

LAW ON PROTECTION AGAINST NOISE

CHAPTER I – GENERAL PROVISIONS

Article 1 (Subject of the Law)

This Law prescribes the permissible levels of noise, noise protection measures, manner of measuring and recording of noise, noise limit values grouped by the ambient levels, intended use of premises, time of the day (day or night), for the purpose of protecting human health, working and living space, and protecting the environment in general.

The Law also regulates other issues pertinent to the protection against noise.

Article 2 (Definitions)

For purposes of this Law:

The term *noise* means any sound at the level which exceeds the level permissible under this Law or other laws considering the time of the day and the place where it is generated, as well as the area where people work and live.

The term *source of noise* means any facility the means of operations and transportation, appliances and installations, noisy activities of humans and animals, as well as other facilities and activities generating the sound which exceeds the permissible level for that type of noise (hereinafter: noise source).

The term *owner of the noise source* means any legal or natural person responsible for the generation of noise.

The term *noise immission level* means the overall level of noise at the point of reception which is associated with harmful effects.

The term *noise emission* means the overall level of noise which the source of noise emits to the environment.

The term *area* means all outdoor and indoor areas in inhabited areas and outside the inhabited areas where people work and live, on a permanent or temporary basis, for the purpose of education, vacation, recreation and the like.

The term area includes the areas protected under special laws, which are noise sensitive in any way whatsoever.

Article 3 (Expressions, Abbreviations and Measurement Units)

The expressions, abbreviations and measurement units used in this Law mean:

- dB (Decibel)-1/10 Bel (one tenth of Bel) – sound level measurement unit;

- dB (A) (Decibel A-weighted) and dB (C) (Decibel C-weighted) – international scale of sound or noise level which takes into account the varying sensitivity of the human ear to various noise levels at different frequencies;
- $P_0 = 20 \text{ Pa} - 20 \times 10^{-6} \text{ Pa}$ – sound pressure level at the audibility threshold;
- $I_0 = 1 \text{ pW/m}^2 = 10^{-12} \text{ W/m}^2$ – sound strength level;
- L_{eq} dB(A) is a medium energy value of noise with variable level equivalent to noise of permanent level measured for at least 15 minutes in the periods from 06 am to 10 pm (day) or from 10 pm to 06 am (night);
- L_n dB (A) is the sound pressure level which is above the mentioned in n% time of the measured period;
- L_1 is the noise level which exceeds 1% of time, where the shortest period of measuring is 15 minutes;
- L_{AmaxT} is the maximum weighted sound pressure level in indoor areas during the measurement standardized at the reverberation time of 0.5 seconds.

CHAPTER II THE HIGHEST NOISE LEVEL IN dBA (decibel A-weighted) AND PROTECTION MEASURES

Article 4 (Noise levels)

Noise sources shall not generate noise in the environs which exceeds the levels prescribed in this Law.

The highest permissible levels of noise are set under this Law in tables 1, 2 and 3, and the correction to the measured noise level in table 4.

Article 5 (Noise protection measures)

Protection against noise shall be achieved by:

- Preventing the generation of noise;
- Controlling the intended use of areas and the layout of real and potential sources of noise in relation to the noise sensitive areas, which must be done before new intended use of the area is determined and allowed, and in all-purpose intended facilities which house people;
- Reducing the number of noise sources;
- Providing appropriate sound insulation in line with the intended use of areas in new constructions;
- Monitoring, controlling and recording the noise levels;
- Prohibiting the all-purpose intended use, that is, prohibiting the sources of noise which generate the noise above the limit values;
- Eliminating or limiting the noise to the permissible level;
- Limiting the work of noise sources during the nighttime and during non-working days;
- Developing the noise level charts for the existing noise sources and monitoring;
- Developing the noise level charts based on the model for all planned alterations in the area which might jeopardize or increase the noise level in jeopardized areas according to the provisions of this Law and
- Eliminating or altering the intended use of facilities.

Article 6
(Providing for Protection against Noise)

The responsibility for protection against noise rests with the competent authorities of the Federation of Bosnia and Herzegovina (hereinafter: the Federation of BIH), Cantons, cities and municipalities.

Protection against noise shall also be provided by the owners of sound sources.

