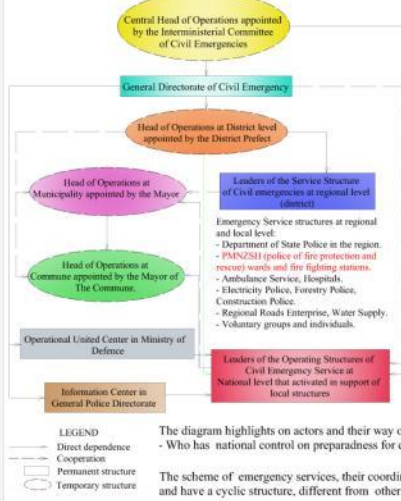


MANAGEMENT AND OPERATIONAL STRUCTURE OF CIVIL EMERGENCY SERVICE IN ALBANIA



FIRE RISK MANAGEMENT IN ALBANIAN CONSTRUCTION

ABSTRACT
Heat, oxygen and fuel are the main elements which may cause a fire. Human lives, property and goods (money) are three things that can be lost during a fire. Seeing how easy it is to form a fire and its negative consequences, the need for measures against fire in residential buildings, schools and other public buildings are of a vital importance. In Albania, every year we have an average of 8 deaths from fire accidents and over 10 million Euros in material damage. Looking through the literature review, the main causal factor for fires seems to be human factor. Whether it is about failure of fire protection measures taken during the design, construction and technical maintenance of facilities and buildings. Ignorance of the material properties; violation of design guidelines as specified in the building code (KTP), professionalism of the labor force and the neglect of citizens in the use of fire preventive measures. The fact that recently built buildings in Albania are constructed high, close to each other, some with steel structure, increases the fire risk and therefore measures against this threat should be seriously considered.

The aim of this study is:

1. Investigating the implementation of fire safety measures in the construction management industry;
2. Comparing the theoretical rules with the ones implemented in Albanian constructions;
3. Comparing the fire protection measures specified in the Albanian Construction code with Codes of different countries;
4. Suggestion and conclusions for increasing the protection measures and the control of their implementation in the Albanian Construction industry.

PROTECTION AGAINST FIRE AND RESPECTIVE LEGISLATION

Construction operations must be designed and implemented in accordance with:

1. Urban requirements.
2. Technical design requirements.
3. Technical conditions of implementation.
4. Considering their economic side.

Each project should fulfill these requirements:

1. Mechanical resistance and stability.
2. Fire safety
3. Hygiene health and environment protection.
4. Safety in use.
5. Protection against noise.
6. Energy economy and heat retention.

LEGAL BASIS

- Law No. 8766 "On Fire Protection and Rescue"
- Law No. 8405 "On Urban Planning"
- Law No. 8756 "On Civil Emergencies"
- Decision No.722 "On the Regulation of Urban Planning"
- Decision No.285 "On tariffs of services that commit PMNZSH (Fire Protection Police and Rescue) to citizens, juridical and physical persons, Albanians and foreigners"
- Decision No.699 "On approval of rules for fire protection and rescue in buildings and constructions, which serve for accommodating tourist activities"
- Order No.4 to MPVD (Ministry of Local Government and Decentralization) "To enforce the procedures that will be applied by the service of PMNZSH in approving the projects of construction and the issuance of other technical acts"

Albanian legislation for construction note that a full technical project, realized by designers, must necessarily contain a project on "Fire Protection and Rescue".



PMNZSH COMPETENCE

It is the responsibility of PMNZSH to give its approval for the assent of construction projects in three phases:

- I. Approval of documents for building site.
- II. Approval of documents for the construction permit.
- III. Inspection and approval for the permit of exploitation - The Technical Acts.

MNZSH's project contains:

- **Explanatory report for MNZSH project, where:**
 1. Defined the categories of technological process in the design of buildings of any kind.
 2. Determined the degree of sustainability to fire in construction structures and minimum limits of sustainability against fire in building components.
 3. Defined the maximum surfaces allowed and the floors number of the building.
 4. Determined the minimum distances of fire protection between the object that will be built and around objects.
 5. Described streets, passages, doors, stairs and ladder cages that will be used for evacuation of people and material assets in case of fire.
 6. Described the resolution of water supply for external fire fighting.

