

#2785 6/30/10 Withdrawn

**Final Regulation is too large
to scan as one document. The
regulation has been broken
down and scanned into five
separate parts.**

Regulatory Analysis Form

(Completed by Promulgating Agency)



IRRC

Independent Regulatory Review Commission

SECTION I: PROFILE

RECEIVED

JUN 30 2010

3:24pm

INDEPENDENT REGULATORY
REVIEW COMMISSION

(1) Agency:

Pennsylvania Department of Agriculture, Bureau of Dog Law Enforcement

(2) Agency Number:

Identification Number: 2-170

IRRC Number: 2785

(3) Short Title: Commercial Kennel Canine Health Regulation

(4) PA Code Cite: 7 PA Code, Chapter 28a.

(5) Agency Contacts (List Telephone Number, Address, Fax Number and Email Address):

Primary Contact: Special Deputy Secretary Jessie L. Smith Phone: (717) 214-3447 Fax: (717) 346-3301
2301 North Cameron Street Email: jlsmith@state.pa.us
Harrisburg, PA 17110

Secondary Contact: Bureau Director Sue West Phone: (717) 787-4833 Fax: (717) 772-4352
2301 North Cameron Street Email: suewest@state.pa.us
Harrisburg, PA 17110

(6) Primary Contact for Public Comments (List Telephone Number, Address, Fax Number and Email Address) – Complete if different from #5:

(All Comments will appear on IRRC'S website)

(7) Type of Rulemaking (check applicable box):

Proposed Regulation

Final Regulation

Final Omitted Regulation

Emergency Certification Regulation;

Certification by the Governor

Certification by the Attorney General

Regulatory Analysis Form

(8) Briefly explain the regulation in clear and nontechnical language.

The regulation will set standards for Commercial Kennel operations regarding ventilation, auxiliary ventilation, humidity, ammonia and lighting levels and flooring. The ventilation standards are established as required by section 207(h)(7) of the Dog Law. After consultations with engineers and architects that design and build kennel housing facilities, animal scientists from the Pennsylvania State University and veterinarians from the Canine Health Board and the Department (hereafter "experts"), it was determined that the ventilation rates should be measured in cubic feet per minute (CFM) per dog and that the volumetric airflow rate should be at least 100 CFM per dog. This is an objective standard that is easily measured and is based on animal husbandry practices. The air may be re-circulated, but at least 30 CFM must be fresh air. Again, this standard is based on consultations with experts. The ventilation systems must be of a type that physically moves air with a fan. The air must be filtered and filtration shall be by a disposable filter rated at a minimum efficiency reporting value (MERV) of at least 8. The ventilated air must circulate at the height of the dog. Types of auxiliary ventilation that may be used when the kennel temperature rises above 85 degrees Fahrenheit (85 F) are specified. Humidity levels are established, as required by section 207(h)(7) of the Dog Law. The humidity must be kept between 30-70% when temperatures are below 85 F. When temperatures in the kennel facility rise above 85 degrees, humidity levels must be adjusted to achieve a Heat Index value of 85 (85 HI) or lower. A Heat Index value takes into account the temperature and humidity levels to calculate what the temperature of a structure feels like when heat and humidity levels are combined. It is sometimes referred to as the "apparent temperature". The Heat Index value is established based on animal studies and charts, and consultations with experts. The calculation is based on National Weather Service charts and a heat index calculator. When temperatures inside the kennel facility rise above 85 F, the kennel owner is given a four hour window (consistent with the Federal Animal Welfare Act regulations) in which to reduce humidity and/or temperature to achieve a heat index of 85 HI. However, at no time may the heat index in the kennel facility exceed 90 HI. The 90 HI is based on a dog survivability study, which is attached to the comment and response document and referenced in this document, and the Tufts Animal Care and Condition (TACC) Weather Safety Scale. Air conditioning to cool the air is not required, but may be utilized. If used, it must have a capacity of at least 35 BTU per square foot (this was established by the engineers consulted). Ammonia levels are established as required by section 207(h)(7) of the Dog Law. Ammonia levels must be maintained at 15 parts per million or less, measured at the height of the dog. This standard was set based on consultations with experts. Carbon monoxide levels must be monitored with detectors in areas of the kennel facility that use CO emitting devices. The regulation also establishes lighting standards for both natural and artificial light, as required by section 207(h)(8) of the Dog Law. It reiterates the diurnal cycle requirement of the Act and establishes a light level range of 40-60 foot-candles. Again, the lighting levels were determined after consultation with experts, and are consistent with National Institute of Health policies and guidelines related to biomedical and animal research facility design, and Pennsylvania State University's standards for classroom lighting. Based on veterinarian input related to the health of dogs, the type of artificial lighting is required to be "full spectrum" lighting, a light source that most closely simulates the wavelengths of natural sunlight. Finally, the regulation reiterates the flooring requirements of the Dog Law found at section 207(i)(3), approves solid flooring as an option meeting the standards of section 207(i)(3)(i) and, pursuant to authority found in sections 207(i)(3)(iii) and 221(f) of the Dog Law, sets requirements for approval of additional flooring options based on animal husbandry practices to provide for the welfare of dogs. The

Regulatory Analysis Form

regulation approves radiant heating or cooling systems in flooring under certain conditions.

