

ILLINOIS POLLUTION CONTROL BOARD

January 19, 2006

IN THE MATTER OF: )  
)  
PROPOSED NEW AND UPDATED RULES ) R03-9  
FOR MEASUREMENT AND NUMERICAL ) (Rulemaking - Noise)  
SOUND EMISSIONS STANDARDS )  
AMENDMENTS TO 35 ILL. ADM CODE )  
901 and 910 )

Proposed Rule. Second Notice.

OPINION AND ORDER OF THE BOARD (by G.T. Girard):

Pursuant to Sections 27 and 28 of the Illinois Environmental Protection Act (Act), (415 ILCS 5/27-5/28 (2004)) and 35 Ill. Adm. Code 102.Subpart B, on February 20, 2003, the Board opened this rulemaking to propose updated regulations governing noise found in 35 Ill. Adm. Code Subtitle H. Many of the sound measurement definitions and techniques in the Board's current rules do not reflect present scientific standards. The instant proposal revises outdated numerical sound emission standards for property line noise sources found at 35 Ill. Adm. Code 901. In addition, the proposal adds Part 910 to the Board's rules that incorporates noise measurement techniques currently contained only in Illinois Environmental Protection Agency (Agency) rules at 35 Ill. Adm. Code 951. The Board today proposes for second notice the amendments.

**BACKGROUND**

The Board opened this rulemaking by issuing a draft for public comment on February 20, 2003. The Board elicited comments on the draft prior to first-notice publication and the Board held two hearings before Hearing Officer William F. Murphy. The first hearing was held in Springfield on May 1, 2003, no members of the public attended that hearing. The second hearing (Tr.2) was held in Chicago on May 15, 2003. Joel Sternstein and Howard Chinn of the Illinois Attorney General's Office (AGO) attended the second hearing and Mr. Chinn presented testimony. During the time that the proposal was offered for public comment, the Board received two public comments, one from the AGO (PC 2) and one from Dr. Paul Schomer (PC 1).

On July 10, 2003, the Board proposed the rule for first notice. On July 25, 2003, the first notice was published in the *Illinois Register* (27 Ill. Reg. 11908). The Board received five public comments. The comments were from Scot Forge (PC 3), Vaughan and Bushnell Manufacturing (PC 4), Illinois Association of Aggregate Producers (IAAP) (PC 5), Boughton Trucking and Materials Inc. (Boughton Trucking) (PC 6) and Intermet Decatur Foundry (Intermet) (PC 7). In general, the comments requested a site-specific rule modification or requested another hearing to discuss concerns with the proposed rule.

On October 18, 2003, the Board determined that additional hearings should be held. After holding an additional hearing, the Board determined on March 4, 2004, that administrative economy supported including site-specific changes in a new first notice. Because of this decision, the Board withdrew the first notice (*See* 28 Ill. Reg. 7341, 7342 (May 21, 2004)).

The Board held two hearings before Board Hearing Officer Marie Tipsord. The third hearing (Tr.3) was held February 10, 2004, in Chicago. At that hearing, Mr. John P. McGillivray testified on behalf of Scot-Forge Company and Howard Chinn testified on behalf of the AGO. The fourth hearing (Tr.4) was held November 4, 2004, in Springfield. Mr. John Henriksen and Dane Tittman testified on behalf of the IAAP.

The Board received six additional comments during the second phase of hearings. The comments were from Moline Forge (PC 8), Intermet (PC 9,) IAAP (PC 10), the AGO (PC 11), Village of Bridgeview (Bridgeview) (PC 12), and the Illinois Department of Natural Resources (IDNR) (PC 13).

On March 17, 2005, the Board proceeded to a second first notice with this rulemaking. That first notice was published in the *Illinois Register* on April 15, 2005 (29 Ill. Reg. 5196). The Board held an additional hearing on September 1, 2005 (Tr. 5) and at that hearing Mr. Henriksen again testified along with Mr. Willard Pierce of Evenson Explosives, LLC on behalf of IAAP. Also Mr. Jim Hafliger of the IDNR testified. The public comment period closed on October 17, 2005, and the Board received six additional comments during the 2005 first-notice period. Those comments are:

PC 14	Joseph R. Angleton, Office Director, Office of Mines and Minerals, Illinois Department of Natural Resources
PC 15	John Henriksen, Executive Director, Illinois Association of Aggregate Producers
PC 16	Dr. Paul Schomer, Schomer and Associates, Inc.
PC 17	Therese M. Dorigan, Bradburne, Briller & Johnson, LLC
PC 18	Village of Bridgeview
PC 19	Dr. Paul Schomer, on behalf of Village of Bridgeview

### **COMMENTS AND TESTIMONY**

The Board received six comments along with testimony at the September 1, 2005 hearing regarding the Board's 2005 first-notice proposal. The following paragraphs will summarize the comments and testimony received by the Board.

#### **Testimony**

At the September 1, 2005 hearing, Mr. John Henriksen again testified along with Mr. Willard Pierce of Evenson Explosives, LLC on behalf of IAAP. Also Mr. Jim Hafliger of the Illinois Department of Natural Resources (IDNR), Office of Mines and Minerals testified.

### **Mr. John Henriksen**

Mr. Henriksen manages IAAP, which is a trade association representing companies that produce aggregates (*i.e.* crushed sand, stone, and gravel). Tr.5 at 6-7. The companies have 113 members that operate in 80 Illinois counties and produce 111 million tons of materials. Tr.5 at 7. The aggregate industry has been regulated for blasting by IDNR since 1995 pursuant to Section 6.5 of the Surface-Mined Land Conservation and Reclamation Act (225 ILCS 715/6.5 (2004)). *Id.* IDNR's Office of Mines and Minerals has promulgated a set of regulations that regulate blasting at coal mining and aggregate mining sites in Illinois pursuant to Section 3.13 of the Surface Coal Mining Land Conservation and Reclamation Act (225 ILCS 715/3.13 (2004)) (*See* 62 Ill. Adm. Code 300, 1816). Tr.5 at 7.

Mr. Henriksen testifies that IDNR's Office of Mines and Minerals has promulgated a comprehensive set of regulations that subjects explosives blasting at coal mining and aggregate mining operations to air blast or ground vibration monitoring, or both, as necessary to prevent property damage and protect public safety. Tr.5 at 7-8. Additionally, IDNR enforces the regulations using highly trained, technologically proficient inspectors and state of the art equipment. *Id.*

Mr. Henriksen states that the Board is seeking to maintain a duplicative and overlapping regulatory program for coal mining and aggregate producers in Illinois. Tr.5 at 8. Mr. Henriksen argues that Section 25 of the Act provides that the Board "may adopt" regulations limiting noise emissions; however, the Board is not required to adopt such limitations. Tr.5 at 9-10. Mr. Henriksen asserts that the Board has elected not to regulate other sources of noise and can do so here as well. *Id.* Mr. Henriksen acknowledges that the Board has the authority to decide which activities should be regulated. Tr.5 at 10. Mr. Henriksen contends, however, that regulation of sound generated by blasting operations at aggregate or coal mines, which are already highly regulated by a sister agency, is unreasonable. Tr.5 at 10-11. Mr. Henriksen suggests that Part 901 not apply to explosive operations at mines. Tr.5 at 11-12.

In response to questions from the Board, Mr. Henriksen states that only the sound produced from blasting should be exempted from the Board's rules. Tr.5 at 35. Mr. Henriksen states that the Board should regulate steady noises that are a function of mining operations such as sounds generated from crushing equipment and backup alarms on equipment. *Id.* However, pursuant to Section 25 of the Act (415 ILCS 5/25 2004), Mr. Henriksen believes the Board should defer to IDNR's regulations on blasting at mining operations. *Id.*

Mr. Henriksen recommends that if the Board decides to continue to regulate the noise emissions from blasting at mining operations, the Board should adopt a regulatory program in harmony with IDNR's program. Tr.5 at 13. In order for the Board's rules to be consistent with IDNR's program, Mr. Henriksen suggests language changes such as limiting blasting from sunrise to sunset and shifting the regulatory focus from the property line to protected structures.

Tr.5 at 13-14. Also, Mr. Henriksen maintains that none of the monitoring methods proposed in Part 910 will monitor highly impulsive sound from blasting. Tr.5 at 15.

**Mr. Jim Hafliger**

Mr. Hafliger, whose title is Chief Division Technical Explosive Specialist in the Office of Mines and Minerals at IDNR, testified to provide the Board with an overview of IDNR's program and responsibilities related to blasting at coal mines and aggregate mines in Illinois. Tr.5 at 17. Mr. Hafliger attempts to point to areas of duplication between the Board's regulations and IDNR's program. *Id.* IDNR's program is staffed by 12 individuals in three offices throughout the state. Tr.5 at 17-18. Eight of the staff members are full time inspectors regulating the use of explosives in Illinois. Tr.5 at 18. Part of IDNR's statutorily mandated duties include regulating the use, handling and storage of explosives at the 172 active surface mining operations in Illinois. *Id.* IDNR's inspectors are in the field on a daily basis. These inspectors use 35 seismographs that register and record (for analysis by IDNR's experts) the traces reflected as a result of air blast or air overpressure and ground vibrations at the mining operations. *Id.*

IDNR's program has been in place for many years and started with regulation of explosive use in the 1930s. Tr.5 at 18. In the 1980s, IDNR began regulating coal blasting operations and in the 1990s regulating blasting operations at the surface aggregate operations. Tr.5 at 18-19. The field inspectors are trained to use the seismographs and to analyze the data. Tr.5 at 19. IDNR regularly monitors the sites and takes a proactive stance to make sure the operators are fulfilling their statutory obligations. Tr.5 at 20. IDNR has a comprehensive training program for people who undertake blasting in Illinois and recently Illinois was recognized for using an estimated 500 million pounds of explosives over a five-year period without a reported injury. Tr.5 at 20-21.

IDNR's program is enforced using a hearing process within IDNR and can include fines or even suspension or revocation of actual blasting operations. Tr.5 at 41. The program includes requirements for recordkeeping for each blast that incorporates every minor detail of the blast. Tr.5 at 41-42. Mr. Hafliger testifies that there are 17 different criterion included on the blasting records which must be available for inspection by IDNR's staff. Tr.5 at 42-43. Furthermore, both the mining company and the actual person performing the blasting are subject to sanctions for violation of IDNR's rules. Tr.5 at 43-44. Mr. Hafliger also notes that IDNR has an 800 number to be used for any complaints relating to blasting and that number has received about 100 complaints this year. Tr.5 at 44, 46.

**Mr. Willard Pierce**

Mr. Pierce is general manager of Evenson Explosives, which provides blasting services in four states with a majority of that in Illinois. Tr. 5 at 23. Mr. Pierce also worked for IDNR and helped establish and implement the blasting regulatory program at IDNR. *Id.* Mr. Pierce wishes to ensure that the regulatory requirements are consistent and that the requirements can be implemented. Tr.5 at 24. Mr. Pierce testifies that based on the regulations, blasters in Illinois

need two years hand on experience, as well as class room training and examination before receiving a license. Tr.5 at 24.

Mr. Pierce expresses concern over the inconsistency in the C-weighted numbers between those in Section 901.109 and IDNR's rules. Tr.5 at 25-26. Mr. Pierce also suggests that there should only be one standard and that standard should not deviate depending on the time of day or the number of times a blast occurs during the day. Tr.5 at 26.

Mr. Pierce also testifies that an air blast is a very specific type of sound and is a very low frequency. Tr.5 at 26. Mr. Pierce states that you do not actually "hear" an air blast but rather the effects of the air blast. *Id.* For example, Mr. Pierce states that you may hear surface delays or venting and you might feel the blast in your chest. *Id.*

Mr. Pierce indicates that about 12 years ago the International Society of Explosive Engineers worked with manufacturers of monitoring equipment to develop standards for monitoring air blasts from blasting. Tr.5 at 27. The standard was published in 1999 and uses the seismograph for measuring air blast because the seismograph can measure ground vibration and air blast. Tr.5 at 27-28. Mr. Pierce sums up his position by stating that the industry has a standard for air blast, and a standard for monitoring which has been in place for a number of years. Tr.5 at 29-30. Further, the standard is based on science and is protective of structures. Tr.5 at 30.

Mr. Pierce notes that air blast is a short-term transient noise, that lasts about three seconds. Tr.5 at 28. Thus, where the Board's propose rule suggests shutting off monitoring equipment for transient noise, the rule would seem to allow shutting down monitoring equipment for air blasts. *Id.* Mr. Pierce recommends that if the Board chooses to adopt a rule requiring monitoring of air blasting, that the Board require the use of a blasting seismograph for monitoring. Tr.5 at 29.

Mr. Pierce summarizes his testimony by stating that he has five recommendations. The first is that the C-weighted and flat response microphones have the same number. Tr.5 at 30. Second, Mr. Pierce recommends that the limit for air blasts apply at a structure, not the property line. *Id.* Third, Mr. Pierce recommends limiting blasting from sunrise to sunset, except in emergency situations. Tr.5 at 31. Fourth, Mr. Pierce does not believe the limits should be lowered based on the time of day. *Id.* And fifth, Mr. Pierce urges the Board to require the use of monitoring procedures and equipment appropriate to blasting. *Id.*

### **Public Comments**

As indicated by the list above the Board received six comments including two from Dr. Paul Schomer including one on behalf of the Village of Bridgeview. The Board will group the comments by the author of the comment.

### **Office of Mines and Minerals, IDNR**

IDNR regulates blasting operations at all surface aggregate and coal mines in Illinois. PC 14 at 1. IDNR's comprehensive regulations help prevent personal injury and property damage though the use of the conservative limits of one inch per second ground vibration and 133dB maximum air over pressure. *Id.* IDNR comments that these standards are nationally recognized and accepted industry practice. *Id.* IDNR determines regulatory compliance by routinely inspecting and monitoring blasting at all of the State's 172 active aggregate and coal blasting sites. *Id.* IDNR's staff of 13 people have over 100 years of combined explosives related experience and field inspectors trained in the technical elements of seismology regularly monitor blasting using state-of-the-art seismographs. *Id.*

IDNR specifically lists several points where the Board's proposal is inconsistent or deviates from IDNR's standards and IDNR recommends changes for consistency. First, IDNR notes that the amendments to Section 901.109(a) result in limits that are inconsistent with and less stringent than the IDNR limits. PC 14 at 1. IDNR also suggests that the limits remain constant from sunrise to sunset and not be amended based on the time of day. PC 14 at 2. IDNR recommends that the regulatory limits apply to the nearest protected structure rather than the property line. *Id.* IDNR also notes that the monitoring methods in Part 910 are not conducive for use in monitoring blasting and seismographs are specifically designed for monitoring blasting. *Id.*

IDNR states that the proposed rules are trying to fit air over pressure within the scope of intrusive noise and sound regulations when in fact the two are separate issues. PC 14 at 2. IDNR suggests that the surface aggregate and coal mine blasting provisions in the Board's rules be deferred to IDNR for regulation. *Id.*

### **IAAP**

IAAP's public comment echoes the testimony of Mr. Henriksen in suggesting that the Board can and should defer to IDNR for the regulation of blasting at aggregate and coal mining operations. PC 15. IAAP points out that IDNR has regulated blasting operations at aggregate mines since 1995 and surface coal mines since 1982. *Id.* IAAP suggests that if the Board does decide to regulate blasting from mine operations, then the rules should be amended to ensure consistency between the Board and IDNR's regulations. *Id.*

### **Ms. Therese M. Dorigan**

Ms. Dorigan filed a comment on behalf of Kropp Forge. PC 17. Ms. Dorigan notes that Kropp Forge is not seeking any site-specific relief in this proceeding, but wishes to preserve any right to seek site-specific relief from the Board at a future date. *Id.*

### **Dr. Paul Schomer and Village of Bridgeview**

Dr. Schomer and Bridgeview reiterate the positions taken by Bridgeview at first notice concerning both the sound monitoring personnel qualifications and sound measurement procedures for establishing nuisance noise violation. PC 16, 18, and 19. Bridgeview also argues that bad science and misleading evidence should not be admissible in nuisance cases any more

than in numeric violation cases and challenges the use of noise measurements in nuisance noise enforcement proceedings. PC 18 at 1. In addition, Dr. Schomer raises concerns about the efficacy of the Board's rules. PC 19 at 2. The following paragraphs will summarize the comments.

**Sound Monitoring Personnel Qualifications.** Dr. Schomer comments that the lay person taking sound measurements can make errors when taking those measurements. PC 16 at 1. According to Dr. Schomer those errors include:

1. A lay person does not understand or necessarily hear properly background noise;
2. A lay person does not understand the role that wind induced noise makes on measurements;
3. A lay person does not understand the role that reflecting surfaces have on noise measurements. PC 16 at 2-3.

The "implications" of errors in measurement in Dr. Schomer's opinion is that the evidence of noise emissions measured by a lay person is inherently unreliable. PC 16 at 3.

Dr. Schomer argues that the Board has a viable option in terms of identifying qualified noise professionals. PC 16 at 5. Dr. Schomer urges the Board to require that measurements of noise emissions be supervised by an individual who is a "Member, Board Certified, of the Institute of Noise Control Engineering of the USA" (Institute). *Id.* Dr. Schomer states that the Institute is a non-profit technical society and certification requires education, several years experience, passing a rigorous 8-hour exam, and periodic professional activities to maintain certification. *Id.*

Dr. Schomer notes that as a lessor option, the Board could require that a member of the Institute, who is also a full member of the Acoustical Society of America, supervise noise emission measurements. PC 16 at 6. Dr. Schomer opines that with such a requirement the individual supervising the measurements "has some working knowledge of the mathematics of acoustics and of acoustical measurement." *Id.*

In Bridgeview's final comment, Dr. Schomer states that there is one way to correctly perform measurements, but a multitude of ways to mess up measurements. PC 19 at 1. Dr. Schomer argues that ANSI procedures must be followed using ANSI approved methods and instrumentation. *Id.* Dr. Schomer opines that many measurement devices sold at stores are worthless and best used for indoor measurements. *Id.*

**Sound Measurement Procedures for Establishing Nuisance Noise Violation.** Dr. Schomer states that standards exist so that within a reasonable degree of scientific certainty, two people can perform the same measurements under identical conditions and get the similar results. PC 16 at 4. Dr. Schomer asserts that unless standards are followed, the Board has no valid scientific method by which to assess the accuracy of data submitted to the Board. PC 16 at 4-5.

Dr. Schomer opines that the Board should use this rulemaking to make the standards for accurate measurements clear for both numeric and nuisance cases. PC 16 at 5.

**Efficacy of the Rules.** Dr. Schomer argues that allowing a lay person to make hand held A-weighted measurements does a disservice to the rules and to the noise receiver. PC 16 at 3. Dr. Schomer states that there is a trade-off between the complexity of the rules and the efficacy of the regulations. *Id.* Dr. Schomer notes that the Illinois rules are more complex than in many states, but as a result, Illinois' rules are more useful and protective. *Id.* Dr. Schomer asserts that because measurements made with simple, hand-held A-weighted instruments fail to address the spectrum of octaves covered under Illinois regulations, the measurements give a misleading picture of the noise emissions. PC 16 at 4. Dr. Schomer opines that to the extent the Board allows such evidence to be admitted in a nuisance noise case, the entire decision making process may be tainted by misleading information. *Id.*

Dr. Schomer, in his comment filed for Bridgeview, asserts that poor instruments may not detect many valid nuisance noise instances. PC 19 at 2. The instruments that do not measure individual octave bands may result in missing noise at a low frequency, according to Dr. Schomer. *Id.* Dr. Schomer argues that the octave band nature of the Board's rules is a positive factor and should not be "squandered" by substituting A-weighted measurements of questionable validity. *Id.*

**Nuisance Noise Cases.** Bridgeview argues the Board should take the opportunity in these rules to establish that in a nuisance complaint valid noise measurements must be used. PC 18 at 1. Bridgeview states that if noise measurements are taken in a nuisance case, the measurements should be taken as directed in Part 910. *Id.* Bridgeview maintains that to do otherwise is misleading to the complainant, prejudicial to the Board's decisions, and fundamentally unfair and costly to respondents. *Id.*

Bridgeview argues that admitting noise emissions measurements taken by a lay person other than pursuant to the requirements of Part 910 is contrary to the Board's responsibility for admitting scientific evidence based on Daubert v. Merrell Dow Pharmaceuticals, Inc., 501 U.S. 579 (1993). PC 18 at 2. Bridgeview asserts that the Board recognizes the legal principal articulated in Daubert but retreats from the sound science approach in nuisance cases. *Id.* Bridgeview opines that allowing "quick and dirty" sound measurements to be used in nuisance cases, the Board is encouraging frivolous lawsuits. *Id.* Bridgeview further argues that the Board appears to be shifting the burden of proof by requiring the respondent to expose problems with the measurements. PC 18 at 3.

## **DISCUSSION**

During the first-notice period, the comments and testimony received by the Board reiterated issues raised prior to the Board proceeding to first notice in March 2005. The issues are: (1) whether blasting operations by aggregate producers and surface coal mines should be governed by rules adopted by the Board or should the Board defer to IDNR's regulations; and (2) whether the Board should require that noise measurements taken for presentation in a nuisance

noise enforcement case should be taken pursuant to 35 Ill. Adm. Code 910. The Board will address these issues below.

### **Applicability of Noise Rules to Aggregate Producers and Surface Coal Mines**

At first notice, the Board did make changes to the rule in response to IAAP's comments. After consideration of the testimony and comments from IAAP and IDNR during the first-notice comment period, the Board is convinced that additional changes to the rule are warranted.

The testimony of IAAP and IDNR clearly demonstrates that IDNR has an extensive regulatory program in place that regulates the noise from blasting at facilities operated by aggregate producers and surface coal mines. Further, IDNR has an active staff that regularly oversees blasting and monitoring of the blasting at sites in Illinois. IDNR also has stringent enforcement tools for any violation of the regulations when blasting. Therefore, the Board finds that the Board can appropriately defer the regulation of noise emissions from blasting at aggregate and surface coal mines to IDNR. The Board will make changes to the rule under Sections 901.107 and 901.109 to reflect that deference.

The Board notes that IAAP's testimony indicates that IAAP only asks the Board to defer to IDNR for blasting at the aggregate producers sites in Illinois. All other operations, such as back up beepers, ingress and egress, and daily production noise emission should be subject to the Board rules according to IAAP. In light of this, the Board limits the scope of the proposed exemption to only to impulsive sound produced by explosive blasting activities, which are regulated by IDNR in accordance with Section 6.5 and Section 3.13 of the Surface Coal Mining Land Conservation and Reclamation Act (225 ILCS 715/6.5 and 3.13 (2004)).

### **Applicability of Part 910 to Nuisance Noise Enforcement Cases**

The Board has long held in that noise measurements may be used to substantiate or refute a nuisance noise claim. *See* Discovery South Group v. PCB, 275 Ill. App. 3d 547, 549, 656 N.E.2d 51, 59 (1st Dist. 1995); Charter Hall Home Owners Association v. Overland Transportation System PCB 98-81 (Oct. 1, 1998); Pawlowski v. Benchwarmers Pub, PCB 99-82 (Apr. 6, 2000); Gladys Knox and David Knox v. Turriss Coal Company and AEI Resources, Inc., PCB 00-140 (Jan. 9, 2003). In the Board's first-notice opinion and order, the Board stated:

Section 910.104 clarifies that sound pressure level measurements are not required to establish a violation of the Board's nuisance noise standard at Section 900.102, although such measurements may be used as corroborating evidence. In light of this, the Board finds that compliance with the detailed sound measurement procedures set forth in Part 951 or the proposed Part 910 are not required for sound measurements used as corroborating evidence in a nuisance noise proceeding. The Board will assign appropriate weight to sound measurement data submitted in any nuisance noise complaint based on the information in the hearing record and in accordance with the provisions of the Act. As noted in the first first-notice opinion (Proposed New and Updated Rules for Measurement and Numerical Sound Emissions Standards; Amendments to 35 Ill. Adm. Code 901

and 910, R03-9 (July 10, 1003)), the Board believes that this approach is consistent with the Board's precedence and case law concerning nuisance noise complaints. The Board declines to make the changes suggested by IAAP. Proposed New and Updated Rules for Measurement and Numerical Sound Emissions Standards; Amendments to 35 Ill. Adm. Code 901 and 910, R03-9, (Mar. 17, 2005).