- **For multistoried buildings (over 10 m height) and warehouse that stored different materials will apply the following requirements:**

1. External Fire hydrants.
2. Interior hydrant on each floor.
3. Emergency ladders for fire evacuation.
4. On the ground or not residential floors set dictation-warning systems and automatic systems of fire extinguishing.

- **For specific and particular projects, except the measures and requirements already established above, also accepted the application of international norms of MNZSH.**

Approval for the permit of exploitation - Technical Acts.
Technician Acts of PMNZSH given for the initiation or continuation of the activity, after controlling for the implementation of left tasks during the design stage and actual measures of MNZSH.

Facilities that serve for the tourist accommodation activities and residential buildings.
For the beginning of operations are required these documents:

1. The deployment plan of the building square (after getting the construction permit) updated by PMNZSH.
2. MNZSH's project that contains:
 - a. Plan of each floor where MNZSH identify measures and emergency staircase.
 - b. Interior regulation of MNZSH.
 - c. Scheme of dictation-warning systems.
 - d. Scheme of external and internal hydrants.
 - e. Scheme of the automatic system to extinguish the fire.
 - f. Explanatory report for the MNZSH project's signed by licensed architect, constructor and hydraulic engineer.
 3. Relevant records to prove the functioning of systems and equipment in the MNZSH.
 4. Scheme of notification and action in case of fire and the evacuation signaling tables.

When these documents are ready, a check will verify MNZSH country's measures and if they are full will issue the Technical Act.

FIRE SAFETY STRATEGY

- 1. Fire Prevention**
Development and growth of the fire depends on several factors including:
 - the nature and spread of fire
 - air supply
 - thermal characteristics of building materials
 - systems for the control of fire and smoke
 - efficiency of fire protective system
 Fire Safety of residents can be improved by detection and warning of the fire earlier, this can be provided by:
 - an automatic fire alarm system
 - and / or extinguish the fire via an adequate system of fire protection.
- 2. Barriers against Fire.**
In order to prevent the spread of fire to an unacceptable size:
 - The limits of the rooms (walls, floors etc.) must be constructed to resist fire for a given period of time
 - means of communication between divisions (doors, stairs, lifts) should not disrupt the integrity of the divisions, enabling the isolation of rooms
 - installation of fire extinguishers
 - removal of the heated gases by natural or mechanical means
 - installation of smoke barriers (eg smoke control doors)
 - security of ventilation channels, resistant to fire and / or installation of fire and incentive tools mitigation
- 3. Limiting or preventing the spread of fire between adjacent buildings**
Limiting the spread of fire to neighbouring buildings is necessary.
 - to avoid fire and its consequences, eg loss of vital services such as hospitals, communication equipment, loss of resources and large-scale destruction of homes and household equipment
 - to enable firefighters to put the fire under control
 Limiting the spread of fire to neighbouring buildings can be achieved by checking:
 - distance between buildings
 - size of exposed surfaces such as windows
 - the fire performance of materials used for the facade
 - fire resistance of unpolluted parts of facades
 - active defense measures such as water spray installations
- 4. Evacuation of persons from the fire environment**
In case of evacuation of people due to a fire the safety of the people can be guaranteed by these measures:
 - Designing and planning escape routes in proportion to the number of occupants and their mobility
 - separating the escape routes from surrounding objects through smoke and fire separating elements
 - use measures of smoke control
 - emergency lighting installations
 - installation of emergency exit signs
 - safety devices on doors (panic bars, etc.)
 - Provision of safe places in and / or outside the building
- 5. Intervention of Firefighters**
Besides retaining the load-bearing capacity, limiting the spread of fire and smoke, and the evacuation of people, fire protection strategy is aimed at:
 - allowing rescue operations to be performed
 - allow that fire fighting is carried out effectively inside and around the building
 - enable rescue teams and firefighters to act with a reasonable level of security
 Such provisions may include:
 - spaces needed for fire fighting actions outside / inside the building
 - water supply installations that serve as fire safety installations
 - installation of a water source for firefighters
 - fire-fight stairs or safety stairs
 - lift installations for fire fighting
 - installation of ventilation for disposal of smoke and heat
 - installation of emergency electricity supply that serve for fire safety installations
 - checking of equipment (gas, electricity, water, etc) and safety systems against active fire
 - installation of emergency communications
 - marking of hazardous substances
 - signs to help the firefighters

