Lecture fof 2gr students

Public safety arrangements in peacetime

Items

1. Main principles, means and arrangements
2. Characteristic of protective constructions
3. Population evacuation
4. Emergency - broadcast system

1. Main principles, means and arrangements of population safety at peacetime

- 1. Principle of universality. The same technologies are used in peacetime and in time of war
- 2. Principle of differential action. This principle takes into account features of different regions, cities or countryside.
- 3. Principle of beforehand action. Arrangements and engineering measures with the aim to prevent the harmful impact of damage factors.
- 4. Principle of integrated approach – effective application of security facilities and means from damage factors.

Population protection management:

- 1) Warning system
- 2) The reserves of protective shelters
- 3) Initiation and conduct of evacuation efforts
- 4) Maintenance with personal protective equipment
- 5) Security standards education
- 6) System of foodstuffs and water defense from damage factors
- 7) System of radiological, chemical and bacteriological control and intelligence.
- 8) Observation measures

Actions in the case of danger announcement

- 1. To afford access to media
- 2. To prepare evacuation measures
- 3. To define exactly cover locations on the chance of emergencies
- 4. To put personal protective equipment in readiness, including medical means
- 5. To continue production day-to-day activity

Actions in the case of evacuation and dispersal order

- 1. To finish productive day-to-day activity
- 2. To obey the rules of evacuation

2. Characteristic of protective constructions (covers)

Classification of collective means of protection

Protective constructions of civil defense

Shelters	Anti-radiation shelters

Classification of Shelters

According to the protection class	4 classes
According to the building conduction	1) Early upbuilt 2) Rapidly upbuilt (emergency shelters)
According to the location	1) Independent from buildings 2) In the deeper part of the building
According to their capacity	1) Small 2) Medium 3) Large

Classification of anti-radiation (fallout) shelters

According to the protective properties	4 groups
According to the building conduction	1) Earle upbuilt 2) Rapidly upbuilt (emergency shelters)
According to the building principle	1) Specifically designated 2) Accommodated

Shelters

- Shelter is protection construction from danger or attack

- Shelters protect:
- - employees of potentially hazard objects (e.g. employees of oil-processing plant)
- - employees of organizations located in possible destruction zone
- - non-transportable casualties

Classification of shelters according to the protection class

Class	Protection factor	Excess pressure index, kPa
1	>5000	Until 500
2	>3000	Until 300
3	>2000	Until 200
4	>1000	Until 100

Classification of shelters according to the location

1) Independent from buildings
2) In the deeper part of the building (existing buildings can provide shelter for the greater part of the personnel in most installations. And in some cases they may afford protection for the functions carried on in them as well)

Shelter characteristics

- 1) Shelters should provide human safety from all damage factors
- 2) Shelters should withstand excess pressure not less than 100 kPa
- 3) Shelters should provide human staying not less than 2 days
- 4) Shelters should provide hygienic and sanitary conditions for people: air temperature may not exceed 28-32 degrees, relative humidity may not exceed 90 %
- 5) Water and food supply
- 6) Floor-to-ceiling height shouldn't be less than 1.7 m
- 7) Protected entrances

Fallout shelter

- - is a protective construction specially designed to protect occupants from ionizing radiation, radioactive debris or fallout resulting from a nuclear explosion.
- There is a classification of fallout shelters according to their radiation attenuation factor

Fallout shelter requirements

- Shields of fallout shelter must reduce radiation exposure
- Their closeness to human staying
- The simplest example of anti-radiation shelter is underground cellar

3. Population evacuation

- The procedure of egress or escape of people from the area with imminent threat, an ongoing threat or a hazard to lives or property.

Types of evacuation

- According to the damage source (fire, hurricane, Earthquake, floods and so on)
- According to the transportation mode
- According to the remoteness: local, regional, state
- According to the time: temporary, middle term, long-lasting

The main ways of evacuation

- By foot
- By all forms of transport
- Mixed way – the prevalent way. This is the combination of partial evacuation by foot and partial evacuation by transport.
- Evacuation by intermodal transport is used for:

- Medical centers
- Those who can't move by foot (children, elders)
- State authorities, principle scientific officers

4. Emergency - broadcast system. Warning system

- used to distribute information regarding imminent threats to public safety
- This is a national public warning system that requires TV and radio broadcasters, cable television systems, wireless cable systems, satellite digital audio radio service providers, direct broadcast satellite service providers and wireline video service providers to offer the communications capability to people during a national emergency. The system also may be used local authorities to deliver important emergency information, targeted to a specific area.

Requirements

- In order to develop an effective emergency warning system, certain things are required:
- Unauthorized use of warning system is not admitted
- An agreement as to who can initiate an alert. In some countries all warnings are transmitted by a single command center, while in others a host of local, regional, and national agencies are authorized to initiate warnings.
- A system or systems by which the information can be quickly transmitted to the population.
- An education program to teach the general public how to recognize an alert or what to do if a warning is broadcast.

Evacuation notification. Evacuation management.

- Sound and flash signal in all premises with people.
- Text translation about the evacuation necessity, ways, directions of movement and other actions for providing humans safety.
- Special text translation to avoid or decrease panic.
- Special signs and marks of evacuation safety, illumination of these objects
- Remote door opening of evacuation entrances.

Thank you for your attention.