The Board also discussed, at first notice, the request that noise measurements be supervised by an individual who is certified. The Board stated:

The Board finds that the present regulatory structure, where the Board determines the validity of sound data on a case-by-case basis in noise enforcement cases, is a more prudent approach than prescribing vague qualification requirements. The Board believes this is especially true absent a State approved licensing or certification process. Proposed New and Updated Rules for Measurement and Numerical Sound Emissions Standards; Amendments to 35 Ill. Adm. Code 901 and 910, R03-9, (Mar. 17, 2005).

The Board has carefully reviewed the arguments and concerns expressed by Bridgeview and Dr. Schomer. However, the Board is unconvinced that a change to the rule is necessary. First, as to the suggestion that the Board require compliance with Part 910 for measurement of noise emissions in a nuisance noise enforcement, the Board does not believe that change is necessary. If a complainant complies with the requirements of Part 910 when alleging a violation, then such a violation would be of the numeric standards and not a nuisance violation. The Board has long heard testimony in nuisance noise enforcement cases concerning the use of noise measurements. The Board examines that testimony and the measurements in light of the entirety of the evidence and renders a decision as to whether the noise unreasonably interferes with the enjoyment of life. *See e.g., Zivoli v. Somebody's Bar and Restaurant, PCB 90-200 (May 21, 1992)*. Therefore, the Board declines to make a change to the rule.

regarding the qualifications of individual supervising the measurement of emissions, the Board is not persuaded that requiring certification by the Institute is appropriate. The Board will continue to review the noise emission measurements on a case-by-case basis and make determination based on the evidence provided.

The Board finds that the extensive record in this proceeding supports proceeding to second notice with these noise regulations. The Board further finds that the rules are technically feasible and economically reasonable. Therefore the Board will proceed to second notice.

### **CONCLUSION**

The Board today adopts for second notice regulations concerning measurement of and standards for noise emissions in Illinois. The Board defers regulation of blasting operations at aggregate and surface coal mines to IDNR, who has an extensive regulatory scheme in place. The Board declines to alter the Board's longstanding position on noise emission measurements in nuisance noise enforcement cases and to require measurements be supervised by a certified

individual. The Board sends this proceeding to the Joint Committee on Administrative Review for second notice consideration.

### ORDER

The Board directs the Clerk to cause the filing of the following with the Joint Committee on Administrative Review for second notice consideration.

TITLE 35: ENVIRONMENTAL PROTECTION  
SUBTITLE H: NOISE  
CHAPTER I: POLLUTION CONTROL BOARD

PART 901  
SOUND EMISSION STANDARDS AND LIMITATIONS FOR PROPERTY LINE-NOISE-SOURCES

Section	
901.101	Classification of Land According to Use
901.102	Sound Emitted to Class A Land
901.103	Sound Emitted to Class B Land
901.104	<u>Highly - Impulsive Sound</u>
901.105	Impact Forging Operations
901.106	Prominent Discrete Tones
901.107	Exceptions
901.108	Compliance Dates for Part 901
901.109	<u>Highly - Impulsive Sound from Explosive Blasting</u>
901.110	Amforge Operational Level
901.111	Modern Drop Forge Operational Level
901.112	Wyman-Gordon Operational Level
901.113	Wagner Casting Site-Specific Operational Level <u>(Repealed)</u>
901.114	Moline Forge Operational Level
901.115	Cornell Forge Hampshire Division Site-Specific Operational Level
901.116	Forgings and Stampings, Inc. Operational Level
901.117	Rockford Drop Forge Company Operational Level
901.118	<del>Atlas Forgings Division of Scot Forge Company – Franklin Park</del> <u>Division Operational Level</u>
901.119	Clifford-Jacobs Operational Level
901.120	C.S. Norcross Operational Level
901.121	Vaughan & Bushnell Operational Level
APPENDIX A	Old Rule Numbers Referenced
APPENDIX B	<u>Land-Based Classification Standards</u> <del>Standard Land Use Coding System</del>

AUTHORITY: Implementing Section 25 and authorized by Section 27 of the Environmental Protection Act [415 ILCS 5/25 and 27].

SOURCE: Originally filed as Part 2 of Chapter 8: Noise Pollution, effective August 10, 1973; amended at 2 Ill. Reg. 27, p. 223, effective June 26, 1978; amended at 5 Ill. Reg. 6371, effective June 1, 1981; amended at 5 Ill. Reg. 8533, effective August 10, 1981; amended at 6 Ill. Reg. 10960, effective September 1, 1982; codified at 7 Ill. Reg. 13646; amended at 7 Ill. Reg. 14519, effective October 17, 1983; amended in R83-35 at 8 Ill. Reg. 18893, effective September 25, 1984; amended in R83-33, 26, 29, 30 and R83-34 at 9 Ill. Reg. 1405, effective January 17, 1985; Section 901.105(f)(1), (2) and (3) recodified to Sections 901.110, 901.111 and 901.112 at 9 Ill. Reg. 7147; amended in R83-25, 31 and 32 at 9 Ill. Reg. 7149, effective May 7, 1985; amended in R83-7 at 11 Ill. Reg. 3136, effective January 28, 1987; amended in R04-11, at 28 Ill. Reg. 11910, effective July 30, 2004; amended in R03-9 at 30 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_.

#### Section 901.101 Classification of Land According to Use

- a) The land use classification system used for the purposes of applying numeric sound standards for this Part is based on the Land-Based Classification Standards (LBCS) (Jeer, Sanjay. 2001. Land-Based Classification Standards . Online, <http://www.planning.org/LBCS>. American Planning Association: Chicago, Illinois). The LBCS applicable to this Part is set forth in Appendix B.
- b) a) Class A land ~~includes shall include~~ all land used as specified by LBCS Codes 1000 through 1340, 2410 through 2455, 5200 through 5230, 5500, 6100 through 6145, 6222, 6510 through 6530, 6568 through 6600, SLUCM Codes 110 through 190 inclusive, 651, 674, 681 through 683 inclusive, 691, 711, 762, 7121, 7122, 7123 and 921.
- c) b) Class B land ~~includes shall include~~ all land used as specified by LBCS Codes 2100 through 2336, 2500 through 2720, 3500 through 3600, 4220 through 4243, 5100 through 5160, 5300 through 5390, 5400, 6147, 6210 through 6221, 6300 through 6320, 6400 through 6430, 6560 through 6567, 6700 through 6830, 7100 through 7380. SLUCM Codes 397, 471 through 479 inclusive, 511 through 599 inclusive, 611 through 649 inclusive, 652 through 673 inclusive, 675, 692, 699, 7124, 7129, 719, 721, 722 except 7223, 723 through 761 inclusive except 7311, 769 through 790 inclusive, and 922.
- d) e) Class C land ~~includes shall include~~ all land used as specified by LBCS Codes 3100 through 3440, 4120 through 4180, 4210 through 4212, 4300 through 4347, 7400 through 7450, 8000 through 8500, and 9100 through 9520. SLUCM Codes 211 through 299 inclusive, 311 through 396 inclusive, 399, 411 except 4111, 412 except 4121, 421, 422, 429, 441, 449, 460, 481 through 499 inclusive, 7223 and 7311 used for automobile and motorcycle racing, and 811 through 890 inclusive.
- e) d) A parcel or tract of land used as specified by LBCS SLUCM Code 9100, 9400, or 5500 81, 83, 91, or 922, when adjacent to Class B or C land may be classified similarly by action of a municipal government having zoning jurisdiction over

such land. Notwithstanding any subsequent changes in actual land use, land so classified ~~retains shall retain~~ such B or C classification until the municipal government removes the classification adopted by it.

(Source: Amended at 30 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

Section 901.102      Sound Emitted to Class A Land

- a)      Except as elsewhere provided in this Part ~~provided~~, no person shall cause or allow the emission of sound during daytime hours from any property-line-noise-source located on any Class A, B or C land to any receiving Class A land which exceeds any allowable octave band sound pressure level specified in the following table, when measured at any point within such receiving Class A land, provided, however, that no measurement of sound pressure levels shall be made less than 25 feet from such property-line-noise-source.

Octave Band Center Frequency (Hertz)	Allowable Octave Band Sound Pressure Levels (dB) of Sound Emitted to any Receiving Class A Land from		
	Class C Land	Class B Land	Class A Land
31.5	75	72	72
63	74	71	71
125	69	65	65
250	64	57	57
500	58	51	51
1000	52	45	45
2000	47	39	39
4000	43	34	34
8000	40	32	32

- b)      Except as provided elsewhere in this Part ~~provided~~, no person shall cause or allow the emission of sound during nighttime hours from any property-line-noise-source located on any Class A, B or C land to any receiving Class A land which exceeds any allowable octave band sound pressure level specified in the following table, when measured at any point within such receiving Class A land, provided, however, that no measurement of sound pressure levels shall be made less than 25 feet from such property-line-noise-source.

Octave Band Center Frequency (Hertz)	Allowable Octave Band Sound Pressure Levels (dB) of Sound Emitted to any Receiving Class A Land from		
	Class C Land	Class B Land	Class A Land
31.5	69	63	63
63	67	61	61

125	62	55	55
250	54	47	47
500	47	40	40
1000	41	35	35
2000	36	30	30
4000	32	25	25
8000	32	25	25

(Source: Amended at 30 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

Section 901.103      Sound Emitted to Class B Land

Except as provided elsewhere in this Part ~~provided~~, no person shall cause or allow the emission of sound from any property-line-noise-source located on any Class A, B or C land to any receiving Class B land which exceeds any allowable octave band sound pressure level specified in the following table, when measured at any point within such receiving Class B land, provided, however, that no measurement of sound pressure levels shall be made less than 25 feet from such property-line-noise-source.

Octave Band Center Frequency (Hertz)	Allowable Octave Band Sound Pressure Levels (dB) of Sound Emitted to any Receiving Class B Land from		
	Class C Land	Class B Land	Class A Land
31.5	80	79	72
63	79	78	71
125	74	72	65
250	69	64	57
500	63	58	51
1000	57	52	45
2000	52	46	39
4000	48	41	34
8000	45	39	32

(Source: Amended at 30 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

Section 901.104      Highly-Impulsive Sound

Except as provided elsewhere in this Part ~~provided~~, no person shall cause or allow the emission of highly-impulsive sound from any property-line-noise-source located on any Class A, B, or C land to any receiving Class A or B land which exceeds the allowable A-weighted sound levels, measured with fast dynamic characteristic, specified in the following table when measured in accordance with the procedure of 35 Ill. Adm. Code 900.103 at any point within such receiving Class A or B land, provided, however, that no measurement of sound levels shall be made less than 25 feet from such property-line-noise-source.

Classification of Land on which Property-Line Noise-Source: is Located	Allowable A-weighted Sound Levels in Decibels of <u>Highly-</u> Impulsive Sound Emitted to Receiving Class A or B Land		
	Class B Land	Class A Land	
		Daytime	Nighttime
Class A Land	<del>50</del> <u>47</u>	<del>50</del> <u>47</u>	<del>45</del> <u>37</u>
Class B Land	<del>57</del> <u>54</u>	<del>50</del> <u>47</u>	<del>45</del> <u>37</u>
Class C Land	<del>61</del> <u>58</u>	<del>56</del> <u>53</u>	<del>46</del> <u>43</u>

(Source: Amended at 30 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

Section 901.105 Impact Forging Operations

- a) For purposes of this Section, ~~rule~~ only the following are applicable:
  - 1) Daytime hours means ~~shall mean~~ any continuous 16-hour period between 6:00 a.m. and 11:00 p.m. local time; and
  - 2) Nighttime hours means ~~shall mean~~ those 8 hours between 10:00 p.m. and 7:00 a.m. which are not part of the 16 continuous daytime hours.
  - 3) The reference time for  $L_{eq}$ , as defined in 35 Ill. Adm. Code 900.101 is one hour.
  - 4) New Impacting Forging Operation is that property-line-noise-source comprised of impact forging operation on which construction began after September 1, 1982.
  - 5) Existing Impact Forging Operation is that property-line-noise-source comprised of impact forging operations which are in existence on September 1, 1982,

- b) Emission Limitations for New Impact Forging Operation.  
 No impact forging operation shall cause or allow the emission of impulsive sound to any receiving Class A or B land which exceeds the allowable sound levels specified in the following table when measured at any point within such receiving land, provided however, that no measurement of sound levels shall be made less than 25 feet from such new impact forging operation's property-line.

Allowable Highly- Impulsive Sound Levels ( $L_{eq}$ ) in Decibels Emitted To Class A or B Land from New Impact Forging Operation

Class B Land	Class A Land
--------------	--------------

	Daytime	Nighttime
59.5 Leq	53.5 Leq	48.5 Leq

c) Limitations for Existing Impact Forging Operation

No existing impact forging operation shall cause or allow the emission of highly-impulsive sound to any receiving Class A or B land which exceeds the allowable sound levels specified in the following table, when measured at any point within such receiving land, provided however, that no measurement of sound levels shall be made less than 25 feet from such existing impact forging operation's property-line, unless such forging operation is granted a permanent site specific allowable operational level pursuant to subsection subparagraph (d).

Allowable Highly- Impulsive Sound Levels (L<sub>eq</sub>) in Decibels Emitted  
To Class A or B Land from Existing  
Impact Forging Operation

Class B Land	Class A Land	
	Daytime	Nighttime
64.5 Leq	58.5 Leq	53.5 Leq

d) Site Specific Allowable Operational Level for Existing Impact Forging Operation

- 1) An existing impact forging operation which does not comply with subsection subparagraph (c) may seek a permanent site specific allowable operational level from the Board. A permanent site specific level is that level of operation allowed petitioner after review and approval by the Board and after implementation of abatement abated measures, if any, approved by the Board.
- 2) Any existing impact forging operation seeking a permanent site specific operational level must submit as its petition the following:
  - A) The location of the petitioner, a description of the surrounding community, and a map locating the petitioner within the community;
  - B) A description of the petitioner's operations, the number and size of the petitioner's forging hammers, the current hours of hammer operation, the approximate number of forgings manufactured during each of the three prior calendar years and the approximate number of hammer blows used to manufacture the forgings.
  - C) A description of any existing sound abatement measure.

- D) The sound levels in excess of those permitted by subsection subparagraph (c) emitted by the petitioner into the community, in 5 decibel increments measured in  $L_{eq}$ , shown on the map of the community.
- E) The number of residences exposed to sound levels in excess of those permitted by subsection subparagraph (c);
- F) A description of other significant sources of noise (mobile and stationary) and their location shown on the map of the community;
- G) A description of the proposed operational level and proposed physical abatement measures, if any, a schedule for their implementation and their costs;
- H) The predicted improvement in community sound levels as a result of implementation of the proposed abatement measures; and
- I) A description of the economic and technical considerations which justify the permanent site specific allowable operational level sought by petitioner.

~~3) An existing impact forging operation seeking a permanent site specific operational level shall prepare and file its petition with the Board and Agency as applicable no later than December 1, 1983.~~

~~4) The Agency shall prepare a written evaluation regarding each petition seeking a permanent site specific operational level and shall file said evaluation within ninety (90) days following receipt of the petition with both the Board and the petitioner.~~

e) Land Use Classifications Preserved

The land use classifications in effect within a one-mile radius of an existing impact forging operation on September 1, 1982 remains ~~shall remain~~ the applicable land use classification for enforcement of these rules against an existing forging operation and any future modification thereof, regardless of actual subsequent changes in land use unless such actual changes would impose less restrictive limitations on the impact forging operations.

f) Site-Specific Operational Levels

Each individual existing forging operation identified in Sections 901.110, 901.111 and 901.112 must comply with the site-specific operational level defined, or is otherwise subject to Section 901.105(c).

(Source: Amended at 30 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

Section 901.106 Prominent Discrete Tones

- a) No person shall cause or allow the emission of any prominent discrete tone from any property-line-noise-source located on any Class A, B or C land to any receiving Class A, B or C land, provided, however, that no measurement of one-third octave band sound pressure levels shall be made less than 25 feet from such property-line source.
- b) This rule shall not apply to prominent discrete tones having a one-third octave band sound pressure level 10 or more dB below the allowable octave band sound pressure level specified in ~~the applicable tables in~~ Sections 901.102 through 901.104 for the octave band which contains such one-third octave band. In the application of this sub-section, the applicable numeric standard table for sound emitted from any existing property-line-noise-source to receiving Class A land, for both daytime and nighttime operations, ~~is shall be~~ found in Section 901.102(a).

(Source: Amended at 30 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

Section 901.107 Exceptions

- a) Sections 901.102 through 901.106 inclusive ~~does shall~~ not apply to sound emitted from land used as specified by LBCS Codes 1100, 6600 and 5500 SLUCM Codes 110, 140, 190, 691, and 742 except 7424 and 7425.
- b) Sections 901.102 through 901.106 inclusive ~~does shall~~ not apply to sound emitted from emergency warning devices and unregulated safety relief valves.
- c) Sections 901.102 through 901.106 inclusive ~~does shall~~ not apply to sound emitted from lawn care maintenance equipment and agricultural field machinery used during daytime hours. For the purposes of this sub-section, grain dryers operated off the farm ~~are shall~~ not be considered agricultural field machinery.
- d) Sections 901.102 through 901.106 inclusive ~~do shall~~ not apply to sound emitted from equipment being used for construction.
- e) Section 901.102(b) ~~do shall~~ not apply to sound emitted from existing property-line-noise-sources during nighttime hours, provided, however, that sound emitted from such existing property-line-noise-sources ~~are shall be~~ governed during nighttime hours by the limits specified in Section 901.102.
- f) Sections 901.102 through 901.106 inclusive ~~do shall~~ not apply to the operation of any vehicle registered for highway use while such vehicle is being operated

within any land used as specified by Section 901.101 in the course of ingress to or egress from a highway.

- g) Sections 901.102 through 901.106 inclusive ~~do shall~~ not apply to sound emitted from land used as specified by LBCS Codes 5130 and 5140 ~~SLUCM Codes 7223 and 7311~~ when used for automobile and motorcycle racing; and, any land used for contests, rallies, time trials, test runs or similar operations of any self-propelled device, and upon or by which any person is or may be transported or drawn, when such self-propelled device is actually being used for sport or recreation and is actually participating in an activity or event organized, regulated, and supervised under the sponsorship and sanction of a club, organization or corporation having national or statewide recognition; provided, however, that the exceptions granted in this subsection ~~subparagraph~~ ~~do shall~~ not apply to any automobile and motorcycle race, contest, rally, time trial, test run or similar operation of any self-propelled device if such event is started between the hours of 10:30 p.m. to 7:00 a.m., local time weekdays, or between the hours of 11:00 p.m. and 7:00 a.m., local time, weekend days.
- h) Section 901.104 shall not apply to impulsive sound produced by explosive blasting activities conducted on any Class C land other than the land used as specified by LBCS Codes 8300 and 8500 ~~SLUCN codes 852 and 854~~, but such operations shall be governed by Section 901.109.
- i) Part 901 shall not apply to impulsive sound produced by explosive blasting activities, which are:
- 1) Conducted on any Class C land used as specified by LBCS Codes 8300 and 8500; and
  - 2) Regulated by the Department of Natural Resources in accordance with Section 6.5 and Section 3.13 of the Surface Coal Mining Land Conservation and Reclamation Act (225 ILCS 715/6.5 and 3.13 (2004)).
- ii) Sections 901.102 through 901.106 inclusive; ~~do shall~~ not apply to sound emitted from snowmobiles.

(Source: Amended at 30 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

#### Section 901.108 Compliance Dates for Part 901

- a) Except as provided in subsections ~~subparagraphs~~ (g), (i), and (j), every owner or operator of a new property-line-noise-source must shall comply with the standards and limitations of this Part on and after August 10, 1973.

- b) Except as otherwise provided in this rule, every owner or operator of an existing property-line-noise-source must shall comply with the standards and limitations of this Part on and August 10, 1974.
- c) Every owner or operator of an existing property-line-noise-source who emits sound which exceeds any allowable octave band sound pressure level of Section 901.102 or 901.103 by 10 dB or more in any octave band with a center frequency of 31.5 Hertz, 63 Hertz or 125 Hertz must shall comply with the standards and limitations of this Part on and after February 10, 1975.
- d) Except as provided in subsections ~~subparagraphs~~ (g) and (h), every owner or operator of an existing property-line-noise-source required to comply with Section 901.104 must shall comply with the standards and limitations of this Part on and after February 10, 1975.
- e) Every owner or operator of an existing property-line-noise-source required to comply with Section 901.106 must shall comply with the standards and limitations of this Part on and after February 10, 1975.
- f) ~~Repealed~~
- f)g) Every owner or operator of Class C land now and hereafter used as specified by LBCS Code 4120 ~~SLUCM Code 4112~~ shall will have until August 10, 1976 to bring the sound from railroad car coupling in compliance with Section 901.104.
- g)h) Existing impact forging operations as defined in Section 901.105 which do not seek permanent site specific allowable operational levels must shall comply with Section 901.105 by December 1, 1983. Those seeking permanent site specific allowable operational levels pursuant to Section 901.105(d) must shall comply as of the effective date of the site specific rule granted or denied.
- h)i) Every owner or operator of Class C land now or hereafter used as specified by LBCS Code 3310 ~~SLUCM Code 291~~ must shall comply with the standards and limitations of this Part on August 10, 1975.
- i)j) Every owner or operator of Class C land now or hereafter used as specified by LBCS Code 5130 and 5140 ~~SLUCM Code 7223 and 7311~~ when used for automobile and motorcycle racing shall-must comply with the standards and limitations of this Part on February 10, 1976.

(Source: Amended at 30 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

Section 901.109      Highly-Impulsive Sound From Explosive Blasting

- a) During the daytime hours that cover the period, after sunrise and before sunset, no person shall cause or allow any explosive blasting conducted on any Class C land

other than land used as specified by LBCS Codes 8300 and 85200 ~~SLUCM Codes 852 and 854~~ so as to allow the emission of sound to any receiving Class A or B land which exceeds the allowable outdoor C-weighted sound levels, measured with the slow dynamic characteristic, specified in the following table, when measured at any point, of reasonable interference with the use of such receiving Class A or B land.

Allowable Outdoor C-Weighted  
Sound Exposure Levels in Decibels of Explosive  
Blasting Sounds Emitted to Receiving  
Class A or B Land from Any Class C Land other than Land  
Used as Specified by LBCS Code 8300 or 8500 ~~SLUCM Code 852 or 854~~

Receiving Class A Land  
~~109-107~~

Receiving Class B Land  
~~114-112~~

The allowable sound exposure level limits in the above table must be lowered by three decibels (3 dB) for each doubling of the number of blasts during the day or night.

- b) Compliance with outdoor peak sound pressure level limits in the following table shall constitute prima facie level limits of this rule when measured on such receiving Class A or B land.

