



Emergency Planning and Management

Norwegian Tunnel Safety Conference 2018
Stavanger – 18 June

Emergency Planning and Management



Them and us



Emergency and Rescue Services

Tunnel Operating Authority



Them and us



“

WE ARE PROFESSIONALS

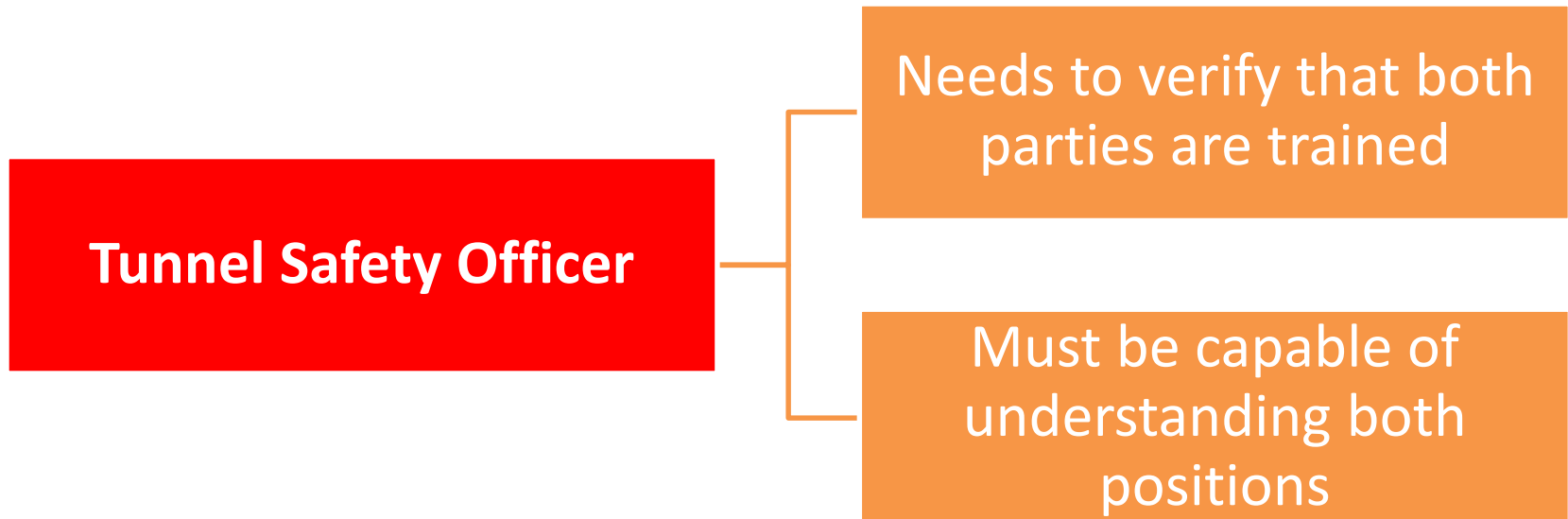
WE KNOW WHAT WE NEED TO DO

THEY DON'T UNDERSTAND US

Tunnel Safety Officer – EU Directive

2. The Safety Officer shall perform the following tasks/functions:
 - (a) ensure coordination with emergency services and take part in the preparation of operational schemes;
 - (b) take part in the planning, implementation and evaluation of emergency operations;
 - (d) verify that operational staff and emergency services are trained, and he/she shall take part in the organisation of exercises held at regular intervals;

