



ENGLISH SUMMARY



Northern Tallinn city district

Risk assessment report





1. Risk identification (Riski väljaselgitamine, riski identifitseerimine ehk riskituvastus)

Risk type: fire safety, rescue.

Risk area: Northern Tallinn City District.

Priority risk area or risk area for concentrated EU PRISMA project work: Northern Tallinn City District areas with wooden-house dwellings. [Chapter 5 and Sub-Chapters 5.1 – 5.4]

Other risk areas: hazardous enterprises and catastrophe risky enterprises (Seveso companies), other operating industrial enterprises, factories of very high fire risk, effected surrounding zones of these enterprises, Paljassaare NATURA 2000 birds protected territory, Northern Tallinn city district areas with houses of other type of dwellings.

Vulnerabilities: habitants, abandoned houses, local authority, city district administration (economy, environment), factories, Paljassaare NATURA 2000 birds protected territory.

Risk frequency / probability for habitants/: **mainly low (2), by three risks probability is very low (1) and by two risks medium (3) and for one risk probability is high (4).**

Risk effects: more knowledgeable habitants, less risk behaviour, followed fire safety regulations.

Risk mapping and risk maps

Results of risk mapping and risk maps as about basic situation as on fire safety situation in Northern Tallinn and in Northern Tallinn city district areas with wooden-house dwellings are shown and brought by diagrams, maps and data in chapter 3. Description of Northern Tallinn city district and its subchapters 3.1 Subdistricts of Northern Tallinn city district and description of subdistricts, 3.2 Subdistricts of Northern Tallinn city district with wooden-houses, 3.3 Description, characterization and assessment on fire safety of Northern Tallinn, 3.4 Hazardous enterprises and catastrophe risky enterprises (Seveso companies), 3.5 Other operating industrial enterprises, 3.6 Protected areas and areas with other legal land use limits and 3.7 Operational Services.

2. Risk analysis (Riskianalüüs)

Result: The risk analysis has resulted in the assigning or taking of the Northern Tallinn city district areas with wooden-house dwellings as a “Priority Fire Risk Area”.

Results: Main problems or Fire risks / fire hazards have been defined or divided into 3 or 4 fire risk groups or categories.

For each fire risks / fire hazards group or category following main causes and risks have been defined: for the first fire hazards / fire risks group or category five (5), for the second group or category six (6) and for the third group or category five (6) fire risks.





Risk analyses / Risk maps or Risk mapping

Fire risks / fire hazards groups or categories in Northern Tallinn city district areas with wooden-house dwellings are [4]:

1. **Fire risks / fire hazards related to building, renovating and repairing houses**
2. **Fire risks / fire hazards related to exploitation of buildings and houses**
3. **Fire risks / fire hazards outside buildings and houses**
4. **Fire risks / fire hazards in other areas (areas without wooden-house dwellings)[+]**

Fire risks / fire hazards related to constructing, renovating and repairing buildings in Northern Tallinn city district areas with wooden-house dwellings are [5]:

- (1) Using heating systems non-complying to fire safety regulations
- (2) Using electrical wires non-complying to safety regulations
- (3) Using materials non-complying to fire safety regulations when constructing, renovating or repairing buildings
- (4) Flammable small-buildings
- (5) Gas leakages from gas systems or gas pipelines

Fire risks / fire hazards related to exploitation of buildings in Northern Tallinn city district areas with wooden-house dwellings are [6]:

- (1) Overheating of heating device
- (2) Using unmaintained heating-systems, including central heating-systems
- (3) Melting frozen water pipeline
- (4) Using non-functional chimneys and flues
- (5) Negligence of using fire
- (6) Making or using fire in abandoned buildings

Fire risks / fire hazards outside buildings and houses are [6]:

- (1) Making open fire outside of the buildings or grassfire
- (2) Arson
- (3) Fire or explosion of dangerous substances in Seveso or in other dangerous companies
- (4) Fire in warehouses or in industrial buildings
- (5) Fire or explosion of vehicle carrying dangerous goods
- (6) Fire or explosion of cargo train carrying dangerous goods

