Abatement of Nuisances Regulations (Prevention of Air Pollution and Noise from a Quarry), 5758-1998

By the power vested in me under Sections 5, 7 and 18 of the Abatement of Nuisances Law, 5721-1961, (hereinafter - the Law), and with the approval of the Internal Affairs and Environmental Protection Committee of the Knesset and pursuant to Section 48(a) of the Basic Law: the Government, and Section 2 (b) of the Penal Law, 5737-1977, I make the following Regulations:

Definitions 1 In these Regulations-

"Dust" – matter comprised of micro-particles, that is carried into or is likely to be carried in the air or in gas, including in the form of smoke, soot or spray;

"Suspended dust" – dust the diameter of whose particles is less than 30 microns;

"Settling dust" – dust that is not suspended dust;

"Dry air" – air without water vapor

"Forced ventilation" – a device for the mechanical removal of air from a building by means of a breather vent;

"Residential area" – an area that has been designated in a plan under the Planning and Building Law, 5725-1965 (hereinafter - Planning and Building Law), as a residential area or as an area designated as a residential area, and also an area that serves as a residential area in practice;

"Sensitive area" – an area serving as or designated to serve as a residential area, for public buildings, for tourism or recreation, including 1000 meters from the building line, as defined in the Planning and Building Regulations (Application for a Permit, its Conditions and Fees) 5730-1970, that is at the edge of such an

area;

"Background test" – monitoring in an area that represents the state of the air therein excluding the effect of the quarry within the area;

"Sampling" – taking a sample of gas emitted from a stack, testing it and recording its composition in isolation;

"The Director" – whoever the Minister of Environmental Protection has empowered in relation to some or all of these regulations:

"Mineral matter" – matter originating in quarrying, including stones, gravel, and types of quarrying sand, and any material manufactured in and marketed from a quarry;

"Fine mineral matter" – mineral matter with the exception of stones and gravel;

"Quarry" – as defined in the Work Safety Ordinance [New Version], 5730-1970;

"Quarry installation" or "installation" – an installation in a quarry used in the production process, including an installation for the manufacture of asphalt, an installation for the manufacture of cement, a crushing device for the breakup and crushing of stones for the production of gravel and mineral matter of various sizes, a device for the loading of material matter on to vehicles and wagons, a sieving device for screening of mineral matter and a device for its transport and unloading, and including a mobile crushing device for mineral matter that is not situated within a quarry;

"New installation" – an installation which did not exist on the date of publication of these regulations;

"Existing installation" – an installation which was in existence on the date of publication of these regulations;

"Quarry operator" – the owner, holder or whoever is responsible for supervision of the operation of a quarry or a quarry installation;

"Truck operator" – the owner, holder or driver of a truck;

"Mist and spray equipment" – equipment for the spraying of water and the creation of mist for the settlement of dust in a quarry, which includes a system for the supply of water at high pressure and orifices for the spraying of water.

"Suction and collection equipment" – equipment for the suction and collection of dust that is emitted from non-point sources of dust emission;

"Filtration equipment" – a filter, precipitator, scrubber or other device which serves or is designated to serve for the absorption and filtering of dust emitted from a stack or from a forced ventilation vent in a quarry installation;

"Normal conditions" – a temperature of 20 degrees centigrade and pressure of 101.3 kilopascal;

"Operating standards"- the operating standards for stationary sources of the United States Environment Protection Agency (USEPA), which are deposited for public scrutiny in the Air Quality Division of the Ministry of Environmental Protection and in the District Offices of the Ministry, during the Ministry's normal working hours.

Unreasonable air pollution from a quarry

2 Unreasonable air pollution from a quarry is any of the following:

(1) Dust emission from stacks and forced ventilation vents in a quarry in a sensitive area or from a new installation in a quantity that exceeds 50 milligrams per cubic meter of dry air under normal conditions;

(2) Dust emission from stacks and forced ventilation vents in a quarry from an existing installation in a non-sensitive area in a quantity exceeding 100 milligrams per cubic meter of dry air under normal conditions;

(3) Settling dust, originating in a quarry, in a quantity that exceeds, within the boundary of the quarry, 20 tons per square kilometer per month;

(4) Suspended dust, originating in a quarry, in a quantity that exceeds, within the boundary of the quarry, 0.3 milligrams per cubic meter in a continuous measurement of three consecutive hours, or 0.2 milligrams per cubic meter in a continuous measurement of 24 consecutive hours.

Taking measures

3 (a) A quarry operator shall operate and maintain it in a manner that prevents unreasonable air pollution and shall take steps as provided in these regulations for the prevention of unreasonable air pollution.

(b) Where a failure has occurred in equipment for the prevention of dust or its settling or where another failure in a quarry installation causes air pollution, a quarry operator shall take all measures at his disposal in order to repair the failure as soon as possible, and until the necessary repair is completed - he shall reduce the emission of dust into the air as much as possible.

