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Pollution Ced Propagation, Governor

Joel Brunsvold, Director

One Natural Resources Way • Springfield, Illinois 62/02-12/1 http://dnr.state.il.us

August 10, 2005

Dorothy Gunn, Clerk Illinois Pollution Control Board 100 W. Randolph, Suite 11-500 Chicago, IL 60601

Re: Proposed New and Updated Rules for Measurement and Numerical Sound Emission

Standards/Amendments to 35 Ill. Adm. Code 901 and 910/Docket R03-9

Summary of Testimony

Dear Ms. Gunn:

Pursuant to Hearing Officer Tipsord's June 8, 2005 Order, the following summary of testimony is being submitted by the Illinois Department of Natural Resources (IDNR), Office of Mines and Minerals, Mine Safety and Training Division in reference to the above referenced amendments.

- The Department will provide testimony describing the Department's aggregate and coal blaster certification, monitoring and licensing procedures. This testimony will include, but will not be limited to a description of the eligibility requirements for licensure and certification (two years blasting experience or direct involvement with preparing 120 blasts). Information regarding the Department's monitoring of surface aggregate and coal operations utilizing sophisticated seismographs which record ground vibration and air over-pressure (air blast). Information relating to the established regulatory parameters requiring the site operators to monitor air blast and ground vibration. Testimony regarding the utilization of established limits for air blast and ground vibration and associated punitive and administrated penalties for non-compliance.
- The Department will provide testimony concerning the Department's comprehensive inspection and permitting procedures. This testimony will provide an overview of the structure of Department's regulatory program which includes 12 staff members, of which 8 are field inspectors, based at the Department's three regional offices located in Ottawa, IL, Springfield, IL and Benton, IL. In addition this section of testimony will address the statutorily required quarterly coal operation inspections as well as statutorily required aggregate operation inspections. Included within this section will be a brief summary of the 10+ year history of the aforementioned regulatory program.
- The Department will reference sections 300.200 through 300.250 under 62 Ill. Admin. Code Part 300 (see enclosed) which pertain to surface aggregate blasting governed under the Surface Mined Land Conservation and Reclamation Act.

• The Department will reference sections 1816.61 through 1816.68 and 1817.61 through 1817.68 under 62 Illinois Administrative Code Parts 1816 and 1817 (see enclosed) which pertain to Permanent Program performance standards for surface coal mining operations and underground coal mining operations respectively governed under the Surface Coal Mining Land Conservation and Reclamation Act.

As the IDNR has respectively suggested in its comments to the above referenced amendments, surface aggregate and coal blasting provisions of these statutes be deferred to our agency for regulation. Such deferment would help prevent inconsistences and redundancies between regulatory authorities with distinct and separate regulatory roles.

Sincerely,

Joseph R. Angleton, Office Director

Office of Mines and Minerals

cc: N.Banach

N.Williams

M.Falter

J.Hafliger

Service List

Section 1816.61 Use of Explosives: General Requirements

- a) Each person who conducts surface mining activities shall comply with all applicable State and Federal laws in the use of explosives.
- b) All blasting operations shall be conducted by persons certified by the Department in accordance with 62 III. Adm. Code 1850.
- c) Blast design.
 - 1) An anticipated blast design shall be submitted if blasting operations will be conducted within:
 - A) One thousand (1,000) feet of any building used as a dwelling, public building, school, church, or community or institutional building outside the permit area; or
 - B) Five hundred (500) feet of an active or abandoned underground mine.
 - 2) The blast design may be presented as part of the permit application or at a time, before the blast, approved by the Department.
 - The blast design shall contain sketches of the drill patterns, delay periods, and decking and shall indicate the type and amount of explosives to be used, critical dimensions, and the location and general description of structures to be protected, as well as a discussion of design factors to be used, which protect the public and meet the applicable air blast, flyrock, and ground vibration standards in Section 1816.67.
 - 4) The blast design shall be prepared and signed by a certified blaster.

(Source: Amended at 11 Ill. Reg. 8131, effective July 1, 1987)

Section 1816.62 Use of Explosives: Pre-Blasting Survey

- a) At least thirty (30) days before initiation of blasting in a permit area, the operator shall notify, in writing, all residents or owners of structures located within one-half (½) mile of the permit area how to request a pre-blast or condition survey.
- b) Upon written request to the Department and the person who conducts the surface mining activities by a resident or owner of a dwelling or structure that is located within one-half (1/2) mile of any portion of the permitted area, or by the owner of a dwelling or structure at a distance greater than one-half (1/2) mile from the permit area but within one (1) mile of the blasting area and within an area determined by the Department to be appropriate in a particular situation on the basis of complaints or other information received by the Department, the person who conducts the surface mining activities shall promptly conduct a pre-blasting survey or a condition survey of the dwelling or structure. For any structure where, in accordance with this Section, a survey has been requested by a previous resident or previous owner and the survey has been conducted by the permittee and copies of the survey report have been provided to the previous owner or resident and the Department, the permittee shall only be required to provide a copy of the previously completed survey report to any new or subsequent owner upon written request by the new or subsequent owner. If a structure is renovated, modified, or added to, subsequent to a pre-blast survey or a condition survey, then upon request to the Department a survey of such additions, modifications and renovations shall be performed in accordance with this Section.
- c) The survey shall determine the condition of the dwelling or structure and document any pre-blasting or existing damage and other physical factors that could reasonably be affected by the blasting. Structures such as pipelines, cisterns, wells and other water systems warrant special attention such as the review of construction, drilling or completion specifications; however, the assessment of these structures may be limited to surface conditions.
- d) Any surveys requested more than ten (10) calendar days prior to the published scheduled beginning of blasting shall be completed by the operator before the start of blasting. If the request is made after the start of blasting the person who conducts the surface mining activity shall conduct a condition survey of the dwelling or structure. A condition survey shall contain information identical to a pre-blasting survey. The intent of this Section is to provide for either a pre-blasting or condition survey only.
- e) A written report of the survey shall be prepared and signed by the person who conducted the survey. The report may include recommendations of any special conditions or proposed adjustments to the blasting procedure which should be

incorporated into the blasting plan to prevent damage. Copies of the report shall be provided to the person requesting the survey and to the Department within thirty (30) days of the date the survey was completed. If the person requesting the survey disagrees with the results of the survey, he or she may notify, in writing, both the permittee and the Department of the specific areas of disagreement. Instructions as to whom and to where the written comments on the results of the survey should be forwarded shall be included with the survey report.

(Source: Amended at 11 Ill. Reg. 8131, effective July 1, 1987)

Section 1816.64 Use of Explosives: Public Notice of Blasting Schedule

- a) All blasting shall be conducted from sunrise to sunset, and at times announced in the blasting schedule. The Department shall limit the area covered, timing and sequence of blasting, as listed in the schedule, if such limitations are necessary and reasonable in order to protect public health, safety or welfare.
- Unscheduled blasting may be conducted only where public or operator health and safety so require. When an operator conducts an unscheduled blast, the operator, using audible warning signals, shall notify residents within one-half mile of the blasting site and document the reason(s) for the unscheduled blast in accordance with Section 1816.68(a)(17). Unscheduled blasting does not include nighttime blasting, which is prohibited at all times.
- c) Blasting schedule publication.
 - 1) Each person who conducts surface mining activities shall publish a blasting schedule at least ten days, but not more than 30 days, before beginning a blasting program in which blasts that use more than five (5) pounds of explosive or blasting agent are detonated. The blasting schedule shall be published in a newspaper of general circulation in the locality of the blasting site.
 - Copies of the schedule shall be distributed by mail to local governments and public utilities and mailed or delivered to each residence within one-half mile of the proposed blasting area and to every other person within or outside such area to whom the Department requires to be mailed, and daily notices shall be provided to such persons prior to any blasting.
 - The person who conducts the surface mining activities shall republish and redistribute the schedule by mail at least every 12 months and revise and republish the schedule at least ten days but not more than 30 days before blasting in areas not covered in the current schedule or if the actual blasting times differ from the time periods listed in the current schedule for more than 20% of the blasts fired.
- d) The blasting schedule shall contain at a minimum:
 - 1) Identification of the specific areas in which blasting will take place;
 - 2) Dates and time periods when explosives are to be detonated;
 - 3) Methods to be used to control access to the blasting area;

- 4) Types of audible warnings and all-clear signals to be used before and after blasting, and
- 5) Name, address, and telephone number of operator.
- e) Public notice of changes in blasting schedules. Before blasting in areas or at times not in a previous schedule, the person who conducts the surface mining activities shall prepare a revised schedule according to the procedures in subsections (c) and (d).

