and can apply at different levels (such as strategic, organization-wide, project, product and process).

NOTE 3 Risk is often characterized by reference to potential events, and consequences, or a combination of these.

NOTE 4 Risk is often expressed in terms of a combination of the consequences of an event (including changes in circumstances) and the associated likelihood of occurrence.

NOTE 5 Uncertainty is the state, even partial, of deficiency of information related to, understanding or knowledge of, an event, its consequence, or likelihood.

[SOURCE: ISO 22300]

3.15
risk assessment
overall process of risk identification, risk analysis, and risk evaluation

[SOURCE: ISO 22300]

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
https://standards.iteh.ai/catalog/standards/sist/6f959745-876c-4e9d-a5f0-7db207b96ba8/iso-22315-2014

© ISO 2013 – All rights reserved

3.16
training
activities designed to facilitate the learning and development of knowledge, skills, and abilities, and to improve the performance of specific tasks or roles

[SOURCE: ISO 22300]

3.17
vulnerability
intrinsic properties of something resulting in susceptibility to a risk source that can lead to an event with a *consequence* (2.1.9)

[SOURCE: ISO 22300]

4 General aspects for mass evacuation planning

4.1 Introduction

There are many common tasks that should be considered when planning for different activities in mass evacuation. For example, there's a need to ensure that transparent decision-making processes are documented across all activities. Also, plans to train and exercise particular roles, responsibilities and responses that can help prepare organizations and their partners is important. Clause 4 details planning issues which are common across Clauses 5–11, and include:

Risk assessment (**4.2**);

Compliance with legislations and policies (**4.3**);

Information gathering and analysis (**4.4**);

Planning operational resource allocation (**4.5**)

Planning and documenting (**4.6**);

Effective multi-agency partnering arrangements (**4.7**);

Training and exercising (**4.8**); and

Evaluation and improvement (**4.9**).

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
https://standards.iteh.ai/catalog/standards/sist/6f959745-876c-4e9d-a5f0-7db207b96ba8/iso-22315-2014

4.2 Risk assessment

In the context of mass evacuation, organizations should have clear processes for risk management. This should involve conducting a risk assessment.

Risk assessments can be strategic (determining the risks associated with when to order an evacuation) or tactical (deciding to evacuate an area with a high proportion of vulnerable people thereby creating a higher risk of being unable to evacuate them in time). Risk assessments should be conducted for specific locations and the risks that are known from all-hazards. This enables risk assessments to be conducted for different evacuation scenarios.

Risk assessments can be conducted before, during and after an evacuation in order to understand how the situation changes over time in terms of the hazard, population, infrastructure and transportation. Risk assessments can influence resource management and the evacuation response. They should be updated during an incident as new data are received from different sources.

A risk assessment as specified in ISO 31000:2009 and also in ISO/IEC 31010:2009 should be conducted as part of the planning for mass evacuation.

 © ISO 2013 – All rights reserved

4.3 Compliance with legislation and policies

The plans, activities, decisions and models that are used to plan for mass evacuation should be informed by and conform to the legislations and policies operating at international, national, regional, and local levels.

Applicable legislation and policies should be consulted when developing plans to understand what can and cannot be done to protect the public. Consideration should be given to situations where people decide not to evacuate and the risks this poses to evacuation personnel. Consideration should also be given to the responsibilities of different organizations during a mass evacuation and the regulations that govern these organizations.

Documenting evidence that show attention to these matters could limit the organization's liability and the damage to its reputation.

Different levels of legislation, policies and guidance should be regularly monitored as part of the planning process. Any changes to these could affect the mass evacuation plan.

4.4 Information gathering and analysis

4.4.1 Assess the quality of information

The information available to support planning, operations and decision-making should include both the type of hazard and its potential long and short term consequences - as well as other information contained in this Standard - for example, the demographics of people in an affected area, the proportion of people who would take their own evacuation transport, and who would use evacuation shelters. The quality of the information should be assessed to determine its reliability and how much influence it's likely to have on evacuation decision-making.

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
https://standards.iteh.ai/catalog/standards/sist/a6b59145-876c-4c9d-a5f0-7db207b9c0a8/iso-22315-2014

The following criteria can be used to assess the quality of the information:

- how frequently the information is updated;
- the source of the information;
- methods used to gather information; and
- the level of aggregation of the information (i.e. how high level and detailed the information is).

There are potentially multiple sources of planning information, and consideration should be given to the value of each.

See ISO 22320 for more information on the reliability and credibility of sources of information.

4.4.2 Evidence-based analysis for planning

Information should be used to enable an evidence-based approach to mass evacuation planning.

This information can be existing research or new research can be done. Examples of existing research includes: academic research, pre-evacuation and post-evacuation surveys, practitioner reports, post-disaster reports, and post-exercise reports. Publications and websites from past projects, universities, professional and government organizations, and other practitioners can also be used.

New research can provide situational-specific information to support evidence-based plans and decisions.

To analyse this information, partnering organizations can use scenario simulations to understand what might happen when assumptions about a disaster change. As a minimum, this should be done for reasonable and worst-case scenarios. Direct access to simulation models should be available to update the assumptions and information and re-run scenarios.

© ISO 2013 – All rights reserved