Equivalent Maximum Sound Pressure Level (Peak) Limits in Decibels

Lower Frequency Limit of Measuring System for Flat Response, a Variation from Linear Response of + or - 3dB (Hz)	Receiving Class A Land (dB)	Receiving Class B Land (dB)
<del>≤ 0.1</del>	<del>135</del>	<del>140</del>
≤ 2.0 but > 0.1	133	<u>137</u>
<del>≤ 6.0 but greater than 2.0</del>	130	135

~~The allowable equivalent maximum sound pressure level limits in the above table shall be lowered by two decibels (2 dB) for each doubling of the number of blasts during the day or night.~~

- c) During the period defined by both the beginning of the nighttime hours (10:00 pm) or sunset, whichever occurs earlier and the ending of the nighttime hours (7:00 am) or, after sunset and before sunrise, whichever occurs later, the allowable sound level limits in subsections ~~subparagraphs~~ (a) and (b) must ~~shall~~ be reduced by 10 decibels ~~decibels~~ except in emergency situations where rain,

lightning, other atmospheric conditions, or operator or public safety requires unscheduled nighttime hour explosive blasting.

- d) Persons causing or allowing explosive blasting to be conducted on any Class C land other than land used as specified by LBCS Code 8300 or 8500 ~~SLUCM code 852 or 854~~ must shall notify the local public of such blasting prior to its occurrence, except when emergency situations require unscheduled blasting, by publication of a blasting schedule, identifying the work days or dates and time periods when explosives are expected to be detonated, at least every three months in a newspaper of general circulation in the locality of the blast site.

(Source: Amended at 30 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

#### Section 901.110 Amforge Operational Level

Amforge Division of Rockwell International located at 119th Street, Chicago, Illinois must shall:

- a) Operate only ten forging hammers at any one time; ~~and~~
- b) Operation of its forging hammers is limited to the hours of 7:00 a.m. through 11:00 p.m., with occasional operations beginning at 6:00 a.m. and ending at midnight, Monday through Saturdays; and
- c) Install sound ~~Sound~~ absorptive materials ~~shall be installed~~ on each of the forging hammer structures as each is routinely overhauled, but no later than January 1, 1987.

(Source: Amended at 30 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

#### Section 901.111 Modern Drop Forge Operational Level

Modern Drop Forge Company located at 139th Street and Western Avenue in Blue Island, Illinois must shall:

- a) Operate only twenty-one forging hammers at any one time; and
- b) Operate its forging hammers only during the hours of 6:00 a.m. through midnight, Mondays through Fridays, and 6:30 a.m. until 7:30 p.m. on Saturdays.

(Source: Amended at 30 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

#### Section 901.113 Wagner Casting Site-Specific Operational Level (Repealed)

~~Wagner Casting Company and future owners of the forging facility located at the southeast corner of Sangamon and Jasper Streets in Decatur, Illinois, must comply with the following site-specific operational level or are otherwise subject to Section 901.105(c):~~

- a) ~~Shall operate no more than nine forging hammers at any one time; and~~
- b) ~~Shall operate its forging hammers only between the hours of 5:00 a.m. Monday through 9:00 p.m. Saturday.~~

(Source: Repealed at 30 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

Section 901.118 ~~Atlas Forgings Division of Scot Forge~~ Company – Franklin Park Division  
Operational Level

~~Atlas Forge Division of Scot Forge~~ and future owners of the forging facility located at 9394 W. Belmont Avenue, Franklin Park 1501 South 55th Court, Cicero, Illinois, ~~must shall~~ comply with the following site-specific operational level:

- a) Operate no more than seven ~~three~~ forging hammers at any one time; and
- b) Operate its forging hammers only between the hours of 6:00 a.m. and 6:00 p.m. Monday through Saturday.

(Source: Amended at 30 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

Section 901.121 Vaughan & Bushnell Operational Level

Vaughan & Bushnell Manufacturing Company and the future owners of the forging facility located at the intersection of Davis and Main Streets, Bushnell, Illinois, ~~must shall~~ comply with the following site-specific operational level:

- a) Operate no more than ten hammers at any one time; and
- b) Operate its forging hammers only between the hours of 6:00 a.m. and 1:30 a.m. ~~p.m.~~ Monday through Saturday.

(Source: Amended at 30 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

Section 901.APPENDIX B Land-Based Classification Standards and Corresponding 35 Ill. Adm. Code 901 Land Classes Standard Land Use Coding System

<b><u>LBCS</u></b>		<b><u>Description</u></b>	<b><u>35 IAC 901 Land Class</u></b>
<b><u>Main Category</u></b>	<b><u>Function Code</u></b>		

<b>LBCS</b>		<b>Description</b>	<b>35 IAC 901 Land Class</b>	
<b>Main Category</b>	<b>Function Code</b>			
<u>Residence or accommodation functions</u>	<b>1000</b>	<u>Residence or accommodation functions</u>	<b>A</b>	
	<b>1100</b>	<u>Private household</u>		
	<b>1200</b>	<u>Housing services for the elderly</u>		
	1210	<u>Retirement housing services</u>		
	1220	<u>Congregate living services</u>		
	1230	<u>Assisted-living services</u>		
	1240	<u>Life care or continuing care services</u>		
	1250	<u>Skilled-nursing services</u>		
	<b>1300</b>	<u>Hotels, motels, or other accommodation services</u>		
	1310	<u>Bed and breakfast inn</u>		
	1320	<u>Rooming and boarding</u>		
	1330	<u>Hotel, motel, or tourist court</u>		
	1340	<u>Casino hotel</u>	<b>A</b>	
	<u>General sales or services</u>	<b>2000</b>	<u>General sales or services</u>	
		<b>2100</b>	<u>Retail sales or service</u>	<b>B</b>
2110		<u>Automobile sales or service establishment</u>		
2111		<u>Car dealer</u>		
2112		<u>Bus, truck, mobile homes, or large vehicles</u>		
2113		<u>Bicycle, motorcycle, ATV, etc.</u>		
2114		<u>Boat or marine craft dealer</u>		
2115		<u>Parts, accessories, or tires</u>		
2116		<u>Gasoline service</u>		
2120		<u>Heavy consumer goods sales or service</u>		
2121		<u>Furniture or home furnishings</u>		
2122		<u>Hardware, home centers, etc.</u>		
2123		<u>Lawn and garden supplies</u>		
2124		<u>Department store, warehouse club or superstore</u>		
2125		<u>Electronics and Appliances</u>		
2126		<u>Lumber yard and building materials</u>		
2127		<u>Heating and plumbing equipment</u>		
2130	<u>Durable consumer goods sales and service</u>			
2131	<u>Computer and software</u>			
2132	<u>Camera and photographic supplies</u>			

<b>LBCS</b>		<b><u>Description</u></b>	<b><u>35 IAC 901 Land Class</u></b>
<b><u>Main Category</u></b>	<b><u>Function Code</u></b>		
	2133	<u>Clothing, jewelry, luggage, shoes, etc.</u>	
	2134	<u>Sporting goods, toy and hobby, and musical instruments</u>	
	2135	<u>Books, magazines, music, stationery</u>	
	2140	<u>Consumer goods, other</u>	
	2141	<u>Florist</u>	
	2142	<u>Art dealers, supplies, sales and service</u>	
	2143	<u>Tobacco or tobacconist establishment</u>	
	2144	<u>Mail order or direct selling establishment</u>	
	2145	<u>Antique shops, flea markets, etc.</u>	
	2150	<u>Grocery, food, beverage, dairy, etc.</u>	
	2151	<u>Grocery store, supermarket, or bakery</u>	
	2152	<u>Convenience store</u>	
	2153	<u>Specialty food store</u>	
	2154	<u>Fruit and vegetable store</u>	
	2155	<u>Beer, wine, and liquor store</u>	
	2160	<u>Health and personal care</u>	
	2161	<u>Pharmacy or drug store</u>	
	2162	<u>Cosmetic and beauty supplies</u>	
	2163	<u>Optical</u>	
	<b><u>2200</u></b>	<b><u>Finance and Insurance</u></b>	
	2210	<u>Bank, credit union, or savings institution</u>	
	2220	<u>Credit and finance establishment</u>	
	2230	<u>Investment banking, securities, and brokerages</u>	
	2240	<u>Insurance-related establishment</u>	
	2250	<u>Fund, trust, or other financial establishment</u>	
	<b><u>2300</u></b>	<b><u>Real estate, and rental and leasing</u></b>	
	2310	<u>Real estate services</u>	
	2320	<u>Property management services</u>	
	2321	<u>Commercial property-related</u>	
	2322	<u>Rental housing-related</u>	
	2330	<u>Rental and leasing</u>	
	2331	<u>Cars</u>	
	2332	<u>Leasing trucks, trailers, RVs, etc.</u>	
	2333	<u>Recreational goods rental</u>	

<b>LBCS</b>		<b><u>Description</u></b>	<b><u>35 IAC 901 Land Class</u></b>
<b><u>Main Category</u></b>	<b><u>Function Code</u></b>		
	<u>2334</u>	<u>Leasing commercial, industrial machinery, and equipment</u>	↓
	<u>2335</u>	<u>Consumer goods rental</u>	
	<u>2336</u>	<u>Intellectual property rental (video, music, software, etc.)</u>	<b><u>B</u></b>
	<b><u>2400</u></b>	<b><u>Business, professional, scientific, and technical services</u></b>	
	<u>2410</u>	<u>Professional services</u>	<b><u>A</u></b>
	<u>2411</u>	<u>Legal services</u>	
	<u>2412</u>	<u>Accounting, tax, bookkeeping, payroll services</u>	
	<u>2413</u>	<u>Architectural, engineering, and related services</u>	↓
	<u>2414</u>	<u>Graphic, industrial, interior design services</u>	↓
	<u>2415</u>	<u>Consulting services (management, environmental, etc.)</u>	↓
	<u>2416</u>	<u>Research and development services (scientific, etc.)</u>	↓
	<u>2417</u>	<u>Advertising, media, and photography services</u>	↓
	<u>2418</u>	<u>Veterinary services</u>	↓
	<u>2420</u>	<u>Administrative services</u>	↓
	<u>2421</u>	<u>Office and administrative services</u>	↓
	<u>2422</u>	<u>Facilities support services</u>	↓
	<u>2423</u>	<u>Employment agency</u>	↓
	<u>2424</u>	<u>Business support services</u>	↓
	<u>2425</u>	<u>Collection agency</u>	↓
	<u>2430</u>	<u>Travel arrangement and reservation services</u>	↓
	<u>2440</u>	<u>Investigation and security services</u>	↓
	<u>2450</u>	<u>Services to buildings and dwellings</u>	↓
	<u>2451</u>	<u>Extermination and pest control</u>	↓
	<u>2452</u>	<u>Janitorial</u>	↓
	<u>2453</u>	<u>Landscaping</u>	↓
	<u>2454</u>	<u>Carpet and upholstery cleaning</u>	↓
	<u>2455</u>	<u>Packing, crating, and convention and trade show services</u>	<b><u>A</u></b>
	<b><u>2500</u></b>	<b><u>Food services</u></b>	<b><u>B</u></b>
	<u>2510</u>	<u>Full-service restaurant</u>	
	<u>2520</u>	<u>Cafeteria or limited service restaurant</u>	
	<u>2530</u>	<u>Snack or nonalcoholic bar</u>	↓
	<u>2540</u>	<u>Bar or drinking place</u>	↓
	<u>2550</u>	<u>Mobile food services</u>	↓
	<u>2560</u>	<u>Caterer</u>	↓
	<u>2570</u>	<u>Food service contractor</u>	↓

<b>LBCS</b>		<b>Description</b>	<b>35 IAC 901 Land Class</b>
<b>Main Category</b>	<b>Function Code</b>		
	<u>2580</u>	<u>Vending machine operator</u>	
	<b><u>2600</u></b>	<u>Personal services</u>	
	<b><u>2700</u></b>	<u>Pet and animal sales or service (except veterinary)</u>	↓
	<u>2710</u>	<u>Pet or pet supply store</u>	
	<u>2720</u>	<u>Animal and pet services</u>	<b>B</b>
<u>Manufacturing and wholesale trade</u>	<b><u>3000</u></b>	<u>Manufacturing and wholesale trade</u>	
	<b><u>3100</u></b>	<u>Food, textiles, and related products</u>	<b>C</b>
	<u>3110</u>	<u>Food and beverages</u>	
	<u>3120</u>	<u>Tobacco manufacturing establishment</u>	
	<u>3130</u>	<u>Textiles</u>	
	<u>3140</u>	<u>Leather and allied products</u>	
	<b><u>3200</u></b>	<u>Wood, paper, and printing products</u>	
	<u>3210</u>	<u>Wood products establishment</u>	
	<u>3220</u>	<u>Paper and printing materials</u>	
	<u>3230</u>	<u>Furniture and related products</u>	
	<b><u>3300</u></b>	<u>Chemicals, and metals, machinery, and electronics manufacturing</u>	
	<u>3310</u>	<u>Petroleum and coal products</u>	
	<u>3320</u>	<u>Chemicals, plastics, and rubber products</u>	
	<u>3330</u>	<u>Nonmetallic mineral products</u>	
	<u>3340</u>	<u>Primary metal manufacturing</u>	
	<u>3350</u>	<u>Machinery manufacturing</u>	
	<u>3360</u>	<u>Electrical equipment, appliance, and components manufacturing</u>	
	<u>3370</u>	<u>Transportation equipment, automobiles, etc.</u>	
	<b><u>3400</u></b>	<u>Miscellaneous manufacturing</u>	
	<u>3410</u>	<u>Jewelry and silverware</u>	
	<u>3420</u>	<u>Dolls, toys, games, and musical instruments</u>	↓
<u>3430</u>	<u>Office supplies, inks, etc.</u>		
<u>3440</u>	<u>Signs</u>	<b>C</b>	
<b><u>3500</u></b>	<u>Wholesale trade establishment</u>	<b>B</b>	
<u>3510</u>	<u>Durable goods</u>		
<u>3520</u>	<u>Nondurable goods</u>	↓	

<b>LBCS</b>		<b>Description</b>	<b>35 IAC 901 Land Class</b>
<b>Main Category</b>	<b>Function Code</b>		
	<b>3600</b>	<u>Warehouse and storage services</u>	<b><u>B</u></b>
<u>Transportation, communication, information, and utilities</u>	<b>4000</b>	<u>Transportation, communication, information, and utilities</u>	
	<b>4100</b>	<u>Transportation services</u>	
	4110	<u>Air transportation</u>	<b><u>U</u></b>
	4111	<u>Air passenger transportation</u>	
	4112	<u>Air freight transportation</u>	
	4113	<u>Airport and support establishment</u>	↓
	4114	<u>Aircraft and accessories</u>	
	4115	<u>Other air transportation (including scenic, balloon, etc.)</u>	<b><u>U</u></b>
	4120	<u>Rail transportation</u>	<b><u>C</u></b>
	4121	<u>Rail passenger transportation</u>	
	4122	<u>Rail freight transportation</u>	
	4123	<u>Rail transportation support establishment</u>	
	4130	<u>Road, ground passenger, and transit transportation</u>	
	4131	<u>Local transit systems-mixed mode</u>	
	4132	<u>Local transit systems-commuter rail</u>	
	4133	<u>Local transit systems-bus, special needs, and other motor vehicles</u>	
	4134	<u>Interurban, charter bus, and other similar establishments</u>	
	4135	<u>School and employee bus transportation</u>	
	4136	<u>Special purpose transit transportation (including scenic, sightseeing, etc.)</u>	
	4137	<u>Taxi and limousine service</u>	
	4138	<u>Towing and other road and ground services</u>	
	4140	<u>Truck and freight transportation services</u>	
	4141	<u>General freight trucking, local</u>	
	4142	<u>General freight trucking, long-distance</u>	
	4143	<u>Freight trucking, specialized (used household and office goods)</u>	
	4144	<u>Freight trucking, specialized (except used goods)</u>	
	4150	<u>Marine and water transportation</u>	
	4151	<u>Marine passenger transportation</u>	
	4152	<u>Marine freight transportation</u>	
	4153	<u>Marine port and harbor operations</u>	

<b>LBCS</b>		<b><u>Description</u></b>	<b><u>35 IAC 901 Land Class</u></b>
<b><u>Main Category</u></b>	<b><u>Function Code</u></b>		
	4154	<u>Marine cargo handling and dry dock services</u>	
	4155	<u>Marine navigational and other services</u>	
	4160	<u>Courier and messenger services</u>	↓
	4170	<u>Postal services</u>	
	4180	<u>Pipeline transportation</u>	<b>C</b>
	<b><u>4200</u></b>	<b><u>Communications and information</u></b>	
	4210	<u>Publishing</u>	<b>C</b>
	4211	<u>Newspapers, books, periodicals, etc.</u>	<b>C</b>
	4212	<u>Software publisher</u>	<b>C</b>
	4220	<u>Motion pictures and sound recording</u>	<b>B</b>
	4221	<u>Motion picture and video production, publishing, and distribution</u>	
	4222	<u>Motion picture viewing and exhibition services</u>	
	4223	<u>Sound recording, production, publishing, and distribution</u>	
	4230	<u>Telecommunications and broadcasting</u>	
	4231	<u>Radio and television broadcasting</u>	
	4232	<u>Cable networks and distribution</u>	
	4233	<u>Wireless telecommunications</u>	
	4234	<u>Telephone and other wired telecommunications</u>	
	4240	<u>Information services and data processing industries</u>	
	4241	<u>Online information services</u>	↓
	4242	<u>Libraries and archives</u>	
	4243	<u>News syndicate</u>	<b>B</b>
	<b><u>4300</u></b>	<b><u>Utilities and utility services</u></b>	<b>C</b>
	4310	<u>Electric power</u>	
	4311	<u>Hydroelectric</u>	
	4312	<u>Fossil</u>	
	4313	<u>Nuclear</u>	
	4314	<u>Alternative energy sources</u>	
	4320	<u>Natural gas, petroleum, fuels, etc.</u>	
	4330	<u>Water, steam, air conditioning supply</u>	
	4331	<u>Drinking water</u>	
	4332	<u>Irrigation and industrial water supply</u>	
	4333	<u>Air conditioning and steam supply</u>	
	4340	<u>Sewer, solid waste, and related services</u>	

<b>LBCS</b>		<b>Description</b>	<b>35 IAC 901 Land Class</b>
<b>Main Category</b>	<b>Function Code</b>		
	4341	<u>Hazardous waste collection</u>	
	4342	<u>Hazardous waste treatment and disposal</u>	
	4343	<u>Solid waste collection</u>	
	4344	<u>Solid waste combustor or incinerator</u>	
	4345	<u>Solid waste landfill</u>	
	4346	<u>Waste treatment and disposal</u>	↓
	4347	<u>Septic tank and related services</u>	
			<b>C</b>
<u>Arts, entertainment, and recreation</u>	<b>5000</b>	<u>Arts, entertainment, and recreation</u>	
	<b>5100</b>	<u>Performing arts or supporting establishment</u>	<b>B</b>
	5110	<u>Theater, dance, or music establishment</u>	
	5120	<u>Sports team or club</u>	
	5130	<u>Racetrack establishment</u>	
	5140	<u>Promoter of performing arts, sports, and similar events</u>	↓
	5150	<u>Agent for management services</u>	
	5160	<u>Independent artist, writer, or performer</u>	<b>B</b>
	<b>5200</b>	<u>Museums and other special purpose recreational institutions</u>	<b>A</b>
	5210	<u>Museum</u>	
	5220	<u>Historical or archeological institution</u>	↓
	5230	<u>Zoos, botanical gardens, arboreta, etc.</u>	<b>A</b>
	<b>5300</b>	<u>Amusement, sports, or recreation establishment</u>	<b>B</b>
	5310	<u>Amusement or theme park establishment</u>	
	5320	<u>Games arcade establishment</u>	
	5330	<u>Casino or gambling establishment</u>	
	5340	<u>Miniature golf establishment</u>	
	5350	<u>Skiing</u>	
	5360	<u>Marina or yachting club facility operators</u>	
	5370	<u>Fitness, recreational sports, gym, or athletic club.</u>	
5380	<u>Bowling, billiards, pool, etc.</u>	↓	
5390	<u>Skating rinks, roller skates, etc.</u>		
<b>5400</b>	<u>Camps, camping, and related establishments</u>	<b>B</b>	
<b>5500</b>	<u>Natural and other recreational parks</u>	<b>A</b>	
<u>Educa tion, public</u>	<b>6000</b>	<u>Education, public admin., health care, and other inst.</u>	
	<b>6100</b>	<u>Educational services</u>	
	6110	<u>Nursery and preschool</u>	<b>A</b>

<b>LBCS</b>		<b>Description</b>	<b>35 IAC 901 Land Class</b>
<b>Main Category</b>	<b>Function Code</b>		
	6120	<u>Grade schools</u>	
	6121	<u>Elementary</u>	
	6122	<u>Middle</u>	
	6123	<u>Senior</u>	
	6124	<u>Continuance</u>	
	6125	<u>Alternate education services</u>	
	6126	<u>Adult education services</u>	
	6130	<u>Colleges and universities</u>	
	6140	<u>Technical, trade, and other specialty schools</u>	
	6141	<u>Beauty schools</u>	
	6142	<u>Business management</u>	
	6143	<u>Computer training</u>	↓
	6144	<u>Driving education</u>	
	6145	<u>Fine and performing arts education</u>	<b>A</b>
	6146	<u>Flight training</u>	<b>U</b>
	6147	<u>Sports and recreation education</u>	<b>B</b>
	<b>6200</b>	<u>Public administration</u>	
	6210	<u>Legislative and executive functions</u>	<b>B</b>
	6220	<u>Judicial functions</u>	<b>B</b>
	6221	<u>Courts</u>	<b>B</b>
	6222	<u>Correctional institutions</u>	<b>A</b>
	<b>6300</b>	<u>Other government functions</u>	<b>B</b>
	6310	<u>Military and national security</u>	
	6320	<u>Space research and technology</u>	
	<b>6400</b>	<u>Public Safety</u>	
	6410	<u>Fire and rescue</u>	↓
	6420	<u>Police</u>	
	6430	<u>Emergency response</u>	<b>B</b>
	<b>6500</b>	<u>Health and human services</u>	
	6510	<u>Ambulatory or outpatient care services</u>	<b>A</b>
	6511	<u>Clinics</u>	
	6512	<u>Family planning and outpatient care centers</u>	
	6513	<u>Medical and diagnostic laboratories</u>	
	6514	<u>Blood and organ banks</u>	↓
	6520	<u>Nursing, supervision, and other rehabilitative services</u>	

<b>LBCS</b>		<b><u>Description</u></b>	<b><u>35 IAC 901 Land Class</u></b>
<b><u>Main Category</u></b>	<b><u>Function Code</u></b>		
	6530	<u>Hospital</u>	<b><u>A</u></b>
	6560	<u>Social assistance, welfare, and charitable services</u>	<b><u>B</u></b>
	6561	<u>Child and youth services</u>	
	6562	<u>Child day care</u>	
	6563	<u>Community food services</u>	
	6564	<u>Emergency and relief services</u>	
	6565	<u>Other family services</u>	↓
	6566	<u>Services for elderly and disabled</u>	
	6567	<u>Veterans affairs</u>	<b><u>B</u></b>
	6568	<u>Vocational rehabilitation</u>	<b><u>A</u></b>
	<b><u>6600</u></b>	<u>Religious institutions</u>	<b><u>A</u></b>
	<b><u>6700</u></b>	<u>Death care services</u>	<b><u>B</u></b>
	6710	<u>Funeral homes and services</u>	
	6720	<u>Cremation services and cemeteries</u>	
	<b><u>6800</u></b>	<u>Associations, nonprofit organizations, etc.</u>	
	6810	<u>Labor and political organizations</u>	
	6820	<u>Business associations and professional membership organizations</u>	↓
	6830	<u>Civic, social, and fraternal organizations</u>	<b><u>B</u></b>
	<b><u>7000</u></b>	<u>Construction-related businesses</u>	
	<b><u>7100</u></b>	<u>Building, developing, and general contracting</u>	<b><u>B</u></b>
	7110	<u>Residential construction</u>	
	7120	<u>Land development and subdivision</u>	
	7130	<u>Industrial, commercial and institutional building construction</u>	
	<b><u>7200</u></b>	<u>Machinery related</u>	
	7210	<u>Building equipment and machinery installation contractors</u>	
	7220	<u>Excavation contractor</u>	
	7230	<u>Water well drilling contractor</u>	
	7240	<u>Wrecking and demolition establishment</u>	
	7250	<u>Structural steel erection contractor</u>	
	<b><u>7300</u></b>	<u>Special trade contractor</u>	
	7310	<u>Carpentry, floor, and tile contractor</u>	
	7320	<u>Concrete contractor</u>	
	7330	<u>Electrical contractor</u>	
	7340	<u>Glass and glazing contractor</u>	
<b><u>Construction-related businesses</u></b>			

