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EVALUATION AND ABATEMENT OF ENVIRONMENTAL NOISE. A CASE STUDY FOR DISTRICT HEATING PLANT PLACED IN A RESIDENTIAL AREA OF BRASOV – ROMANIA

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Abstract

In order to reduce public annoyance produced by the noise generated from a District Heating Plant (DHP) upon an urban residential area, a noise assessment was performed. The paper illustrates the evaluation of noise envelope around the DHP, considered as an overall source made of six distinct sound sources. As receptors, there were considered five points on the facades of the closest residential blocks. The specific feature of the research work was the configuration of the area having the DHP in the middle of a block-of-flats district. The very short distances between the DHP building and the neighboring residential blocks lead to the occurrence of reflected sound waves. It was analytically determined the contribution of the noise reflected from block facades to the overall noise upon receptors, focusing on significant weight of reflected noise; the assessment allowed to select noise abatement paths, being analytically calculated noise levels in several abatement scenarios aimed to meet the standards prescribed by European and Romanian statutory bodies.

Key words: district heating plant, environmental noise, noise limits, reflected sound

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