Article 7
(Time of Implementation of Noise Protection Measures)

Protection against noise shall be implemented on an ongoing basis, day and night.

In terms of this Law, the day time is reckoned from 06 am to 10 pm and night time from 10 pm to 6 am.

Article 8
(Noise Level Charts)

The Federation of BIH, Cantonal, city and municipal authorities in charge of spatial planning shall, within their competences, provide for the development of noise level charts in order to foresee, record and monitor the noise levels.

The noise level chart is a graphic overview of the existing and planned noise levels and it makes integral part of the spatial development plants.

The authorities referred to in Paragraph 1 of this Article shall make the noise level chart within three years from the effective date of this Law and shall update the chart on a three-year basis.

Article 9
(Graphic Overview of Noise Levels)

The spatial plan, urban development plan and regulatory plan shall set the foreseen noise levels on the charts of proper ratio, as well as jeopardized zones along with plans for protection, measures and deadlines.

With regard to high-rise residential buildings or other facilities, the mandatory three-dimension (3D) overview of the ground and facilities will also be accompanied with an overview of vertical distribution of noise.

The foreseen noise level shall not exceed the highest permissible level of noise set forth in this Law, in line with the intended use and function of the area.

Article 10
(Noise Protection Measures Application in the Process of Permit Issuance)

In relation to the plants and facilities which have the obligation to make an environmental impact assessment and the plants and facilities which can be built and operated only if they obtained an environmental permit, noise protection measures must be covered by the environmental impact study, plans of activities and environmental permit in accordance with Tables 1 and 2.

Article 11

When issuing an urban development approval to all plants and facilities the operation of which does not require an environmental permit, the relevant authority shall prescribe the relevant noise protection requirements in line with this Law.

The approval-issuing administration authority shall not issue the approval to business operations if the noise protection requirements are not met.

Article 12 (Construction Site Noise)

When making a development plan for a construction site, legal and natural persons, shall plan and apply the measures to prevent the distribution of noise above the permissible level.

In exceptional cases, when the distribution of noise above the permissible level is not feasible, persons referred to in the preceding Paragraph, shall plan the measures to protect the area and people and set the time of construction works in line with Law.

Article 13 (Road Traffic and Other Sources Noise)

Protection against road traffic noise shall be in line with the permissible noise level set forth in this Law by way of the traffic regulation, time limitation, prohibition of noisy traffic means, reconstruction of roads or railroads, construction of acoustic barriers along with the improvement of sound insulation of windows, facades etc.

Protection against noise shall be harmonized with the permissible noise level, set forth in this Law, within 10 years from the day this Law becomes effective.

In case the noise level exceeds the permissible level by more than 5 dBA, the noise source owner shall undertake an urgent action before the said deadline but not longer than three years.

Federation and Cantonal institutions in charge of traffic infrastructure management and traffic regulation shall undertake the activities towards the harmonization with the permissible noise level referred to in Paragraph 1 of this Article.

Article 14

With regard to the roads built by the year of 2003 within the competence of the Federation of BIH, the deadline for harmonization with the permissible noise level shall be five years from the effective date of this Law.

With regard to the roads built after the year of 2003, which are not developed in line with this Law, the harmonization deadline shall be three years from the effective date of this Law.

Article 15

The owner of a new facility shall provide for adequate sound insulation and other technical measures for the necessary sound protection in line with the Table 1.

The owner of a new noise source shall provide for adequate sound insulation and other technical measures at the built facilities.

The noise source owner which did not generate noise above the permissible level before the construction of new facilities shall not bear the costs of protection against noise.

The noise level generated by stationary source outdoors shall be lower than the permissible level set forth in table 2 in line with the intended use of the zone, measured at 5 meters distance from the noise source in the direction of jeopardized areas, or in line with Table 1 in the area affected by the noise from that source.

In case of multiple sources of noise, the level of new noise sources shall not cause the increase in the noise level above the permissible level.

Article 16
(Noise Generated by Acoustic Devices Indoors)

Using of acoustic devices indoors shall be permitted unless the noise level exceeds Leq 80 dB(A).

Exceptionally, the noise level of acoustic devices in discotheques shall not exceed Leq 100 dB(A).