(c) A period of time of a failure in a quarry installation shall not be deemed a breach of this regulation, provided that the total number of failures in the installation does not exceed two percent of its operating time within a period of 12 consecutive months, and the continuation of an isolated event of a failure shall not exceed 15 consecutive hours, provided that such failure is severe and substantive.

Taking measures in a sensitive area

4 Notwithstanding the provisions of Regulation 3, a quarry operator shall immediately cease operating an installation in a sensitive area in which the dust prevention or dust settlement system, which was installed in it, is not in working order and where considerable or unreasonable air pollution was caused from it, and he shall only renew its operation after he has ensured that measures are taken to prevent the causing of unreasonable air pollution.

Internal roads

5 A quarry operator shall take measures for the prevention and reduction of unreasonable air pollution caused by the movement of vehicles on internal roads in the quarry, including the following measures:
(1) Paving of road sections which can be paved and cleaning paved roads in the quarry in order to prevent an accumulation of dust and its dispersal;
(2) Wetting the internal unpaved roads in the quarry in such a manner and at such frequency that will prevent dust dispersal;
(3) Wetting the roads between the quarry installations and between them and the quarry areas with a soil stabilization material at least once annually, at the end of the rainy season;
(4) Prohibition of driving within the bounds of the quarry at a

speed that is liable to cause the rising and dispersal of dust, and affixing signs in the quarry on this matter.

Quarry installations

6 (a) A quarry operator shall take the following steps:
(1) Install and operate spraying and misting equipment which is connected to a computerized control system, next to or on every quarry installation or pile of mineral matter that is a non-point source of dust emission;
(2) Verify that the spilling of mineral matter for the purposes of loading, transport or storage shall be done in proximity to the pile of material spilled, in a manner that prevents dispersal of dust; sleeves shall be installed on conveyor belts whose height cannot be adjusted.

(b) A quarry operator in a sensitive area shall also, in addition to the steps detailed in sub-regulation (a), take the following steps:
(1) Take all the measures for the prevention of dust dispersal from piles of quarry sand either by means of settling or covering the piles in a manner that protects them from wind or by the creation of a sealed layer on the pile by wetting it;
(2) Ensure that the transport installations of fine mineral matter shall be covered and protected from wind from all sides or that spraying and misting equipment shall be installed and operated in them;
(3) In the sieving installations of fine mineral matter a closed and sealed sieve shall be installed and operated, which is equipped with suction and collection equipment or with spraying and misting equipment;
(4) Crushing installations for the fine mineral matter shall be located in a structure that is enclosed from all sides, and which is equipped with suction and collection equipment or with spraying and misting equipment;
(5) Drilling machines that are operated in the quarry shall be equipped with suction and collection equipment or with spraying and misting equipment;
(6) Loading of sand shall be carried out at such a place and in such a manner as prevents dispersal of dust in accordance with that provided in paragraph (1);
(7) The dust that is collected by the suction and collection equipment and by the filtration equipment shall be removed and disposed to a legally authorized construction and demolition waste disposal site, or additional use shall be made of it within the bounds of the quarry.

Shutdown plan

7 A quarry operator in a sensitive area shall prepare and submit to the Director a plan for shutdown of the quarry under difficult meteorological conditions causing the transport of quarry dust to residential areas in close proximity to the quarry, and he shall operate according to such plan when necessary.

Unreasonable noise and ground tremors

8 (a) A quarry operator shall take measures to prevent unreasonable noise as a result of the quarrying, including operational and technological measures that are necessary so that the quarry and its installations do not cause unreasonable noise, within its meaning in the Abatement of Nuisances (Unreasonable Noise) Regulations, 5750-1990.

Amendment 2009

(b) A quarry operator shall take measures to prevent ground tremors as a result of a blast in the quarry which cause nuisances and including such operational and technological measures as are necessary in order to maintain one or more of the values specified in each of these paragraphs:

(1) The maximum velocity of the ground particles motion in a measurement carried out adjacent to a residential building or public building nearest to the blast site, shall not exceed the following values:

(a) 32 millimeters per second - when the measurement distance from the blast site is up to 90 meters;

(b) 25 millimeters per second - when the measurement distance from the blast site is between 90 to 1500 meters;

(c) 19 millimeters per second - when the measurement distance from the blast site exceeds 1500 meters.

Amendment 2009

(2) Blasting in a quarry shall be conducted so that the square root scaled distance in meters of the blast site from the point of measurement K, shall be equal to the quantity of charge material in kilograms per each delay or greater than it. The constant K shall be calculated so that in 95% of the cases the values of ground particle motion shall comply with one or more of the values specified in paragraph (1) or:

(a) when the measurement distance from the blast site is up to 90 meters K=0.002;

Amendment 2009

(b) when the measurement distance from the blast site is between 90 to 1,500 meters K=0.0016;

(c) when the measurement distance from the blast site is greater than 1,500 meters K = 0.0012.