(9) Include a schedule for review of the regulation including:

- A. The date by which the agency must receive public comments: 45 day comment period for Proposed Regulation 9/12/09 through 10/27/09
- B. The date or dates on which public meetings or hearings will be held: public hearing held 10/16/09
- C. The expected date of promulgation of the proposed regulation as a final-form regulation: September, 2010
- D. The expected effective date of the final-form regulation: Immediately upon publication in PA Bulletin
- E. The date by which compliance with the final-form regulation will be required: July 1, 2011
- F. The date by which required permits, licenses or other approvals must be obtained: N/A

(10) Provide the schedule for continual review of the regulation.

The Bureau of Dog Law Enforcement is required to inspect licensed kennels two times each year. The Bureau will continually evaluate if the regulations are effective and will suggest changes or report problems to the Canine Health Board. In addition, the Board has the authority, with regard to flooring, to review and approve new flooring systems that meet the criteria set forth in the Dog Law and the regulations.

SECTION II: STATEMENT OF NEED

(11) State the statutory authority for the regulation. Include specific statutory citation.

The Department establishes and adopts this final-form rulemaking under the Pennsylvania Dog Law (Act)(3 P.S. § 459-101 *et seq.*) and under the specific authority established by sections 221(g) and 902 of the Act (3 P.S. §§ 459-221(g) and 459-902).

The Canine Health Board (Board), created under section 221 of the Dog Law (3 P.S. § 459-221), issued temporary guidelines which were published at 39 *Pennsylvania Bulletin* 310, on January 17, 2009. As required by section 221(g) of the Act (3 P.S. § 459-221(g)), those temporary guidelines were published by the Department as proposed regulations at 39 *Pennsylvania Bulletin* 5315, on September 12, 2009.

Regulatory Analysis Form

More specifically, section 221(f) of the Act (3 P.S. § 459-221(f)), charges the Board and the Department with the duty to determine standards and promulgate regulations to provide for the health and well being of dogs in the specific areas of ventilation, auxiliary ventilation, humidity and ammonia levels, lighting and flooring in commercial kennels, as set forth at sections 207(h)(6), (7) and (8), (i)(3) and 221(f) of the Act (3 P.S. §§ 459-207(h)(6), (7) and (8), (i)(3) and 459-221(f)).

The Department, under its general authority at section 902 of the Act and under the specific duty and authority established at section 221(g) of the Act, hereby creates Chapter 28a (relating to canine health standards for commercial kennels) of Title 7 of the *Pennsylvania Code*.

- (12) Is the regulation mandated by any federal or state law or court order, or federal regulation? Are there any relevant state or federal court decisions? If yes, cite the specific law, case or regulation as well as, any deadlines for action.

There are no court orders or federal law or regulations which mandate this regulation. There are no relevant state or federal court decisions associated with or mandating this regulation. State law does mandate the regulation. The Pennsylvania Dog Law, under the specific authority set forth in the answer to question (11) above, required the Canine Health Board to establish and publish Guidelines setting ventilation, auxiliary ventilation, ammonia and humidity levels standards and lighting requirements. The Department was required to promulgate those Guidelines as proposed regulations. After a public hearing and public comment period, the Department hereby establishes final-form regulations under its general authority at section 902 of the Dog Law and in accordance with the specific mandates of sections 221(g), 221(f), 207(h)(6), (7) and (8) and 207(i)(3) of the Dog Law.

- (13) State why the regulation is needed. Explain the compelling public interest that justifies the regulation. Describe who will benefit from the regulation. Quantify the benefits as completely as possible and approximate the number of people who will benefit.

The regulation is mandated by statute, as set forth in the answers to questions (11) and (12) above. The Pennsylvania General Assembly, through the passage of Act 119 of 2008, specifically sections 207(h)(7) and (8) and 207(i)(3) and the creation of the Canine Health Board by section 221 (3 P.S. §§ 459-207(h)(7) and (8), 459-207(i)(3) and 459-221), required the promulgation of regulations establishing proper ventilation, auxiliary ventilation, ammonia, humidity, lighting and flooring standards for commercial kennels. The criteria were established by the nine member Canine Health Board, comprised of small animal veterinarians. Additional or modified standards have been added to the final-form regulation in response to public comment and in consultation with members of the Board, engineers and architects that design and build dog kennels, animal scientists and Department veterinarians. The General Assembly, in passing Act 119 of 2008 and requiring that such standards be established, evidenced that there is a public interest in protecting the health, safety and welfare of dogs housed in commercial kennels in this Commonwealth. The standards established by the regulation will assure animal husbandry practices are implemented that provide for and improve the welfare of the dogs raised in commercial kennels. In doing so, the regulations will help to insure that the general public, in this state and others, will receive healthier puppies. In addition, it assures a healthier climate for adult and breeding dogs that are kept in commercial kennels their entire lives, which was shown to be a great

Regulatory Analysis Form

public interest before and during the passage of Act 119 of 2008.

