
**Societal security — Mass evacuation
— Guidelines for planning**

*Sécurité sociétale — Évacuation de masse — Lignes directrices pour
la planification*

**iTeh STANDARD PREVIEW
(standards.iteh.ai)**

[ISO 22315:2014](https://standards.iteh.ai/catalog/standards/sist/6f959745-876c-4e9d-a5f0-7db207b96ba8/iso-22315-2014)

[https://standards.iteh.ai/catalog/standards/sist/6f959745-876c-4e9d-a5f0-
7db207b96ba8/iso-22315-2014](https://standards.iteh.ai/catalog/standards/sist/6f959745-876c-4e9d-a5f0-7db207b96ba8/iso-22315-2014)



iTeh STANDARD PREVIEW
(standards.iteh.ai)

ISO 22315:2014

<https://standards.iteh.ai/catalog/standards/sist/6f959745-876c-4e9d-a5f0-7db207b96ba8/iso-22315-2014>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2014

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from 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

Published in Switzerland

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	2
4.1 Introduction.....	2
4.2 Risk assessment.....	2
4.3 Compliance with legislation and policies.....	3
4.4 Information gathering and analysis.....	3
4.5 Planning operational resource allocation.....	4
4.6 Planning and documenting processes.....	4
4.7 Effective multi-agency partnering arrangements.....	4
4.8 Training and exercising.....	5
5 Prepare the public for mass evacuation	6
5.1 General.....	6
5.2 Identify how the public can prepare for mass evacuation.....	6
5.3 Use research findings when developing plans.....	7
5.4 Identify key characteristics of the population.....	7
5.5 Evaluate each identified social group.....	8
5.6 Introduce products, services, and activities which improve preparedness.....	8
5.7 Reduce barriers to preparing for mass evacuation.....	8
6 Visualize the areas that are at risk or affected	9
6.1 General.....	9
6.2 Map data about the area that is at risk or affected.....	9
6.3 Types of information to capture on maps.....	10
6.4 Ensure the compatibility of data to build maps.....	10
7 Make the evacuation decision	10
7.1 General.....	10
7.2 Develop an evacuation decision-making process.....	11
7.2.1 Evacuation activation points.....	11
7.3 Use evacuation objectives.....	11
7.4 Resolve conflicting evacuation objectives.....	12
7.5 Identify information needed to order an evacuation.....	13
7.6 Ensure that decision-makers have access to needed information.....	13
7.7 Identify factors that drive decisions for specific risks.....	13
7.8 Developing a system to track and log decisions made.....	13
8 Public warning	14
8.1 General.....	14
8.2 Systems to warn and inform the public.....	14
8.3 Promote a community-based warning system.....	14
8.4 Protocols for communication with various stakeholders.....	15
8.4.1 The public.....	15
8.4.2 Special facilities.....	16
8.5 Design and test a template for the warning message.....	16
8.6 Analyse the anticipated time to warn the public.....	17

9	Analyse evacuee movement	17
9.1	General.....	17
9.2	Understand potential population movement.....	17
9.3	Understand evacuees' transportation behaviour.....	18
9.4	Identify demand and availability of the transport network.....	18
9.5	Identify transport performance measures and targets.....	19
9.6	Analyse transport strategies and policies.....	19
9.7	Communicate transport information to the public.....	20
10	Assess evacuee shelter requirements	20
10.1	General.....	20
10.2	Estimate shelter demand.....	20
10.3	Identify suitable shelters.....	21
10.4	Establish shelter agreements.....	21
10.5	Analyse shelter availability during the incident.....	21
10.6	Manage evacuee registration and support services.....	22
10.7	Organize shelter supplies and mutual aid.....	22
10.8	Develop a safe return plan.....	22
11	Evaluate and continually improve	23
	Bibliography	24

iTeh STANDARD PREVIEW
(standards.iteh.ai)

ISO 22315:2014

<https://standards.iteh.ai/catalog/standards/sist/6f959745-876c-4e9d-a5f0-7db207b96ba8/iso-22315-2014>

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: [Foreword — Supplementary information](#).

The committee responsible for this document is ISO/TC 223, *Societal security*.

ISO 22315:2014

<https://standards.iteh.ai/catalog/standards/sist/6f959745-876c-4e9d-a5f0-7db207b96ba8/iso-22315-2014>

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 at risk. It is 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 such as the evacuation of a city, region or large populated area.

The need for evacuation can arise from naturally occurring events, human induced events (both intentional and unintentional) and events caused by technological failures. Some events require an immediate evacuation while others give advanced warning.

Effective planning is important to help save human life and reduce suffering. Planning helps to deliver an effective response and is part of emergency management. This International Standard 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 that also provide the structure to the eight clauses in this International Standard ([Clauses 4 to 11](#)), the order of which does not necessarily suggest a sequence.