(Source: Amended at 22 III. Reg. 20228, effective November 5, 1998)

Section 1816.66 Use of Explosives: Blasting Signs, Warnings, and Access Control

- a) Blasting signs shall meet the specifications of Section 1816.11. The operator shall:
 - 1) Conspicuously display signs reading "Blasting Area" along the edge of any blasting area that comes within 100 feet of any public road right-of-way, and at the point where any other road provides access to the blasting area; and
 - 2) At all entrances to the permit area from public roads or highways, place conspicuous signs which state "Warning! Explosives in Use" and which clearly list and describe the meaning of the audible blast warning and all-clear signals that are in use, and which explain the marking of blasting areas and charged holes awaiting firing within the permit area.
- Warning and all-clear signals of different character or pattern that are audible within one-half mile of the blast shall be given. Each person within the permit area and each person who resides or regularly works within one-half mile of the permit area shall be notified of the meaning of the signals in the blasting schedule. The requirement to supply daily notice may be fulfilled by the audible warning signals.
- c) Access to the blasting area shall be controlled to prevent the presence of livestock or unauthorized personnel during blasting and until an authorized representative of the person who conducts the surface mining activities has reasonably determined:
 - 1) That no unusual circumstances, such as imminent slides or undetonated charges, exist; and
 - 2) That access to and travel in or through the area can be safely resumed.
- d) Proximity to buildings and other facilities
 - 1) Blasting shall not be conducted within 300 feet of any building used as a dwelling unless waived by the owner or within 300 feet of a school, church, hospital, or nursing facility.
 - 2) Blasting shall not be conducted within 100 feet of facilities including, but not limited to, disposal wells, petroleum or gas storage facilities, municipal water storage facilities, fluid-transmission pipelines, or water

and sewage lines unless a waiver is obtained from the owner of the facility and submitted to the Department prior to blasting within 100 feet.

(Source: Amended at 22 Ill. Reg. 20228, effective November 5, 1998)

Section 1816.67 Use of Explosives: Control of Adverse Effects

a) Blasting shall be conducted to prevent injury to persons, damage to public or private property outside the permit area, adverse impacts on any underground mine, and change in the course, channel or availability of ground or surface water outside the permit area.

b) Air blast limits

Air blast shall be controlled so that it does not exceed the values specified below at any dwelling, public building, school, church, or commercial or institutional structure, unless such structure is owned by the person who conducts the surface mining activities and is not leased to any other person. If a building owned by the person conducting surface mining activities is leased to another person, the lessee may sign a waiver relieving the operator from meeting the air blast limitations of this subsection. The waiver shall be submitted to the Department before beginning blasting.

Lower frequency limit of	Maximum
measuring system, Hz +3dB	level in dB
0.1 Hz or lowerflat response*	134 peak
2.0 Hz or lowerflat response	133 peak
6.0 Hz or lowerflat response	129 peak
*Only when approved by the Department	-

- 2) The measuring systems used shall have a flat frequency response of at least 200 Hz at the upper end.
- The person who conducts blasting may satisfy the provisions of subsection (b) by meeting any of the three specifications in the chart in subsection (b)(1).
- 4) If necessary to prevent damages specified in subsection (a), the Department shall specify lower maximum allowable air blast levels than those in subsection (b)(1) for use in the vicinity of a specific blasting operation.

c) Air blast monitoring

1) When the cube root scaled distance, as defined in subsection (c)(2), to the nearest dwelling, public building, school, church, or commercial or institutional structure has a value less than 350 and when the burden to

hole depth ratio is greater than 1.0, or the top stemming height is less than 70% of the burden dimension, the air blast produced by that blast shall be measured, recorded, analyzed, and reported pursuant to subsection (g) of this Section and Section 1816.68(b). This subsection shall not apply to horizontal blast holes drilled from the floor of the pit.

- 2) Cube root scaled distance equals the distance, in feet, from the blast to a specified location divided by the cube root of the maximum weight of explosives, in pounds, to be detonated in any eight millisecond period.
- 3) To ensure compliance with the limits contained in this Section, the Department may require an air blast measurement of any or all blasts, and may specify the location of such measurements.
- d) Flyrock, including blasted material traveling in the air, or along the ground, shall not be cast beyond the permit boundaries or beyond the area of regulated access required under Section 1816.66(c), or more than one-half the distance to the nearest dwelling or other occupied structure.

e) Ground vibration limits

- 1) In all blasting operations, except as otherwise authorized in this Section, the maximum peak particle velocity shall not exceed one inch per second at the location of any dwelling, public building, school, church, or commercial or institutional building. At distances greater than 5,000 feet from the blast to any structures described in this subsection, the maximum allowable peak particle velocity shall not exceed 0.75 inch per second at the locations of the structures described in this subsection. At distances less than 300 feet from the blast to any structures described in this subsection, the maximum allowable peak particle velocity shall not exceed 1.25 inch per second at the locations of the structures described in this subsection. These limits shall apply separately to each component of motion as defined in subsection (g). The Department shall reduce peak particle velocity limits if determined necessary to provide damage protection, if so recommended in any pre-blast survey or condition survey report provided pursuant to Section 1816.62.
- Blasting shall be conducted to prevent adverse impacts on any underground mine and changes in the course, channel, or availability of ground or surface water outside the permit area. Ground vibration limits, including the maximum peak particle velocity limitation of subsection (e)(1), shall not apply at the following locations:

- A) At structures owned by the person conducting the mining activity, and not leased to another party; and
- B) At structures owned by the person conducting the mining activity, and leased to another party, if a written waiver by the lessee is submitted to the Department prior to blasting.
- f) Ground vibration monitoring.
 - 1) When the scaled distance, as defined below, has a value less than 65 at the nearest dwelling, public building, school, church, or commercial or institutional structure, a seismograph recording shall be made at or near the closest structure requiring protection.
 - 2) Scaled Distance = The distance, in feet, from the blast to a specified location divided by the square root of the maximum weight of explosives, in pounds, to be detonated in any eight (8) millisecond period.
 - 3) To ensure compliance with the limits contained in this Section, the Department may require a seismograph recording of any or all blasts and may specify the location at which such recordings are made.
- g) As used herein, seismograph recording or record or air blast recording or record shall mean:

A visually inspectable cartesian representation of the time history of the particle velocity levels or air blast levels versus time. Time is represented on the "X" axis. The particle velocity is shown by three traces representing mutually perpendicular components of motion. The components are oriented vertically, transversely, and longitudinally to the horizontal direction from the recording location to the location of the blast. The air blast time history is represented by a single trace. The record or recording includes either an analog representation of, or a written description of the vertical scale for the particle velocity traces and the air blast trace. The units for the particle velocity traces and scale are in inches per second. The units for the air blast trace and scale are millibars, pounds per square inch, or decibels. The recording also includes an analog of descriptive time scale. The time units are in seconds.

(Source: Amended at 22 Ill. Reg. 20228, effective November 5, 1998)

Section 1816.68 Use of Explosives: Records of Blasting Operations

- a) A record of each blast, including seismograph reports, shall be retained by the operator for at least three (3) years and shall be available for inspection by the Department and the public on request. The record is to be completed by the end of the work day following the day in which the blast occurred, including the seismograph meter reading, if available, and shall contain the following data:
 - 1) Name of the operator conducting the blast;
 - 2) Location, date, and time of blast;
 - Name, signature, and certification number of the blaster conducting the blast;
 - 4) The name of the owner or resident of, and the direction and distance, in feet, to the nearest dwelling, school, church, or commercial, or institutional building either:
 - A) Not located in the permit area; or
 - B) Not owned by the person who conducts the surface mining activities.
 - 5) Type of material blasted;
 - 6) Number of holes, burden, and spacing;
 - 7) Diameter and depth of holes;
 - 8) Types of explosives used;
 - 9) Total weight of explosives used;
 - 10) Weight of explosives used per hole;
 - 11) Maximum weight of explosives detonated within any eight (8) millisecond period;
 - 12) Maximum number of holes or decks detonated within any eight (8) millisecond period;
 - 13) Initiation system;

- 14) Type and length of stemming;
- 15) Type of delay detonator and delay periods used;
- 16) Sketch of the delay pattern, including decking;
- 17) Reasons and conditions for each unscheduled blast;
- 18) Wind velocity and direction; and
- 19) Weather conditions, including those which may cause possible adverse blasting effects.
- b) Air blast and/or ground vibration recordings, or photographic copies thereof, where required, shall be kept at the mine site office for a period of three (3) years following the date of the blast, and shall be available for inspection by the Department and the public on request. The recordings shall include the following:
 - 1) Maximum air blast and/or ground vibration levels recorded;
 - 2) The exact location of the monitoring equipment, and its distance from the blast, and the date and time of the recording;
 - 3) Name of the person and firm making the recording;
 - 4) Name of the person and firm analyzing the recording. The recording shall be signed and dated by the person performing the analysis; and
 - The type of instrument, sensitivity, and calibration signal or certification of annual calibration. When the recordings required at Sections 1816.67(c) and 1816.67(g) are produced via digitized systems, the sampling rate of the digitizer, in samples per second, shall be stated.

(Source: Amended at 15 III. Reg. 17166, effective January 1, 1992)

Section 1817.61 Use of Explosives: General Requirements

- a) Sections 1817.61 through 1817.68 apply only to surface blasting activities incident to underground mining, including, but not limited to, initial rounds of slopes and shafts that are within 50 vertical feet of the original ground surface.
- b) Each person who conducts surface mining activities shall comply with all applicable State and Federal laws in the use of explosives.
- c) All blasting operations shall be conducted by persons certified by the Department in accordance with 62 Ill. Adm. Code 1850.
- d) Blast design.
 - 1) An anticipated blast design shall be submitted if blasting operations will be conducted within:
 - A) 1,000 feet of any building used as a dwelling, public building, school, church, or community or institutional building outside the permit area; or
 - B) 500 feet of an active or abandoned underground mine.
 - 2) The blast design may be presented as part of the permit application or at a time, before the blast, approved by the Department.
 - The blast design shall contain sketches of the drill patterns, delay periods, and decking and shall indicate the type and amount of explosives to be used, critical dimensions, and the location and general description of structures to be protected, as well as a discussion of design factors to be used, which protect the public and meet the applicable air blast, flyrock, and ground vibration standards in Section 1817.67.
 - 4) The blast design shall be prepared and signed by a certified blaster.