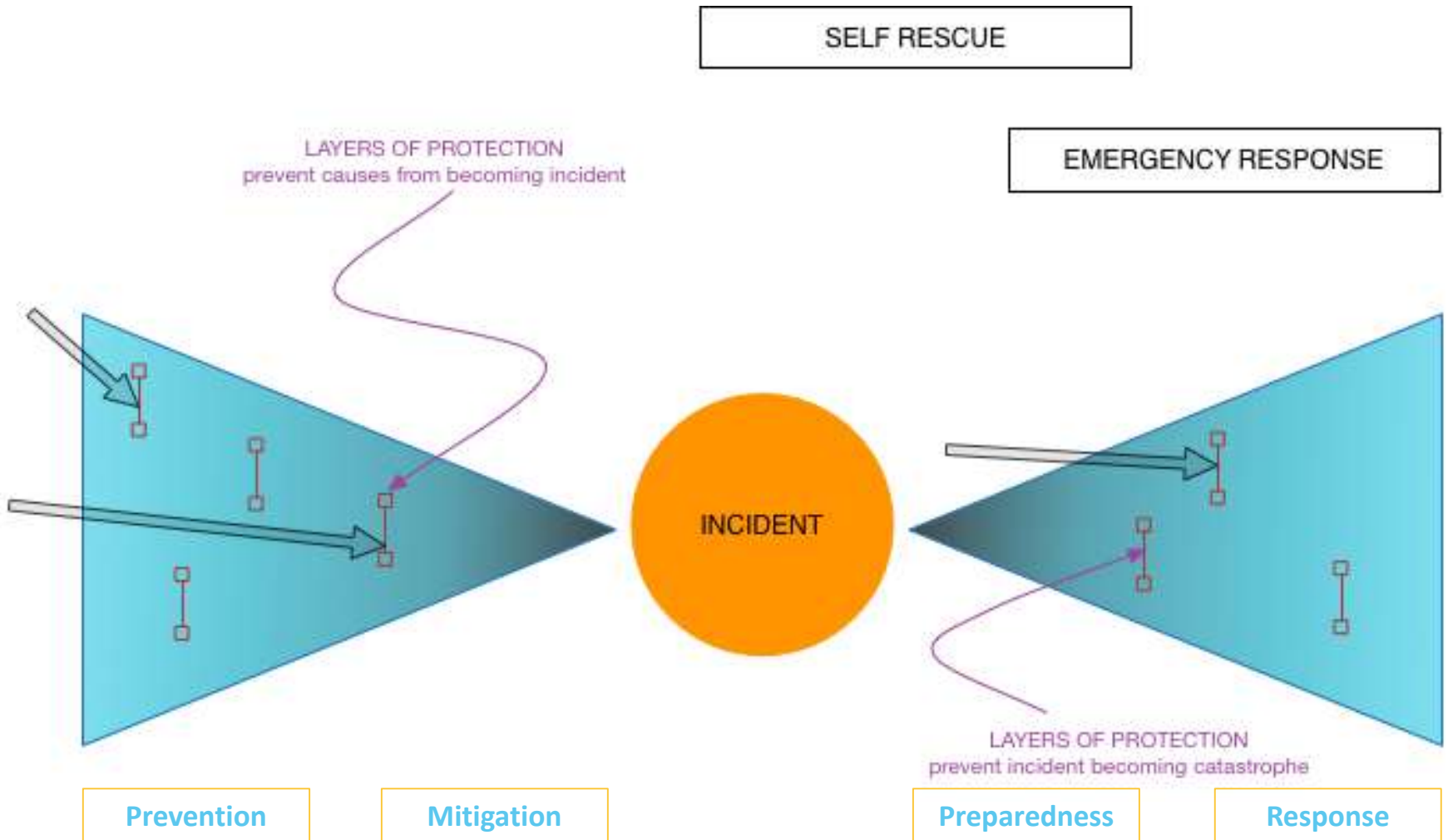
We need to understand each other



Emergency Planning



Road Tunnel Safety concept



Emergency Management



Emergency Management

**Understand
responsibilities**

**Define Emergency
Response Plan**

**Align ERP with
Emergency & Rescue
Services**

Manage interfaces

**Between Emergency &
Rescue Services and
the Tunnel Operating
Authority**

**Between all emergency
response stakeholders**

- Multi-agency Response Coordination
- Incident Command System

Emergency Planning

First response

- Tunnel Operator
- Tunnel Patrol Officer



Additional response

- Recovery Service
- Police Service
- Ambulance Service
- Fire Service



Police Service

Roles and responsibilities

- Secure the incident scene
- Maintain public order (crowd control/traffic control)
- Assist other emergency services
- Investigate the incident, i.e. incident scene become crime scene