Table 1 — Clauses 4-11 in this International Standard

General aspects for mass evacuation planning (Clause 4)						
Prepare the public for mass evacuation (Clause 5)	Visualize the areas that are at risk or affected (Clause 6)	Make the evacuation decision (Clause 7)	Public warning (Clause 8)	Analyse evacuee movement (Clause 9)	Assess evacuee shelter requirements (Clause 10)	Evaluate and continually improve (Clause 11)

[Table 1](#) illustrates that there are some general aspects for mass evacuation planning ([Clause 4](#)) (for example, risk assessment and exercising) and these support the provisions contained in [Clauses 5 to 11](#). A plan to prepare the public to react effectively ([Clause 5](#)) and a plan to understand and visualize an area at risk and/or an affected area ([Clause 6](#)) provide decision-makers with information to enable them to decide whether to call for an evacuation. A plan to make the decision to call for an evacuation ([Clause 7](#)) aims to ensure that the decision-making process, objectives and participants are appropriate. A plan to warn 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 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.

Societal security — Mass evacuation — Guidelines for planning

1 Scope

This International Standard provides guidelines for mass evacuation planning in terms of establishing, implementing, monitoring, evaluating, reviewing and improving preparedness. It establishes a framework for each activity in mass evacuation planning for all identified hazards. It will help organizations to develop plans that are evidence-based and that can be evaluated for their effectiveness.

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 is applicable to all types and sizes of organizations that are involved in the planning for mass evacuation, such as local, regional, and national governments; statutory bodies; international and non-governmental organizations; businesses; and public and social groups.

This International Standard covers planning for mass evacuation in order to gain a more effective response during the actual evacuation. It will assist 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.

2 Normative references

The following 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.

ISO 22300, *Societal security — Terminology*

ISO 22320, *Societal security — Emergency management — Requirements for incident response*

ISO 22322, *Societal Security — Emergency management — Public warning*

ISO 22398, *Societal security — Guidelines for exercises*

ISO 31000, *Risk management — Principles and guidelines*

ISO/IEC 31010, *Risk management — Risk assessment techniques*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 22300 and the following apply:

3.1

incident management system

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

3.2

preparedness

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

**3.3
community-based warning system**

method to communicate information to the public through established networks

**3.4
area at risk**

location that could be affected by a disaster

Note 1 to entry: The term is more relevant to preventative evacuations

**3.5
affected area**

location that has been impacted by a disaster

Note 1 to entry: The term is more relevant to immediate evacuations

4 General aspects for mass evacuation planning

4.1 Introduction

The organization should develop, implement and document transparent decision-making processes, some of which are common across all activities for mass evacuation planning. [Clause 4](#) details planning issues which are common across [Clauses 5](#) to [11](#), including:

- 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 processes ([4.6](#));
- effective multi-agency partnering arrangements ([4.7](#));
- training and exercising ([4.8](#)).

4.2 Risk assessment

The organization should develop processes for risk management which includes performing a risk assessment in accordance with ISO 31000 and ISO/IEC 31010. The risk assessments should 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);
- conducted for specific locations (including the shelter area);
- conducted for known risks and their different evacuation scenarios;
- conducted before, during and after an evacuation to understand how the situation changes over time in terms of the hazard, population, infrastructure and transportation;
- used to influence resource management and the evacuation response;
- updated during an incident as new data are received from different sources.

4.3 Compliance with legislation and policies

The organization should be aware of all applicable legislation and relevant policies and develop plans for mass evacuation that are consistent with their requirements.

The organization should use applicable legislation and policies operating at international, national, regional and local levels. These should:

- be used to plan for mass evacuation and inform the plans, activities, decisions and models developed;
- be consulted to understand what can and cannot be done to protect the public;
- consider situations where people decide not to evacuate and to determine the risks;
- consider the responsibilities of different organizations during a mass evacuation and the regulations that govern these organizations;
- be used to document and demonstrate how to limit the organization's liability and the damage to its reputation;
- be monitored regularly as part of the planning process to identify changes that could affect the mass evacuation plan.

4.4 Information gathering and analysis

The organization should gather information from multiple sources of planning information and consider the value of each aspect. The information gathered should include the following:

- the demographics of people in an area at risk;
- the proportion of people who would take their own evacuation transport;
- the people who would use evacuation shelters.

The organization should assess the quality of information gathered, determine its reliability and potential long and short-term consequences, and its influence on the evacuation decision, using the following criteria:

- the frequency with which the information is updated;
- the source of the information;
- the methods used to gather the information;
- the level of detail available in the information.

The organization should assess the reliability and credibility of information in accordance with the procedure in ISO 22320.

The organization should use existing or new research information to enable an evidence-based approach to mass evacuation planning. Sources of existing research can include the following:

- academic research;
- pre-evacuation and post-evacuation surveys;
- practitioner reports;
- post-disaster reports;
- post-exercise reports;

- publications and websites from past projects, research and professional and government organizations.

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

The organization and partnering organizations should use reasonable and worst-case scenario simulations to analyse information to understand what might happen when assumptions about a disaster change.