(Source: Amended at 22 III. Reg. 20197, effective November 5, 1998)

Section 1817.62 Use of Explosives: Pre-Blasting Survey

- a) At least 30 days before initiation of blasting in a permit area, the operator shall notify, in writing, all residents or owners of structures located within one-half mile of the permit area how to request a pre-blast or condition survey.
- b) Upon written request to the Department and the person who conducts the surface mining activities by a resident or owner of a dwelling or structure that is located within one-half mile of any portion of the permitted area, or by the owner of a dwelling or structure at a distance greater than one-half mile from the permit areas but within one mile of the blasting area and within an area determined by the Department to be appropriate in a particular situation on the basis of complaints or other information received by the Department, the person who conducts the surface mining activities shall promptly conduct a pre-blasting survey or a condition survey of the dwelling or structure. For any structure where, in accordance with this Section, a survey has been requested by a previous resident or a previous owner and the survey has been conducted by the permittee and copies of the survey report have been provided to the previous owner or resident and the Department, the permittee shall only be required to provide a copy of Tthe previous completed survey report to any new or subsequent owner upon written request by the new or subsequent owner. If a structure is renovated, modified or added to, subsequent to a pre-blast survey or a condition survey, then upon request to the Department a survey of such additions, modifications and renovations shall be performed in accordance with this Section.
- c) The survey shall determine the condition of a dwelling or structure and document any pre-blasting or existing damage and other physical factors that could reasonably be affected by the blasting. Structures such as pipelines, cisterns, wells and other water systems warrant special attention such as the review of construction, drilling or completion specifications; however, the assessment of these structures may be limited to surface conditions.
- d) Any surveys requested more than ten calendar days prior to the planned initiation of blasting shall be completed by the operator before the start of blasting. If the request is made after the start of blasting the person who conducts the surface mining activity shall conduct a condition survey of the dwelling or structure. A condition survey shall contain information identical to a pre-blasting survey. The intent of this Section is to provide for either a pre-blasting or condition survey only.
- e) A written report of the survey shall be prepared and signed by the person who conducted the survey. The report may include recommendations of any special conditions or proposed adjustments to the blasting procedure which should be incorporated into the blasting plan to prevent damage. Copies of the report shall

be provided to the person requesting the survey and to the Department within 30 days after the date the survey was completed. If the person requesting the survey disagrees with the results of the survey, he or she may notify, in writing, both the permittee and the Department of the specific areas of disagreement. Instructions as to whom and to where the written comments on the results of the survey should be forwarded shall be included with the survey report.

(Source: Amended at 22 Ill. Reg. 20197, effective November 5, 1998)

Section 1817.64 Use of Explosives: General Performance Standards

- a) The operator shall notify, in writing, residents within one-half (1/2) mile of the blasting site, the Department, and local governments of the proposed times and locations of blasting operations. Such notice of times that blasting is to be conducted may be announced weekly, but in no case less than twenty four (24) hours before blasting will occur.
- b) Unscheduled blasting may be conducted only where public or operator health and safety so require. When an operator conducts an unscheduled blast, the operator, using audible warning signals, shall notify residents within one-half (1/2) mile of the blasting site and document the reason(s) for the unscheduled blast in accordance subsection 1817.68(a)(17).
- c) All blasting shall be conducted between sunrise and sunset. The Department shall limit the area covered, timing and sequence of blasting as listed in the schedule, if such limitiations are necessary and reasonable in order to protect public health, safety or welfare.

(Source: Amended at 14 Ill. Reg. 11855, effective January 1, 1991)

Section 1817.66 Use of Explosives: Blasting Signs, Warnings, and Access Control

- a) Blasting signs shall meet the specifications of Section 1817.11. The operator shall:
 - 1) Conspicuously display signs reading "Blasting Site" along the edge of any blasting site that comes within 100 feet of any public road right-of-way, and at the point where any other road provides access to the blasting site; and
 - At all entrances to the permit area from public roads or highways, place conspicuous signs which state "Warning! Explosives in Use" and which clearly list and describe the meaning of the audible blast warning and all-clear signals that are in use, and which explain the marking of blasting sites and charged holes awaiting firing within the permit area.
- Warning and all-clear signals of different character or pattern that are audible within one-half mile of the blast shall be given. Each person within the permit area and each person who resides or regularly works within one-half mile of the permit area shall be notified of the meaning of the signals in the blasting notification required in Section 1817.64. The requirement to supply daily notice may be fulfilled by the audible warning signals.
- c) Access to the blasting site shall be controlled to prevent the presence of livestock or unauthorized personnel during blasting and until an authorized representative of the person who conducts the surface mining activities has reasonably determined:
 - 1) That no unusual circumstances, such as imminent slides or undetonated charges, exist; and
 - 2) That access to and travel in or through the site can be safely resumed.

d) Blasting prohibitions

- 1) Blasting shall not be conducted within 300 feet of any building used as a dwelling unless waived by the owner or within 300 feet of a school, church, hospital, or nursing facility.
- 2) Blasting shall not be conducted within 100 feet of facilities including, but not limited to, disposal wells, petroleum or gas storage facilities, municipal water storage facilities, fluid-transmission pipelines, or water

and sewage lines unless a waiver is obtained from the owner of the facility and submitted to the Department prior to blasting within 100 feet.

(Source: Amended at 22 Ill. Reg. 20197, effective November 5, 1998)

Section 1817.67 Use of Explosives: Control of Adverse Effects

a) Blasting shall be conducted to prevent injury to persons, damage to public or private property outside the permit area, adverse impacts on any underground mine, and change in the course, channel or availability of ground or surface waters outside the permit area.

b) Air blast limits.

Air blast shall be controlled so that it does not exceed the values specified below at any dwelling, public building, school, church, or commercial or institutional structure, unless such structure is owned by the person who conducts the surface mining activities and is not leased to any other person. If a building owned by the person conducting surface mining activities is leased to another person, the lessee may sign a waiver relieving the operator from meeting the air blast limitations of this subsection. The waiver shall be submitted to the Department before beginning blasting.

Lower frequency limit of	Maximum
measuring system, Hz +3dB	level in dB
0.1 Hz or lowerflat response*	134 peak
2.0 Hz or lowerflat response	133 peak
6.0 Hz or lowerflat response	129 peak
* Only when approved by the Department	

- 2) The measuring systems used shall have a flat frequency response of at least 200 Hz at the upper end.
- The person who conducts blasting may satisfy the provisions of subsection (b) by meeting any of the three specifications in the chart in subsection (b)(1).
- 4) If necessary to prevent damages specified in subsection (a), the Department shall specify lower maximum allowable airblast levels than those of subsection (b)(1) for use in the vicinity of a specific blasting operation.

c) Air blast monitoring

1) When the cube root scaled distance, as defined in subsection (c)(2), to the nearest dwelling, public building, school, church, or commercial or

institutional structure has a value less than 350 and when the burden to hole depth ratio is greater than 1.0, or the top stemming height is less than 70% of the burden dimension, the air blast produced by that blast shall be measured, recorded, analyzed, and reported pursuant to subsection (g) and Section 1817.68(b).

- 2) Cube root scaled distance equals the distance, in feet, from the blast to a specified location divided by the cube root of the maximum weight of explosives, in pounds, to be detonated in any eight millisecond period.
- 3) To ensure compliance with the limits contained in this Section, the Department may require an air blast measurement of any or all blasts, and may specify the location of such measurements.
- d) Flyrock, including blasted material traveling in the air, or along the ground, shall not be cast beyond the permit boundaries or beyond the area of regulated access required under Section 1817.66(c), or more than one-half the distance to the nearest dwelling or other occupied structure.
- e) Ground vibration limits.
 - In all blasting operations, except as otherwise authorized in this Section, 1) the maximum peak particle velocity shall not exceed one (1) inch per second at the location of any dwelling, public building, school, church, or commercial or institutional building. At distances greater than 5,000 feet from the blast to any structures described in this subsection, the maximum allowable peak particle velocity shall not exceed 0.75 inch per second at the locations of the structures described in this subsection. At distances less than 300 feet from the blast to any structures described in this subsection, the maximum allowable peak particle velocity shall not exceed 1.25 inch per second at the locations of the structures described in this subsection. These limits shall apply separately to each component of motion as defined in subsection (g). The Department shall reduce peak particle velocity limits if determined necessary to provide damage protection if so recommended in any pre-blast survey or condition survey report provided pursuant to Section 1817.62.
 - 2) Blasting shall be conducted to prevent adverse impacts on any underground mine and changes in the course, channel, or availability of ground or surface water outside the permit area. Ground vibration limits, including the maximum peak particle velocity limitation of subsection (e)(1), shall not apply at the following locations:

- A) At structures owned by the person conducting the mining activity, and not leased to another party;
- B) At structures owned by the person conducting the mining activity, and leased to another party, if a written waiver by the lessee is submitted to the Department prior to blasting.

f) Ground vibration monitoring

- 1) When the scaled distance, as defined below, has a value of less than 65 at the nearest dwelling, public building, school, church, or commercial or institutional structure, a seismograph recording shall be made at or near the closest structure requiring protection.
- 2) Scaled Distance = The distance, in feet, from the blast to a specified location divided by the square root of the maximum weight of explosives, in pounds, to be detonated in any eight millisecond period.
- 3) To ensure compliance with the limits contained in this Section, the Department may require a seismograph recording of any or all blasts and may specify the location at which such recordings are made.
- g) As used herein, seismograph recording or record or air blast recording or record shall mean a visually inspectable cartesian representation of the time history of the particle velocity levels or air blast levels versus time. Time is represented on the "X" axis. The particle velocity is shown by three traces representing mutually perpendicular components of motion. The components are oriented vertically, transversely, and longitudinally to the horizontal direction from the recording location to the location of the blast. The air blast time history is represented by a single trace. The record or recording includes either an analog representation of, or a written description of the vertical scale for the particle velocity traces and the air blast trace. The units for the particle velocity traces and scale are in inches per second. The units for the air blast trace and scale are millibars, pounds per square inch, or decibels. The recording also includes an analog or descriptive time scale. The time units are in seconds.

