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# Preparing for Major Incidents in Sparsely Populated Areas



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Innovatively investing  
in Europe's Northern  
Periphery for a sustainable  
and prosperous future



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# Preparing for Major Incidents in Sparsely Populated Areas

## Foreword

This booklet is part of the "Co-operation for Safety in Sparsely Populated Areas" (CoSafe) project which is partly financed by the European Union's Northern Periphery programme. Through the project, experts from the Northern Periphery Programme region produce information and increase awareness of new products, services and procedures related to cold climate conditions.

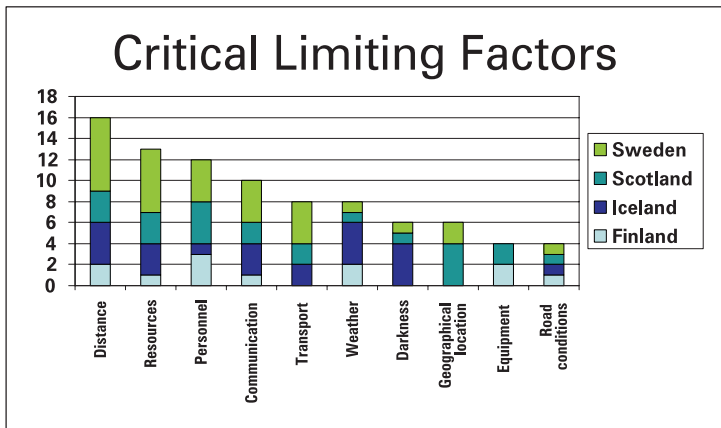
This guidebook is aimed at people who are responsible for incident training and exercises in different authority organizations. Its aim is to increase preparedness for major incidents in Northern periphery areas.

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# Rescue Operations in Sparsely Populated Areas - What is different?

Major accidents in sparsely populated areas in northern Europe do not occur very often. However, as everywhere else, traffic incidents such as bus crashes and flight accidents, as well as fire, flooding, avalanches, and ski lift accidents do sometimes happen. Nobody knows when. However, the low number of these accidents means that we have little experience in managing major disasters in sparsely populated areas, and there is a need for good, realistic training. Therefore we must learn as much as possible from others living in areas with the same conditions in other countries.

Solutions that work in urban areas do not always work in rural areas. When planning rescue operations and training, we must take into consideration the special circumstances: the low number of inhabitants, long distances, cold climate and restricted equipment; we must be careful not to make our solutions too optimistic. Especially in the wintertime, the cold and darkness present special challenges. This is not only a problem for the casualties, but also for the rescue and health care providers.



The CoSafe project questions were answered by a large number of people who manage major accidents in sparsely populated areas in Scotland, Iceland, Finland and Sweden. These were from rescue services, pre-hospital services, the police force, etc. Of the answers to the question "What are the most limiting factors in managing traffic, flight or

ship accidents?, distance, transport, resources, equipment, personnel, communication and weather were the most common.

There are some differences between the countries taking part in the above project. The climate is not the same, the capacity for transport varies, competence and training differ, as well as the equipment, military and voluntary support, and organisation and leadership.

However, the fundamental conditions are the same and all of us realise that the special circumstances in rural sparsely populated areas cannot be avoided and have to be taken into consideration when planning and training the management of major accidents and disasters.