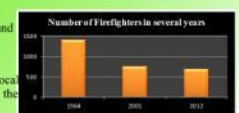
COMPARISON WITH DIFFERENT COUNTRIES STANDARDS

	European Standard	Montenegro (Podgorica)	Kosovo (Prishtina)	Albania (Tirana)
1 Firefighter station for	20.000-30.000 inhabitants	62.500 inhabitants	70.000 inhabitants	200.000 inhabitants
1 Firefighter vehicle for	20.000-30.000 inhabitants	8.000 inhabitants	35.000 inhabitants	66.000 inhabitants
1 Firefighter for	1000 inhabitants	1000 inhabitants	1000 inhabitants	4000 inhabitants
Comments:		4 times lower than European Standards		

SUGGESTIONS FOR FIREFIGHTING SERVICE IN ALBANIA

Review the structure, adding and redistributed fire brigade according to: demographic migrations, population density in cities, the number of interventions of fires in recent years, the danger of fire and distribution of buildings etc.

- Increase the number of fire stations in populated areas with 4 stations.
- Increase the number of trained operating employees for a firefighter station with an average of 2-3 people.
- Reconstruction of existing Firefighter stations in many cities of Albania, to reach the standard.
- Set up in Tirana, a large modern fire station and equip it with firefighting vehicles, rescue vehicles etc, and turning the fire service in Tirana into an European model, an example for the entire country.
- To invest in the National fire Training Center, which is of the utmost importance for the establishment of the profession of firefighting, to improve the functioning of the only school for this service in Albania.
- To remove unnecessary subordination in Firefighting Service, and return it to a vertical service structure.
 - Autonomous Director, directly subordinated to the Minister.
 - Moving gradually the dependence of fire service to local government or municipalities, as in many countries in the Balkans and Europe.



CONCLUSIONS AND SUGGESTIONS

By observation and by interviewing the appropriate people on this issue it has been concluded that all public and state buildings in our country do not meet the minimum construction criteria for evacuation or emergencies. Even if certain minimum conditions are in place, they are not maintained, apart from buildings constructed and used by international institutions. Residential buildings in Tirana and other cities of Albania are in a catastrophic situation in terms of fire protection infrastructure.

Concluded:

- Violation of urban design laws, which makes spaces between buildings to be so limited as fire cars can not penetrate to the outbreaks of fires.
- Provision of construction permits, often done without asking the Fire Service. Even if the fire recommendations are made they are not implemented, or are ignored.
- Technical projects of fire protection lack evacuation plans for residents.
- Inspectors of PMNZSH are almost powerless to fulfill their legal duties in cases of breaches of fire protection regulations.
- Buildings, whether new or old, are not all equipped with emergency stairs as there is no law in force to require the builder to install them. The building code however mandates emergency stairs are required for buildings over 10 floors.
- in many cases, buildings have no exit to the roof.
- do not have hydrants on each floor and basement.
- have no external hydrants
- are not equipped with automatic systems of fire extinguishing

Despite the many conditions that Albania needs to fulfill to join the European Family, we must first meet the conditions vital to the security of citizens. In Albania, the security conditions for the life of citizens continue to be ignored in a scandalous manner by construction and development companies.

Contacts	Name Aida Erjon	Surname TASELLARI KAUKU	Institution Polytechnic University of Tirana, ALBANIA Polytechnic University of Tirana, ALBANIA	Contacts aidatasellari@hotmail.com eri_ing.12@hotmail.com
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