ENVIRONMENTAL PROTECTION AGENCY

IDENTIFICATION OF PRODUCTS AS MAJOR SOURCES OF NOISE

Pavement Breakers and Rock Drills Report
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IDENTIFICATION OF PRODUCTS AS MAJOR SOURCES OF NOISE PAVEMENT BREAKERS AND ROCK DRILLS

Report

The Noise Control Act of 1972 (40 CFR 226-574, 83 Stat. 1241) established a National Policy "to promote an environment for all Americans free from noise that jeopardizes their health or welfare." To pursue this policy, the Noise Control Act provides for a mechanism to establish Federal noise emission standards for products distributed in commerce. The first step towards the promulgation of noise emission standards for a new product or product class is its identification as a major source of noise. Pursuant to section (a)(1), the Administrator shall after consultation with appropriate Federal agencies, compile and publish a report or series of reports on identification products (or classes of products) which are major sources of noise, and (2), giving information techniques for control of noise from such products, including data on technology, costs, and alternate methods of noise control.

Section (a)(1) identifies important noise sources:

1. Construction equipment
2. Trash and garbage collection equipment
3. Recreational vehicles and related equipment
4. Any motor or engine (including any equipment of which an engine or motor is an integral part)
5. Sound systems, speakers, or television or radio sets

On June 21, 1974 (39 FR 22277), the Administrator published the first report on the identification of sources of noise. This report identified medium and heavy duty trucks and portable air compressors as major sources of noise and listed a number of other products as candidates for possible future identification. Final noise emission regulations have been promulgated for portable air compressors (41 FR 21621, January 14, 1976) and for medium and heavy duty trucks (41 FR 15033, April 1, 1976).

On May 20, 1973 (40 FR 23069), a second report, pursuant to section (a)(1), was published. In this report, the following products were identified as major sources of noise: motorcycles, minibikes, off-road vehicles, small aircraft, and other off-highway equipment. Additionally, it was recognized that a need existed for additional information on the noise levels of portable air compressors and portable air compressors used in connection with medium and heavy duty trucks.

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1. Whether the spectral content or temporal characteristics, or both, of the noise emitted by the product is irritating or intrusive, even though the noise levels may not otherwise be excessive;
2. Whether the noise emitted by the product is inaudible or audibly detectable and exposure leading to annoyance or activity interference;

Preliminary Impact Assessment

It is estimated that over 37 million people are exposed to construction site noise levels that jeopardize their health and welfare. Since construction noise is typically comprised of contributions from more than twenty different types of construction equipment, regulation of the majority of the pieces of equipment will be required to appreciably and effectively reduce overall site noise levels.

In some cases one piece of construction equipment is used to provide primary power to operate other pieces of equipment. Such is the case with the portable air compressor which provides compressed air to operate pneumatic tools and portable air drills. Similarly, wheel and crawler tractors, trucks and other vehicles with integral hydraulic systems use an hydraulic fluid under pressure to operate hydraulic pumps and rock drills.

Portability of air compressors and medium and heavy duty trucks are directly related to the first piece of construction equipment requiring noise emission control to foster the long-term reduction of construction site noise. It is anticipated that the noise emission regulations for new portable air compressors (41 FR 21621) and portable air compressors used in connection with medium and heavy duty trucks (41 FR 15033) will result in a reduction of between 25 and 35 percent in the adverse impact of construction site noise in terms of people exposed and intensiveness (severity of exposure).

Summary

In determining whether a product (or class of products) is a major noise source for regulation under section 8 of the Act, the Administrator considers primarily the following:

1. The intensity, character and/or duration of the noise emitted by the product (or class of products) and the number of people impacted by the noise;
2. Whether the product, alone or in combination with other products, causes noise exposure in defined areas under various conditions, which exceed the levels required for the public health and welfare with an adequate margin of safety;

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Construction activity. Surveys have shown that pavement breakers and rock drills usually to be highly prevalent in non-residential, industrial, and public works construction during clearing, excavation, and finishing phases of the activity. Their typical intermittent operation results in rather intense and objectionable short-term or single-event exposures which are generally perceived as highly disruptive and intrusive to the community. Furthermore, the impulsive character of the noise is found to be particularly irritating to the exposed population.

It is anticipated that reduction of the noise emissions from pavement breakers and rock drills, combined with reductions of noise from new trucks, portable air compressors, and wheel and crawler tractors will result in a 40 to 50 percent reduction in the annoyance and severity of overall construction site noise impact on the population of the United States.

It is further estimated that operators of pavement breakers and rock drills can be exposed to noise levels ranging from 85 to 120 dbA. Although a given operator may only operate a tool a few hours each day, he is generally in the immediate proximity of the tool during the full work shift. As much as operator usage of this equipment may range from 3 to 5 hours per day, such exposure presents a high risk of hearing loss and must be considered a severe health problem.

SUMMARY

The environmental noise impact due to pavement breakers and rock drills can be defined in terms of some 20 million people exposed to construction site noise levels that jeopardize their health and welfare. The number of operators that are subject to a risk of severe hearing loss is evident from preliminary studies that show the community and the equipment operator would derive great benefits from quieted pavement breakers and rock drills.

Accordingly, the EPA hereby identifies pavement breakers and rock drills as major sources of noise in accordance with section 9(b)(1) of the Noise Control Act of 1972. Additional information, as prescribed in section 9(b)(2) of the Act, will include information on techniques for control of noise, available data on technology, associated costs and alternate methods of noise control.

In the development of regulations for pavement breakers and rock drills, possible noise labeling requirements pursuant to section 8 of the Act will be examined in addition to noise emission standards.


John Quandt, Acting Administrator.

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