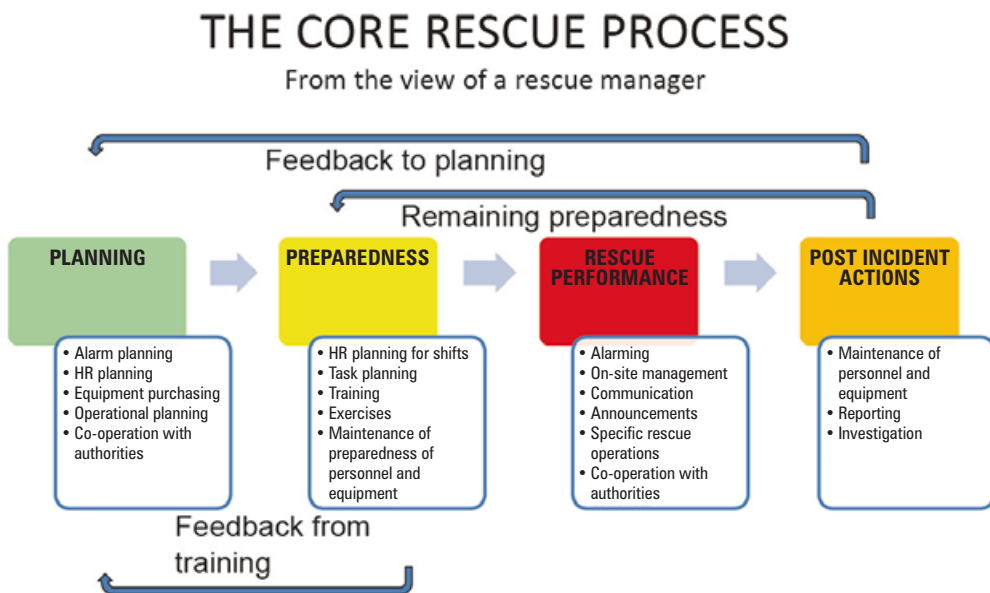
## General results of the CoSafe project

- One single solution does not exist. There are a number of gaps that should be filled with good ideas in order to be better prepared. A number of services and products have been developed and are presented in the CoSafe Catalogue. Available at [www.cosafe.eu](http://www.cosafe.eu)
- Everyone who takes part in the managing of a major accident has to be trained, highly aware of the special conditions, and suitably equipped for work in these areas.
- There is a need for co-operation between countries with sparsely populated areas, in order to share experiences, develop suitable equipment, find usable transportation solutions, and to secure communication systems that function in the middle of nowhere.

## Rescue Operation Process - It's not only fire fighting!

A rescue process must be seen as a chain with four important parts:

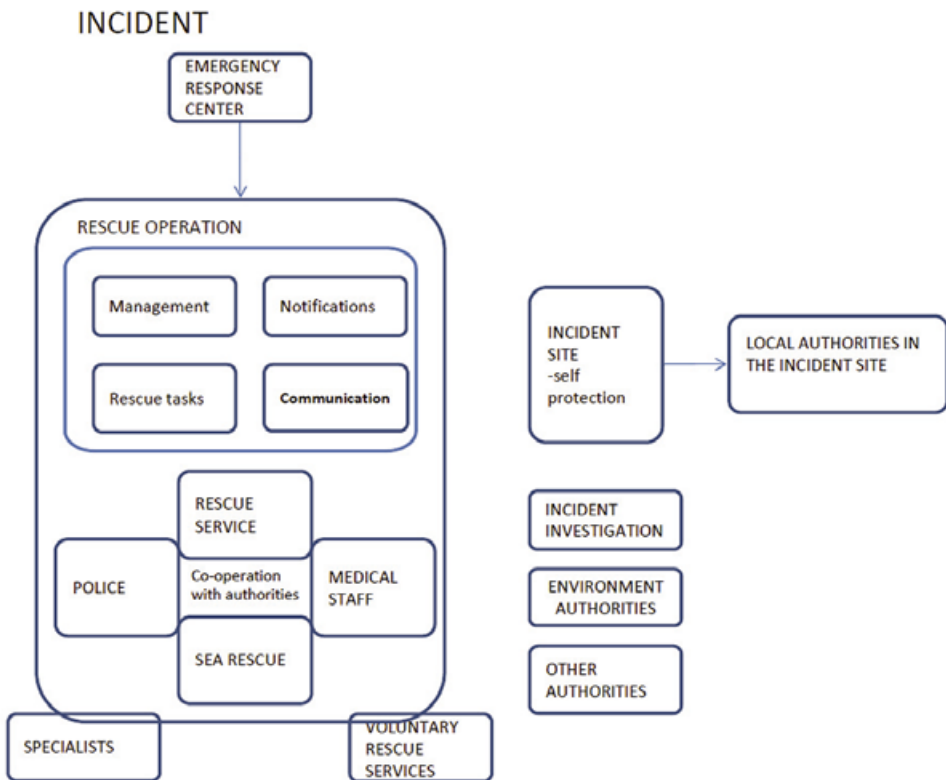
1. Planning,
2. Preparedness,
3. Rescue operations and
4. Post incident actions