(Source: Amended at 22 III. Reg. 20197, effective November 5, 1998)

Section 1817.68 Use of Explosives: Records of Blasting Operations

- a) A record of each blast, including seismograph reports, shall be retained by the operator for at least three (3) years and shall be available for inspection by the Department and the public on request. The record is to be completed by the end of the work day following the day in which the blast occurred, including the seismograph meter reading, if available, and shall contain the following data:
 - 1) Name of the operator conducting the blast;
 - 2) Location, date, and time of blast;
 - Name, signature, and certification number of the blaster conducting the blast;
 - 4) The name of the owner or resident of, and the direction and distance, in feet, to the nearest dwelling, school, church, or commercial, or institutional building either:
 - A) Not located in the permit area; or
 - B) Not owned by the person who conducts the surface mining activities:
 - 5) Type of material blasted;
 - 6) Number of holes, burden, and spacing;
 - 7) Diameter and depth of holes;
 - 8) Types of explosives used;
 - 9) Total weight of explosives used;
 - 10) Weight of explosives used per hole;
 - 11) Maximum weight of explosives detonated within any eight (8) millisecond period;
 - 12) Maximum number of holes or decks detonated within any eight (8) millisecond period;
 - 13) Initiation system;

- 14) Type and length of stemming;
- 15) Type of delay detonator and delay periods used;
- 16) Sketch of the delay pattern, including decking;
- 17) Reasons and conditions for each unscheduled blast:
- 18) Wind velocity and direction; and
- 19) Weather conditions, including those which may cause possible adverse blasting effects.
- b) Air blast and/or ground vibration recordings, or photographic copies thereof, where required, shall be kept at the mine site office for a period of three (3) years following the date of the blast, and shall be available for inspection by the Department and the public on request. The recordings shall include the following:
 - 1) Maximum air blast and/or ground vibration levels recorded;
 - 2) The exact location of the monitoring equipment, and its distance from the blast, and the date and time of the recording;
 - 3) Name of the person and firm making the recording:
 - 4) Name of the person and firm analyzing the recording. The recording shall be signed and dated by the person performing the analysis; and
 - The type of instrument, sensitivity, and calibration signal or certification of annual calibration. When the recordings required at Sections 1817.67(c) and 1817.67(g) are produced via digitized systems, the sampling rate of the digitizer, in samples per second, shall be stated.

(Source: Amended at 15 Ill. Reg. 17239, effective January 1, 1992)

TITLE 62: MINING CHAPTER I: DEPARTMENT OF NATURAL RESOURCES

PART 300 SURFACE MINED LAND CONSERVATION AND RECLAMATION ACT

SUBPART A: SURFACE MINED LAND CONSERVATION AND RECLAMATION ACT

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ILLUSTRATION A

Tree Sampling Procedure

ILLUSTRATION B

Typical Sections

AUTHORITY: Implementing and authorized by the Surface Mined Land Conservation and Reclamation Act [225 ILCS 715].

SOURCE: Adopted January 6, 1976; codified at 8 Ill. Reg. 4507; amended at 14 Ill. Reg. 3548, effective February 22, 1990; amended at 20 Ill. Reg. 9546, effective July 1, 1996; recodified from the Department of Mines and Minerals to the Department of Natural Resources at 21 Ill. Reg. 16192; amended at 22 Ill. Reg. 8407, effective April 28, 1998; amended at 23 Ill. Reg. 11231, effective August 26,1999.

SUBPART B: USE OF EXPLOSIVES IN NON-COAL MINERAL EXTRACTION OPERATIONS

Section 300.200 Scope of this Subpart

This Subpart shall cover the use of explosives in non-coal mineral extraction operations pursuant to Section 6.5 of the Surface Mined Land Conservation and Reclamation Act. They are intended to supplement and not supersede the requirements of any other federal or Illinois statute or regulation. Inasmuch as the provisions of this Subpart contradict such other statute or regulation, that statute or regulation shall control.

(Source: Amended at 22 Ill. Reg. 8407, effective April 28, 1998)

Section 300.205 Purpose

The purpose of these regulations is to ensure that blasting operations are conducted to prevent injury to persons and damage to public and private property.

(Source: Added at 20 Ill. Reg. 9546, effective July 1, 1996)

Section 300,210 Definitions Applicable to Subpart B

"Airblast" (also known as "air overpressure") means airborne waves resulting from the detonation of explosives. Airblast may be caused by burden movement or the release of expanding gas into the air. Airblast may or may not be audible.

"Act" means the Surface-Mined Land Conservation and Reclamation Act [225 ILCS 715].

"Authorized Representative of the Department" means an employee of the Illinois Department of Natural Resources, Office of Mines and Minerals, qualified to conduct on-site inspections of blasting operations in order to determine compliance with these regulations.

"Blast" means the detonation of explosives by an operator for a mineral extraction operation.

"Licensed Blaster" means the person authorized to oversee and approve blasting operations on a blasting site.

"Blasting Zone" means any area within the operation that is designated in writing by the operator to the Department as being the area within which blasting operations will be conducted.

"Blasting Operations" means the process of shot design, layout, drilling, loading, detonation and recordkeeping.

"Burden" means the distance from an explosives charge to the nearest free or open face at the time of detonation of each hole.

"Continuing Violation" means a violation of these rules that is ongoing and unabated at the time of inspection.

"Cube Root-Scaled Distance" means the distance, in feet, from the blast to a specific location, divided by the cube root of the maximum weight of explosives, in pounds, to be detonated in any eight millisecond period.

"Decibel" means the unit of sound overpressure commonly used to measure airblast from the detonation of explosives. It is also measured in pounds per square inch (p.s.i.), and is defined in terms of the overpressure by the equation:

$$dB = 20 \log (P/P_0)$$

where:

dB = sound level in decibels P = measured overpressure in p.s.i. (lbs./in.²) P₀ = 2.9×10^{-9} p.s.i. (lbs./in.²)

The decibel scale is logarithmic.

"Department" means the Illinois Department of Natural Resources.

"Director" means the Director of the Illinois Department of Natural Resources.

"Earth liners" means structures constructed from naturally occurring soil material that has been compacted to achieve a low permeability.

"Explosives" means any chemical mixture that reacts at high velocity to liberate gas and heat, causing very high pressures.

"Geomembrane" means manufactured membrane liners and barriers of low permeability used to control the migration of fluids or gases.

"Inert waste" means any solid waste that will not decompose biologically, burn, serve as food for vectors, form a gas, cause an odor, or form a contaminated leachate, as determined in accordance with 35 Ill. Adm. Code 811.202(b). Such inert wastes shall include only non-biodegradable and non-putrescible solid wastes. Inert wastes may include, but are not limited to, bricks, masonry and concrete (cured for 60 days or more).

"Landfill" means a facility permitted by the Illinois Environmental Protection Agency for the disposal of waste on land meeting the requirements of the Resource Conservation and Recovery Act, P.L. 94-580, and regulations thereunder, and without creating nuisances or hazards to public health or safety, by confining the refuse to the smallest practical volume and covering it with a layer of earth at the conclusion of each day's operation, or by such other methods and intervals as the Illinois Pollution Control Board may provide by regulation.

"Office of Mines and Minerals" means the subdivision of the Department of Natural Resources charged with regulating the use of explosives in non-coal mineral extraction operations pursuant to Section 6.5 of the Act.

"Operation" means the property limits of any non-coal mineral extraction operation:

"Operator" means any person, firm, partnership or corporation engaged in and controlling a surface mining operation, and includes political subdivisions and instrumentalities of the State of Illinois.

"Particle velocity" is a measure of ground vibration which describes the velocity at which a particle of ground moves when excited by a seismic wave.

"Person" means any individual, partnership, corporation or other legal business entity.

"Protected Structure" means any dwelling, public building, school, church or commercial or institutional building. Protected structures do not include:

Structures owned by the operator; and

Structures subject to a waiver from the Department's airblast and ground vibration requirements granted to the operator.