When to summarize this part of risk assessment by prior risk indicating and passing risk analysis and risk mapping phase or stage of risk assessment there have been indicated, mapped and pointed out totally seventeen [17] following different fire risks in Northern Tallinn city district and it's areas with wooden-house dwellings:





- (1) Using heating systems non-complying to fire safety regulations
- (2) Using electrical wires non-complying to safety regulations
- (3) Using materials non-complying to fire safety regulations when constructing, renovating or repairing buildings
- (4) Flammable small-buildings
- (5) Gas leakages from gas systems or gas pipelines
- (6) Overheating of heating device
- (7) Using unmaintained heating-systems, including central heating-systems
- (8) Melting frozen water pipeline
- (9) Using non-functional chimneys and flues
- (10) Negligence of using fire
- (11) Making or using fire in abandoned buildings
- (12) Making open fire outside of the buildings or grassfire
- (13) Arson
- (14) Fire or explosion of dangerous substances in Seveso or in other dangerous companies
- (15) Fire in warehouses or in industrial buildings
- (16) Fire or explosion of vehicle carrying dangerous goods
- (17) Fire or explosion of cargo train carrying dangerous goods

3. Risk evaluation (Riskihinnang)

For each type of fire risks / fire hazards in Northern Tallinn city district areas with wooden-house dwellings have been done:

- Types of fire risks / fire hazards have been named and **possible starting occasions and consequences** have been defined and described for fires possibly could be happened by them by each fire hazard / fire risk type in all groups (See tables 5.1.1, 5.2.1 and 5.3.1 accordingly in subchapters 5.1, 5.2 and 5.3)
- Evaluation of **probability** of fires possibly could be happened by different fire hazard / fire risk [five classes or levels] (See tables 5.1.2, 5.2.2 and 5.3.3 accordingly in subchapters 5.1, 5.2 and 5.3)
- Evaluation of **consequences** of fires possibly could be happened by different fire risks / fire hazards: for life and health of people, vital services, environment, property [five classes or levels] (See tables 5.1.3, 5.2.3 and 5.3.3 accordingly in subchapters 5.1, 5.2 and 5.3)
- Assessment of **risk stage / degree / class** for different fire risks / fire hazards and ordering of risks / hazards (See tables 5.1.4, 5.2.4 and 5.3.4 accordingly in subchapters 5.1, 5.2 and 5.3)





- Designed and worked out measures preventing fires possibly could be happened by different fire risks / fire hazards and measures mitigation consequences of these possible fires (See tables 5.1.5, 5.2.5 and 5.3.5 accordingly in subchapters 5.1, 5.2 and 5.3)

Results of risk assessment and risk analysis of fire risks / fire hazards in Northern Tallinn city district areas with wooden-house dwellings are and were brought by follows:

- Risk matrixes of fire risks for each group or category of fire hazards / risks (probability and consequences of fire risks)
- Summarized risk matrix or a summary risk matrix in Northern Tallinn areas with wooden-house dwellings (probability and consequences of fire risks)
- Priority table of fire risks for each group or category of fire hazards / risks (priorities of fire risks)
- Summarized priority table or a summary priority table of fire risks in Northern Tallinn areas with wooden-house dwellings (priorities of fire risks)

The results of the risk evaluation of fire risks in the Northern Tallinn subdistricts and areas with wooden-house dwellings bring summarized risk matrix or a summary risk matrix (see figure 5.4.1 "Final summary matrix of fire risks in Northern Tallinn areas with wooden-house dwellings" in subchapter 5.4 "A summary assessment of fire risks in Northern Tallinn city district areas with wooden-house dwellings" of this current chapter), and the matrixes by the various groups of fire risks (see figures 5.1.6, 5.2.6 and 5.3.6 accordingly in subchapters 5.1, 5.2 and 5.3 of this current chapter).