<b>LBCS</b>		<b>Description</b>	<b>35 IAC 901 Land Class</b>
<b>Main Category</b>	<b>Function Code</b>		
	<u>7350</u>	<u>Masonry and drywall contractors</u>	↓
	<u>7360</u>	<u>Painting and wall covering</u>	↓
	<u>7370</u>	<u>Plumbing, heating, and air-conditioning</u>	
	<u>7380</u>	<u>Roofing, siding, and sheet metal contractors</u>	<b>B</b>
	<b><u>7400</u></b>	<u>Heavy construction</u>	<b>C</b>
	<u>7410</u>	<u>Highway and street construction;</u>	
	<u>7420</u>	<u>Bridge and tunnel construction</u>	
	<u>7430</u>	<u>Water, sewer, and pipeline construction</u>	↓
	<u>7440</u>	<u>Power lines, communication and transmission lines</u>	
	<u>7450</u>	<u>Industrial and other nonbuilding construction</u>	<b>C</b>
<u>Mining and extraction establishments</u>	<b><u>8000</u></b>	<u>Mining and extraction establishments</u>	<b>C</b>
	<b><u>8100</u></b>	<u>Oil and natural gas</u>	
	<b><u>8200</u></b>	<u>Metals (iron, copper, etc.)</u>	
	<b><u>8300</u></b>	<u>Coal</u>	↓
	<b><u>8400</u></b>	<u>Nonmetallic mining</u>	
	<b><u>8500</u></b>	<u>Quarrying and stone cutting establishment</u>	<b>C</b>
<u>Agriculture, forestry, fishing and hunting</u>	<b><u>9000</u></b>	<u>Agriculture, forestry, fishing and hunting</u>	
	<b><u>9100</u></b>	<u>Crop production</u>	<b>C</b>
	<u>9110</u>	<u>Grain and oilseed</u>	
	<u>9111</u>	<u>Wheat</u>	
	<u>9112</u>	<u>Corn</u>	↓
	<u>9113</u>	<u>Rice</u>	↓
	<u>9114</u>	<u>Soybean and oilseed</u>	↓
	<u>9115</u>	<u>Dry pea and bean</u>	↓
	<u>9120</u>	<u>Vegetable farming or growing services</u>	↓
	<u>9130</u>	<u>Fruits and trees</u>	↓
	<u>9140</u>	<u>Greenhouse, nursery, and floriculture</u>	↓
	<u>9141</u>	<u>Food crops grown under cover</u>	↓
	<u>9142</u>	<u>Nursery and tree production</u>	↓
	<u>9143</u>	<u>Floriculture production</u>	↓
	<u>9150</u>	<u>All other crops</u>	↓
<u>9151</u>	<u>Tobacco crop</u>	↓	
<u>9152</u>	<u>Cotton crop</u>	↓	

<b>LBCS</b>		<b><u>Description</u></b>	<b><u>35 IAC 901 Land Class</u></b>
<b><u>Main Category</u></b>	<b><u>Function Code</u></b>		
	<u>9153</u>	<u>Sugarcane crop</u>	
	<u>9154</u>	<u>Hay</u>	
	<u>9155</u>	<u>Peanut crop</u>	
	<b><u>9200</u></b>	<u>Support functions for agriculture</u>	
	<u>9210</u>	<u>Farm and farm labor management services</u>	
	<u>9220</u>	<u>Spraying, dusting, and other related services</u>	
	<u>9230</u>	<u>Crop harvesting and post harvest crop activities (including drying, siloing, etc.)</u>	
	<u>9240</u>	<u>Cotton ginning, grist milling, etc.</u>	
	<b><u>9300</u></b>	<u>Animal production including slaughter</u>	
	<u>9310</u>	<u>Cattle ranch and crops</u>	
	<u>9311</u>	<u>Beef cattle ranch establishments</u>	
	<u>9312</u>	<u>Cattle feedlot establishment</u>	
	<u>9320</u>	<u>Dairy cattle and milk production</u>	
	<u>9330</u>	<u>Hog and pig farm</u>	
	<u>9340</u>	<u>Poultry and egg production and hatcheries</u>	
	<u>9350</u>	<u>Sheep and goat farming establishments</u>	
	<u>9360</u>	<u>Fish hatcheries, fisheries, and aquaculture</u>	
	<u>9370</u>	<u>All other animal production</u>	
	<u>9371</u>	<u>Apiculture (bees, wax, and related operations)</u>	
	<u>9372</u>	<u>Horse and equine production</u>	
	<u>9373</u>	<u>Fur-bearing animal production</u>	
	<u>9380</u>	<u>Support functions for animal production</u>	
	<b><u>9400</u></b>	<u>Forestry and Logging</u>	
	<u>9410</u>	<u>Logging</u>	
	<u>9420</u>	<u>Forest nurseries</u>	
	<u>9430</u>	<u>Support functions for forestry</u>	
	<b><u>9500</u></b>	<u>Fishing, hunting and trapping, game preserves</u>	
	<u>9510</u>	<u>Fishing</u>	↓
	<u>9520</u>	<u>Hunting and trapping, game retreats, game and fishing preserves</u>	<b><u>C</u></b>
	<b><u>9900</u></b>	<u>Unclassifiable function</u>	<b><u>U</u></b>
	<u>9910</u>	<u>Not applicable to this dimension</u>	
	<u>9990</u>	<u>To be determined</u>	↓

<u>LBCS</u>		<u>Description</u>	<u>35 IAC 901 Land Class</u>
<u>Main Category</u>	<u>Function Code</u>		
	<u>9999</u>	<u>To be determined</u>	<u>U</u>

**APPENDIX B**

**STANDARD LAND USE CODING SYSTEM**

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**B. A STANDARD SYSTEM FOR IDENTIFYING AND CODING LAND USE ACTIVITIES -- TWO-, THREE-, AND FOUR-DIGIT**

**LEVELS**

<i>Code</i>	<i>Category</i>	<i>Code</i>	<i>Category</i>	<i>Code</i>	<i>Category</i>	<i>SIC</i>	<i>Reference<sup>†</sup></i>
11	Household units.	110	Household units.	1100	Household units. <sup>2</sup>		
12	Group quarters.	121	Rooming and boarding houses.	1210	Rooming and boarding houses. <sup>3</sup>		7021
		122	Membership lodgings.	1221	Fraternity and sorority houses.		<sup>4</sup> Incl. 7041
				1229	Other membership lodgings, NEC. <sup>5</sup>		Incl. 7041
		123	Residence halls or dormitories.	1231	Nurses' homes.		
				1232	College dormitories.		
				1239	Other residence halls or dormitories, NEC.		
		124	Retirement homes and orphan ages.	1241	Retirement homes.		
				1242	Orphanages.		
		125	Religious quarters.	1251	Convents.		
				1252	Monasteries.		
				1253	Rectories.		
				1259	Other religious quarters, NEC.		
		129	Other group quarters, NEC.	1290	Other group quarters, NEC.		
13	Residential hotels.	130	Residential hotels.	1300	Residential hotels. <sup>6</sup>		Incl. 7011
14	Mobile home parks or courts.	140	Mobile home parks or courts.	1400	Mobile home parks or courts.		7031
15	Transient lodgings.	151	Hotels, tourist courts, and motels.	1510	Hotels, tourist courts, and motels.		7011

159	Other transient lodgings, NEC.	1590	Other transient lodgings, NEC.7
19	Other residential, NEC.	190	Other residential, NEC.
		1900	Other residential, NEC.

**FOOTNOTES**

<sup>1</sup>The SIC codes are listed for purposes of reference. They are those that have codes in the SIC system that most nearly correspond to the 4 digit land use activity indicated. (See ch. III, Sec. A3, "The Use of Standard and Industrial Classification Nomenclature.") A dash indicates that there is no corresponding SIC code.

<sup>2</sup>Code 1100 "Household units" are defined as a house, and apartment, or other group of rooms, or a single room that is intended for occupancy as separate living quarters. Occupants of "Household units" do not live and eat with other persons in the structure (such as in a boarding house), and there is either (1) direct access from the outside or through a common hall, or (2) there is a kitchen or cooking equipment for the exclusive use of the occupants of the unit. The less than occupants may be a family, a group of unrelated persons, or a person living alone. Mobile homes not in "Mobile home parks or courts" (code 14), but resting on a permanent type of foundation (e.g., a brick or concrete block foundation) are included as well as units that are associated activities vacant or that are used on a seasonal basis. Farm homes are also included under "household units" and should be identified separately from the remainder of the farm which is coded under "Agriculture," code 81.

<sup>3</sup>Code 1210 "Rooming and boarding houses" are 5 or more persons renting rooms, with or without board, related to the had or person in charge. Where there are less than 5 roomers, the total quarters are considered as one "Household unit" and is coded 1100.

<sup>4</sup>"Incl. 7041" is an abbreviation which indicates that the land use activity category is only one of several categories of establishments that are included under SIC code 7041.

<sup>5</sup>"NEC" is an abbreviation for "not elsewhere coded." "Code 1300 "Residential hotels" are those that have 75 percent or more of the available accommodations occupied by (i.e., persons who reside more than 30 days). Hotels with 75 percent are included under code 15, "Transient lodgings."

<sup>7</sup>Code 1590 "Other transient lodgings, NEC" includes establishments as the YMCA, YWCA, and YMHA when 50 percent or more of the floor area is devoted to lodging and when less than 75 percent of the accommodations are permanent guests. If 75 percent or more of the guests are permanent, use code 1300. If 50 percent or more of the floor area is devoted to recreational activity, use code 7424, "Recreation centers (general)."

\*"Land Class" refers to Rule 201 Classifications. "A" denotes a Class A Land, "B" denotes a Class B Land and "C" denotes a Class C Land. "U" denotes a Land unclassified in rule 201. (Added by IEPA.)

B-1

**B. A STANDARD SYSTEM FOR IDENTIFYING AND CODING LAND USE ACTIVITIES TWO, THREE, AND FOUR DIGIT LEVELS—Continued**

Code	Category	Code	Category	Code	Category	SIC Reference <sup>†</sup>	Land Class
21	Food and kindred products manufacturing.	211	Meat products manufacturing.	2111	Meat packing manufacturing.	2011	
				2112	Sausages and other prepared meat products manufacturing.	2013	
				2113	Poultry and small game dressing and packing.	2015	
		212	Dairy products manufacturing.	2121	Creamery butter manufacturing.	2021	
				2122	Cheese, natural and processed.	2022	

		2123	Condensed and evaporated milk manufacturing.	2023
		2124	Ice cream and frozen desserts manufacturing.	2024
		2125	Fluid milk processing.	2026
213	Canning and preserving of fruits, vegetables, and seafoods.	2131	Canning and curing seafoods.	2031
		2132	Canning specialty foods.	2032
		2133	Canning fruits, vegetables, preserves, jams, and jellies.	2033
		2134	Drying and dehydrating fruits and vegetables.	2034
		2135	Pickling fruits and vegetables; vegetable sauces and seasonings; salad dressings manufacturing.	2035
		2136	Fresh or frozen packaged fish and seafoods.	2036
		2137	Frozen fruits, fruit juices, vegetables, and specialties.	2037
214	Grain mill products manufacturing.	2141	Flour and other grain mill products.	2041
		2142	Preparing feeds for animals and fowls.	2042
		2143	Cereal preparations.	2043
		2144	Rice milling.	2044
		2145	Blending and preparing flour.	2045
		2146	Wet corn milling.	2046
215	Bakery products manufacturing.	2150	Bakery products manufacturing.	205
216	Sugar manufacturing.	2160	Sugar manufacturing.	206
217	Confectionery and related products manufacturing.	2171	Candy and other confectionery products manufacturing.	2071
		2172	Chocolate and cocoa products manufacturing.	2072
		2173	Chewing gum manufacturing.	2073
218	Beverage manufacturing.	2181	Malt liquors manufacturing.	2082
		2182	Malt manufacturing.	2083
		2183	Wine, brandy, and brandy spirits manufacturing.	2084
		2184	Distilling, rectifying, and blending liquors.	2085
		2185	Bottling and canning soft drinks and carbonated waters.	2086
		2186	Flavor extracts and flavoring sirups manufacturing, NEC.	2087
219	Other food preparations and kindred products manufacturing, NEC.	2191	Cottonseed oil milling.	2091
		2192	Soybean oil milling.	2092
		2193	Vegetable oil milling (except cotton seed and soybean).	2093
		2194	Animal and marine fats and oils (including grease and tallow) manufacturing.	2094
		2195	Roasting coffee and coffee products manufacturing.	2095
		2196	Shortening, table oils, margarine, and other edible fats and oils manufacturing.	2096

	2197	Ice manufacturing	2097
	2198	Macaroni, spaghetti, vermicelli, and noodles manufacturing.	2098
	2199	Other food preparations and kindred products manufacturing, NEC.	2099

## B-2

**B. A STANDARD SYSTEM FOR IDENTIFYING AND CODING LAND USE ACTIVITIES TWO, THREE, AND FOUR DIGIT LEVELS—Continued**

<i>Code</i>	<i>Category</i>	<i>Code</i>	<i>Category</i>	<i>Code</i>	<i>Category</i>	<i>SIC Reference</i> <sup>1</sup>	<i>Lea</i>
22	Textile mill products manufacturing.	221	Broad and narrow woven fabrics and other small wares (cotton, manmade fibers, silk, and wool) manufacturing.	2210	Broad and narrow woven fabrics and other small wares (cotton, manmade fibers, silk, and wool) manufacturing.	221,222,223 <sup>2</sup> and 224	
		222	Knit goods manufacturing.	2220	Knit goods manufacturing.	225	
		223	Dyeing and finishing of textiles (except wool fabrics and knit goods).	2230	Dyeing and finishing of textiles (except wool fabrics and knit goods).	226	
		224	Floor coverings (rugs and carpets) manufacturing.	2240	Floor coverings (rugs and carpets) manufacturing.	227	
		225	Yarns and threads manufacturing.	2250	Yarns and threads manufacturing.	228	
		229	Other textile goods manufacturing, NEC.	2291	Felt goods (except woven felts and hats) manufacturing.	2291	
				2292	Lace Goods manufacturing.	2292	
				2293	Padding and upholstery filling manufacturing.	2293	
				2294	Processing waste and recovering fibers and flock.	2294	
				2295	Artificial leather and oil cloth manufacturing and other impregnating and coating fabrics (except rubberizing).	2295	
				2296	Tire cording and fabric manufacturing.	2296	
				2297	Wool scouring, worsted combing, and towing to top.	2297	
				2299	Other textile goods manufacturing, NEC.	2299	
23	Apparel and other finished products made from fabrics, leather, and similar materials manufacturing.	231	Men's, youths' and boys' suits, coats, and overcoats manufacturing.	2310	Men's, youth's, and boys' suits, coats, and overcoats manufacturing.	231	
		232	Men's, youths', and boys' furnishings, work clothing, and allied garments manufacturing.	2320	Men's, youths', and boys' furnishings, work clothing, and allied garments manufacturing.	232	
		233	Women's, misses', juniors', girls', children's, and infants' outerwear manufacturing.	2330	Women's, misses', juniors', girls', children's, and infants' outerwear manufacturing.	233 and 236	

234	Women's, misses', children's, and infants' undergarments manufacturing.	2340	Women's, misses', children's, and infants' undergarments manufacturing.	234
235	Hats, caps, and millinery manufacturing.	2350	Hats, caps, and millinery manufacturing.	235
236	Leather and leather products manufacturing.	2361	Leather tanning and finishing.	3111
		2362	Industrial leather belting and packing manufacturing.	3121
		2363	Boot and shoe cut stock and findings manufacturing.	3131
		2364	Footwear (except rubber) manufacturing.	314
		2365	Leather gloves and mittens manufacturing.	315
		2366	Luggage manufacturing.	316
		2367	Handbags and other personal leather goods manufacturing.	317
		2369	Other leather products manufacturing, NEC.	319
237		2370	Fur goods manufacturing.	237

B-3

**B. A STANDARD SYSTEM FOR IDENTIFYING AND CODING LAND USE ACTIVITIES TWO, THREE, AND FOUR DIGIT LEVELS Continued**

Code	Category	Code	Category	Code	Category	SIC Reference <sup>1</sup>	Law Classification
23	Apparel and other finished products made from fabrics, leather, and similar materials manufacturing.	238	Miscellaneous apparel and accessories manufacturing.	2381	Dress and work gloves (except knit and all leather) manufacturing.	2381	
	Continued			2382	Robes and dressing gowns manufacturing.	2384	
				2383	Raincoats and other waterproof outer garments manufacturing.	2385	
				2384	Leather and sheep lined clothing manufacturing.	2386	
				2385	Apparel belts manufacturing.	2387	
				2389	Other miscellaneous apparel and accessory manufacturing, NEC.	2389	
		239	Other fabricated textile products manufacturing, NEC.	2391	Curtains and draperies manufacturing.	2391	
				2392	House furnishings (except curtains and draperies) manufacturing.	2392	
				2393	Textile bags manufacturing.	2393	
				2394	Canvas products manufacturing.	2394	
				2395	Pleating, decorative and novelty stitching and tucking for the trade.	2395	
				2396	Apparel findings and related prod	2396	

				ucts manufacturing.			
			2399	Other fabricated textile products manufacturing, NEC.		2397 and 2399	
24	Lumber and wood products (except furniture) manufacturing.	241	Logging camps and logging contractors.	2410	Logging camps and logging contractors.	241	
		242	Sawmills and planing mills.	2421	Sawmills and planing mills, general.	2421	
				2422	Hardwood dimension and flooring manufacturing.	2426	
				2429	Special sawmill products manufacturing, NEC.	2429	
		243	Millwork, veneer, plywood, and prefabricated structural wood products manufacturing.	2431	Millwork.	2431	
				2432	Veneer and plywood manufacturing.	2432	
				2433	Prefabricating wooden buildings and structural members manufacturing.	2433	
		244	Wooden containers manufacturing.	2440	Wooden containers manufacturing.	244	
		249	Other lumber and wood products (except furniture) manufacturing, NEC.	2491	Wood preserving.	2491	
				2499	Other lumber and wood products (except furniture) manufacturing, NEC.	2499	
25	Furniture and fixtures manufacturing.	251	Household furniture manufacturing.	2510	Household furniture manufacturing.	251	
		252	Office furniture manufacturing.	2520	Office furniture manufacturing.	252	
		253	Public building and related furniture manufacturing.	2530	Public building and related furniture manufacturing.	2531	
		254	Partitions, shelving, lockers, and office and store fixtures manufacturing.	2540	Partitions, shelving, lockers, and office and store fixtures manufacturing.	254	
		259	Other furniture and fixtures manufacturing, NEC.	2591	Venetian blinds and shades manufacturing.	2591	
				2599	Other furniture and fixtures manufacturing, NEC.	2599	
26	Paper and allied products manufacturing.	261	Pulp manufacturing.	2610	Pulp manufacturing.	261	
		262	Paper (except building paper) manufacturing.	2620	Paper (except building paper) manufacturing.	262	

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**B. A STANDARD SYSTEM FOR IDENTIFYING AND CODING LAND USE ACTIVITIES — TWO, THREE, AND FOUR DIGIT LEVELS — Continued**

<i>Code</i>	<i>Category</i>	<i>Code</i>	<i>Category</i>	<i>Code</i>	<i>Category</i>	<i>SIC</i>	<i>Reference<sup>†</sup></i>
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26	Paper and allied products manufacturing Continued	263	Paperboard manufacturing.	2630	Paperboard manufacturing.	263
		264	Converted paper and paperboard products (except containers and boxes) manufacturing.	2641	Paper coating and glazing.	2641
				2642	Envelope manufacturing.	2642
				2643	Bags (except textile bags) manufacturing.	2643
				2644	Wallpaper manufacturing.	2644
				2645	Die cut paper and paperboard; and cardboard manufacturing.	2645
				2646	Pressed and molded pulp goods manufacturing.	2646
				2647	Sanitary paper products manufacturing.	2647
				2649	Other converted paper and paperboard products (except containers and boxes) manufacturing, NEC.	2649
		265	Paperboard containers and boxes manufacturing.	2650	Paperboard containers and boxes manufacturing.	265
		266	Building paper and building board manufacturing.	2660	Building paper and building board manufacturing.	266
27	Printing, publishing, and allied industries.	271	Newspapers: publishing, publishing and printing.	2710	Newspapers: publishing, publishing and printing.	271
		272	Periodicals: publishing, publishing and printing.	2720	Periodicals: publishing, publishing and printing.	272
		273	Books: publishing, publishing and printing.	2730	Books: publishing, publishing and printing.	273
		274	Commercial printing.	2740	Commercial printing.	275
		275	Manifold business forms manufacturing.	2750	Manifold business forms manufacturing.	276
		276	Greeting card manufacturing.	2760	Greeting card manufacturing.	277
		277	Bookbinding and related industries manufacturing.	2771	Blankbooks, looseleaf binders, and devices manufacturing.	2782
				2772	Bookbinding and miscellaneous related work manufacturing.	2789
		278	Printing trade service industries.	2781	Typesetting.	2791
				2782	Photoengraving.	2793
				2783	Electrotyping and stereotyping.	2794
				2789	Other printing trade service industries, NEC.	2799
		279	Other printing and publishing, NEC.	2790	Other printing and publishing, NEC.	274
28	Chemicals and allied products manufacturing.	281	Industrial inorganic and organic chemicals manufacturing.	2810	Industrial inorganic and organic chemicals manufacturing.	281
		282	Plastics materials and synthetic resins, synthetic rubber, synthetic and other manmade fibers (except glass) manufacturing.	2820	Plastics materials and synthetic resins, synthetic rubber, synthetic and other manmade fibers (except glass) manufacturing.	282
		283	Drug manufacturing.	2831	Biological products manufacturing.	2831

				2832	Medicinal chemicals and botanical products manufacturing.	2833
				2833	Pharmaceutical preparations manufacturing.	2834
284	Soap, detergents, and cleaning preparations, perfumes, cosmetics, and other toilet preparations manufacturing.			2841	Soap and detergents (except specialty cleaners) manufacturing.	2841
				2842	Specialty cleaning, polishing, and sanitation preparations (except soap and detergents) manufacturing.	2842
				2843	Surface active agents, finishing agents, sulfonated oils, and assistants manufacturing.	2843
				2844	Perfumes, cosmetics, and other toilet preparations manufacturing.	2844