The figure describes the principle ideas and connections between planning, preparedness, rescue operations and post incident actions, in chronological order. Feedback from all the rescue operations must be taken into account when planning. When training preparedness, post incident actions must also be considered.

Operations in major incident sites always involve co-operation with authorities. The first contact with authorities is usually the emergency exchange services. In Finland, the rescue services are responsible for managing the incident if it happens on land and sea rescue if it happens in water.

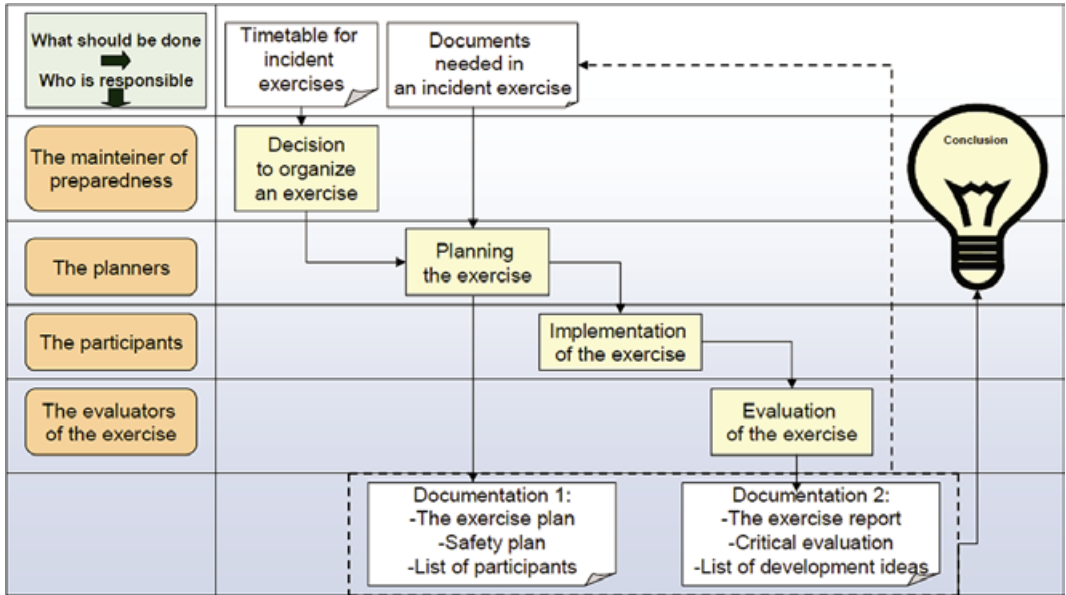
The emergency exchange services and the first authorities at the incident site play an important role in identifying whether or not the incident is major. Medical staff and police are also usually involved in major incident sites. Specialists and voluntary rescue services offer valuable help when needed. The rescue operation includes not only rescue tasks but also management, notifications to local, national and international media, and communication between the operating authorities. Local authorities at the incident site are responsible for their own safety. Environmental and other authorities participate in incident investigation.



# Major Incident Exercise Process - How should we train?

At first, it is important to prioritise the different areas of training. For efficient and focused training, emphasis should be on one part of the core rescue process at a time.

After this a more detailed plan can be made for major incident training. The aims of the training must be clear: what do we want to practise at specific times?



Time is needed to build a well-planned major incident exercise. If the exercise is to be operated at a local level, the schedule for the exercise must be set up at least two years before the exercise takes place.