As a result of the risk evaluation **the fire risks in the Northern Tallinn subdistricts and areas with wooden-house dwellings are ranked in order of priority or priorities [17]** (see table 5.4.2 "Fire risks and a summary priority table of fire risks in Northern Tallinn areas with wooden-house dwellings" in chapter or subchapter 5.4 "A summary assessment of fire risks in Northern Tallinn city district areas with wooden-house dwellings"):

- 1) Negligence of using fire
- 2) Gas leakages from gas systems or gas pipelines
- 3) Making or using fire in abandoned buildings
- 4) Overheating of heating device
- 5) Using heating systems non-complying to fire safety regulations
- 6) Using electrical wires non-complying to safety regulations
- 7) Using non-functional chimneys and flues
- 8) Using materials non-complying to fire safety regulations when constructing or renovating or repairing buildings
- 9) Using unmaintained heating-systems, including central heating-systems





- 10) Making open fire outside of the buildings or grassfire
- 11) Fire in warehouses or in industrial buildings
- 12) Melting frozen water pipeline
- 13) Arson
- 14) Fire or explosion of dangerous substances in Seveso or in other dangerous companies
- 15) Fire or explosion of vehicle carrying dangerous goods
- 16) Fire or explosion of cargo train carrying dangerous goods
- 17) Flammable small-buildings

Fire risks are also ranked in order of priority or priorities by the various groups of fire risks (see overall plan tables 5.1.7, 5.2.7 and 5.3.7 accordingly in subchapters 5.1, 5.2 and 5.3).



4. A summary assessment of fire risks in Northern Tallinn city district areas with wooden-house dwellings

Figure 5.4.1 Final summary matrix of fire risks in Northern Tallinn areas with wooden-house dwellings

Probability	Very high (5)				
	High (4)			1) Negligence of using fire	
	(3)			2) Gas leakages from gas systems or gas pipelines 3) Making or using fire in abandoned buildings	
	Low (2)			4) Overheating of heating device 5) Using heating systems non-complying to fire safety regulations 6) Using electrical wires non-complying to safety regulations 7) Using non-functional chimneys and flues 8) Using materials non-complying to fire safety regulations when constructing, renovating or repairing buildings 9) Using unmaintained heating-systems, including central heating-systems 10) Making open fire outside of the buildings 11) Fire in warehouses or in industrial buildings 12) Melting frozen water pipeline 13) Arson	
	Very low (1)		17) Flammable small-buildings	15) Fire or explosion of vehicle carrying dangerous goods 16) Fire or explosion of cargo train carrying dangerous goods	14) Fire or explosion of dangerous substances in Seveso or in other dangerous companies
	Not important (A)	Mild (B)	Severe (C)		Very severe (D)
	Consequence				

Table 5.4.2 Fire risks and a summary priority table of fire risks in Northern Tallinn areas with wooden-house dwellings

PRIORITY OF RISK	NAME OF FIRE RISK	CONSEQUENCES OF FIRE RISK
HIGH	1) Negligence of using fire	SEVERE
IMPORTANT	2) Gas leakages from gas systems or gas pipelines	SEVERE
	3) Making or using fire in abandoned buildings	SEVERE
	4) Overheating of heating device	SEVERE
	5) Using heating systems non-complying to fire safety regulations	SEVERE
	6) Using electrical wires non-complying to safety regulations	SEVERE
	7) Using non-functional chimneys and flues	SEVERE
	8) Using materials non-complying to fire safety regulations when constructing, renovating or repairing buildings	SEVERE
	9) Using unmaintained heating-systems, including central heating-systems	SEVERE
	10) Making open fire outside of the buildings	SEVERE
	11) Fire in warehouses or in industrial buildings	SEVERE
	12) Melting frozen water pipeline	SEVERE
	13) Arson	SEVERE
	MEDIUM	14) Fire or explosion of dangerous substances in Seveso or in other dangerous companies
15) Fire or explosion of vehicle carrying dangerous goods		SEVERE
	16) Fire or explosion of cargo train carrying dangerous goods	SEVERE
	17) Flammable small-buildings	MILD



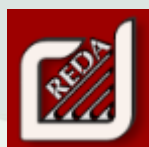
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