In case the sound level in jeopardized areas exceed the permissible level set forth in Table 1, the owner of sound source indoors and outdoors shall install an electronic regulator in the sound increasing device (sound level limitation device - limiter) which will be sealed and regulate the sound level up to the level permitted under this Law in any case when the noise level disturbs the neighbors.

Acoustic devices in catering facilities located in residential buildings shall be used only if they have the electronic regulator to regulate the noise level in line with Table 1.

Article 17
(Noise Generated by Acoustic Devices Outdoors)

Using of acoustic devices for the reproduction of sound outdoors shall be permitted if the noise level does not exceed the level set forth in Tables 1 and 2 and if the sound reproduction limitation device is installed therein.

When organizing public gatherings, entertainment and sports events and other outdoor activities, the permitted noise level can be exceeded when the relevant body renders a decision designating the venue and duration thereof.

Article 18
(Emission of Noise Generated by Appliances, Machinery, Transportation Means and Other Technical Devices)

The limit values of the noise emission for appliances, machinery, transportation means and other technical devices shall be determined by special regulations.

The installation of household appliances shall follow the producers' instructions and be in line with this Law.

Article 19
(Exceeding the Prescribed Noise Level)

Noise sources can be used even when they exceed the highest permitted noise level only when used to remove natural disasters' consequences and conditions which might cause greater material damage or harm human health and the environment, and also in cases referred to in Article 12(2) of this Law.

Article 20
(Prohibition of Works and Business Activities)

Works or business activities whose excessive noise, including the reproduction of music, disturbs night peace and order in inhabited areas from 10 pm to 6 am shall be prohibited.

The prohibition referred to in Paragraph 1 of this Article shall not pertain to the works carried out to remove the consequences of natural disasters and conditions which might cause greater material damage or harm human health and the environment.

The prohibition referred to in Paragraph 1 of this Article shall not pertain to the works and business activities which, due to the nature of technological process, must be carried out intermittently, day and night, or just at night when there is no technical or other possibility to prevent the distribution of noise.

CHAPTER III – MEASURING, MONITORING AND MAKING RECORDS OF NOISE

Article 21
(Authorization for Noise Measurement)

Measuring of noise shall be done by the authorized legal entity who has a permanent employee who is a specialist in noise measuring and an equipment required by the recommendations IEC 651 and 804 Type 1, as well as EN 60804 integrating sound level meter with integrating and averaging.

Article 22
(Measurement of Outdoors Noise)

Measuring of noise levels outdoors shall be done by placing a microphone at 1,2 m to 2 m above the ground.

In case of special measuring tasks or special conditions on the ground (for example wall shadowing, terrain slope, large return loss on the ground and the like) the microphone can be set at 4 m above the ground or at the spot where noise can jeopardize the area beneficiaries.

When measuring the noise in the vicinity of a residential building, the microphone is placed at least 3 meters from the reflecting surfaces.

When measuring the noise at high-rise building facade, the microphone is placed at 0.5 m outside the building, approximately in the middle of the open window of the noise affected area.

Measuring shall take place in accordance with BAS ISO 17025:2005.

Article 23

Measuring shall be done for the purpose of monitoring and controlling the effects of noise outdoors.

The noise study shall be made for the purpose of monitoring and controlling the effects of noise outdoors.

The noise study shall be made for new, as well as for the existing spatial planning documents.

The noise study shall contain:

- 3D overview of the ground with sites of: the noise source, jeopardized areas, measuring spots, intended use of the area/facility and all elements pertinent to the distribution of noise;
- Influence of seasons and meteorological conditions;
- According to the type of noise sources – stationary/mobile, ongoing level, variable level, sharp sounds, impulse noise;
- Defined duration of measuring, number of samples and measuring spots measured at 15 minutes;
- Critical hours during day and night based on a predictable condition and type of noise in the area and possible need for a 24-hour measurement at specific noise sources at the time of their appearance;
- Forecast of necessary repeated measurements, period of repetition, months in the year, climate conditions, and other aspects which guarantee a reliable monitoring of noise nuisance in the planned period.