"Scaled Distance" means the distance, in feet, from the blast to a specified location, divided by the square root of the maximum weight of explosives, in pounds, to be detonated in any eight millisecond period.

"Stemming" is inert material (usually crushed stone) that is placed above the explosives column, or vertically between columnar decks of explosives in a blast hole.

(Source: Amended at 23 Ill. Reg. 11231, effective August 26,1999)

Section 300.215 General Requirements

- Each person who conducts blasting operations shall comply with all applicable State and federal laws governing the use of explosives.
- b) All blasting operations shall be conducted under the direct supervision of a licensed blaster (persons licensed by the Department, as provided in Section 300.237 of this Part). The licensed blaster shall be present at the detonation of the blast.
- All blasting shall be conducted between sunrise and sunset except in emergency situations where unscheduled blasting is required to ensure operator or public safety. In such cases, the operator shall notify the Department in writing within 72 hours after the unscheduled blast, stating the reason(s) for the unscheduled blast. After review of the notification, the Department shall determine whether the unscheduled blast was an emergency and take enforcement action if necessary.
- d) Explosives may be used to clear blockage in crushing operations at any time provided the explosive charge does not exceed one pound, and the operator complies with all other requirements of this Part, except those found in subsection (c) above.

(Source: Amended at 23 Ill. Reg. 11231, effective August 26,1999)

Section 300.220 Monitoring

a) Duties of the Operator

1) When the scaled distance has a value less than 65 at the closest protected structure, the operator shall make a seismographic recording and airblast recording at or near that

structure.

- When any blast is within 500 feet of a landfill, the operator shall make a seismograph recording at or near the closest part of the landfill to the blast. This requirement shall not apply if a protected structure is located between the blast and the landfill or if an alternative compliance method has been approved by the Department in accordance with Section 300.225(f).
- When the cubed root scaled distance to the nearest protected structure has a value less than 350 and when the burden to hole depth ratio is greater than 1.0, or the top stemming height is less than 70% of the burden dimension, the airblast produced by the blast shall be measured at or near the closest protected structure. This subsection shall not apply to horizontal blast holes drilled from the floor of the pit.
- 4) The operator shall maintain blasting records as follows:
 - A) A record of each blast shall be made, retained by the operator for at least three years and made available for inspection by the Department. Records of blasts conducted since the Department's last inspection, or copies of such blasting records, shall be made available at the operation for inspection by the Department. The record is to be completed by the end of the work day following the day in which the blast occurred, including the seismograph meter reading, if available, and shall contain the following data:
 - i) Name of the operator conducting the blast.
 - ii) The location, date and time of the blast. If necessary to enforce the purposes of these regulations, the Department may require that the location of the blast be indicated as a point on a state plane coordinate system.
 - iii) Name, signature and licensure number of the licensed blaster responsible for the blast
 - iv) Type of material blasted.
 - v) Number of holes, burden and spacing.
 - vi) Diameter and depth of holes.
 - vii) Type of explosives used.
 - viii) Total weight of explosives used.
 - ix) Weight of explosives used per hole.
 - x) Maximum weight of explosives detonated within any eight millisecond period.
 - xi) Maximum number of holes or decks detonated within any eight

millisecond period.

- xii) Initiation system, including number of circuits and the timer interval. if a sequential timer is used.
- xiii) Type and length of stemming (deck and top).
- xiv) Type of detonator and delay periods used, in milliseconds.
- xv) Sketch of delay pattern, including decking.
- xvi) Distance and scaled distance to the closest protected structure, using the best available information.
- xvii) Location or address of the closest protected structure, using the best available information.
- xviii) Distance and scaled distance to the closest part of any landfill within 500 feet of the blast.
- B) Airblast and/or ground vibration recordings, or photographic copies thereof, where required by the Department, shall be kept for a period of three years following the date of the blast, and shall be available for inspection by the Department. Records of blasts conducted since the Department's last inspection, or copies of such blasting records, shall be made available at the operation for inspection by the Department. The recordings shall include the following information:
 - i) Maximum airblast and/or ground vibration levels recorded.
 - ii) The specific location of the monitoring equipment, its distance from the blast and the date and time of the recording.
 - iii) Name of the person and firm making the recording.
 - iv) Name of the person and firm analyzing the recordings. The recording shall be signed and dated by the person performing the analysis.
 - v) The type of instrument, sensitivity and calibration signal or certification date of annual calibration.
- As used herein, "seismographic recording", or "record of airblast recording", or "record" shall mean a visually inspectable cartesian representation of the time history of the particle velocity levels or airblast levels versus time. The particle velocity is shown by three traces representing mutually perpendicular components of motion. The components are oriented vertically, transversely and longitudinally to the horizontal direction from the recording location to the location of the blast. The airblast time history is represented by a single trace. The record or recording includes either an analog representation, or a written description, of the vertical scale for the particle velocity traces and the airblast trace. The units for the particle velocity traces and scale are in inches per second.

The units for the airblast trace and scale are millibars, pounds per square inch, or decibels. The recording shall also include an analog or descriptive time scale. The time units are in seconds.

b) Duties of the Department

- The Department shall conduct seismographic monitoring at any operation at such times and conditions as the Department deems appropriate.
- 2) The Department shall conduct inspections of the operation as follows:
 - A) Randomly without notice twice per year.
 - B) At such other times and conditions as the Department deems appropriate.
 - C) Less frequently than twice per year at operations where blasting is not regularly conducted.
- All Department employees conducting official business shall inform the operator or the operator's designated representative, if either is present, upon arrival to and departure from the operation.

(Source: Amended at 22 Ill. Reg. 8407, effective April 28, 1998)

Section 300.225 Use of Explosives: Control of Adverse Effects

a) Blasting shall be conducted to prevent injury to persons and damage to public or private property outside the blasting zone.

b) Airblast limits

1) Airblast shall be controlled so that it does not exceed the values specified below at any protected structure, unless such structure is owned by the operator and not leased to any other person, or a waiver has been obtained in accordance with subsection (g) below.

Lower frequency limit of	Maximum
measuring system, Hz +3dB	level in dB
	·
0.1 Hz or lowerflat response	134 peak
2.0 Hz or lowerflat response	133 peak
6.0 Hz or lowerflat response	129 peak

- 2) The measuring systems used shall have a flat frequency response of at least 200 Hz at the upper end.
- The person who conducts blasting may satisfy the provisions of this subsection (b) by meeting any of the three specifications in the chart in subsection (b)(1).
- 4) To ensure compliance with the limits contained in this Section, the Department may require an airblast measurement of any or all blasts, and may specify the location of such

measurements.

c) Flyrock

Flyrock, including blasted material traveling in the air or along the ground, but excluding dust and detonation by-products, shall not be cast beyond the blasting zone.

d) Ground vibration limits

- In all blasting operations, except as otherwise authorized in this Section, the maximum peak particle velocity shall not exceed one inch per second at the location of any protected structure, unless such structure is owned by the operator and not leased to any other person, or a waiver has been obtained in accordance with subsection (g) below.
- In addition to the requirements in subsection (d)(1) above, when any blast is within 500 feet of a landfill, the blasting shall be conducted in order to control ground vibrations not to exceed five inches per second, at the closest part of the landfill. Blast monitoring shall comply with Section 300.220(a)(2). The ground vibration limit shall not apply to the following; a landfill in the process of being mined through; mining activities associated with the construction of a landfill; a landfill containing only inert waste; or a landfill or any cell of a landfill that does not contain a geomembrane or earth liner.
- e) When the scaled distance has a value less than 65 at the nearest protected structure, a seismograph recording shall be made at or near that structure. To ensure compliance with the limits contained in this Section, the Department may require a seismograph recording of any or all blasts and may specify the location at which such recordings are made.
- In lieu of the ground vibration limit(s) in subsection (d) above, the operator may submit a written request to the Department to use an alternative compliance method. Such written request must be supported by sufficient technical information, which may include, but is not necessarily limited to, documented approval of such method by agencies in other states which regulate blasting operations at coal and/or non-coal mineral extraction operations. Upon submittal by the operator of a request to use an alternative compliance method, the Department shall issue a written determination as to whether the technical information submitted provides sufficient justification for the alternative method to be used as a means of demonstrating compliance.

g) Waivers

- 1) A waiver of the airblast and ground vibration limits in subsections (b) and (d) above may be obtained by the operator in the following circumstances:
 - A) If the protected structure is owned by the operator and leased to any other person, or
 - B) If the protected structure is not owned by the operator but the owner of the structure has a bona fide financial interest in, or commercial relationship with, the mining operation. The operator shall provide written documentation of any such interest or relationship to the Department upon request.

- 2) The waiver shall be signed by the owner of the structure, unless the operator is the owner. If the structure is leased to any other person, the waiver must be signed by both the owner and lessee.
- The waiver shall be in writing, in a form approved by the Department, and shall be submitted to the Department before conducting blasting operations in accordance with the term of the waiver.
- The operator is responsible for keeping complete and up to date records on all waivers executed, including real estate and lease transactions that may affect the validity of the waiver. These records shall be made available for inspection by the Department.
- The waiver provided for in this subsection (g) shall consist solely of a waiver of the airblast and ground vibration limits set forth in this Section and is not intended to exempt the operator from civil liability.