## B-5

**B. A STANDARD SYSTEM FOR IDENTIFYING AND CODING LAND USE ACTIVITIES TWO, THREE, AND FOUR DIGIT LEVELS -- Continued**

<i>Code</i>	<i>Category</i>	<i>Code</i>	<i>Category</i>	<i>Code</i>	<i>Category</i>	<i>SIC Reference</i> <sup>†</sup>	<i>Land Use Code</i>
28	Chemicals and allied products manufacturing. Continued.	285	Paints, varnishes, lacquers, enamels, and allied products manufacturing.	2850	Paints, varnishes, lacquers, enamels, and allied products manufacturing.	285	
		286	Gum and wood chemicals manufacturing.	2860	Gum and wood chemicals manufacturing.	286	
		287	Agricultural chemicals manufacturing.	2870	Agricultural chemicals manufacturing.	287	
		289	Other chemicals and allied products manufacturing, NEC.	2891	Glue and gelatin manufacturing.	2891	
				2892	Explosives manufacturing.	2892	
				2893	Printing ink manufacturing.	2893	
				2894	Carbon black manufacturing.	2895	
				2899	Other chemicals and allied products manufacturing, NEC.	2899	
29	Petroleum refining and related industries.	291	Petroleum refining.	2910	Petroleum refining.	291	
		292	Paving and roofing materials manufacturing.	2921	Paving mixtures and blocks manufacturing.	2951	
				2922	Asphalt felts and coatings manufacturing.	2952	
		299	Other petroleum refining and related industries, NEC.	2991	Lubricating oils and greases manufacturing.	2992	
				2999	Other petroleum and coal products manufacturing, NEC.	2999	
31	Rubber and miscellaneous plastic products manufacturing.	311	Tires and inner tubes manufacturing.	3110	Tires and inner tubes manufacturing.	301	
		312	Rubber footwear manufacturing.	3120	Rubber footwear manufacturing.	302	
		313	Reclaiming rubber.	3130	Reclaiming rubber.	303	
		314	Miscellaneous plastic products	3140	Miscellaneous plastic products	307	

			manufacturing.				manufacturing.	
		319	Other fabricated rubber products manufacturing, NEC.	3190	Other fabricated rubber products manufacturing, NEC.			306
32	Stone, clay, and glass products manufacturing.	321	Flat glass manufacturing.	3210	Flat glass manufacturing.			3211 and incl. 3231
		322	Glass and glassware (pressed or blown) manufacturing.	3221	Glass containers manufacturing.			3221 and incl. 3231
				3229	Other glass and glassware (pressed or blown) manufacturing, NEC.			3229 and incl. 3231
		323	Cement (hydraulic) manufacturing.	3230	Cement (hydraulic) manufacturing.			324
		324	Structural clay products manufacturing.	3241	Brick and structural clay tile manufacturing.			3251
				3242	Ceramic wall and floor tile manufacturing.			3253
				3243	Clay refractories manufacturing.			3255
				3249	Other structural clay products manufacturing, NEC.			3259
		325	Pottery and related products manufacturing.	3251	Vitreous china plumbing fixtures, china, earthenware fittings, and bathroom accessories manufacturing.			3261
				3252	Vitreous china table and kitchen articles manufacturing.			3262
				3253	Fine earthenware (whiteware) table and kitchen articles manufacturing.			3263
				3254	Porcelain electrical supplies manufacturing.			3264
				3259	Other pottery and related products manufacturing, NEC.			3269

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**B. A STANDARD SYSTEM FOR IDENTIFYING AND CODING LAND USE ACTIVITIES TWO, THREE, AND FOUR DIGIT LEVELS Continued**

Code	Category	Code	Category	Code	Category	SIC Reference <sup>†</sup>	Law Classification
32	Stone, clay, and glass products manufacturing Continued.	326	Concrete, gypsum, and plaster products manufacturing.	3261	Concrete brick and block manufacturing.	3271	
				3262	Concrete products (excluding brick and block) manufacturing.	3272	
				3263	Concrete (ready mixed) manufacturing.	3273	
				3264	Lime products manufacturing.	3274	
				3265	Gypsum products manufacturing.	3275	
		327	Cut stone and stone products manufacturing.	3270	Cut stone and stone products manufacturing.	328	
		328	Abrasive, asbestos, and miscellaneous nonmetallic mineral products manufacturing.	3280	Abrasive, asbestos, and miscellaneous nonmetallic mineral products manufacturing.	329	

33	Primary metal industries.	331	Blast furnaces, steel works, and the rolling and finishing of ferrous metals.	3311	Blast furnaces (including coke ovens), steel works, and the rolling of ferrous metals.	3312	
				3312	Electrometallurgical products manufacturing.	3313	
				3313	Steel wire drawing and steel nails and spikes manufacturing.	3315	
				3314	Cold rolled sheet, strip, and bars manufacturing.	3316	
				3315	Steel pipe and tubes manufacturing.	3317	
		332	Iron and steel foundries.	3320	Iron and steel foundries.	332	
		333	Primary smelting and refining of nonferrous metals.	3331	Primary smelting and refining of copper.	3331	
				3332	Primary smelting and refining of lead.	3332	
				3333	Primary smelting and refining of zinc.	3333	
				3334	Primary production of aluminum.	3334	
				3339	Other primary smelting and refining of nonferrous metals, NEC.	3339	
		334	Secondary smelting and refining of nonferrous metals and alloys.	3340	Secondary smelting and refining of nonferrous metals and alloys.	334	
		335	Rolling, drawing, and extruding of nonferrous metals.	3351	Rolling drawing, and extruding of copper.	3351	
				3352	Rolling, drawing, and extruding of aluminum.	3352	
				3353	Rolling, drawing, and extruding of nonferrous metals (except copper and aluminum).	3356	
				3354	Drawing and insulating of nonferrous wire.	3357	
		336	Nonferrous foundries.	3360	Nonferrous foundries.	336	
		339	Other primary metal industries, NEC.	3390	Other primary metal industries, NEC.	339	
34	Fabricated metal products manufacturing.	341	Ordinance and accessories.	3411	Guns, howitzers, mortars, and related equipment manufacturing.	191	
				3412	Ammunition (except small arms) manufacturing and complete assembling of guided missiles and space vehicles.	192	
				3413	Tanks and tank components manufacturing.	193	
				3414	Sighting and fire control equipment manufacturing.	194	
				3415	Small arms manufacturing.	195	
				3416	Small arms ammunition manufacturing.	196	
				3419	Other ordinance and accessories manufacturing, NEC.	199	

**B. A STANDARD SYSTEM FOR IDENTIFYING AND CODING LAND USE ACTIVITIES — TWO, THREE, AND FOUR-DIGIT LEVELS — Continued**

<i>Code</i>	<i>Category</i>	<i>Code</i>	<i>Category</i>	<i>Code</i>	<i>Category</i>	<i>SIC Reference</i> <sup>†</sup>	<i>Land Use Classification</i>
34	Fabricated metal products manufacturing Continued.	342	Machinery (except electrical) manufacturing.	3421	Engines and turbines manufacturing.	351	
				3422	Farm machinery and equipment manufacturing.	352	
				3423	Construction, mining, and materials handling machinery and equipment manufacturing.	353	
				3424	Metalworking machinery and equipment manufacturing.	354	
				3425	Special industry machinery (except metalworking machinery) manufacturing.	355	
				3426	General industrial machinery and equipment manufacturing.	356	
				3427	Office, computing, and accounting machines manufacturing.	357	
				3428	Service industry machines manufacturing.	358	
				3429	Other machinery manufacturing (except electrical), NEC.	359	
		343	Electrical machinery, equipment, and supplies manufacturing.	3431	Electrical transmission and distribution equipment manufacturing.	361	
				3432	Electrical industrial apparatus manufacturing.	362	
				3433	Household appliances manufacturing.	363	
				3434	Electric lighting and wiring equipment manufacturing.	364	
				3435	Radio and television receiving sets (except communication types) manufacturing.	365	
				3436	Communication equipment manufacturing.	366	
				3437	Electronic components and accessories manufacturing.	367	
				3439	Other electrical machinery, equipment, and supplies manufacturing, NEC.	369	
		344	Transportation equipment manufacturing.	3441	Motor vehicles and motor vehicle equipment manufacturing.	371	
				3442	Aircraft and parts manufacturing.	372	
				3443	Ship and boat building and repairing.	373	
				3444	Railroad equipment manufacturing.	374	
				3445	Motoreycles, bicycles, and parts manufacturing.	375	
				3449	Other transportation equipment manufacturing, NEC.	379	
		349	Other fabricated metal products manufacturing, NEC.	3491	Metal cans manufacturing.	341	
				3492	Cutlery, hand tools, and general hardware manufacturing.	342	

	3493	Heating apparatus (except electrical) and plumbing fixtures manufacturing.	343
	3494	Fabricated structural metal products manufacturing.	344
	3495	Screw machine products and bolts, nuts, screws, rivets, and washers manufacturing.	345
	3496	Metal stamping manufacturing.	346
	3497	Coating, engraving, and allied services.	347
	3498	Fabricated wire products (miscellaneous products) manufacturing.	348
	3499	Other fabricated metal products manufacturing, NEC.	349

## B-8

**B. A STANDARD SYSTEM FOR IDENTIFYING AND CODING LAND USE ACTIVITIES TWO, THREE, AND FOUR DIGIT LEVELS—Continued**

<i>Code</i>	<i>Category</i>	<i>Code</i>	<i>Category</i>	<i>Code</i>	<i>Category</i>	<i>SIC Reference</i> <sup>†</sup>	<i>Land Use Code</i>
35	Professional, scientific, and controlling instruments: photographic and optical goods; watches and clocks manufacturing.	351	Engineering, laboratory, and scientific and research instruments and associated equipment manufacturing.	3510	Engineering, laboratory, and scientific and research instruments and associated equipment manufacturing.	381	C
		352	Instruments for measuring, controlling, and indicating physical characteristics manufacturing.	3521	Mechanical measuring and controlling instruments (except automatic temperature controls) manufacturing.	3821	
				3522	Automatic temperature controls manufacturing.	3822	
		353	Optical instruments and lenses manufacturing.	3530	Optical instruments and lenses manufacturing.	383	
		354	Surgical, medical, and dental instruments and supplies manufacturing.	3541	Surgical and medical instruments and apparatus manufacturing.	3841	
				3542	Orthopedic, prosthetic, and surgical appliances and supplies manufacturing.	3842	
				3543	Dental equipment and supplies manufacturing.	3843	
		355	Ophthalmic goods manufacturing.	3550	Ophthalmic goods manufacturing.	385	
		356	Photographic equipment and supplies manufacturing.	3560	Photographic equipment and supplies manufacturing.	386	
		357	Watches, clocks, clockwork operated devices, and parts manufacturing.	3570	Watches, clocks, clockwork operated devices, and parts manufacturing.	387	
39	Miscellaneous manufacturing	391	Jewelry, silverware, and plated	3911	Jewelry and precious metals manufacturing	3911	

	ing, NEC.	ware manufacturing.	facturing.		
				3912	Jewelers' findings and materials manufacturing.
				3913	Lapidary work.
				3914	Silverware and plated ware manufacturing.
	392	Musical instruments and parts manufacturing.	3920	Musical instruments and parts manufacturing.	393
	393	Toys, amusement, sporting, and athletic goods manufacturing.	3930	Toys, amusement, sporting, and athletic goods manufacturing.	394
	394	Pens, pencils, and other office and artists' materials manufacturing.	3940	Pens, pencils, and other office and artists' materials manufacturing.	395
	395	Costume jewelry, costume novelties, buttons, and miscellaneous notions (except precious metals) manufacturing.	3950	Costume jewelry, costume novelties, buttons, and miscellaneous notions (except precious metals) manufacturing.	396
	396	Tobacco manufacturing.	3961	Cigarettes manufacturing.	211
			3962	Cigars manufacturing.	212
			3963	Tobacco (chewing and smoking) and snuff manufacturing.	213
			3964	Tobacco stemming and redrying.	214
	397	Motion picture production.	3970	Motion picture production.	7811 B

**B. A STANDARD SYSTEM FOR IDENTIFYING AND CODING LAND USE ACTIVITIES — TWO, THREE, AND FOUR DIGIT LEVELS — Continued**

<i>Code</i>	<i>Category</i>	<i>Code</i>	<i>Category</i>	<i>Code</i>	<i>Category</i>	<i>SIC Reference</i> <sup>†</sup>	<i>La</i>
39	Miscellaneous manufacturing, NEC — Continued.	399	Other miscellaneous manufacturing, NEC.	3991	Brooms and brushes manufacturing.	3981	
				3992	Linoleum, asphalted felt base, and other hard surface floor cover manufacturing, NEC.	3982	
				3993	Matches manufacturing.	3983	
				3994	Lamp shades manufacturing.	3987	
				3995	Mortician's goods manufacturing.	3988	
				3996	Fur dressing and dyeing	3992	
				3997	Signs and advertising displays manufacturing.	3993	
				3998	Umbrellas, parasols, and canes manufacturing.	3995	
				3999	Other miscellaneous manufacturing,	3984 and	

		NEC.	3999
41	Railroad, rapid rail transit, and street railway transportation.	411 Railroad transportation.	4111 Railroad right of way (excluding switching and marshaling yards).
			4112 Railroad switching and marshaling yards.
			4113 Railroad terminals (passenger).
			4114 Railroad terminals (freight).
			4115 Railroad terminals (passenger and freight).
			4116 Railroad equipment and maintenance.
			4119 Other railroad transportation, NEC.
	412 Rapid rail transit and street railway transportation.	4121 Rapid rail transit and street railway right of way. <sup>2</sup>	4122 Rapid rail transit and street railway passenger terminals. <sup>3</sup>
			4123 Rapid rail transit and street railway equipment maintenance.
			4129 Other rapid rail transit and street railway transportation, NEC.
42	Motor vehicle transportation.	421 Bus transportation.	4211 Bus passenger terminals (intercity). <sup>4</sup>
			4212 Bus passenger terminals (local). <sup>4</sup>
			4213 Bus passenger terminals (intercity and local). <sup>4</sup>
			4214 Bus garaging and equipment maintenance.
			4219 Other bus transportation, NEC.
	422 Motor freight transportation.	4221 Motor freight terminals.	4222 Motor freight garaging and equipment maintenance.
			4229 Other motor freight transportation, NEC.

#### FOOTNOTES

<sup>1</sup>The SIC codes are listed for purposes of reference. They are the codes in the SIC system that most nearly correspond to the 4 digit land use activity indicated. (See ch. III, Sec. A3, "The Use of Standard Industrial Classification Nomenclature.") A dash indicates that there is no corresponding SIC code.

**B. A STANDARD SYSTEM FOR IDENTIFYING AND CODING LAND USE ACTIVITIES — TWO , THREE , AND FOUR DIGIT LEVELS — Continued**

<i>Code</i>	<i>Category</i>	<i>Code</i>	<i>Category</i>	<i>Code</i>	<i>Category</i>	<i>SIC Reference</i> <sup>†</sup>	<i>Land Use Classification</i>
42	Motor vehicle transportation — Continued	429	Other motor vehicle transportation, NEC.	4291	Taxicab transportation.	4121	
				4299	Other motor vehicle transportation, NEC.		
43	Aircraft transportation.	431	Airports and flying fields.	4311	Airport and flying field landing/takeoff fields.		
				4312	Airport and flying field terminals (passenger).		
				4313	Airport and flying field terminals (freight).		
				4314	Airport and flying field terminals (passenger and freight).		
				4315	Aircraft storage and equipment maintenance.		
				4319	Other airports and flying fields, NEC.		
		439	Other aircraft transportation, NEC.	4391	Helicopter landing/takeoff pads. <sup>5</sup>		
				4399	Other aircraft transportation, NEC.		
44	Marine craft transportation. <sup>8</sup>	441	Marine terminals. <sup>7</sup>	4411	Marine terminals (passenger). <sup>8</sup>		
				4412	Marine terminals (freight).		
				4413	Marine terminals (passenger and freight).		
				4414	Marine terminals (commercial fishing).		
				4419	Other marine terminals, NEC.		
		449	Other marine craft transportation, NEC.	4490	Other marine craft transportation, NEC.		
45	Highway and street right of way.	451	Freeways.	4510	Freeways. <sup>9</sup>		
		452	Expressways.	4520	Expressways. <sup>10</sup>		
		453	Parkways.	4530	Parkways. <sup>11</sup>		
		454	Arterial streets.	4540	Arterial streets. <sup>12</sup>		
		455	Collector/distributor streets.	4550	Collector/distributor streets. <sup>13</sup>		
		456	Local access streets.	4560	Local access streets. <sup>14</sup>		
		457	Alleys.	4570	Alleys. <sup>15</sup>		
		459	Other highway and street right of way, NEC.	4590	Other highway and street right of way, NEC.		
46	Automobile parking.	460	Automobile parking.	4600	Automobile parking. <sup>16</sup>		
47	Communication.	471	Telephone communication.	4711	Telephone exchange stations.		
				4712	Telephone relay towers (microwave).		
				4719	Other telephone communication, NEC.		
		472	Telegraph communication.	4721	Telegraph message centers.		
				4722	Telegraph transmitting and receiving stations (only).		
				4729	Other telegraph communication, NEC.		
		473	Radio communication.	4731	Radio broadcasting studios (only).		

		4732	Radio transmitting stations and towers.		
		4739	Other radio communication, NEC.		
474	Television communication.	4741	Television broadcasting studios (only).		
		4742	Television transmitting stations and relay towers.		
		4749	Other television communication, NEC.		
475	Radio and television communication (combined systems).	4751	Radio and television broadcasting studios, only (combined systems).		
		4759	Other combined radio and television communication, NEC.		
479	Other communication, NEC.	4790	Other communication, NEC.		

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**B. A STANDARD SYSTEM FOR IDENTIFYING AND CODING LAND USE ACTIVITIES -- TWO, THREE, AND FOUR DIGIT LEVELS -- Continued**

<i>Code</i>	<i>Category</i>	<i>Code</i>	<i>Category</i>	<i>Code</i>	<i>Category</i>	<i>SIC Reference</i> <sup>†</sup>	<i>Land Use Code</i>
48	Utilities	481	Electric utility.	4811	Electric transmission right of way. <b>17</b>		
				4812	Electric generation plants.		
				4813	Electricity regulating substations.		
				4819	Other electric utility, NEC.		
		482	Gas utility.	4821	Gas pipeline right of way. <b>17</b>		
				4822	Gas production plants.		
				4823	Natural or manufactured gas storage and distribution points.		
				4824	Gas pressure control stations.		
				4829	Other gas utilities, NEC.		
		483	Water utilities and irrigation.	4831	Water pipeline right of way. <b>17</b>		
				4832	Water treatment plants (purification).		
				4833	Water storage. <b>18</b>		
				4834	Irrigation distribution channels.		
				4835	Water pressure control stations.		
				4839	Other water utilities and irrigation, NEC.		
		484	Sewage disposal.	4841	Sewage treatment plants.		
				4842	Sewage sludge drying beds.		
				4843	Sewage pressure control stations.		
				4849	Other sewage disposal, NEC.		
		485	Solid waste disposal.	4851	Refuse incineration.		
				4852	Central garbage grinding stations.		
				4853	Compositing plants.		
				4854	Sanitary landfills.		

			4855	Refuse disposals.	
			4856	Industrial waste disposals.	
			4857	Active slag dumps and mineral waste disposals.	
			4859	Other solid waste disposal, NEC.	
	489	Other utilities, NEC.	4890	Other utilities, NEC.	
49	Other transportation, communication, and utilities, NEC.	491	Other pipeline right of way and pressure control stations, NEC.	4911	Petroleum pipeline right of way. <sup>17</sup>
			4912	Petroleum pressure control stations.	
			4919	Other pipeline right of way and pressure control stations, NEC.	
	492	Transportation services and arrangements.	4921	Freight forwarding services.	4041 and 4712
			4922	Packing and crating services.	4783
			4923	Travel arranging services.	472
			4924	Transportation ticket services.	18
			4929	Other transportation services and arrangements, NEC.	
	499	Other transportation, communication, and utilities, NEC.	4900	Other transportation, communication, and utilities, NEC.	

**FOOTNOTES**

<sup>1</sup>The SIC codes are listed for purposes of reference. They are the codes in the SIC system that most nearly correspond to the 4 digit land use activity indicated. (See ch. III, Sec. A3, "The Use of Standard Industrial Classification Nomenclature.") A dash indicates that there is no corresponding SIC code.

<sup>2</sup>Code 4121 "Rapid rail transit and street railway right of way" includes only that land which is not within public right of way (e.g., within a public street right of way). Railroad right of way used by facilities that rapid rail transit is considered to be railroad right of way and is coded 4111.

<sup>3</sup>Code 4122 "Rapid rail transit and street railway passenger terminals" identifies only those terminals that are not located within public right of way (e.g., within a public street right of way).

<sup>4</sup>Codes 4211, 4212, 4213 "Bus passenger terminals" identifies only those terminals that are not located on the public right of way (e.g., within a public street right of way).

<sup>5</sup>Code 4391 "Heliport landing/takeoff pads" are identified only when they are separate activities and not a part of code and flying fields."

<sup>6</sup>Code 44 "Marine craft transportation." The repair of marine craft should be coded 3443, "Ship and boat building and repairing."

<sup>7</sup>Code 441 "Marine terminals" include all docking facilities (e.g., wharves, piers, and docks) and associated areas that are used by commercial passenger, freight, and fishing craft. Docking facilities that primarily serve recreational type of marine craft are identified under code 744, "Marinas,"

<sup>8</sup>Code 4411 "Marine terminals (passenger)"

<sup>9</sup>Code 4510 "Freeways" are divided highways for traffic with full control of access and no cross traffic at grade.

<sup>10</sup>Code 4520 "Expressways" are divided highways for traffic with full or partial control of access with grade separations at major crossroads.

Footnotes continued on following page.

—<sup>11</sup>Code 4530 "Parkways" are highways for noncommercial traffic, (17 parking spaces), and that serves no other single type of activity, with full or partial control of access. They are located within a park parking structure or within a ribbon of parklike development. This code includes parking on open lots, parking within structures, parking within structures that also house other activities (e.g.,

—<sup>12</sup>Code 4540 "Arterial streets" are those streets which serve movements of traffic and are not freeways, expressways, and parkways. parking area in an office building), and the parking area at shopping centers. Parking areas of less than 5,000 square feet are not identified

Generally there is no control of access. as a separate activity.

—<sup>13</sup>Code 4550 "Collector/distributor streets" are those streets that identify those areas collect traffic from the local streets and channel it into the arterial where the *surface is devoted exclusively to the right of way* of the respective system. These streets also provide necessary cross connections between arterials. The collector/distributor street does not handle long impounded surface water through trips, and it is not continuous for any great length. <sup>14</sup>Code 4833 "Water storage" includes other natural water areas or water tanks used for storage. Lakes or formations are identified under code 93, "Water

—<sup>14</sup>Code 4560 "Local access streets" are those used primarily for access to residences, businesses, or other abutting activities. <sup>15</sup>Code 4924 "Transportation ticket services" include the ticket

—<sup>15</sup>Code 4570 "Alleys" are minor narrow streets usually without sidewalks and on which building adjoin from the rear. identified only when they are a separate and distinct activity, not

—<sup>16</sup>Code 4600 "Automobile parking" includes nonresidential off street parking that is 5,000 square feet or greater (or approximately offices of any of the transportation systems. The located within one of the transportation terminals.