For instance, if you are planning an exercise for the year 2015, you must already decide on it in 2013. In 2014 you might prepare the plan and establish the budget for the following year.

Scheduling for a national major incident exercise must be completed about five years beforehand. Planning should start even earlier if you are planning a large international major incident exercise. Local and national plans must be fitted into international plans. An annual plan helps planners keep to schedule.

When planning an exercise it is important to perceive whether the main purpose of the exercise is education or evaluation of preparedness. If evaluation of preparedness is the main purpose, you must evaluate the competence of the rescue staff as well as the fluency of the processes.

# Major Disaster Exercise Guidance - How to plan a good exercise?

The purpose of the Guidance is to provide a practical tool to assist in the planning, delivery and evaluation of exercises. The Scottish Guidance is a good example: it incorporates a set of practical templates that can be used in the design, development, delivery, and evaluation of exercises across the diverse area of civil contingencies; from multi-agency statutory exercises to individual agency internal exercises.

The Guidance is not designed to be a statutory process, merely an aid to ensure that all factors involved in the exercise process are included. Depending on the complexity of the exercise, the various steps contained within the Guidance may be lengthened or shortened to suit the specific requirement. Templates may also be adjusted to accommodate individual agency or Multi Agency Group protocols.

## **Additional benefits:**

- People who are not normally involved in exercises will be able to follow an agreed sequential process while using the 'checklist' for reference.
- A consistent approach to the exercises should help to ensure that all those involved have a shared understanding of what is expected.
- It is anticipated that the guidance will produce a consistent level of quality by following an agreed process of best practice.

The user may choose to work through the entire document step-by-step, reading the Guidance notes in detail and using each template, or conversely; the more experienced exercise planner may wish to make use of particular templates separately.

# Evaluation of the Major Incident Exercise - Did we do well enough?

Feedback on the exercise must be seen as an important part of the development of the above-mentioned rescue operations. Constructive criticism is valuable material for creating more efficient processes, plans and guidelines.

The CoSafe checklist provides a structure for evaluating a major incident exercise and its results. It contains success factors for profitable co-operation between authorities. Co-operative parties, such as rescue services, coast guards, border guards, emergency exchange services, police, and emergency response can use the checklist to improve both common and individual actions in the exercise.

This checklist was developed especially for managing disasters in cold and sparsely populated areas. It is based on the Finnish risk assessment tool for rescue services, called PelastusArvi. The checklist was produced by experts from the Finnish Institute of Occupational Health, the Oulu-Koillismaa rescue services, and other Finnish professionals including the Emergency Services College. It was tested and assessed in a SAR exercise in Taivalkoski. Iceland carried out an international assessment of the checklist in November 2010.