(3) The maximum velocity of ground particle motion in a

measurement taken adjacent to a residential building or public building which is closest to the blast site shall not exceed these values:

(a) 19 millimeters per second – at a vibration frequency of 4HZ – 11 HZ;

(b) between 19 millimeters per second to 51 millimeters per second – at a vibration frequency of 11HZ – 30 HZ;

(c) 51 millimeters per second – at a vibration frequency that is greater than 30 HZ.

Transport of quarry material

9. (a) A truck operator shall not move a truck out of the quarry boundaries that is loaded with mineral matter unless the truck is covered in such a way so as to prevent the dispersal of dust.

(b) A quarry operator shall install and operate in the quarry a device for the wetting of material being transported on trucks carrying mineral matter.

(c) An operator of a truck that leaves the bounds of a quarry when empty shall rinse the cargo box of the truck, before leaving the quarry.

Maintenance and operation

10 (a) The equipment and the installations specified in these regulations, including the measuring devices, shall be maintained in normal working condition at all times so as to ensure their normal operation.

(b) Subject to that provided in Regulations 3 and 4, quarry installations shall only be operated when the spraying and misting equipment, the filtration equipment and the suction and collection equipment installed therein are in working order.

Sampling

11 (a) A quarry operator shall carry out, once annually or according to the Director's instructions, sampling in order to determine the concentration of dust emitted from stacks and forced ventilation vents; the sampling shall be carried out by a professional, under characteristic operating conditions, and shall be done in accordance with Method 5 specified in Schedule A of the operating standards or by an equivalent standard permitted by the Director.

(b) A quarry operator shall ensure that the necessary preparations and procedures for the proper implementation of sampling are fulfilled.

Wind gauge

12. In a sensitive area, and in a non-sensitive area – a quarry operator shall install – in accordance with a special instruction of the Director, a wind gauge with a continuous recorder connected to a computerized control system, for examination of the wind speed and its direction.

Monitoring

13 (a) A quarry operator in a sensitive area, shall prepare and deliver to the Director, a plan for monitoring settling dust and suspended dust in areas adjacent to the quarry in which dust from the quarry is dispersed, which shall include:
(1) A plan for stationing buckets to monitor settling dust;
(2) A plan for stationing devices to monitor suspended dust, which shall be operated once a week for a period of 3 consecutive hours, and devices as aforesaid which shall be operated once a week for 24 consecutive hours, or at another frequency, with the agreement of the Director.

(b) Determining the location of the monitoring devices as provided in sub-regulation (a) (2) and (3) shall be done taking into account the prevailing winds in the areas in which dust is dispersed from the quarry, and in adjacent areas that are suitable for background tests, in a manner that ensures that operation of the monitoring devices will lead to results that reflect the dispersal of dust originating from the quarry.

(c) A quarry operator shall install devices for the monitoring of settling dust and suspended dust, in accordance with the plan referred to in sub-regulation (a); such installation shall be carried out in accordance with the best professional know-how and the devices shall be calibrated and of a capacity that allows the monitoring of suspended dust particles.

Recording

14 (a) A quarry operator shall keep a complete and well ordered record of –
(1) Dates and times on which failures occurred in equipment for prevention of air pollution from the quarry's installations;
(2) Results of sampling of dust concentration from stacks and from forced ventilation vents pursuant to Regulation 11(a);
(3) Results of the measurement of ground tremors pursuant to Regulation 8(b).

(b) In addition to that provided in sub-regulation (a), a quarry operator in a sensitive area shall keep a complete and well

ordered record of –

(1) Dates of shutdown of an installation in the quarry in a sensitive area, in any case of a failure in the equipment for the prevention of dust or its settling;

(2) Results of settling dust monitoring;

(3) Results of suspended dust monitoring;

(4) Data of the wind speed and its direction.

(5) Dates when the quarry was shut down due to winds, which carried dust from the quarry in the direction of residential areas.

(c) The records shall be kept in the offices of the quarry operator for a period of three years, and shall be made available for scrutiny by the Director during normal working hours; a copy of them shall be delivered to him at his request.

Contact person

15. A quarry operator shall appoint a person on his behalf who shall act as a contact person between him and the Director with regard to compliance with the provisions of these regulations.

Exemption

16. The Director may exempt a quarry operator, upon his application, from misting, spraying, and wetting, if his quarry is not connected to a water supply network, and may give instructions as to alternative means of preventing the dispersal of dust from the quarry's installations and roads.

Saving of statutes

17. The provisions of these regulations shall add to and not derogate from any law concerned with the planning and building of a quarry, abatement of nuisances and preservation of quality of the environment, including personal directions pursuant to Section 8 of the Law.

Penalties

18. A person who contravenes any of the provisions of these regulations shall be liable to a fine as provided in Section 11 of the Law.

Commencement

19. (a) These regulations, in respect of a new installation, shall enter into force 30 days from the date of their publication.

(b) These regulations, in respect of an existing installation, shall enter into force six months from the date of their publication.

(c) Notwithstanding that provided in sub-regulation (a), Regulation 6(b), 7 and 13 in respect of an existing installation – shall enter into force three years from the date of publication of these regulations.