Code	Category	Code	Category	Code	Category	SIC Reference <sup>1</sup>	Law Classification
51	Wholesale trade. <sup>2</sup>	511	Motor vehicles and automotive equipment - wholesale.	5111	Automobiles and other motor vehicles - wholesale.	5012	
				5112	Automotive equipment - wholesale.	5013	
				5113	Tires and tubes - wholesale.	5014	
		512	Drugs, chemicals, and allied products - wholesale.	5121	Drugs, drug proprietaries and druggists' sundries - wholesale.	5022	
				5122	Paints and varnishes - wholesale.	5028	
				5129	Other drugs, chemicals, and allied products, wholesale, NEC.	5029	
		513	Dry goods and apparel - wholesale.	5131	Dry goods, piece goods, and notions - wholesale.	5032	
				5132	Apparel and accessories, hosiery, and lingerie - wholesale.	5035	
				5133	Footwear - wholesale.	5039	
		514	Groceries and related products - wholesale.	5141	Groceries (general line) - wholesale.	5042	
				5142	Dairy products - wholesale.	5043	
				5143	Poultry and poultry products - wholesale.	5044	
				5144	Confectionery - wholesale.	5045	
				5145	Fish and seafoods - wholesale.	5046	
				5146	Meats and meat products - wholesale.	5047	
				5147	Fruits and vegetables (fresh) - wholesale.	5048	

		5149	Other groceries and related products wholesale, NEC.	5049
	515	Farm products (raw materials)		
Incl. 5051		5151	Cotton wholesale.	
		5152	Grain wholesale.	
Incl. 5051		5153	Hides, skins, and raw furs whole sale.	
		5154	Leaf tobacco wholesale.	
Incl. 5051		5155	Wool and mohair wholesale.	
		5156	Livestock wholesale.	
Incl. 5051		5157	Horses and mules wholesale.	
		5159	Other farm products wholesale, NEC.	
Incl. 5051				
	516	Electrical goods wholesale.		
		5161	Electrical apparatus and equipment, wiring supplies, and construction materials wholesale.	5063
		5162	Electrical appliances, television, and radio sets wholesale.	5064
		5163	Electronic parts and equipment wholesale.	5065
	517	Hardware, plumbing, heating equipment, and supplies wholesale.		
		5171	Hardware wholesale.	5072
		5172	Plumbing and heating equipment and supplies wholesale.	5074
		5173	Air conditioning, refrigerated equipment, and supplies wholesale.	5077

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**B. A STANDARD SYSTEM FOR IDENTIFYING AND CODING LAND USE ACTIVITIES TWO, THREE, AND FOUR DIGIT LEVELS — Continued**

<i>Code</i>	<i>Category</i>	<i>Code</i>	<i>Category</i>	<i>Code</i>	<i>Category</i>	<i>SIC Reference</i> <sup>†</sup>	<i>La</i>
51	Wholesale trade 2 Continued	518	Machinery, equipment, and supplies wholesale.	5181	Commercial and industrial machinery, equipment, and supplies wholesale.	5082	
				5182	Farm machinery and equipment wholesale.	5083	
				5183	Professional equipment and supplies wholesale.	5086	
				5184	Equipment and supplies for service establishments wholesale.	5087	
				5185	Transportation equipment and supplies (except motor vehicles) wholesale.	5088	
				5189	Other machinery, equipment, and supplies wholesale, NEC.	5089	

	519	Other wholesale trade, NEC.	5191	Metals and minerals (except petroleum products and scrap) wholesale.	5091
			5192	Petroleum bulk stations and terminals wholesale.	5092
			5193	Scrap and waste materials wholesale.	5093
			5194	Tobacco and tobacco products wholesale.	5094
			5195	Beer, wine, and distilled alcoholic beverages wholesale.	5095
			5196	Paper and paper products wholesale.	5096
			5197	Furniture and home furnishings wholesale.	5097
			5198	Lumber and construction materials wholesale.	5098
			5199	Other wholesale trade, NEC.	5099
52	Retail trade building materials, hardware, and farm equipment.	521	Lumber and other building materials retail.	5211	Lumber yards retail.
				5212	Building materials retail.
		522	Heating and plumbing equipment retail.	5220	Heating and plumbing equipment retail.
		523	Paint, glass, and wallpaper retail.	5230	Paint, glass, and wallpaper retail.
		524	Electrical supplies retail.	5240	Electrical supplies retail.
		525	Hardware and farm equipment retail.	5251	Hardware retail.
				5252	Farm equipment retail.
53	Retail trade general merchandise.	531	Department stores retail.	5310	Department stores retail.
		532	Mail order houses retail.	5320	Mail order houses retail.
		533	Limited price variety stores retail.	5330	Limited price variety stores retail.
		534	Merchandise vending machine operators retail.	5340	Merchandise vending machine operators retail.
		535	Direct selling organizations retail.	5350	Direct selling organizations retail.
		539	Other retail trade general merchandise, NEC.	5391	Dry goods and general merchandise retail.
				5392	General stores retail.
54	Retail trade food.	541	Groceries (with or without meat) retail.	5410	Groceries (with or without meat) retail.
		542	Meats and fish retail.	5421	Meats retail.
				5422	Fish and seafoods retail.

**B. A STANDARD SYSTEM FOR IDENTIFYING AND CODING LAND USE ACTIVITIES — TWO , THREE , AND FOUR DIGIT LEVELS — Continued**

<i>Code</i>	<i>Category</i>	<i>Code</i>	<i>Category</i>	<i>Code</i>	<i>Category</i>	<i>SIC Reference</i> <sup>†</sup>	<i>Land Use Classification</i>
54	Retail trade — food	543	Fruits and vegetables — retail.	5430	Fruits and vegetables — retail.	543	
	Continued						
		544	Candy, nut, and confectionery — retail.	5440	Candy, nut, and confectionery — retail.	544	
		545	Dairy products — retail.	5450	Dairy products — retail.	545	
		546	Bakeries — retail.	5461	Bakeries (manufacturing) — retail.3	5462	
				5462	Bakeries (nonmanufacturing) — retail.4	5463	
		549	Other retail trade — food, NEC.	5491	Egg and poultry — retail.	5491	
				5499	Other retail trade — food, NEC.	5499	
55	Retail trade — automotive, marine craft, aircraft, and accessories.	551	Motor vehicles — retail.	5511	Motor vehicles (new and used cars) — retail.	551	
				5512	Motor vehicles (used cars only) — retail.	552	
		552	Tires, batteries, and accessories — retail.	5520	Tires, batteries, and accessories — retail.	553	
		553	Gasoline service stations.	5530	Gasoline service stations.	554	
		559	Other retail trade — automotive, marine craft, aircraft, and accessories, NEC.	5591	Marine craft and accessories — retail.	Incl. 5599	
				5592	Aircraft and accessories — retail.	Incl. 5599	
				5599	Other retail trade — automotive, marine craft, aircraft, and accessories, NEC.	Incl. 5599	
56	Retail trade — apparel and accessories.	561	Men's and boys' clothing and furnishings — retail.	5610	Men's and boys' clothing and furnishings — retail.	561	
		562	Women's ready-to-wear — retail.	5620	Women's ready-to-wear — retail.	562	
		563	Women's accessories and specialties — retail.	5630	Women's accessories and specialties — retail.	563	
		564	Children's and infants' wear — retail.	5640	Children's and infants' wear — retail.	564	
		565	Family clothing — retail.	5650	Family clothing — retail.	565	
		566	Shoes — retail.	5660	Shoes — retail.	566	
		567	Custom tailoring.	5670	Custom tailoring.	567	
		568	Furriers and fur apparel — retail.	5680	Furriers and fur apparel — retail.	568	
		569	Other retail trade — apparel and accessories, NEC.	5690	Other retail trade — apparel and accessories, NEC.	569	

57	Retail trade—furniture, home furnishings, and equipment.	571	Furniture, home furnishings, and equipment—retail.	5711	Furniture—retail.	5712	Furniture—retail.
				5712	Floor coverings—retail.	5713	Floor coverings—retail.
				5713	Draperies, curtains, and upholstery—retail.	5714	Draperies, curtains, and upholstery—retail.
				5714	China, glassware, and metalware—retail.	5715	China, glassware, and metalware—retail.
				5719	Other furniture, home furnishings, and equipment—retail, NEC.	5719	Other furniture, home furnishings, and equipment—retail, NEC.
		572	Household appliances—retail.	5720	Household appliances—retail.	5720	Household appliances—retail.
		573	Radios, televisions, and music supplies—retail.	5731	Radios and televisions—retail.	5732	Radios and televisions—retail.
				5732	Music supplies—retail.	5733	Music supplies—retail.
58	Retail trade—eating and drinking.	581	Eating places.	5810	Eating places.	5812	Eating places.
		582	Drinking places (alcoholic beverages).	5820	Drinking places (alcoholic beverages).	5813	Drinking places (alcoholic beverages).

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**B. A STANDARD SYSTEM FOR IDENTIFYING AND CODING LAND USE ACTIVITIES—TWO, THREE, AND FOUR DIGIT LEVELS—Continued**

Code	Category	Code	Category	Code	Category	SIC Reference <sup>1</sup>	Land Use Code
59	Other retail trade, NEC.	591	Drug and proprietary—retail.	5910	Drug and proprietary—retail.	591	
		592	Liquor—retail.	5920	Liquor—retail.	592	
		593	Antiques and secondhand merchandise—retail.	5931	Antiques—retail.	5932	
				5932	Secondhand merchandise—retail.	5933	
		594	Book and stationery—retail.	5941	Books—retail.	5942	
				5942	Stationery—retail.	5943	
		595	Sporting goods and bicycles—retail.	5951	Sporting goods—retail.	5952	
				5952	Bicycles—retail.	5953	
		596	Farm and garden supplies—retail.	5961	Hay, grains, and feeds—retail.	5962	
				5969	Other farm and garden supplies—retail, NEC.	5969	
		597	Jewelry—retail.	5970	Jewelry—retail.	597	
		598	Fuel and ice—retail.	5981	Fuel and ice dealers (except fuel oil and bottled gas dealers)—retail.	5982	
				5982	Fuel oil—retail.	5983	
				5983	Bottled gas—retail.	5984	
		599	Other retail trade, NEC.	5991	Florists—retail.	5992	
				5992	Cigars and cigarettes—retail.	5993	
				5993	Newspapers and magazines—retail.	5994	
				5994	Cameras and photographic supplies—retail.	5996	
				5995	Gifts, novelties, and souvenirs—retail.	5997	

			5996	Optical goods—retail.	5998
			5999	Other retail trade, NEC.	5999
61	Finance, insurance, and real estate services.	611	Banking and bank related functions.	6111	Banking services.
				6112	Bank related functions.
		612	Credit services (other than banks).	6121	Savings and loan associations.
				6122	Agricultural, business, and personal credit services (including credit unions).
				6129	Other credit services (other than banks), NEC.
		613	Security and commodity brokers, dealers, exchanges, and services.	6131	Security brokers, dealers, and flotation services.
				6132	Commodity contracts brokers and dealers services.
				6133	Security and commodity exchanges.
				6134	Security and commodity allied services.
		614	Insurance carriers, agents, brokers, and services.	6141	Insurance carriers.
				6142	Insurance agents, brokers, and services.

**FOOTNOTES**

and var- the premises. For example, 5122-0 is a wholesaler of paints and var-

merchandise. nishes who has a definite storage area set aside for his

<sup>1</sup>The SIC codes are listed for purposes of reference. They are the <sup>2</sup>Code 5461 "bakeries (manufacturing)—retail" include only those bakeries that produce on the premises some or all of the codes in the SIC system that most nearly correspond to the 4 digit products sold.

land use activity indicated. (See ch. 111, sec. A3, "The Use of Standard <sup>4</sup>Code 5462 "Bakeries (nonmanufacturing)—retail" include only those bakeries that do not produce on the premises the Industrial Classification Nomenclature.") A dash indicates that there products that is no corresponding SIC code. are sold.

<sup>3</sup>Code 51 "Wholesale trade." A code of "0" is used in the auxiliary <sup>5</sup>Code 5810 "Eating places" include both establishments serving only food as well as those serving both food and alcoholic position for those wholesalers who maintain a definite storage area on beverages.

**B. A STANDARD SYSTEM FOR IDENTIFYING AND CODING LAND USE ACTIVITIES—TWO, THREE, AND FOUR DIGIT LEVELS—Continued**

Code	Category	Code	Category	Code	Category	SIC Reference <sup>†</sup>	Law Cl
61	Finance, insurance, and	615	Real estate and related services.	6151	Real estate operators (except devel	651	

real estate services			opers) and lessors.			
Continued.		6152	Real estate agents, brokers, and management services.	653		
		6153	Title abstracting services.	654		
		6154	Real estate subdividing and developing services.	655		
		6155	Real estate operative builders.	656		
		6156	Combinations of real estate, insurance, loan, and law services.	661		
		6159	Other real estate and related services, NEC.			
	616	Holding and investment services.	6160	Holding and investment services.	67	
	619	Other finance, insurance, and real estate services, NEC.	6190	Other finance, insurance, and real estate services, NEC.		
62	Personal services.	621	Laundrying, dry cleaning, and dyeing services.	6211	Laundrying, dry cleaning, and dyeing services (except rugs).	7211, 7212, a
				6212	Linen supply and industrial laundry services.	7216
				6213	Diaper services.	7213
				6214	Laundrying and dry cleaning (self-service).	7214
				6215	Rug cleaning and repair services.	7215
		622	Photographic services (including commercial).	6220	Photographic services (including commercial).	7217
		623	Beauty and barber services.	6231	Beauty services.	722
				6232	Barber services.	723
		624	Funeral and crematory services; cemeteries.	6241	Funeral and crematory services.	724
				6242	Cemeteries.	726
		625	Apparel repair, alteration and cleaning pickup services; shoe repair services.	6251	Pressing, alteration, and garment repair; laundry and dry cleaning pickup services (only).	7271
				6252	Fur repair and storage services.	7272
				6253	Shoe repair, shoe shining, and hat cleaning services.	725
		629	Other personal services, NEC.	6290	Other personal services, NEC.	729
63	Business services.	631	Advertising services.	6311	Advertising services (general).	7311
				6312	Outdoor advertising services.	7312
				6319	Other advertising services, NEC.	7319
		632	Consumer and mercantile credit reporting services; adjustment and collection services.	6320	Consumer and mercantile credit reporting services; adjustment and collection services.	7321
		633	Duplicating mailing and stenographic services.	6331	Direct mail advertising services.	7331
				6332	Blueprinting and photocopying service.	7332
				6339	Stenographic services and other duplicating and mailing services, NEC.	7339
		634	Dwelling and other building	6341	Window cleaning services.	7341

	services.	6342	Disinfecting and exterminating services.	7342
		6349	Other dwelling and building services, NEC.	7349
635	News syndicate services.	6350	News syndicate services.	735
636	Employment services.	6360	Employment services.	736

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**B. A STANDARD SYSTEM FOR IDENTIFYING AND CODING LAND USE ACTIVITIES — TWO, THREE, AND FOUR DIGIT LEVELS — Continued**

<i>Code</i>	<i>Category</i>	<i>Code</i>	<i>Category</i>	<i>Code</i>	<i>Category</i>	<i>SIC Reference</i> <sup>†</sup>	<i>Law Cl</i>
63	Business services Continued	637	Warehousing and storage services. <sup>2</sup>	6371	Farm products warehousing and storage (excluding stockyards).	4221	
				6372	Stockyards.	4731	
				6373	Refrigerated warehousing (except food lockers).	4222	
				6374	Food lockers (with or without food preparation facilities).	4223	
				6375	Household goods warehousing and storage.	4224	
				6376	General warehousing and storage.	4225	
				6379	Other warehousing and storage, NEC.	4226	
		639	Other business services, NEC.	6391	Research, development, and testing services.	7391	
				6392	Business and management consulting services.	7392	
				6393	Detective and protective services.	7393	
				6394	Equipment rental and leasing services.	7394	
				6395	Photofinishing services.	7395	
				6396	Trading stamp services.	7396	
				6397	Automobile and truck rental services.	7511	
				6398	Motion picture distribution and services.	7812 and 782	
				6399	Other business services, NEC.	7399	
64	Repair services.	641	Automobile repair and services.	6411	Automobile repair services.	753	
				6412	Automobile wash services.	Incl. 7541	
				6419	Other automobile services (except repair and wash), NEC.	Incl. 7541	
		649	Other repair services, NEC.	6491	Electrical repair services (except radio and television).	Incl. 7621	
				6492	Radio and television repair services.	7622	
				6493	Watch, clock, and jewelry repair services.	763	
				6494	Reupholstery and furniture repair	764	

					services.		
				6495	Armature rewinding services.		7694
				6499	Other repair services, NEC.		7699
65	Professional services.	651	Medical and other health services.	6511	Physicians' services.	801, 803, and 804	
				6512	Dental services.		802
				6513	Hospital services.		806
				6514	Medical laboratory services.		8071
				6515	Dental laboratory services.		8072
				6516	Sanitariums, convalescent, and rest home services.		8092
				6517	Medical clinics—out patient services.		
				6519	Other medical and health services, NEC.		8099
		652	Legal services.	6520	Legal services.		811
		659	Other professional services, NEC.	6591	Engineering and architectural services.		891
				6592	Educational and scientific research services.		892
				6593	Accounting, auditing, and book keeping services.		893
				6594	Urban planning services.		Incl. 899
				6599	Other professional services, NEC.		Incl. 899
66	Contract construction services.	661	General contract construction services.	6611	Building construction—general contractor services.		151
				6619	Other general construction contractor services, NEC.		16

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**B. A STANDARD SYSTEM FOR IDENTIFYING AND CODING LAND USE ACTIVITIES—TWO, THREE, AND FOUR-DIGIT**

**LEVELS—Continued**

Code	Category	Code	Category	Code	Category	SIC Reference <sup>†</sup>	Land Use Classification
66	Contract construction services—Continued	662	Special construction trade services.	6621	Plumbing, heating, and air conditioning services.	171	
				6622	Painting, paper hanging, and decorating services.	172	
				6623	Electrical services.	173	
				6624	Masonry, stonework, tile setting, and plastering service.	174	
				6625	Carpentering and wood flooring.	175	
				6626	Roofing and sheet metal services.	176	
				6627	Concrete services.	177	
				6628	Water well drilling services.	178	
				6629	Other special construction trade services, NEC.	179	
67	Governmental services.	671	Executive, legislative, and judicial functions.	6710	Executive, legislative, and judicial functions. <sup>3</sup>	Incl. 919, 929, and 939	

672	Protective functions and their related activities.	6721	Police protection and related activities.	Incl. 919, 929, and 939
		6722	Fire protection and related activities.	Incl. 919, 929, and 939
		6723	Civil defense and related activities.	Incl. 919, 929, and 939
673	Postal services.	6730	Postal services.	Incl. 919
674	Correctional institutions.	6741	Prisons.	Incl. 919, 929, and 939
		6749	Other correctional institutions, NEC.	Incl. 919, 929, and 939
675	Military bases and reservations. <sup>4</sup>	6751	Military training bases.	Incl. 919 and 929
		6752	Military defense installations.	Incl. 919 and 929
		6753	Military storage depots and transportation centers.	Incl. 919 and 929
		6754	Military maintenance centers.	Incl. 919 and 929
		6755	Military administration or command centers.	Incl. 919 and 929
		6756	Military communication centers.	Incl. 919 and 929
		6759	Other military bases and reservations, NEC.	Incl. 919 and 929
68	Educational services.	681	Nursery, primary, and secondary education.	6811 Nursery schools. Incl. 821
				6812 Primary (elementary) schools. <sup>5</sup> Incl. 821
				6813 Secondary schools. <sup>6</sup> Incl. 821
		682	University, college, junior college, and professional school education.	6821 Universities and colleges. Incl. 8221
				6822 Junior colleges. Incl. 8222
				6823 Professional schools. Incl. 8221
		683	Special training and schooling.	6831 Vocational or trade schools. 8242
				6832 Business and stenographic schools. Incl. 8299
				6833 Barber and beauty schools. Incl. 723 and 724
				6834 Art and music schools. Incl. 8299
				6835 Dancing schools. Incl. 7911
				6836 Driving schools. Incl. 8299
				6837 Correspondence schools. 8241
				6839 Other special training and schooling, NEC. Incl. 8299

**B. A STANDARD SYSTEM FOR IDENTIFYING AND CODING LAND USE ACTIVITIES — TWO, THREE, AND FOUR DIGIT LEVELS — Continued**

<i>Code</i>	<i>Category</i>	<i>Code</i>	<i>Category</i>	<i>Code</i>	<i>Category</i>	<i>SIC Reference</i> <sup>†</sup>	<i>La</i>
69	Miscellaneous services.	691	Religious activities. <sup>7</sup>	6911	Churches, synagogues, and temples.	Incl. 866	
				6919	Other religious activities, NEC.	Incl. 866	
		692	Welfare and charitable services.	6920	Welfare and charitable services.	867	
		699	Other miscellaneous services, NEC.	6991	Business associations.	861	
				6992	Professional membership organizations.	862	
				6993	Labor unions and similar labor organizations.	863	
				6994	Civic, social, and fraternal associations.	864	
				6999	Other miscellaneous services, NEC.		

**FOOTNOTES**

<sup>†</sup>The SIC codes are listed for purposes of reference. They are the codes in the SIC system that most nearly correspond to the 4 digit land use activity indicated. (See ch. III, sec. A3, "The Use of Standard Industrial Classification Nomenclature.") A dash indicates that there is no corresponding SIC code.

<sup>1</sup>Code 637 "Warehousing and storage services" include only those facilities that are used by or are open to the public. When warehousing and storage is functionally and organizationally linked to another activity (e.g., a general contractor or an apparel manufacturer), include grades 7 through 12, popularly known as junior and senior high schools, and with a code of 4 (warehousing and storage) in the auxiliary position. For example, 2310 4 is a warehouse and storage area of a manufacturer of men's, youths', and boys' suits, coats, and overcoats.

<sup>2</sup>Code 6710 "Executive, legislative, and judicial functions" include only the central and administrative office activities of the agencies or special authorities involved in government functions, including the legislature and courts. All operational activities (e.g., shipbuilding, schools, or hospitals) should be identified separately under the respective activity codes.

<sup>3</sup>Code 675 "Military bases and reservations" include installations used by both the active military as well as the National Guard.

<sup>4</sup>Code 6812 "Primary (elementary) schools" may or may not include a kindergarten, but they do include grades 1 through 6.

<sup>5</sup>Code 6813 "Secondary schools" are schools that include grades 7 through 12, popularly known as junior and senior high schools.

<sup>6</sup>Code 691 "Religious activities" include only those activities maintained by the religious organizations (e.g., schools, hospitals, publishing houses, etc.) should be identified separately under the respective activity codes.

71	Cultural activities and nature exhibitions.	711	Cultural activities.	7111	Libraries	823	
				7112	Museums.	Incl. 841	
				7113	Art galleries. <sup>2</sup>	Incl. 841	
				7119	Other cultural activities, NEC.		
		712	Nature exhibitions.	7121	Planetaria.		
				7122	Aquariums.	Incl. 842	
				7123	Botanical gardens and arboretums.	Incl. 842	

				7124	Zoos.		
				7129	Other nature exhibitions, NEC.		
	719	Other cultural activities and nature exhibitions, NEC.		7191	Historic and monument sites. <sup>3</sup>		
				7199	Other cultural activities and nature exhibitions, NEC.		
72	Public assembly.		721	Entertainment assembly.			
				7211	Amphitheaters.		
				7212	Motion picture theaters.	Incl. 7831	
				7213	Drive-in movies.	Incl. 7831	
				7214	Legitimate theaters.		
				7219	Other entertainment assembly, NEC.		
		722	Sports assembly. <sup>4</sup>				
				7221	Stadiums. <sup>5</sup>	Incl. 7941	
				7222	Arenas and field houses.		
				7223	Race tracks. <sup>6</sup>	Incl. 7948	
				7229	Other sports assembly, NEC.		
		723	Public assembly, miscellaneous purposes.				
				7231	Auditoriums.		
				7232	Exhibition halls.		
				7239	Other miscellaneous assembly, NEC.		
		729	Other public assembly, NEC.				
				7290	Other public assembly, NEC.		
73	Amusements.		731	Fairgrounds and amusement parks.			
				7311	Fairgrounds.	Incl. 7949	
				7312	Amusement parks.	Incl. 7949	

\*Fairgrounds are Class B Land; when used for automobile and motorcycle racing, Fairgrounds are Class C Land.