The report on the results of monitoring and controlling of noise must contain the following:

- Noise level chart of the broader site under the influence of noise with the position of spot, surface and line sources of noise;
- Number and time of taking samples per measuring spot, and number and position of measuring spots;
- Samples of measured noise level with: $L_{eq}dB(A)$, L_1 , $L_{A MAX}$ during the measuring period presented separately in the measuring period and other data as needed (sharp sounds, impulse noise, aircraft noise, railway noise, difference $dB(A)-dB(C)$), obtained on the basis of 15-minute measuring on an ongoing basis and the data on meteorological conditions (temperature, relative humidity, wind speed and direction, described quantity and type of precipitation, snow level and other meteorology observations important for the measurement of noise).

Article 24

(Measurement of Indoors Noise)

Measuring of noise levels indoors shall be done so that the measuring spot is at least 1 meter from walls or other reflecting surfaces and the microphone is placed from 1,2 m to 1,5 m above the floor.

When measuring the noise in the premises with closed windows and doors, the microphone is placed in the center of the premises, where appropriate.

Measuring of structured sound (source in the building) or at outdoors low-frequency noise, shall be done with windows closed, in the center of the room.

Article 25
(Evaluation of Noise Levels)

A characteristic level which is measured and based on which the evaluation of noise is made in line with the Law is the equivalent noise level dB (A) ($L_{Aeq,T}$) and noise level L which appears 1% of time measurement in dB(A) and L_{Amax} .

Measurement and evaluation of noise level shall be done in line with ISO standards 1996/1, 1996/2 and 1996/3, BAS ISO 9612 and BAS EN 60804.

Article 26

Sound insulation of partition walls and ceilings and constructions of the sound strike are prescribed by the standard JUS.U.J6.201 and shall be applied until technical instructions are rendered for the best available techniques in this field.

Measurement shall be done according to the group of standards BAS ISO 140 for the purpose of measuring the sound insulation in buildings and construction elements, laboratory and field measurements and any specific measurement.

CHAPTER IV - SUPERVISION

Article 27
(Supervision of the Law Implementation)

The supervision of the Law implementation shall be carried out by the relevant administration authorities of the Federation of BIH, Cantons, cities and municipalities.

The supervision of the implementation of the provisions related to noise between 10 pm and 6 am which violate public peace and order shall be carried out by the relevant police administrations.

Article 28
(Inspection Supervision)

During the supervision, relevant inspections shall be authorized to:

- Order acoustic measurement at legal and natural persons which use the sources of noise in the area (outdoors and indoors) where people live and work,
- Order necessary noise protection measures,
- Prohibit the use of constructed or reconstructed facility if the noise protection measures have not been implemented, until the measures are in place,
- Prohibit the use of the noise source until the noise protection measures are taken,
- Prohibit the business operations and other activities which generate noise that disturb the rest and peace at night, if this cannot be achieved by the measure referred to in sub-paragraph d. of this Article,
- Prohibit the business operations or other activities started without obtaining the decision of the relevant authority confirming that the noise protection measures are implemented.

Any appeal from the decision of the inspector shall not stay the execution of the decision.

CHAPTER V – PENALTY PROVISIONS

Article 29 (Breaches)

A fine in the amount from BAM 500 to 3,000 shall be ordered upon a responsible person in an administration authority if s/he:

- a) Fails to act in line with Articles 8, 9 and 10 of this Law;
- b) Issues an approval for business operations in violation of Article 11 of this Law;

Article 30

A fine in the amount from BAM 2,000 to 10,000 KM shall be ordered upon a legal entity which fails to act in line with Articles 12, 13, 16, 17 and 20 of this Law.

The breach referred to in Paragraph 1 of this Article shall carry a sentence on a responsible person in the legal entity as well, in the amount from BAM 1,000 to 3,000.

A natural person shall be ordered a fine in the amount from BAM 100 to 500 for the breach referred to in Paragraph 1 of this Article, save for the breach referred to in Article 16.

CHAPTER VI – TRANSITIONAL AND FINAL PROVISIONS

Article 31 (Permissible Noise Level Table)

Permissible noise level tables shall make integral part of this Law:

Table 1. – permissible noise level for outdoors sources according to their intended use.

Table 2. – permissible outdoors noise level for the planning of new constructions or noise sources.

Table 3. –noise at working areas generated from outdoors sources.