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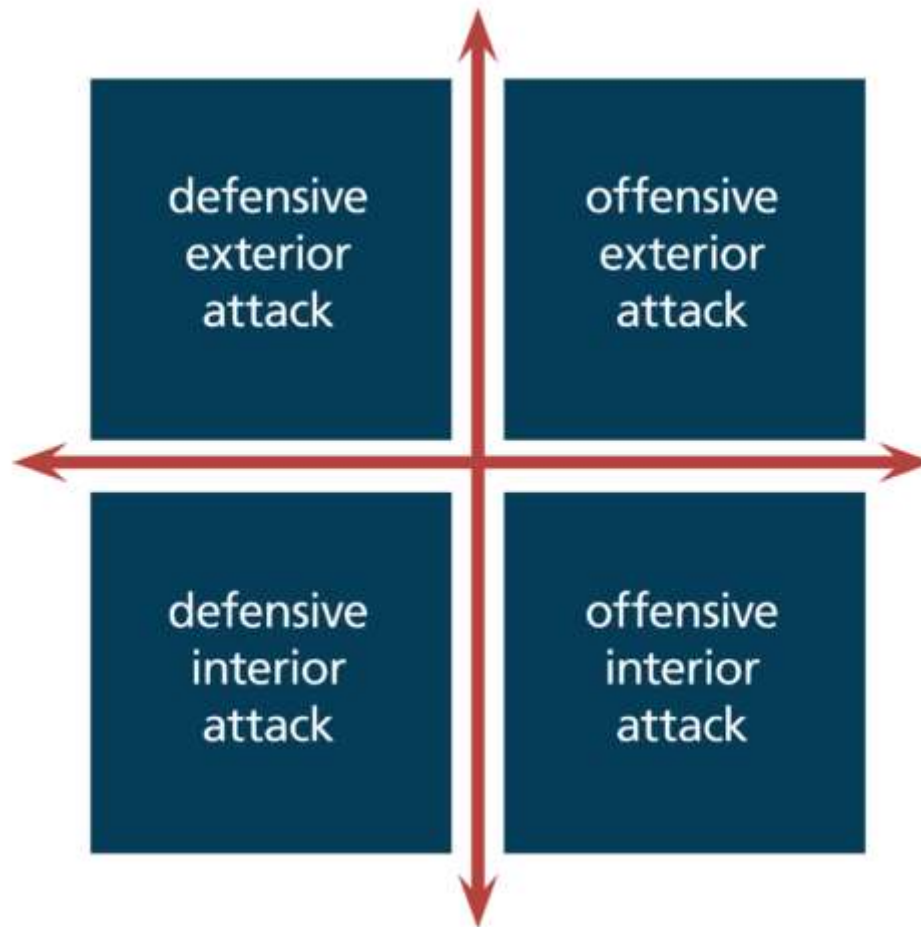
Fire Service

Roles and Responsibilities

- Rescue (trapped) victims
- Suppress and extinguish fire
- Contain hazmat incidents
- Provide technical assistance to other services



Fire Service Doctrine



Fire Service Capabilities

Personal
Protection
Equipment

Breathing
Apparatus



Ambulance Service

Roles and Responsibilities

- Provide basic life safety care
- Provide advanced life safety care
- Provide trauma care



Ambulance Service Strategy

Play and Stay

- Stabilise victim
- Perform medical intervention
- Transport to hospital

Scoop and Run

- Transport to hospital
- Suspected internal bleeding

Ambulance Service Capabilities

Major Medical Incident

- Triage (prioritise)
- Treatment capacity
- Transport capacity



Emergency Response Plan – EU directive

3.2. Emergency planning

Emergency response plans shall be available for all tunnels. In tunnels starting and finishing in different Member States, a single bi-national emergency response plan shall involve the two countries.

- an emergency response plan drawn up jointly with the emergency services which also takes into account people with reduced mobility and disabled people,

Emergency Response Plan – NFPA 502

13.3* Emergency Response Plan. An emergency response plan shall be submitted for acceptance and approval by the authority having jurisdiction and shall include, as a minimum, the following:

- (1) Name of plan and the specific facility(ies) the plan covers
- (2) Name of responsible agency
- (3) Names of responsible individuals
- (4) Dates adopted, reviewed, and revised
- (5) Policy, purpose, scope, and definitions
- (6) Participating agencies, senior officials, and signatures of executives authorized to sign for each agency
- (7) Safety during emergency operations
- (8) Purpose and operation of operations control center (OCC) and alternative location(s) as applicable:
 - (a) Procedure for staffing the backup location(s) shall be specified.
 - (b) Procedure to control risk while the OCC does not have staff until the backup facility can take over.
- (9) Purpose and operation of command post and auxiliary command post
- (10) Communications (e.g., radio, telephone, and messenger service) available at central supervising station and command post; efficient operation of these facilities
- (11) Fire detection, fire protection, and fire-extinguishing equipment; access/egress and ventilation facilities available; details of the type, amount, location, and method of ventilation
- (12) Procedures for fire emergencies, including a list of the various types of fire emergencies, the agency in command, and the procedures to follow
- (13) Maps and plans of the roadway system, including all local streets
- (14) Any additional information that the participating agencies want to include
- (15) Emergency response plan that recognizes the need to assist people who are unable to self-rescue, and establish specific response procedures
- (16) Emergency operational procedures developed based on the design
- (17) Emergency response plan that includes traffic control procedures to regulate traffic during an emergency that can affect operation of the facility

13.3.1 The emergency response plan shall clearly identify the authority or participating agency that is in command and responsible for supervision, correction, or alleviation of the emergency.