(Source: Amended at 23 Ill. Reg. 11231, effective August 26,1999)

Section 300.230 Use of Explosives: Blasting Signs, Warnings, and Access Control

- a) Specifications. Signs and markers required under this Part shall:
 - 1) Be posted and maintained by the operator;
 - 2) Be of uniform design that can be easily seen and read; and
 - 3) Be made of durable material.
- b) Duration of maintenance. Signs and markers shall be maintained during the conduct of all activities to which they pertain.
- c) Blasting signs. The operator shall:
 - 1) Conspicuously display blasting sign(s) along the edge of any blasting zone that comes within one hundred (100) feet of any public road right-of-way, and at the point where any other road provides access to the blasting zone; and
 - At all entrances to the operation from public roads or highways, place conspicuous sign(s) which indicate explosives are used at the operation and which clearly list and describe the meaning of the audible blast warning and all-clear signals that are in use.
- d) Warning and all-clear signals of different character or pattern that are audible within the blasting zone shall be given.
- e) Access to the blasting zone shall be controlled to prevent the presence of unauthorized personnel during blasting until an authorized representative of the operator has reasonably determined:
 - 1) That no unusual circumstances, such as undetonated charges, exist; and
 - 2) That access to and travel in or through the area can be safely resumed.

(Source: Added at 20 Ill. Reg. 9546, effective July 1, 1996)

Section 300.235 Training

- a) Training required herein, for those persons not previously trained in the subjects required herein, shall be conducted by either the Department, the operator or the operator's training representative. The operator's training representative may include but is not limited to junior colleges, consultants and explosives manufacturers. The training must meet the requirements of this Section.
- b) The training for blaster's licensure shall include instruction in:
 - 1) The design and layout of blasts, including geology, topography and the proper use of delays.
 - 2) Control of ground vibration.
 - 3) Control of flyrock and airblast.
 - 4) Design and loading of boreholes.
 - 5) Priming and boosting.
 - 6) Tamping and stemming, including methods and materials.
 - 7) Blast initiation systems.
 - 8) The use of blasting machines.
 - 9) The use of circuit testing equipment.
 - 10) The general properties of explosives, including blasting agents and selection criteria.
 - 11) Ground vibration, airblast and monitoring.
 - 12) The use of ground vibration and airblast records as blast design factors.
 - 13) The need for accurate reports and blasting logs and their proper preparation.
 - 14) Current Illinois and Federal laws and regulations pertaining to blasting at the operation.
 - Planning for unpredictable blasting hazards to the public and mine personnel. Illustrative examples are adverse weather, stray electrical currents, flyrock, radio frequency energy and misfires.
 - 16) Signs, warning signals and control of the potential flyrock area.
 - 17) Site security and safety.
 - 18) Handling, transportation and storage of explosives.

- 19) New technology as it develops and is implemented in the field.
- 20) Training and licensure requirements.
- c) The licensed blaster shall provide direction and on-the-job training to all non-licensed blasting personnel under his supervision.

(Source: Amended at 23 Ill. Reg. 11231, effective August 26,1999)

Section 300.236 Examination

- a) Written examinations for blaster licensure shall be administered at least semiannually, on dates and at times and locations announced by the Department via news releases and direct communication with operators and individuals who request, in writing, to be so notified. All persons scheduled for a regular examination session will be so notified at least one week prior to the scheduled exam date.
- Reexaminations shall be scheduled, if needed, for those persons who do not pass the regularly scheduled examination. The Department shall also allow for examination at this time for those persons who have newly applied for licensure. All persons scheduled for examination or reexamination during the reexamination session will be so notified at least one week prior to the scheduled reexamination session.
- If the applicant cannot attend the examination or reexamination session for which he or she is scheduled, the applicant shall so inform the Department at least one day in advance of the examination date. Failure to do so will result in the application being rejected, and the applicant having to reapply for licensure. Any person who cannot attend such a session and who informs the Department in accordance with this Section will be scheduled for the next examination or reexamination session.
- d) Applicants for blaster licensure shall be examined on the topics set forth in Section 300.235(b).

(Source: Amended at 23 Ill. Reg. 11231, effective August 26,1999)

Section 300.237 Application and Licensure

- Each applicant shall submit a completed application for licensure on forms supplied by the Department. The application shall be accompanied by the required fee, which is non-refundable. Any applicant whose completed application has been received, reviewed and accepted by the Department prior to a regularly scheduled examination session shall be scheduled for that session. The completed application shall include:
 - 1) Proof of the applicant's blasting experience, which shall include:
 - A) A notarized statement from the applicant's employer or a licensed blaster having personal knowledge of the applicant's blasting experience relating to the subjects listed in Section 300.235(b) of this Part, and affirming that the applicant has had at least two (2) years blasting experience; or
 - B) A notorized statement from an Illinois licensed blaster who directly supervised

the applicant, affirming that the applicant has experience with the following: proper blast design to comply with the regulatory requirements of this Part, drilling, loading, initiation systems and delay timing, monitoring requirements, and blast zone security and safety. The applicant's experience shall have included detailed involvement with at least 120 blasts.

- 2) Proof that the applicant has successfully completed a blaster training course or courses that cover the material listed in Section 300.235(b) of this Part.
- b) The Department shall review each application, including required documents, for completeness and the accuracy of the statements contained in the application and required documents. The Department's acceptance of an application shall be based on the applicant's compliance with the requirements of this Part.
- c) Each applicant shall be required to pass a written examination established and administered by the Department. The examination shall cover the subjects set forth in Section 300.235(b) of this Part. The minimum passing score shall be 70% correct answers. The Department retains the sole right to determine whether any or all responses to examination questions are correct.
- Any applicant whose application is denied shall be so informed in writing, within 30 days of the date the applicant is found to be not qualified. Reason(s) for such denial shall be included with the notification. Each applicant who meets the requirements of subsection (a) above and who passes the examination required in subsection (b) above shall be issued a blaster license as soon as practicable thereafter, but not more than 45 days after the examination date. Any applicant who meets the requirements of Section 300.237(a) but who does not pass the examination shall be so notified within 15 days of the examination date. That person may, upon written request, review his or her examination at the Department's Springfield office. Such request must be made and the review completed not less than ten days prior to the reexamination date for which the applicant is scheduled. The review must be done during the Department's regular business hours. Any person who does not pass the examination shall be scheduled for the next reexamination session, pursuant to Section 300.236(b) of this Part.
- e) An employed blaster shall have readily available for inspection his or her license at the operation.
- f) A temporary blaster license will be issued to any individual who applies to the Department for such licensure and who provides a photocopy of his or her valid blaster license issued in another state, or the name of the state where the license was issued and the license number. The period of the temporary blaster license shall not exceed six months from the date of issuance. Such a temporary license shall be issued only once to any individual in any continuous five year period.
- g) Each license shall be valid for five years from the date of issuance. Renewal following expiration shall be in accordance with the application, examination and licensure requirements of this Part.
- h) Blaster licensure shall not be assigned or transferred.
- i) Blasters shall not delegate their responsibility to any individual who is not a licensed blaster.
- j) The blaster shall take reasonable precaution to protect his or her license from loss, theft or unauthorized duplication. Such loss, theft or duplication shall be reported to the Department

without delay.

(Source: Amended at 23 Ill. Reg. 11231, effective August 26,1999)

Section 300.238 Fees

The following fees shall be paid to the Department for administration of the Act and are non-refundable. The fees submitted shall be in the form of a cashier's check or money order and made payable to the Department of Natural Resources, Office of Mines and Minerals.

- a) The fee for an application is \$75.00.
- b) The fee for reexamination of an applicant is \$25.00.
- c) The renewal fee for a license is \$75.00.
- d) The fee for a temporary license is \$75.00.

(Source: Added at 20 III. Reg. 9546, effective July 1, 1996)

Section 300.239 Denial, Issuance of Notice of Infraction, Suspension, Revocation and other Administrative Actions

- a) The Department shall deny an application for, or may revoke or suspend a license under the provisions of this Section if the Department finds that the applicant or licensee:
 - 1) has willfully violated any provisions of the Act or this Part;
 - 2) has made material misstatement or knowingly withheld information in connection with any original or renewal application;
 - has been declared incompetent by any competent court by reasons of mental or physical defect or disease unless a court has since declared him competent;
 - 4) consumes alcohol or unlawfully uses drugs in the workplace;
 - 5) has been convicted in any jurisdiction of any felony within the prior 5 years;
 - 6) is a fugitive from justice.
- b) Notice of Infraction
 - The Department shall, when in the best interest of protecting public safety or public or private property, issue to the blaster a written notice of infraction requiring remedial action when, on the basis of any inspection, the Department determines that the blaster has committed any of the following infractions:
 - A) Noncompliance with current Illinois or Federal law or regulations pertaining to blasting at the operation, including the Illinois Explosives Act [25 ILCS 210].