Table 4. – Correction of the measured noise level before the comparison with the permitted level in Tables 1, 2 and 3.

Article 32

The Rulebook on permitted limits of sound and whir intensity (Official Gazette of the Socialist Republic of BiH, Vol 46/89 dated 29 December 1989) shall cease to be valid on the effective date of this Law.

Article 33 (Effectiveness of this Law)

This Law shall become effective the day after its publishing in the Official Gazette of the Federation of BiH.

Table 1 – Permissible noise level from outdoors sources in the premises depending on their intended use

No.	INTENDED USE OF PREMISES	The highest permissible level		
		<u>15 min Leq</u>		L1
		<u>(dBA)</u>		(dBA)
		day	night	
A	hospitals, clinics, health care centers			
A1	Patients' rooms	35	30	45
A2	Doctors' offices	40	40	55
A3	Surgery ward without medical devices and equipment	35	35	50
B	Hotels, motels, dormitories, singles hotels and the like			
	Hotel rooms 5 stars			
B1	From noise sources in the building and stationary sources outside the building	35	30	45
	From non-stationary noise sources outside the building	40	35	50
	Hotel rooms 4 stars	40	35	50
B2	From noise sources in the building and stationary sources outside the building			
	From non-stationary noise sources outside the building	45	40	55
B3	Bedrooms in dormitories			
	From noise sources in the building and stationary sources outside the building	40	35	55
	From non-stationary noise sources outside the building	45	35	55
C	Schools, universities, libraries and the like			
C1	Amphitheatres and classrooms	40	40	50
C2	Offices at universities	35	35	50
C3	Offices at schools	40	40	50
C4	Reading room, libraries	40	40	45
D	Sports gyms			
D1	Cinema halls	35	35	45
D2	Theaters	30	30	35
D3	Concert halls	30	30	35
E	Preschool facilities and the like			

No.	INTENDED USE OF PREMISES	The highest permissible level		
		15 min Leq		L1
		(dBA)		(dBA)
		day	night	
E1	Rooms for children's rest			
	From noise sources in the building and stationary sources outside the building	40	35	50
	From non-stationary noise sources outside the building	45	35	50
E2	Rooms for the work with children	45	45	50
F	Residential facilities			
F1	Bedrooms and living rooms			
	From noise sources in the building and stationary sources outside the building	40	30	45
F2	From non-stationary noise sources outside the building	45	35	50

Table 2 - Permissible outdoors noise level for planning of new construction or noise sources

Area (zone)	INTENDED USE OF AREA	The highest permissible level (dBA)		
		Equivalent levels Leq		Top level
		day	night	L1
I	Hospital-medical	45	40	60
II	Tourist, recreation, rehabilitation	50	40	65
III	Exclusively residential, education/upbringing and health institutions, public green and recreation areas	55	45	70
IV	Trade, business, residential areas along traffic corridors, warehouses without heavy transportation	60	50	75
V	Business, administrative, trade, artisan, service (utilities)	65	60	80
VI	Industrial, warehouse, service and traffic are with no residential areas	70	70	85

Table 3 - Noise at work space generated by outdoors sources

No.	TYPE OF BUSINESS OPERATIONS	Permissible noise level Leq in dBA
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No.	TYPE OF BUSINESS OPERATIONS	Permissible noise level Leq in dBA
1.	Mainly intellectual work which requires concentration, or routine work	55
2.	Intellectual work focused on the work of a group of people which requires concentration or direct contact or telephone contact	50
3.	Intellectual work focused on the control of the work of group of people engaged in a mainly intellectual work. Work which requires concentration, direct contact and telephone contact Work exclusively limited to communication via communication means (telephone and the like)	45
4.	Intellectual work which requires deep concentration, exclusion from environment, precise psychomotor or communication with a group of people	40
5.	Mental work such as concept designing, work that carries a high responsibility, communication for the purpose of reaching an agreement with a group of people	35

Table 4 – Correction of the measured noise level before the comparison with the permitted levels in tables 1,2 and 3.

Influential factors	Adjustment for Leq (dBA)	Adjustment for LAmax (dBA)
Aircraft noise	- 5	- 10
Railroad noise	- 5	- 10
Impulse noise	+ 5	+10
Sharp sounds	+ 5	+ 5