The organization should permit direct access to simulation models in order to update the assumptions and information and re-run scenarios.

4.5 Planning operational resource allocation

The organization should consider during the preparation phase what constitutes an appropriate response and what human and technical resources should be available both in the evacuation area and the areas that could receive evacuees.

The organization should identify the resources required to assist the evacuation. For example:

- personnel and their capabilities;
- logistics and equipment capabilities;
- transportation;
- shelter provision.

iTeh STANDARD PREVIEW

(standards.iteh.ai)

The organization should conduct a rapid needs assessment and prioritization in the response phase to determine what resources are required to adequately support a mass evacuation.

ISO 22315:2014

4.6 Planning and documenting processes

<https://www.iso.org/standards/sist/6959745-876c-4e9d-a5f0-7db207b96ba8/iso-22315-2014>

The organization should establish a formal process to set operational targets and measure their achievement in response to an evacuation order.

The process should be included in the formal plans and integrated with contingency plans. Formal plans should include the following:

- a documented strategy to disseminate a warning message;
- ways to prepare organizations that manage evacuations and prepare the public;
- planning processes and procedures integrated into the organization's management system so that plans are regularly reviewed and updated.

Organizations and partnering organizations should become familiar with each other's plans, identify any conflicts, understand how the plans relate and interact and provide for an integrated response.

4.7 Effective multi-agency partnering arrangements

The organization should identify other organizations and groups to participate in a multi-agency partnership. The multi-agency partnership should specify the delegation of authority to improve the breadth, depth and efficiency of the planning process and reduce barriers to collaboration when a multi-agency response is required. Engagement can take the form of consultation, participation and support.

Partnering organizations can include the following:

- fire, police and paramedic services as well as other emergency response departments;
- military services;

- critical infrastructure facilities (in the area at risk and the surrounding regions);
- environmental and local government officials;
- domain experts, such as nuclear experts and seismologists;
- non-governmental organizations;
- local media and communications;
- representatives of the population (see [Table 2](#)).

Effective multi-agency partnering arrangements should include the following:

- designation of a lead organization allowing the partners to speak with a consistent voice;
- an incident management system;
- terms of reference, roles and responsibilities, a planning process and a mechanism for resolving conflicts among the partnering organizations;
- coordination of mass evacuation planning;
- options for mutual aid;
- regular multi-agency meetings to discuss plans and share good practice;
- periodic review of the partnership and plans to confirm the effectiveness of the partnership and to identify additional planning needs and new partners.

Each organization in the multi-agency partnership should have the ability to independently analyse received data to address their specific questions.

The organization should establish partnering arrangements in accordance with the procedure in ISO 22397.

4.8 Training and exercising

The organization should make training and exercising an integral component of the planning process.

Training and exercises should include opportunities to:

- practice communication procedures;
- measure operational capabilities;
- test equipment such as decontamination systems;
- train new staff;
- coordinate with non-governmental and humanitarian organizations;
- communicate with citizen representatives.

All levels of staff should be trained to achieve:

- a basic understanding of each stage of the mass evacuation planning process;
- specialist skills needed for their roles. For example, providing psycho-social support;
- knowledge for responding to different types of incidents.

Exercises can be used to train staff to respond to a variety of scenarios and test aspects of preparedness, including the following:

- communication with the public and key businesses;

- the efficiency of multi-agency coordination;
- telecommunications systems for warning dissemination;
- transportation of evacuees;
- support for vulnerable persons in an area;
- evacuation signs and evacuation routes;
- shelter identification and operation to permit suppliers to source and deliver necessary resources to the shelters.

Organizations should employ a multi-agency approach to training and exercising the public to provide a single consistent message across different response agencies.

The organization should conduct exercises in accordance with the procedure in ISO 22398.

5 Prepare the public for mass evacuation

5.1 General

The organization should develop a plan to inform the public on how to prepare and respond in the event of a mass evacuation. This clause describes how to:

- identify how the public can prepare for mass evacuation (5.2);
- use research findings when developing plans (5.3);
- identify key characteristics of the population (5.4);
- evaluate each identified social group (5.5);
- introduce products, services and activities which improve preparedness (5.6);
- reduce barriers to preparing for mass evacuation (5.7).

5.2 Identify how the public can prepare for mass evacuation

The organization should identify, document and communicate the expectations and responsibilities that the public have to prepare themselves for during a mass evacuation. It should also consider what knowledge the public should have and the behaviours they should be expected to exhibit.

The organization should establish measurable objectives that outline the desired changes in behaviour, knowledge and preparation for those at risk and use these objectives to assess the impact of planning and identify when they have been optimized.

When setting measurable objectives, consideration should be given to the following:

- desired behaviour or knowledge regarding preparations (e.g. collecting personal emergency supplies and knowing where to evacuate to);
- desired change in behaviours and knowledge based on established targets;
- specific time period in which the change should occur;
- review of new research findings to ensure that the objectives are realistic.