# CoSafe Checklist

Date: \_\_\_\_\_

Exercise/Operation: \_\_\_\_\_

Name: \_\_\_\_\_

Organisation: \_\_\_\_\_

Role in the exercise: \_\_\_\_\_

Please provide details of 3 positive aspects

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

Please provide details of 2 negative aspects

1. \_\_\_\_\_
2. \_\_\_\_\_

1) Alarm response and on-site management		OK	Improvement needed
Are the preparedness plans for major accidents adequate and up-to-date?			
Is there an adequate preparedness plan for this kind of accident?			
Can adequate alarm responses be mobilised at every time of the day?			
Is the storage of the equipment required for major accidents organised?			
Did the first rescue unit at the accident scene recognise that it was a major accident?			
Were the common operational picture adequate among the actors?			
Were special resources used in the best way at the accident successfully?			
Had the preparedness for daily tasks remain while the major accident occurred?			
Did the actions required in major accidents been practiced sufficiently?			
2) Communication		OK	Improvement needed
Were enough applicable communication devices used?			
Is the use of communication devices in order?			
Is the use of communication equipment part of basic training?			
Are the responsibilities of the external communication organised?			
Did international communication among the actors work on site?			
Was communication among rescue workers and casualties successful?			
3) Emergency traffic and on-site logistics		OK	Improvement needed
Have the drivers had continuous emergency vehicle driving training?			
Is there driving training for other vehicles in use (ATV, snowmobile) on arrival at the accident scene?			
Was the protection of own actions and possible expanding of the accident site planned?			
Was the material required by the situation planned within different authorities?			
Was the logistics of the material required by the situation trained?			
4) Post incident actions		OK	Improvement needed
Is psychological support available to personnel?			
Are there plans for storing special materials sufficient?			
Do the authorities involved in co-operation have feedback meetings?			
5) Competency and work ability		OK	Improvement needed
Are the work ability and health inspections of the rescue workers organized on a regular basis?			
Is the personnel aware of the safety risks involved?			
Are there any standard operating procedures for different rescue units for this kind of accident?			
Is the competence and availability of the volunteer workers identified?			
6) Casualty safety during accident		OK	Improvement needed
Was casualty triage efficient and accurate?			
Were casualties properly protected from environmental hazards (rain, cold)?			
Was the transfer and placing of the casualty at the accident scene done properly?			
Were casualties properly protected from environmental hazards (rain, cold)?			
Was the preparation of casualties for moving to a hospital successful?			

The CoSafe checklist should be printed on A4 paper. The checklist should be on one side and the other side has space for markings, development ideas and successful examples. This checklist provides a structure for assessing actions, results and safety in disaster exercises. With the help of the CoSafe checklist it is easier to come to a conclusion regarding the exercise.

# Improving material preparedness for major incidents - How do we acquire the resources we need?

Various resources are needed during major accidents and disasters. Those managing the incident are responsible for making an inventory of these needs and for making sure the resources are available at the accident site. The resources needed might include equipment, personnel or vehicles. Previous disasters have shown that a lack of critical resources is not uncommon. It is important to plan preparedness and to have widespread knowledge of how resources are acquired. Since they are often under different organizations' fields of responsibility, it may be difficult to know where and how to acquire them.

The CoSafe project has tried to address this issue of material preparedness by developing a web-based tool which can be used to help plan preparedness. The application can also be used during a major incident to help locate equipment and other resources. It is called GUIDE and utilizes Google Map®, which means it can be implemented in any country in the world.



End-users may include contingency planners, rescue service officers, the management at the accident site, strategic command, and dispatch centres.

GUIDE was developed together with the department of computer sciences at Umeå University, Sweden. A prototype was presented to health care contingency planners and heads of rescue services in the Västerbotten County, Sweden during two workshops in 2010. An analysis of needs, difficulties and opportunities was carried out, with the consensus that GUIDE had great potential value for both planning and emergency cases. The workshops added new areas of application and influenced the development of the final product.

## Functions

GUIDE has two main functions: planning and emergency:



GUIDE planning function.  
Distribution of medical tents in Västerbotten County (2009), Sweden.



GUIDE emergency function.  
Easy, rapid access to resources, in this case during a simulated bus crash in Tärnaby, Sweden.

## Planning function

The planning function makes it possible to view inventories, or the distribution, concentration or coverage of any resource. These functions make it possible to optimize the number and location of different resources, and to identify gaps in preparedness.

## Emergency function

The emergency function facilitates easy, rapid access of resources during a major incident:

1. Enter the accident location – with an address, GPS co-ordinate, or mark the map.
2. Choose a search radius for the resources.
3. Choose the resources that are needed – can be done by entering a type incident (e.g. bus crash) or by choosing resources manually. A search result will appear with the requested resources.

The GUIDE system facilitates contingency planning and makes it possible to optimize the number and location of resources. It can help discover gaps in preparedness and provides easy, rapid access to the resources needed during a major incident.

This booklet provides useful information regarding preparedness for major incidents in the Northern periphery area, as well as practical guidance for those who are responsible for incident exercise planning.

The information is particularly valuable for fire fighters, volunteers, border guards, nurses, mountain rescuers, and police.



*The cooperation for safety in sparsely populated areas*  
[www.cosafe.eu](http://www.cosafe.eu)