13.3.2 The emergency response plan shall include emergency response procedures, precautions, and training requirements for incidents involving alternative fuel vehicles. (See Annex G.)

Emergency Response Plan – NL practice

PART 1 – EMERGENCY RESPONSE (EMS)

EMS 1 – INTRODUCTION

EMS 1.0 General

Area of responsibility

Target audience

Instruction cards

Sequence of events

Review and amendment of this document

Relationship with education, training and exercises

EMS 2 – EMERGENCY SCENARIOS

EMS 2.0 General

Introduction

Emergency scenarios

Emergency Response Plan – NL practice

PART 2 – EMERGENCY PROCEDURES (EMP)

EMP 1 – ROLE AND RESPONSIBILITIES

EMP 1.0 General

EMP 2 – PROCEDURES TUNNEL OPERATING AUTHORITY

EMP 2.1 Generic response levels and measures

EMP 2.2 Instruction cards

EMP 2.3 Instructions tunnel operator and control room supervisor

Determining the nature of the event

Determining the emergency response strategy

Taking initial response measures

Alerting and informing

Taking additional response measures

Restoring normal tunnel operation

Logging and registration of event

EMP 2.4 Instructions tunnel patrol officer and tunnel duty officer

Taking additional response measures

Restoring normal tunnel operation

Logging and registration of event

Emergency Response Plan – NL practice

PART 3 – EMERGENCY & RESCUE SERVICES (ERS)

ERS 1 – TUNNEL EMERGENCY RESPONSE TEAM

ERS 1.1 Introduction

Task and objectives

Location

Equipment

Operational hours

Operational limitations

ERS 1.2 Roles and responsibilities

ERS 1.3 Response procedures

Alerting the TERT

Deployment to the tunnel

Reconnaissance

Operational command

Evacuation of road users

Recovery phase

ERS 2 – FIRE & RESCUE SERVICES

ERS 2.0 Response procedure

Emergency call

Alerting response unit

Deployment to the tunnel

Reconnaissance

Access by emergency and rescue services

Operational command

Evacuation of road users

Recovery phase

Emergency Response Plan – NL practice

PART 4 – ANNEXES (ANN)

ANN 1 – ABBREVIATIONS

List of used abbreviations

ANN 2 – MAPS

Area of responsibility

Emergency locations

Tunnel emergency facilities and equipment

ANN 3 – PUBLIC ADDRESS ANNOUNCEMENTS

Pre-recorded messages overview

ANN 4 – BOMB THREATS

Bomb threat information registration form

ANN 5 – PROCEDURAL PLANS EMERGENCY & RESCUE SERVICES

Tunnel Emergency Response Team

Fire & rescue service

ANN 6 – INSTRUCTION CARDS

Instruction cards tunnel operator

Instruction cards tunnel patrol officer and tunnel duty officer

Emergency Management

Single service incident response

- One or more services attend incident but act independently in accordance with their own internal procedures

Multi-agency incident response

- Two or more services attend incident in an coordinated manner in accordance with the multi-agency coordination procedures

Emergency Management

Incident Command System

In NL: Coordinated Regional Incident response Procedure

For Road Tunnel: **Incident response plan road tunnels**

The Incident response plan details the way the services and third parties, i.e. the Tunnel Operating Authority coordinate their response; they remain fully responsible for their own response activities within the coordinated framework

Emergency Planning

Level 1: GRIP 1

- Coordination at the incident scene
- Incident Scene Command
- Objective: deal with the incident



Level 2: GRIP 2

- Coordination of the affected area
- Regional Operational Team
- Objective: deal with the effects of the incident



In conclusion

- We need each other to plan and manage emergencies
- For this we need to
 - Understand each others work
 - Work coordinated during major incidents
 - Develop a common understanding
- Emergency planning consists of
 - Developing the Emergency Response Plan
 - Aligning the plan with the Emergency & Rescue Services
 - Internalising the plan through training & exercises
- The Tunnel Operating Authority is a professional partner within the scope of emergency response and management

Safety doesn't happen by accident