- B) Providing false information or a misrepresentation to obtain licensure.
- C) Consumption of alcohol or unlawful use of drugs in the workplace.
- D) Noncompliance with any order issued by the Department.
- The maximum time allowed to abate the infraction by completing the remedial action shall be stated in the notice and shall include consideration of the nature of the infraction, as well as the availability of resources to complete the abatement. Remedial actions may include, but need not be limited to, a requirement to receive additional training or undergo reexamination to demonstrate competence.
- 3) A copy of such notice shall be forwarded to the blaster's employer.
- Any such notice may be terminated when the remedial action has been completed, modified to correct deficiencies or errors or make other changes in the notice or to change the required abatement date, or vacated if the infraction did not occur or occurred as the result of sabotage by persons other than the blaster.
- The blaster may file a request for review with the Department, and if desired, a hearing within 30 days of the receipt of the notice of infraction. The request shall include the blaster's name, licensure number, identification of the notice, and the date of the notice. The request shall be forwarded to: Illinois Department of Natural Resources, Office of Mines and Minerals, 524 S. Second St., Springfield, IL 62701-1787. If a hearing is requested, the hearing shall be conducted in accordance with 62 Ill. Adm. Code 300.245(b) and shall be held in Springfield. The Department shall give at least five days notice of the date, time and location of the hearing to the blaster, his or her employer and any person who filed a report which led to the notice that was issued.
- The filing of a request for hearing shall not act as a stay of the remedial actions required as part of the notice of infraction.
- c) License Suspension or Revocation
 - 1) The Department shall issue to the blaster a written notice to show cause why his license should not be suspended or revoked for a specified period (not to exceed the term of the license) upon a finding of:
 - A) A willful commission of an infraction; or
 - B) A failure to complete the remedial action stated in a Notice of Infraction.
 - The blaster shall have 21 days from the receipt date of the notice, or other time period necessary for adequate response as may be set out in the notice, in which to file an answer and request a hearing. If the blaster files an answer to the show cause order and requests a hearing, a public hearing shall be provided and conducted in accordance with 62 Ill. Adm. Code 300.248. The Department shall give 30 days written notice of the date, time and location of the hearing to the blaster, the blaster's employer and any person who filed a report which led to the order that was issued.

- If the Department determines that the infraction resulting from the willful act on the part of the blaster creates an imminent danger to the health or safety of the public or imminent damage to public or private property, the Department shall immediately issue a temporary suspension of the blaster's license. The temporary suspension shall be in writing, and shall, with reasonable specificity, set forth the nature of the infraction and the imminent danger or damage incurred or about to be incurred. Such suspension shall be subject to a hearing to be provided not less than 15 days after the blaster's receipt of the temporary suspension. The hearing shall determine whether the suspension shall be continued or terminated or whether the license shall be revoked. Temporary suspension issued under the authority of this subsection shall not exceed 15 days. The hearing shall be conducted in accordance with 62 Ill. Adm. Code 300.248 and shall be held at the Department's Springfield office.
- 4) Upon written notice of revocation, including the findings upon which the notice is based, the blaster shall without delay surrender the revoked license to the Department.

(Source: Amended at 23 Ill. Reg. 11231, effective August 26,1999)

Section 300.245 Notices of Violation

- a) An authorized representative of the Department shall issue a notice of violation if, on the basis of an inspection, he or she finds a violation (of this Part) for which a cessation order may not be issued under Section 300.246.
- b) A notice of violation issued under this Section shall be in writing, signed by the authorized representative who issued it, and shall set forth with reasonable specificity:
 - 1) The nature of the violation:
 - 2) Statute Sections or regulations violated;
 - 3) The remedial action required, which may include interim steps;
 - 4) A reasonable time for abatement, which may include time for accomplishment of interim steps; and
 - 5) A reasonable description of the portion of the blasting area to which it applies.
- A notice of violation shall be served upon the operator or an agent of the operator, if either is present on site. If the operator, or operator's agent, are not present, the notice of violation shall be mailed to the operator's address. The notice of violation shall be considered served when personally delivered or mailed.
- The operator issued the notice of violation may provide the Department a written response to the violation(s) within fourteen (14) days of the delivery or mailing of the notice. Such written response may include a proposed alternative to the Department's specified remedial action needed to abate the violation(s). The Department shall consider any information so submitted in determining the facts surrounding the violation and the amount of the penalty. The written response shall be submitted to the Illinois Department of Natural Resources, Office of Mines and Minerals, 524 S. Second Street, Springfield, Illinois 62701-1787.

- The notice of violation shall provide that the operator named in the notice has the right to request a hearing to contest the facts of the violation(s) alleged by the Department, as well as the civil penalty assessed, after the issuance of the Office of Mines and Minerals Decision, pursuant to Sections 300.247 and 300.248.
- A notice of violation issued under this Section shall continue in effect until modified, vacated or terminated by the Department. Termination shall not affect the right of the Department to assess civil penalties for those violations in accordance with Section 240.247(d). A notice of violation can only be terminated when all abatement action required by the Department has been completed.
- g) A notice of violation may be modified, vacated or terminated in writing by either:
 - 1) An authorized representative of the Department; or
 - 2) The issuance of an Office of Mines and Minerals Decision pursuant to Section 300.247.

(Source: Added at 20 Ill. Reg. 9546, effective July 1, 1996)

Section 300.246 Cessation Orders

a) Standards for Issuance

- An authorized representative of the Department shall immediately order a cessation of blasting operations if he or she finds, on the basis of any State inspection, any condition or practice, or any violation of Section 6.5 of the Act, which may cause injury to person(s) or public or private property outside the blasting zone.
- If the cessation order will not completely abate the imminent danger or harm in the most expeditious manner possible, the authorized representative of the Department shall impose affirmative obligations on the operator to whom it is issued to abate the condition, practice or violation. The order shall specify the time by which abatement shall be accomplished and may require, among other things, the use of existing or additional personnel and equipment.
- b) A cessation order shall be in writing, signed by the authorized representative who issued it, and shall set forth with reasonable specificity:
 - 1) The nature of the condition, practice or violation;
 - 2) The remedial action or affirmative obligation required, if any, including interim steps, if appropriate;
 - The time established for abatement, if appropriate, including the time for meeting any interim steps; and
 - 4) A reasonable description of the portion of the blasting zone to which it applies.
- A cessation order shall be served upon the operator or an agent of the operator, if either is present on site. If the operator, or operator's agent, are not present, the cessation order shall be sent to

the operator's address by certified mail, return receipt requested. The cessation order shall be considered served when personally delivered or mailed.

- d) Mining operations and other activities intended to protect public health and safety and the environment may continue during the period of any cessation order unless otherwise provided in such order.
- The operator issued the cessation order may provide the Department a written response to the violation(s) cited on or before fourteen (14) days of the delivery or mailing of the order. Such written response may include a proposed alternative to the Department's specified remedial action needed to abate the violation. The Department shall consider any information so submitted in determining the facts surrounding the violation and the amount of the penalty. The written response shall be submitted to the Illinois Department of Natural Resources. Office of Mines and Minerals, 524 S. Second Street, Springfield, Illinois 62701-1787.
- f) The cessation order shall provide that the person or operator named in the order has the right to request a hearing to contest the fact of the violation alleged by the Department, as well as the civil penalty assessed, after the issuance of the Office of Mines and Minerals Decision, pursuant to Sections 300.247 and 300.248. In addition, the cessation order shall provide that the operator named in the order has the right to request a hearing for temporary relief from the cessation of blasting operations, in accordance with Section 300.249.
- A cessation order issued under this Section shall continue in effect until modified, vacated or terminated by the Department. Termination shall not affect the right of the Department to assess civil penalties for those violations in accordance with Section 240.247(d). A cessation order can only be terminated when all abatement action required by the Department has been completed.
- h) A cessation order may be modified, vacated or terminated in writing by either:
 - 1) An authorized representative of the Department; or
 - 2) The issuance of an Office of Mines and Minerals Decision pursuant to Section 300.247.
- i) The filing of a request for a hearing under Section 300.248 shall not operate as a stay of the cessation order. The cessation order may be stayed by the grant of temporary relief in accordance with Section 300.249.

(Source: Added at 20 Ill. Reg. 9546, effective July 1, 1996)

Section 300.247 Office of Mines and Minerals Decision

- a) Upon receipt of a notice of violation or cessation order, the Director of the Office of Mines and Minerals, or his designee, shall conduct an investigation and either affirm, vacate or modify the notice of violation or cessation order.
- b) Modification of the Notice of Violation or Cessation Order may include:
 - 1) Any different or additional remedial actions necessary to abate the violation and the time within which the violation must be abated;

- 2) The assessment of civil penalties for each and every act of violation:
- Probationary or permanent modification or conditions on the blasting site which may include special monitoring or reporting requirements;
- The extension of time set for abatement or for accomplishment of an interim step may be extended due to the existence of any additional conditions or factors in aggravation or mitigation of the violation, including information provided by the operator, if the failure to meet the time previously set was not caused by lack of diligence on the part of the operator to whom it was issued; and
- 5) Termination (when all abatement action required by the Department has been completed).

c) Inability to Comply

- 1) No cessation order or notice of violation issued under this Part may be vacated because of an inability to comply.
- 2) Unless caused by lack of diligence, inability to comply may be considered only in mitigation of the amount of civil penalty under (d) of this Section.
- d) Civil Penalty Assessment Process.