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**B. A STANDARD SYSTEM FOR IDENTIFYING AND CODING LAND USE ACTIVITIES — TWO, THREE, AND FOUR DIGIT LEVELS — Continued**

Code	Category	Code	Category	Code	Category	SIC Reference <sup>1</sup>	Law Classification
73	Amusements — Continued	739	Other amusements, NEC.	7391	Penny arcades.	Incl. 7949	
				7392	Miniature golf.	Incl. 7949	
				7393	Golf driving ranges.	Incl. 7949	
				7394	Go-cart tracks.	Incl. 7949	
				7399	Other amusements, NEC	Incl. 7949	
74	Recreational activities.	741	Sports activities.	7411	Golf courses (without country club).		
7942				7412	Golf courses (with country club).	7942	
				7413	Tennis courts.		
				7414	Ice skating	Incl. 7945	
				7415	Roller skating	Incl. 7945	
				7416	Riding stables.		
				7417	Bowling	Incl. 7931	
				7418	Skiing and tobogganing.		
				7419	Other sports activities, NEC.		
		742	Playgrounds and athletic areas.	7421	Play lots or tot lots. <sup>7</sup>		
				7422	Playgrounds. <sup>8</sup>		
				7423	Playfields or athletic fields. <sup>9</sup>		
				7424	Recreation centers (general). <sup>10</sup>		

		7425	Gymnasiums and athletic clubs.	Incl. 7949	
		7429	Other playground and athletic areas, NEC.		
	743	Swimming areas.	7431	Swimming beaches. <sup>11</sup>	
			7432	Swimming pools. <sup>12</sup>	
				7944	
	744	Marinas. <sup>13</sup>	7441	Yachting clubs.	
			7442	Boat rentals and boat access sites.	
			7449	Other marinas, NEC.	
				Incl. 7949	
	749	Other recreation, NEC.	7491	Camping and picnicking areas. <sup>14</sup>	
			7499	Other recreation, NEC.	
75	Resorts and group camps.	751	Resorts.	7511	General resorts. <sup>15</sup>
				7512	Dude ranches.
					Incl. 7032
				7513	Health resorts.
					Incl. 8092
				7514	Ski resorts.
				7515	Hunting and fishing clubs. <sup>18</sup>
					Incl. 7032
				7519	Other resorts, NEC.
		752	Group or organized camps.	7520	Group or organized camps. <sup>17</sup>
					Incl. 7032
76	Parks.	761	Parks—general recreation.	7610	Parks—general recreation. <sup>18</sup>
		762	Parks—leisure and ornamental.	7620	Parks—leisure and ornamental. <sup>19</sup>
		769	Other parks, NEC.	7690	Other parks, NEC.
79	Other cultural, entertain- ment, and recreational activities, NEC.	790	Other cultural, entertainment, and recreational activities, NEC.	7900	Other cultural, entertainment, and recreational activities, NEC.

**FOOTNOTES**

teeters, swings, climbing

<sup>1</sup>The SIC codes are listed for purposes of reference. They are the only when found as a codes in the SIC system that most nearly correspond to the 4 digit another activity (e.g. land use activity indicated. (See ch. III, sec. A3, "The Use of Standard Industrial Classification Nomenclature.") A dash indicates that there is no corresponding SIC code.

<sup>3</sup>Code 7113 "Art galleries" do not include those galleries that sell or serving another art objects commercially. Commercial sales are coded 5999, "Other retail trade, NEC." contain a playground as

<sup>3</sup>Code 7191 "Historic and monument sites" include those locations sports (e.g., baseball, foot set aside for no other purpose than to commemorate an historical event, provided. They activity, or person.

<sup>4</sup>Code 722 "Sports assembly" includes only the public assembly areas used for nonparticipating sports. include diversified

contain such facilities as sand boxes, slides,

apparatus, etc. They are identified and coded

separate activity and not subsidiary to or serving

apartment house or playground).

<sup>8</sup>Code 7422 "Playgrounds" are areas that have

active play and recreation. They are identified

found as a separate activity and not subsidiary to

activity (e.g., a school).

<sup>9</sup>Code 7423 "Playfields or athletic fields"

well as a field(s) or court(s) for competitive

ball, or tennis). Bleachers or grandstands may be

are identified and coded only when found as a

subsidiary to or serving another activity (e.g., a

<sup>10</sup>Code 7414 "Recreation centers (general)"

<sup>5</sup>Code 7221 "Stadiums" include those used for individual sports, recreation for a wide variety of activities for all ages and interests. e.g., baseball or football, as well as those used for several sports activities. The recreation centers may contain, but are not limited to a gymnasium, social or play rooms, game rooms, arts and craft shops, etc.

<sup>6</sup>Code 7223 "Race tracks" include those used for individual racing activities, e.g., horse racing and automobile racing, as well as those used for several racing activities. They are identified only when they are not a part of a larger activity (e.g., a park).

<sup>7</sup>Code 7421 "Play lots or tot lots" are small areas developed especially for preschool or elementary school aged children. They may Footnotes continued on following page.

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**B. A STANDARD SYSTEM FOR IDENTIFYING AND CODING LAND USE ACTIVITIES — TWO, THREE, AND FOUR DIGIT LEVELS — Continued**

independent of other functions (e.g., code 72, "Public assembly" or areas on which code 11, "Household units"). They may be indoor or outdoor pools. artificially propagated game or fish are released for purposes of hunting

<sup>13</sup>Code 744 "Marinas" include marine terminals and associated fishing. If there are other uses made of the property (e.g., agricultural use), these "other" uses should take priority in identifying the activity of the parcel.

repair of recreational marine craft is coded 5591, "Marine craft and accessories—retail" and code 3443, "Ship and boat building and repair." respectively.

<sup>14</sup>Code 7491 "Camping and picnicking areas" are separately identified include, but are not limited to, picnic areas, bathing beaches, playfields, hiking trails,

<sup>15</sup>Code 7511 "General resorts" have rooms for 20 or more persons camping grounds, and other manmade recreation facilities. and have provision for at least 2 types of recreational activities, excluding lawn games, children's playgrounds, and swimming pools. or leisure purposes. They may contain beaches, children's play facilities, monuments, or statues.

<sup>16</sup>Code 7515 "Hunting and fishing clubs" include

<sup>17</sup>Code 7520 "Group or organized camps" children, as well as Boy Scout and Girl Scout camps.

<sup>18</sup>Code 7610 "Parks—general recreation" may

<sup>19</sup>Code 7620 "Parks—leisure and ornamental" are

Code	Category	Code	Category	Code	Category	SIC Reference <sup>4</sup>	Lat	Cl
81	Agriculture. <sup>2</sup>	811	Farms (predominant crop, fibers). <sup>3</sup>	8111	Farms (predominant crop, cotton).			
				8119	Farms (other type fiber crops).			
		812	Farms (predominant crop, cash grains). <sup>3</sup>	8120	Farms (predominant crop, cash grains).			
		813	Farms (field crops other than fiber or cash grain crops). <sup>3</sup>	8130	Farms (field crops other than fiber or cash grain crops).			
		814	Farms (predominant crop, fruits, tree nuts, or vegetables). <sup>3</sup>	8141	Farms (predominant crop, fruits).			
				8142	Farms (predominant crop, tree nuts).			
				8143	Farms (predominant crop, vege			

			tables):		
	815	Farms (predominantly dairy products). <sup>3</sup>	8150	Farms (predominantly dairy products):	
	816	Farms and ranches (livestock other than dairy). <sup>3</sup>	8161	Farms and ranches (predominantly cattle):	
			8162	Farms and ranches (predominantly hog):	
			8163	Farms and ranches (predominantly sheep):	
			8164	Farms and ranches (predominantly goat):	
			8169	Farms and ranches (other livestock), NEC:	
	817	Farms (predominantly poultry). <sup>3</sup>	8170	Farms (predominantly poultry):	
	818	Farms (general no predominance). <sup>3</sup>	8180	Farms (general no predominance):	
	819	Other agriculture and related activities, NEC.	8191	Range and grassland pastures (not farm or ranch). <sup>4</sup>	
			8192	Horticultural specialties. 0192	
			8193	Apiary farms:	
	Incl. 0193				
			8194	Farms and ranches (predominantly horse raising):	
	Incl. 0193		8199	Other agriculture and related activities, NEC:	
82	Agricultural-related activities.	821	Agricultural processing. <sup>3</sup>	8211	Cotton ginning and compressing.
0712				8212	Grist milling services.
0713				8213	Corn shelling, hay baling, and threshing services.
0714				8214	Contract sorting, grading, and packing services (fruits and vegetables):
0715				8219	Other agricultural processing services, NEC:
0719					
	822	Animal husbandry services.	8221	Veterinarian services.	
Incl. 0722			8222	Animal hospital services.	
Incl. 0722			8223	Poultry hatchery services.	
0723			8229	Other animal husbandry services, NEC:	
0729C					

## LEVELS—Continued

<i>Code</i>	<i>Category</i>	<i>Code</i>	<i>Category</i>	<i>Code</i>	<i>Category</i>	<i>SIC Reference</i> <sup>†</sup>	<i>Lea</i>
82	Agricultural related activities Continued	829	Other agricultural related activities, NEC.	8291	Horticultural services.	0731	
				8299	Other agricultural related activities, NEC.		
83	Forestry activities and related services.6	831	Commercial forestry production.7	8311	Timber production—predominantly for pulp wood.		
				8312	Timber production—predominantly for saw logs.		
				8313	Timber production—predominantly for veneer logs.		
				8314	Timber production—mixed uses.		
				8315	Tree products production—predominantly gum extracting (except pine gum) and bark.	0842	
				8316	Tree products production—predominantly pine gum extraction.	0843	
				8317	Timber and tree products production—mixed uses.		
				8319	Other commercial forestry production, NEC.		
		832	Forestry services.	8321	Forest nurseries.	0822	
				8329	Other forestry services, NEC.	0851	
		839	Other forestry activities and related services, NEC.	8390	Other forestry activities and related services, NEC.		
84	Fishing activities and related services.	841	Fisheries and marine products.8	8411	Finfish fisheries.	0912	
				8412	Shellfish fisheries.	0913	
				8419	Other fisheries and marine products, NEC.	0914 and 0919	
		842	Fishery services.	8421	Fish hatcheries.	Incl. 0989	
				8429	Other fishery services, NEC.	Incl. 0989	
		849	Other fishery activities and related services, NEC.	8490	Other fishery activities and related services, NEC.		
85	Mining activities and related services.	851	Metal ore mining.	8511	Iron ore mining.	101	
				8512	Copper ore mining.	102	
				8513	Lead and zinc ore mining.	103	
				8514	Gold and silver ore mining.	104	
				8515	Bauxite and other aluminum ore mining.	105	
				8516	Ferroalloy ore (except vanadium) mining.	106	
				8519	Other metal ore mining, NEC.	109	
		852	Coal mining.	8521	Anthracite coal mining.	111	
				8522	Bituminous coal mining.	1211	
				8523	Lignite coal mining.	1212	
		853	Crude petroleum and natural gas.	8530	Crude petroleum and natural gas.	131	
		854	Mining and quarrying of non	8541	Dimension stone.	141	

	metallic minerals (except fuels).	8542	Crushed and broken stone (including riprap) quarrying.	142
		8543	Sand and gravel quarrying.	144
		8544	Clay, ceramic, and refractory minerals mining.	145
		8545	Chemical and fertilizers (mineral) mining.	147
		8549	Other mining and quarrying of non-metallic minerals (except fuels), NEC.	148
855	Mining services.	8551	Metal mining services.	108
		8552	Coal mining services.	
1112 and 1213		8553	Crude, petroleum and gas field services.	138
		8554	Nonmetallic mining (except fuel) services.	148
		8559	Other mining services, NEC.	
89	Other resource: production and extraction, NEC.	890	Other resource: production and extraction, NEC.	8900
				Other resource: production and extraction, NEC.

B-23

**B. A STANDARD SYSTEM FOR IDENTIFYING AND CODING LAND USE ACTIVITIES — TWO, THREE, AND FOUR DIGIT LEVELS — Continued**

**FOOTNOTES**

farm or ranch. These areas are usually part of the public domain in which grazing has been permitted.

<sup>1</sup>The SIC codes are listed for purposes of reference. They are the only preliminary codes in the SIC system that most nearly correspond to the 4 digit land use activity indicated. (See ch. III, Se. A3, "The Use of Standard and kindred products— Industrial Classification Nomenclature.") A dash indicates that there is no corresponding SIC code.

<sup>2</sup>Code 81 "Agriculture." A parcel of land is considered to be in agricultural use if 10 or more acres are under cultivation, in tree or bush crops, or are used for livestock or poultry purposes. The 10 acres may include the area of the residence, if there is one, and the immediate associated area surrounding the residence.

<sup>3</sup>A farm may consist of several ownership or rented parcels of land located within the that are noncontiguous. However, each parcel should be linked to together as one "farm management unit," and identified by only one includes those 3 or 4 digit category, e.g., code 8120, "Farms (predominant crops, cash are being managed or grains)." "industrial wood" or to obtain

Using the "Farm use" categories in app. 2 of this report, farm (i.e., "Industrial wood" includes the farm management units) are to be classified by the most predominant logs and pulpwood, but

processing of agricultural products. Any canning, or manufacturing is coded 21, "Food manufacturing."

<sup>4</sup>Code 83 "Forestry activities and related in this classification are based upon primary use recognized that other activities, e.g., recreation stock may also be taking place within these these types of activities are considered secondary coded. Activities such as mining (code 85), permanent camping areas (code 7491), and logging camps (code 2410); forested areas should be separately identified.

<sup>7</sup>Code 831 "Commercial forestry production" forested areas not on the farms or ranches that have been set aside to grow tree crops for tree products such as sap, bark, or seeds. commercial roundwood products, such as saw



	922	Nonreserve forests (undeveloped).	9220	Nonreserve forests (undeveloped). <sup>4</sup>	
93	Water areas.	931	Rivers, streams, or creeks.	9310	Rivers, streams, or creeks.
	932	Lakes.	9320	Lakes. <sup>5</sup>	
	933	Bays or lagoons.	9330	Bays or lagoons.	
	934	Oceans and seas.	9340	Oceans and seas.	
	939	Other water areas, NEC.	9390	Other water areas, NEC.	
94	Vacant floor area.	940	Vacant floor area.	9400	Vacant floor area.
95	Under construction.	951	Under construction (residential).	9510	Under construction (residential). <sup>6</sup>
	952	Under construction (nonresidential).	9520	Under construction (nonresidential). <sup>7</sup>	
99	Other undeveloped land and water areas, NEC.	990	Other undeveloped land and water areas, NEC.	9900	Other undeveloped land and water areas, NEC.
See footnotes on following page.		B-24			

**B. A STANDARD SYSTEM FOR IDENTIFYING AND CODING LAND USE ACTIVITIES -- TWO-, THREE-, AND FOUR-DIGIT LEVELS -- Continued**

**FOOTNOTES**

<sup>4</sup>Code 9220 "Nonreserve forests (undeveloped)" are major forested areas not on a farm, ranch, or large estate with no commercial use made of the trees. It is recognized that other activities such as recreation or the grazing of livestock may also be taking place within these forested areas. However, these types of activities are considered secondary in nature and not coded. Activities such as mining (code 85), permanent camping areas (code 7491), and logging camps (code 2410), located within these forested areas should be separately identified.

<sup>5</sup>Code 9320 "Lakes" include permanent lakes (natural or manmade) with a minimum size of 1 acre. Impounded surface water areas used for storage should be identified as "Water storage," code 4833.

<sup>6</sup>Code 9510 "Residential facilities under construction" are considered to be completed when all exterior windows and doors are installed and the usable floors are in place. If construction has not reached this point, the parcel should be identified as "Under construction (residential)," code 9510.

<sup>7</sup>Code 9520 "Under construction (nonresidential)" is used only if

~~production, but because of their designation for recreational activity there is no means of identifying the activity or activities that will they should be identified and coded as "Parks" (code 76). occupy the structure when it is completed.~~

(Source: Amended at 30 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

TITLE 35: ENVIRONMENTAL PROTECTION  
SUBTITLE H: NOISE  
CHAPTER I: ILLINOIS POLLUTION CONTROL BOARD

PART 910  
MEASUREMENT PROCEDURES FOR THE ENFORCEMENT  
OF 35 ILL. ADM. CODE 900 & 901

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AUTHORITY: Implementing and authorized by Sections 25 and 27 of the Environmental Protection Act [415 ILCS 5/25 and 27]

SOURCE: Adopted at 30 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_.

Section 910.100      General

This Part specifies the instrumentation to be used when conducting acoustical noise measurements and sets forth the specific acoustical measurement techniques to be employed when conducting time-averaged sound level ( $L_{eq}$ ) measurements. The instrumentation requirements and measurement techniques as more specifically set forth in this Part must be used in determining whether a noise source is in compliance with 35 Ill. Adm. Code 900 and 901.

## Section 910.102      Instrumentation

## a)      Sound Measuring Equipment

- 1)      An integrating sound level meter used alone or used in conjunction with an octave-band or 1/3 octave-band filter set or a real-time sound analyzer (octave-band or 1/3 octave-band) must conform with the following standards incorporated by reference at 35 Ill. Adm. Code 900.106:
  - A)      ANSI S1.4 – 1983 (R2001) “American National Standard Specification for Sound Level Meters”, and ANSI S1.4 A-1985 “Amendment to ANSI S1.4-1983.”
  - B)      ANSI S1.11 - 1986 (R1998) “American National Standard Specifications for Octave-Band and Fractional-Octave-Band Analog and Digital Filters.”
  - C)      ANSI S1.6 – 1984 (R2001) “American National Standard Preferred Frequencies, Frequency Levels, and Band Numbers for Acoustical Measurements.”
  - D)      ANSI S1.8 - 1989 “American National Standard Reference Quantities for Acoustical Levels.”
  - E)      International Electrotechnical Commission, IEC 804-2000 Integrating/Averaging Sound level meters.
- 2)      A magnetic tape recorder, graphic level recorder or other indicating device used must meet the requirements of the Society of Automotive Engineers (SAE) Recommended Practice J184 “Qualifying a Sound Data Acquisition System,” November 1998, incorporated by reference at 35 Ill. Adm. Code 900.106
- 3)      The laboratory calibration of instrumentation used for acoustic measurement must be traceable to the National Bureau of Standards, and must be performed no less often than once every 12 months.
- 4)      For outdoor measurement, a windscreen must be attached to the microphone.

## b)      Weather Measuring Equipment

- 1)      An anemometer and compass or other devices must be used to measure wind speed and direction in accordance with the manufacturer's recommended procedures.

- 2) A thermometer, designed to measure ambient temperature, must be used in accordance with the manufacturer's recommended procedures.
- 3) A hygrometer must be used in accordance with the manufacturer's recommended procedures to measure the relative humidity.
- 4) A barometer must be used in accordance with the manufacturer's recommended procedures to measure the barometric pressure.

#### Section 910.103 Definitions

The definitions contained in 35 Ill. Adm. Code 900.101 apply to this Part.

#### Section 910.104 Measurement Techniques for 35 Ill. Adm. Code 900

Sound pressure level measurements are not required to establish a violation of 35 Ill. Adm. Code 900.102 (nuisance noise). However, sound pressure level measurements may be introduced as corroborating evidence when alleging a violation of 35 Ill. Adm. Code 900.102. If sound pressure level measurements are collected, manufacturer's instructions must be followed for the equipment used and 35 Ill. Adm. Code 910.105 may be used as guidance in gathering data.

#### Section 910.105 Measurement Techniques for 35 Ill. Adm. Code 901

Sound pressure level measurements must be obtained in accordance with the following measurement techniques to determine whether a noise source is in compliance with 35 Ill. Adm. Code 901:

- a) Site Selection
  - 1) Measurements may be taken at one or more microphone positions within the appropriate receiving land. Measurement instruments must be set up outdoors within the boundaries of the receiving land for the purpose of determining whether a noise source is in compliance with 35 Ill. Adm. Code 901.
  - 2) Measurement instruments must be set up not less than 25 feet (7.6 meters (m)) from the property-line-noise-source. The 25-foot (7.6 m) setback requirement is from the noise source and not the property line unless the noise source is contiguous to the property line.
  - 3) Other measurement locations may be used for investigatory purposes such as, but not limited to, the following:
    - A) Determining the extent of noise pollution caused by the source of sound;
    - B) Determining the ambient; and

- C) Analyzing those acoustical parameters that describe the sound source.
- 4) For measurements of sound sources with no audible discrete tones, microphones should not be set up less than 25 feet (7.6 m) from any reflective surface that may affect data. If measurements must be taken within 25 feet (7.6 m), the effect, if any, of the reflective surface on the measured data must be determined.
  - 5) For measurements of sound sources with audible discrete tones, microphones must not be set up less than 50 feet (15.2 m) from any reflective surface that may affect data. If measurements must be taken within 50 feet (15.2 m), the effect, if any, of the reflective surface on the measured data must be determined.
  - 6) Objects with small dimensions (trees, posts, bushes, etc.) must not be within 5 feet (1.5 m) of the microphone position. If measurements must be taken within 5 feet (1.5 m) of such objects, the effect, if any, on the measured data must be determined.
- b) Instrumentation Set Up
- 1) A tripod must be set at the chosen site. The tripod must be extended to a height between 3 feet 8 inches (1.12 m) and 4 feet 10 inches (1.47 m) above ground.
  - 2) A microphone must be attached to the appropriate end of a 5-foot (1.5 m) or longer cable and must be affixed to the top of the tripod. The other end of the cable must be connected to the measuring instrument.
  - 3) The angle of incidence of the microphone must be adjusted to yield the flattest frequency response in accordance with the manufacturer's specifications.
  - 4) The measuring instrument must be separated from the microphone so as to minimize any influence on the measurements. The cable movement must be minimized during the measurement period.
- c) Measurement Site Operation and Instrument Calibration
- 1) Before taking sound pressure level measurements, measure and record (near the measurement site):
    - A) Wind speed and direction;

- B) Ambient temperature;
  - C) Relative humidity; and
  - D) Barometric pressure.
- 2) Turn the measuring instrument on and allow the instrument to stabilize. Monitor and record the battery condition of the calibrator and all measuring instruments.
  - 3) Turn the calibrator on at its appropriate frequency. Allow the calibrator to stabilize and calibrate the measuring system according to the manufacturer's specifications. After the measuring system has been calibrated, remove the calibrator and attach a windscreen to the microphone.
  - 4) Adjust the microphone to the angle of incidence that will yield the frequency response in accordance with the manufacturer's specifications.
  - 5) Measure the sound pressure level data within the limitations of subsection (d) and according to the manufacturer's recommended procedures. Other sound pressure levels may be used for investigatory purposes such as, but not limited to, the following:
    - A) Determining the extent of noise pollution caused by the source of sound;
    - B) Determining the ambient; and
    - C) Analyzing those acoustical parameters that describe the sound source.
  - 6) While sound measurements are being taken, the operator must be separated from the microphone so as to minimize any influence on the measurements.
  - 7) While measurements are being taken, visual and aural surveillance of extraneous sound sources and varying wind conditions must be made to insure that the conditions of measurement are accurately known. Record any variations in these parameters that may affect data. The number and basis for affected data block must be recorded. When using a tape recorder, voice commentary concerning conditions will be recorded on the cue track.