The Department shall assess a penalty for each notice of violation or cessation order. In determining the amount of civil penalties to assess, the Director of the Office of Mines and Minerals, or his designee, shall consider:

- 1) The operator's history of previous violations. For purposes of determining the history of violations, the Department shall consider only those violations occurring at the same mining operation within a one year period.
 - A) A violation shall not be counted if the notice or order is the subject of pending administrative review by the Department under Section 300.248 or if the time to request such review has not expired, and thereafter it shall be counted for only one year after the date of the Department's final administrative decision or a final judicial decision affirming the Department's decision;
 - B) No violation for which the notice or order has been vacated shall be counted;
 - C) History of Violations
 - i) First violation of the rule, assess \$100.
 - ii) Second violation of the same rule within a one year period from the date of issuance of the first violation or the date of the final administrative or judicial decision, assess \$250.
 - iii) Third and subsequent violations of the same rule within a one year period from the date of issuance of the first violation or the date of the final

administrative or judicial decision, assess \$500.

- 2) The seriousness of the violation.
 - A) If the violation did not cause injury to persons or cause damage to public or private property, or if the Department cannot clearly make the determination that the violation caused injury to persons or caused damage to public or private property, add \$100.
 - B) If the violation caused injury to persons or damage to public or private property, add \$500.
- 3) The degree of culpability of the operator.
 - A) If the Department cannot make a determination that the operator failed to use reasonable care in the design or execution of the blast, add \$0 (no fine assessed).
 - B) If the violation occurred due to the operator's failure to use reasonable care in the design or execution of the blast, add \$250.
 - C) If the violation occurred as a result of the operator's reckless or deliberate conduct, add \$750.
- Administrative Requirements: In the case of a violation of an administrative requirement, such as a requirement to keep records, the Department shall assess a civil penalty of up to \$100.
- The Office of Mines and Minerals Decision, including the civil penalty assessment, shall be served on the operator within 60 days of the issuance of the notice of violation or cessation order. The Office of Mines and Minerals Decision shall provide that the operator has the right to request a hearing to contest the facts of the violation and/or the civil penalty assessed in accordance with Section 300.248(a). The Office of Mines and Minerals Decision affirming, vacating, terminating or modifying the notice of violation or cessation order shall be served by certified mail, return receipt requested, and shall be considered served upon mailing.
- f) If the Office of Mines and Minerals Decision includes the assessment of a civil penalty, and the operator named in such decision does not request a hearing in accordance with Section 300.248(a) to contest the amount of the penalty, the amount assessed shall be paid to the Department in full within 30 days of service of the Office of Mines and Minerals Decision.
- An Office of Mines and Minerals Decision not appealed in accordance with Section 300.248(a) within 30 days of service shall become a final administrative decision of the Department. The operator's failure to request a hearing in accordance with Section 300.248(a) shall constitute a waiver of all legal rights to contest the Office of Mines and Minerals Decision or the cessation order, including the amount of any civil penalty assessed. The filing of a request for hearing under Section 300.248(a) shall not operate as a stay of the Office of Mines and Minerals Decision.
- h) All civil penalties assessed and paid to the Department shall be deposited in the Aggregate Operations Regulatory Fund.

(Source: Amended at 23 Ill. Reg. 11231, effective August 26,1999)

Section 300.248 Hearings

- An operator shall have 30 days from the date of service of the Office of Mines and Minerals Decision to request a hearing. All requests for hearing shall be mailed or delivered to the Illinois Department of Natural Resources, Office of Mines and Minerals, 524 S. Second Street, Springfield, Illinois 62701-1787.
- b) Upon receipt of a request for hearing submitted in accordance with subsection (a), the Department shall provide an opportunity for a formal hearing upon not less than 5 days written notice mailed to the operator submitting the hearing request. The hearing shall be conducted by a hearing officer designated by the Director and shall be conducted in accordance with the following procedures:
 - 1) Pre-hearing conferences:
 - A) Shall be scheduled within 30 days of the request for hearing:
 - i) to define the factual and legal issues to be litigated at the administrative hearing:
 - ii) to determine the timing and scope of discovery available to the parties;
 - iii) to set a date for the parties to exchange all documents they intend to introduce into evidence during the hearing, a list of all witnesses the parties intend to have testify and a summary of the testimony of each such witness:
 - iv) to schedule a date for the administrative hearing; and
 - v) to arrive at an equitable settlement of the hearing request, if possible.
 - B) .. May be conducted via telephone conference if such procedure is acceptable to all parties to the hearing. In the event that a telephone conference is not acceptable to all parties, the pre-hearing conference shall be conducted at a place designated by the hearing officer.
 - 2) Either party may file motions for default judgment, motions for summary judgment, motions for protective orders and motions for orders compelling discovery. The Department's hearing officer shall grant or deny such motions within fifteen (15) days after service. Any order granting a motion for default judgment or a motion for summary judgment shall constitute the Department's final administrative decision as to the Office of Mines and Minerals Decision or cessation order being contested.
 - If a settlement agreement is entered into at any stage of the hearing process, the operator to whom the notice of violation or cessation order was issued will be deemed to have waived all right to further review of the violation or civil penalty in question, except as otherwise expressly provided for in the settlement agreement. The settlement agreement shall contain a waiver clause to this effect. All settlement agreements shall be executed

by the hearing officer and shall constitute the Department's final administrative decision as to the Office of Mines and Minerals Decision or cessation order being contested.

- All hearings under this Section shall be conducted in accordance with the contested case provisions set forth in Article 10 of the Illinois Administrative Procedure Act [5 ILCS 100/Art. 10]. All hearings under this Section shall be conducted in Springfield, Illinois.
- At the hearing the Department shall have the burden of proving the facts of the violation alleged in the notice of violation or cessation order at issue. The amount of any civil penalty assessed shall be presumed to be proper; however, the operator may offer evidence to rebut this presumption. The standard of proof shall be a preponderance of the evidence. The operator shall have the right to challenge the hearing officer if the operator believes the hearing officer is prejudiced against him or has a conflict of interest. If the hearing officer disqualifies himself, the Director of the Department of Natural Resources shall designate a new hearing officer. The hearing officer shall conduct the hearing, hear the evidence and at the conclusion of the hearing render recommended findings of fact, recommended conclusions of law and recommendations as to the disposition of the case.
- The Director of the Department of Natural Resources shall review the administrative record in a contested case, in conjunction with the hearing officer's recommended findings of fact, recommended conclusions of law and recommendations as to the disposition of the case. The Director of the Department of Natural Resources shall then issue the final administrative decision affirming, vacating or modifying the hearing officer's decision.
- d) Judicial Review. Following service of the Department's final administrative decision, the operator may request judicial review of that decision in accordance with the Administrative Review Law. 735 ILCS 5/3.

(Source: Added at 20 Ill. Reg. 9546, effective July 1, 1996)

Section 300.249 Temporary Relief

- Pending the holding of a hearing or entry of a final administrative decision relating to a cessation order issued under Section 300.246, the operator affected by the Department's action may file a written request for temporary relief from the cessation order, together with a detailed statement giving reasons for granting such relief. The operator shall file the request for temporary relief within 14 days of service of the cessation order.
- The Department shall commence a hearing within 5 days after receipt of a timely request for temporary relief and may grant such relief, under such conditions as it may prescribe, if the operator requesting temporary relief shows a substantial likelihood that the findings of the Department will be favorable to him and such relief will not adversely affect the health or safety of the public or cause significant environmental harm or significant damage to property.
- All hearings under this Section shall be conducted by a hearing officer designated by the Director in accordance with the contested case provisions set forth in Article 10 of the Illinois Administrative Procedure Act [5 ILCS 100/Art. 10]. All hearings under this Section shall be conducted in Springfield, Illinois.

- d) The Department's hearing officer shall issue a final administrative decision granting or denying temporary relief from the cessation order within 7 days of the close of the administrative record.
- e) Judicial Review. Following service of the Department's final administrative decision granting or denying temporary relief from the cessation order, the operator may request judicial review of that decision in accordance with the Administrative Review Law. [735 ILCS 5/Art. III].

(Source: Added at 20 III. Reg. 9546, effective July 1, 1996)

Section 300.250 Subpoenas

- a) Any party to proceedings brought under Sections 300.248 and 300.249 of this Part may apply for subpoenas to compel the attendance of witnesses and the production of relevant documents.
- b) The applical shall submit the subpoena request to the Department's hearing officer. The subpoena request shall specifically identify the witness or relevant documents sought to be produced.
- The hearing officer shall issue subpoenas within 7 calendar days from the receipt of a request made in accordance with subsection (b) above and deliver the subpoena to the applicant who shall serve all subpoenas issued by certified mail, return receipt requested, at least 7 days before the date set for the hearing. Any witness shall respond to any lawful subpoena of which he has actual knowledge, if payment of the witness fee and mileage applicable in the State circuit courts has been tendered. Service of a subpoena may be proved prima facie by a return receipt signed by the witness or his authorized agent and an affidavit showing that the mailing was prepaid and was addressed to the witness, restricted delivery, with a check or money order for the fee and mileage enclosed.
- d) Any party served with a subpoena under this Section may file with the hearing officer, and serve on all parties, a motion for an order quashing the subpoena, in whole or in part. All motions to quash filed under this subsection shall set forth a factual and/or legal basis for granting such relief.
- e) The hearing officer shall issue, and serve on all parties, a decision granting or denying the motion to quash within 7 calendar days from the receipt of the motion.

(Source: Added at 20 Ill. Reg. 9546, effective July 1, 1996)