- 8) To minimize wind effects on the microphone, sound measurements must not be taken when the wind velocity is greater than 12 miles per hour (5.4 m/second) at the microphone position.
- 9) For the purposes of data correction, the ambient sound at the measurement site must be determined by means of measurement or analysis.
- 10) After taking sound pressure level measurements, remove the windscreen and attach the calibrator to the microphone. Turn the calibrator on at its appropriate frequency. After allowing the calibrator to stabilize, monitor and record the measuring system response. When the measuring system response varies by more than  $\pm 0.5$  dB from the most recent field calibration, the sound pressure level measurements obtained since such most recent field calibration cannot be used for enforcement purposes.
- 11) Before removing the calibrator from the microphone, turn the calibrator off. If the ambient sound has not been determined by means of measurement, determine the noise floor of the measuring system. If the noise floor is within 10 dB of the measured sound pressure level data, such noise floor measurements must be recorded.
- 12) At the end of the sound survey, monitor and record the battery condition of the calibrator and all measuring instruments. Near the measurement site, measure and record:
  - A) Windspeed and direction;
  - B) Ambient temperature;
  - C) Relative humidity; and
  - D) Barometric pressure.
- 13) Record the physical and topographical description of the ground surface within the vicinity of the measurement site, survey site location, a description of the sound source, a diagram of the area, the location of reflective surfaces near the microphone, and the approximate location of the noise source relative to the microphone position.
- 14) A magnetic tape recorder may be used to preserve the raw data. Calibration signals must be recorded at the beginning and end of each tape as well as at intermediate times such as when relocating to a new measurement site. Voice commentary concerning local conditions and affected data blocks must be recorded on the cue track. The original tape recording must be preserved for subsequent evaluation. Laboratory analyses may be performed on magnetic tape recorded field data. A

description of the laboratory instrumentation and procedures must be recorded. Analyses used in the laboratory must be correlated to field measurement techniques.

- d) Limiting Procedures for Specific Types of Data Acquisition
- 1) For measurements of non-impulsive sound with audible discrete tones, 1/3 octave-band sound pressure levels must be obtained in determining whether a noise source is in compliance with 35 Ill. Adm. Code 901.106.
  - 2) For measurements of non-impulsive sound with no audible discrete tones, octave-band sound pressure levels must be obtained in determining whether a noise source is in compliance with 35 Ill. Adm. Code 901.102 and 901.103.
- e) Correction Factors

If necessary, correction factors rounded to the nearest 1/2 decibel must be applied to sound pressure level measurements. The correction factors applicable to the measurement system may include, but are not limited to, corrections for windscreen interference and the sound pressure level difference between consecutive field calibrations. Such calibration correction factors must only be used to make negative corrections (subtraction from the field data). In no case must such calibration correction factors be added to the measured sound pressure levels so as to raise the sound pressure level field data. The correction factors applicable to the measurement site may include, but are not limited to, corrections for reflective surfaces and ambient sound.

#### Section 910.106      Protocols for Determination of Sound Levels

- a) The raw data collection procedures for the determination of equivalent continuous sound pressure level ( $L_{eq}$ ) are described in this Section using as an example the determination of a 1-hour  $L_{eq}$  corrected for ambient. The following procedures must be used:
- 1) Using small blocks:
    - A) The 1-hour interval is divided into many small blocks of time so that corruption of the data from short-term background transient sound and loss of data can be limited to the corrupted or bad blocks. The block duration in seconds must remain fixed for any measurement hour. The duration must be neither less than 10 seconds nor greater than 100 seconds. For example, if the block duration is chosen to be 60 seconds (1 minute), then the data collection proceeds for 60, 1-minute periods of measurement.

- B) The collected data for each block represents a block duration  $L_{eq}$  (or sound exposure level (SEL)) in octave-bands (or 1/3 octave-bands if prominent discrete tones may be present).
- C) Data for any block corrupted by one or more short-term background transient sounds must be deleted.
- D) After deleting corrupted data blocks, there will be a fixed number of “good” data blocks remaining. This number is designated as  $N_{PLNS}$ , where PLNS stands for Property-Line-Noise-Source. These remaining “good” blocks must be numbered consecutively. The subscript  $i$  is used to denote the numbering of the blocks in time order after corrupted data blocks have been deleted.
- E) The data for the  $N_{PLNS}$  remaining blocks are time averaged on an energy basis by octave (or 1/3 octave-band) using Equation 1 below. In this equation, two subscripts are used,  $i$  to designate time and  $j$  to designate the specific frequency, either an octave-band or 1/3 octave-band. The raw, 1-hour  $L_{eq}$  in the  $j$ th frequency band is given by:

$$L_{eqj} = 10 \log \left( \frac{1}{N_{PLNS}} \sum_{i=1}^{N_{PLNS}} 10^{\left( \frac{L_{eqij}}{10} \right)} \right) \quad \text{[Equation 1]}$$

where  $L_{eq}$  is the  $L_{eq}$  in the  $j$ th frequency band for the  $i$ th non-deleted data block.

- F) In terms of SEL, the raw SEL in the  $j$ th frequency band is given by:

$$SEL_j = 10 \log \left( \sum_{i=1}^{N_{PLNS}} 10^{\left( \frac{SEL_{ij}}{10} \right)} \right) \quad \text{[Equation 2]}$$

- G) The raw, 1-hour  $L_{eq}$  in the  $j$ th frequency band is given in terms of the corresponding  $SEL_j$  by:

$$L_{eqj} = SEL_j + 10 \log \left( \frac{3600}{N_{PLNS} \Delta T} \right) \quad \text{[Equation 3]}$$

Where  $T$  is the block duration in seconds,  $N_{PLNS}$  is the number of non-discarded data blocks, and 3600 is the number of seconds in an hour.

- 2) Continuous Data Collection:

- A) The measuring instrument must be adjusted to continuously measure sound pressure and accumulate  $L_{eq}$  for each block of time. For convenience, the hour may be split into several smaller blocks such as 10, 6-minute blocks or 4, 15-minute blocks, etc.
- B) A switch on the measuring instrument must be available to inhibit data collection whenever a short-term background transient sound occurs. This switch shall be used to prevent short-term background ambient sounds from corrupting the data.
- C) Data collection must proceed for one hour. The energy average of the several measured  $L_{eqij}$  each weighted by the number of seconds actually accumulated during the  $i$ th block results in the raw, 1-hour  $L_{eq}$  in each frequency band given by:

$$L_{eqi} = 10 \log \left( \frac{1}{T_{PLNS}} \sum_{i=1}^{N_{PLNS}} T_i 10^{\left( \frac{L_{eqij}}{10} \right)} \right) \quad [\text{Equation 4}]$$

Where  $L_{eqij}$  is the  $L_{eq}$  in the  $j$ th frequency band for the  $i$ th large block.  $T_i$  is the actual number of seconds of “good” data accumulated in the  $i$ th block of time (e.g., 6 to 15 minutes); and

$$T_{PLNS} = \sum_{i=1}^{N_{PLNS}} T_i \quad [\text{Equation 5}]$$

3) Minimum data collection requirements:

- A) Initial Measurement Duration. The property-line-noise-source measurements must proceed initially for one hour. Because of correction for short-term background transient sounds, actual reported data collection time  $T$ , in seconds, may be less than 3600 seconds (one hour).
- i) If small blocks of data are used for data collection, then the total measurement duration in seconds,  $T_{PLNS}$ , is given by  $N_{PLNS} T$ , where  $T$  is the length of each block in seconds and  $N_{PLNS}$  is the number of non-discarded blocks. If data inhibition is used for data collection, then  $T_{PLNS}$  is the number of non-inhibited seconds during the measurement hour. In either case,  $T_{PLNS}$  must be no less than 900 seconds.

- ii) If very few blocks were used for data collection, then the duration of each block,  $T$ , may be too long and should be reduced.
  - iii) For either data collection method, sounds considered to be short-term transient may actually be part of the long-term background ambient and should be so redefined.
- B) Extended Measurement Duration. If  $T_{PLNS}$  is less than 900 seconds during the first hour of measurements, the raw data collection procedures must be appropriately modified and new measurements must proceed for an additional hour. If  $T_{PLNS}$  after combining the first and the second hour of measurements is also less than 900 seconds, then the raw data collection must continue using the data inhibition method or method employed during the second hour until  $T_{PLNS}$  is greater than or equal to 900 seconds.
- 4) Correction for Long-Term Background Ambient Sound:
- A) The raw 1-hour  $L_{eq}$  must be corrected for long-term background ambient sound. The subsection below describes methods to obtain the long-term background ambient sound level in the  $j$ th frequency band. The correction is dependent on the difference (in decibels) between the raw, 1-hour,  $j$ th band property-line-noise-source:  $L_{eqj}$  and corresponding  $j$ th band long-term background ambient sound level. The correction to be applied is as follows:
- i) If the difference between the raw 1-hour  $L_{eq}$  and the long-term background ambient sound is larger than 10 decibels, then the correction must be set to 0.
  - ii) If the difference between the raw 1-hour  $L_{eq}$  and the long-term background ambient sound difference is less than 3 decibels, then the  $j$ th frequency-band level,  $L_{eqj}$ , must be set equal to 0.
  - iii) If the difference between the raw 1-hour  $L_{eq}$  and the long-term background ambient sound is between 3 and 10 decibels, then the correction given in Table 1 below must be subtracted from the raw, 1-hour property-line-noise-source  $L_{eqj}$

Table 1  
Corrections in dB for long-term  
background ambient sound

Difference (dB)	Correction (dB)
3	3
4	2.3
5	1.7
6	1.3
7	1.0
8	0.7
9	0.6
10	0.5

- B) The long-term background ambient corrected level must be the property-line-noise-source  $L_{eqj}$  reported for the  $j$ th frequency band.
- b) Obtaining the background ambient sound level:
- 1) The background ambient must be measured for the purposes of this Section during a 10-minute interval.
  - 2) Long-term background ambient measurement procedures are similar to procedures to measure the property-line-noise-source itself. Eliminating short-term background ambient transient sounds from the measurement of average long-term background ambient sound proceeds in a manner similar to the measurement of the property-line-noise-source emissions themselves. The two methods for measurement are: to divide the 10-minute measurement into short blocks of data, or inhibit data collection when short-term background transient sounds occur. The same method must be used for gathering both the property-line-noise-source data and the corresponding long-term background ambient data. The measurement procedures for each method are given in subsections (b)(3), (b)(4) and (b)(5) of this Section:
    - 3) Using Small Blocks of Data
      - A) The 10-minute measurement of long-term background ambient must be divided into short measurement blocks. The duration of these blocks must remain constant during the entire measurement, both when measuring the long-term background ambient and when measuring the property-line-noise-source. The duration of this measurement block in seconds,  $T$ , must divide exactly (without remainder) into 600 and must be neither greater than 100 seconds nor less than 10 seconds.
      - B) All data for any measurement block corrupted by one or more short-term ambient transient sounds must be discarded. The

number of remaining, non-discarded measurement blocks is designated  $N_{BA}$ , where  $BA$  stands for background ambient.

- C) The  $L_{eq}$  for each octave-(or 1/3 octave-) band are time-averaged on an energy basis over the  $N_{BA}$  remaining measurement blocks to obtain average long-term background ambient  $L_{eq}$  per band. Equation 1 (see subsection (a) (1) (E) of this Section) is used for this calculation with  $N_{BA}$  replacing  $N_{PLNS}$  as the number of elemental blocks to be summed. The total duration of the measurement in seconds,  $T_{BA}$ , is given by  $N_{BA}$  multiplied by  $T$ .
- 4) Continuous Data Collection
- A) The measuring instrument must be adjusted according to manufacturer's instructions to continuously measure sound pressure and accumulate (i.e. record)  $L_{eq}$ . A switch must be available to inhibit data collection whenever a short-term background transient sound occurs, (and on some instruments, a button may be available to delete the most recent, previous data).
- B) The switches or buttons must be used to prevent short-term background ambient sounds from corrupting the data.
- C) Data collection must proceed for 10 minutes. The result is the 10-minute, long-term background ambient  $L_{eq}$  in each band.
- D)  $T_{BA}$  is the number of non-inhibited measurement seconds during the 10-minute measurement period.
- 5) The minimum duration, for either method,  $T_{BA}$  must be no less than 150 seconds. If  $T_{BA}$  is less than 150 seconds, then the measurement of the long-term background ambient must continue beyond the original 10 minutes and until  $T_{BA}$  for the total long-term background ambient measurement is greater than or equal to 150 seconds.
- 6) Measurement Alternatives. The long-term background ambient noise should ideally be measured at the potential violation site just before measurement of the property-line-noise-source emissions. However, turning off the property-line-noise-source may not always be possible. The following are a hierarchical order of five procedures for obtaining the long-term background ambient noise. The first four procedures involve direct measurement; the fifth procedure provides for use of tables of values obtained from extensive measurements. These are not equivalent procedures but are ordered from what is considered to be the most accurate to what is considered to be the least accurate procedure.

- A) Direct Measurement Procedure –1: With the property-line-noise-source (PLNS) turned off, measure the long-term background ambient noise within the hour before or within the hour after measurement of the PLNS emissions at the location where the PLNS measurements are being taken and with the measurement equipment used for the PLNS measurements.
- B) Direct Measurement Procedure-2: With the PLNS turned off, measure the long-term background ambient during a similar time period in terms of background ambient sound level, within one to 24 hours before, or within one to 24 hours after measurement of the PLNS emissions at the location where the PLNS measurements are being taken and with the measurement equipment used for the PLNS.
- C) Direct Measurement Procedure- 3: With the PLNS turned off, measure the long-term background ambient during some other acoustically similar period within one to 30 days before, or within one to 30 days after measurement of the PLNS emissions. This alternate long-term background ambient measurement time might be a Saturday night or anytime during a Sunday or holiday. The measurements would be made at the location where the PLNS measurements are being taken and with the measurement equipment (or like equipment) used for the PLNS measurement.
- D) Direct Measurement Procedure-4: With the PLNS turned off, measure the long-term background ambient noise during some other acoustically similar period within 30 to 90 days before, or within 30 to 90 days after measurement of the PLNS emissions. These measurements would be made at the location where the PLNS measurements are being taken and with the measurement equipment (or like equipment) used for the property-line-noise-source measurements.
- E) Tables of Long-Term Background Ambient Noise. Where none of the alternatives can be used, use the applicable long-term background ambient data taken from Tables A through D in Appendix A of this Part. These tables are organized by predominant land use and time of day (daytime or nighttime). There are separate tables for octave- and 1/3- octave-bands. The background environments presented in the table are based on extensive measurements conducted in the Chicago area and are divided into the five categories given below in accordance with G.L. Bonvallet, “Levels and Spectra of Traffic, Industrial, and Residential Area Noise,” *Journal of the Acoustical Society of America*, 23 (4), pp 435-439, July 1951; and Dwight E. Bishop and

Paul D. Schomer, Handbook of Acoustical Measurements and Noise Control, Chapter 50, Community Noise Measurements, 3<sup>rd</sup> Edition, Cyril M Harris, Editor, McGraw-Hill Book Co., New York (1991).

- i) Category 1: Noisy Commercial and Industrial Areas. Very heavy traffic conditions, such as in busy downtown commercial areas, at intersections of mass transportation and other vehicles, including the Chicago Transit Authority trains, heavy motor trucks and other heavy traffic, and street corners where motor buses and heavy trucks accelerate.
- ii) Category 2: Moderate Commercial and Industrial Areas, and Noisy Residential Areas. Heavy traffic areas with conditions similar to subsection (b)(6)(E)(i) of this Section but with somewhat less traffic, routes of relatively heavy or fast automobile traffic but where heavy truck traffic is not extremely dense, and motor bus routes.
- iii) Category 3: Quiet Commercial and Industrial Areas, and Moderate Residential Areas. Light traffic conditions where no mass transportation vehicles and relatively few automobiles and trucks pass, and where these vehicles generally travel at low speeds. Residential areas and commercial streets and intersections with little traffic comprise this category.
- iv) Category 4: Quiet Residential Areas. These areas are similar to Category 3 in subsection (b)(6)(E)(iii) of this Section but, for this group, the background is either distant traffic or is unidentifiable.
- v) Category 5: Very Quiet, Sparse Suburban or Rural Areas. These areas are similar to Category 4 subsection (b)(6)(E)(iv) of this Section but are usually in unincorporated areas and, for this group, there are few if any near neighbors.

Section 910.107      Measurement Techniques for Highly-Impulsive Sound Under 35 Ill. Adm. Code 901.104.

- a) Measurement of highly-impulsive sound under 35 Ill. Adm. Code 901.104 can be made in two distinct and equally valid ways, namely the general method and the controlled test method.

- b) General Method: The general method is to measure the 1-hour, A-weighted  $L_{eq}$  (not the octave- or 1/3 octave-band levels) using essentially one of the two procedures described in Sections 910.105 and 910.106.
- 1) The procedure using small blocks of time to collect data is as follows:
    - A) The hour must be divided into small blocks and the A-weighted  $L_{eq}$  must be measured for each of these small blocks of time.  $L_{eq}$  must be measured for the entire hour but data collection must be inhibited whenever a short-term background transient sound occurs.
    - B) The duration of each block must be held constant during the hour. This duration in seconds must divide exactly into 900 and must be neither greater than 100 seconds nor less than 10 seconds.
    - C) The data for any block corrupted by one or more short-term background ambient sounds must be discarded.
  - 2) The continuous data collection procedure is as follows:
    - A)  $L_{eq}$  must be measured for the entire hour.
    - B) Data collection must be inhibited whenever a short-term background transient sound occurs.
  - 3) Correction for the long-term background ambient must be accomplished using all of the other procedures and requirements enumerated in Sections 910.105 and 910.106. These requirements must be complied with to determine an A-weighted, 1-hour, background-ambient-corrected  $L_{eq}$  for the highly impulsive property-line-noise-source under study.
- c) Controlled Test Method: For this method, the following procedures must be used:
- 1) General Measurement Description
    - A) The sound exposure per impulse from each separate individual impulsive source is measured.
    - B) The total sound exposure per hour from each source is the sound exposure per event multiplied by the number of events per hour.
    - C) The grand total sound exposure (SE) per hour is the sum of the sound exposures per hour from each of the separate individual sources.

- D) The reported SEL is obtained from the grand total sound exposure (SE) per hour using the following:

$$\text{SEL} = 10 \log (\text{SE}) + 94 \quad \text{[Equation 7]}$$

- E) The equivalent level,  $L_{\text{eq}}$  corresponding to a SEL measured or predicted for one hour (3600 seconds) is given by:

$$L_{\text{eq}} = \text{SEL} - 10 \log (3600) \quad \text{[Equation 8]}$$

- 2) Determination of sound exposure per event must be as follows:

- A) The sound exposure per event from each, separate, individual source must be determined by measuring the total A-weighted sound exposure for about 10 repetitions of this source. This set of about 10 measurements may be performed continuously over a short period of time, or this set of measurements may be performed over a discontinuous set of measurement periods. In either case, the total measurement duration must be less than 100 seconds.
- B) These separate, individual property-line-noise- source controlled measurements must be free of any short-term ambient sounds. If any short-term background transient sounds occur during these measurements, then the measurement must be repeated until measurement data, free of any corrupting short-term background ambient sounds, are obtained.
- C) The total measured A-weighted sound exposure for this group of about 10 repetitions must be corrected for long-term background ambient by subtracting the A-weighted long-term background ambient sound exposure. The sound exposure value subtracted must be the long-term A-weighted background ambient sound exposure per second multiplied by the number of seconds used to measure the several source repetitions.
- D) The reported Source: A-weighted sound exposure per event must be the total corrected sound exposure divided by the number of source repetitions measured.
- E) The background ambient must be measured for a short time, at least 30 seconds as near in time to the source measurements as possible, but within ½ hour. The total A-weighted long-term background ambient sound exposure per second is the total measured long-term background ambient sound exposure divided by the number of seconds of background ambient measurement.

- F) There must be no short-term background ambient sounds present during the measurement of the long-term background ambient. If any short-term background transient sounds occur during these measurements, then the measurements must be repeated until long-term background ambient measurement data free of any corrupting short-term background ambient sound are obtained.

#### 910.APPENDIX A Tables of Long-Term Background Ambient Noise

910.TABLE A. Daytime long-term background ambient  $L_{eq}$  levels in decibels by land use categories and 1/3 octave-band level

Octave-Band Center Frequency (Hz)	Background Category				
	1	2	3	4	5
20	63	56	48	42	36
25	64	57	49	43	37
31	65	58	50	44	38
40	65	58	51	44	38
50	66	59	51	45	39
63	66	59	52	46	40
80	67	60	52	46	40
100	68	60	53	47	41
125	67	59	52	46	40
160	66	59	52	46	40
200	66	58	51	45	39
250	65	58	50	44	38
315	64	57	49	43	37
400	63	55	48	42	36
500	62	54	46	40	34
630	61	53	44	38	32
800	60	51	42	36	30
1000	58	49	40	34	28
1250	56	47	38	32	26
1600	54	45	36	30	24
2000	52	43	33	28	21
2500	50	41	30	25	19
3150	49	39	28	23	17
4000	48	37	25	20	15

5000	46	35	23	18	13
6300	44	33	21	16	10
8000	43	31	19	14	8
10,000	41	29	17	12	6
12,500	39	27	15	10	4

## 910. APPENDIX A Tables of Long-Term Background Ambient Noise

910.TABLE B. Nighttime long-term background ambient  $L_{eq}$  levels in decibels by land use categories and 1/3 octave-band level

Octave-Band Center Frequency (Hz)	Background Category				
	1	2	3	4	5
20	53	48	43	37	31
25	54	49	44	38	32
31	55	50	45	39	33
40	55	50	46	39	33
50	56	51	46	40	34
63	56	51	47	41	35
80	57	52	47	41	35
100	58	52	48	42	36
125	57	51	47	41	35
160	56	51	47	41	35
200	56	50	46	40	34
250	55	50	45	39	33
315	54	49	44	38	32
400	53	47	43	37	31
500	52	46	41	35	29
630	51	45	39	33	27
800	50	43	37	31	25
1000	48	41	35	29	23
1250	46	39	33	27	21
1600	44	37	31	25	19
2000	42	35	28	23	16
2500	40	33	25	20	14
3150	39	31	23	18	12

4000	38	29	20	15	10
5000	36	27	18	13	8
6300	34	25	16	11	5
8000	33	23	14	9	3
10,000	31	21	12	7	1
12,500	29	19	10	2	

## 910. APPENDIX A Tables of Long-Term Background Ambient Noise

910.TABLE C. Daytime long-term background ambient  $L_{eq}$  levels in decibels by land use categories and octave-band level

Octave-Band Center Frequency (Hz)	Background Category				
	1	2	3	4	5
31	70	63	55	49	43
63	71	64	57	51	45
125	72	64	57	51	45
250	70	63	55	49	43
500	67	59	51	45	39
1000	63	54	45	39	33
2000	57	48	38	33	26
4000	53	42	30	25	20
8000	48	36	24	19	13

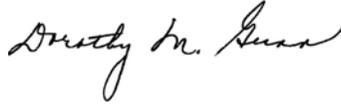
## 910. APPENDIX A Tables of Long-term Background Ambient Noise

910.TABLE D. Nighttime long-term background ambient  $L_{eq}$  levels in decibels by land use categories and octave-band level

Octave-Band Center Frequency (Hz)	Background Category				
	1	2	3	4	5
31	60	55	50	44	38
63	61	56	52	46	40
125	62	56	52	46	40
250	60	55	50	44	38
500	57	51	46	40	34
1000	53	46	40	34	28
2000	47	40	33	28	21
4000	43	34	25	20	15
8000	38	28	19	14	8

IT IS SO ORDERED.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, certify that the Board adopted the above opinion and order on January 19, 2006, by a vote of 4-0.

A handwritten signature in cursive script that reads "Dorothy M. Gunn".

Dorothy M. Gunn, Clerk  
Illinois Pollution Control Board