(14) If scientific data, studies, references are used to justify this regulation, please submit material with the regulatory package. Please provide full citation and/or links to internet source.

The Canine Health Board (Board) is comprised of nine (9) licensed veterinarians and their education, expertise, background and knowledge was utilized in drafting the guidelines, and they were consulted with regard to the comments received and changes made to the final-form regulation.

A list of individuals consulted and documents reviewed by the Canine Health Board and the Department, including product information, is attached to this regulatory analysis form.

In addition, the Department met with and consulted: 1. Engineers Scott Learned, Owner, Design Learned Inc., Norwich, CT, who specializes in dog kennels, animal shelters and veterinary hospitals; and Rodger Lease, Director of Mechanical Engineering, Paragon Engineering Services, York, PA, who has designed systems for dog kennels and veterinary hospitals; 2. Architect Lucinda A. Schlaffer, AIA, LEED AP, Partner – ARQ Architects, Kittery, ME; 3. Pennsylvania State University professors Dr. Kenneth Kephart and Dr. Robert Mikesell; 4. Canine Health Board veterinarians; 5. Department veterinarians – Dr. Craig Shultz, Director, Bureau of Animal Health and Diagnostic Services, and Dr. Danielle Ward, Bureau of Dog Law Enforcement veterinarian; and 6. Stacy Mason, American Kennel Club Senior Breed Field Representative.

The Department reviewed the transcripts of the six Canine Health Board public meetings related to the Guidelines and reviewed much of the data utilized by the Board to craft the Guidelines.

In addition, the final-form regulation contains a reference to the website and a chart setting forth the proper Heat Index ranges. This information and data comes from the National Weather Service, as set forth specifically in the regulation itself. The Department also consulted and utilized data and information regarding heat index stress for swine, cattle and fowl and a dog survivability study – all supplied by Dr. Karen Overall, VMD, a member of the Canine Health Board – in coming to conclusions on proper humidity levels and ranges to be employed in commercial kennels.

Finally, the comment and response document, which will be available on the Department's website, has information and studies attached that were utilized in clarifying and modifying the final-form regulation.

(15) Describe who and how many will be adversely affected by the regulation. How are they affected?

The regulation is required by statute (3 P.S. §§ 459-207(h)(7), (h)(8), 459-207(i)(3) and 459-221(f)) and is required to set specific standards for ventilation, auxiliary ventilation, humidity, ammonia and lighting. The regulatory standards addressed in this regulation apply to commercial kennels. In 2009, there were 303 licensed commercial kennels in the Commonwealth and 123 of these kennels closed and some of the others converted to noncommercial kennels. There are approximately 114 commercial kennels remaining in 2010, of which approximately 51 are licensed by the United States Department of Agriculture and must comply with the Animal Welfare Act and its attendant regulations at 9 CFR § 3.1 *et seq.* Those regulations already require such kennels to: "...have reliable electric power adequate for

Regulatory Analysis Form

heating, cooling, ventilation, and lighting, and for carrying out other husbandry requirements in accordance with the regulations in this subpart” (9 CFR § 3.1(d)). The federal regulations, like the Dog Law, require kennel owners to maintain a temperature of at least 50 degrees Fahrenheit in the kennel facility, and to cool the kennel in a manner that will not allow the temperature in the kennel facility to rise above 85 degrees Fahrenheit for more than four consecutive hours (9 CFR §§ 3.2(a) and 3.3(a)). In addition, USDA-licensed kennels must provide sufficient ventilation to provide for the health and well-being of the dogs and to minimize odors, drafts, ammonia levels and moisture condensation, and must have lighting that provides a diurnal cycle, is uniformly diffused, not excessive and is bright enough to permit routine inspection and cleaning of the facility, and observation of the dogs (9 CFR §§ 3.2(b)(c) and 3.3(b)(c)). The Dog Law, at sections 207(h)(7) and 207(h)(8), establishes these same basic requirements related to ventilation, auxiliary ventilation, humidity and lighting, and then requires that Canine Health Board and the Department to promulgate regulations setting forth the specific standards for adequate ventilation, auxiliary ventilation, humidity, ammonia and lighting. The Commercial Kennel Canine Health Regulation carries out that duty. In carrying out the duty imposed by the statute, the new regulatory standards will require some commercial kennel owners to make changes to their kennels to assure they meet the ventilation, auxiliary ventilation, humidity, ammonia, and lighting requirements established by the regulation. Depending on the current condition of each kennel and the compliance level of USDA regulated kennels, kennel owners will have to incur costs associated with installing new or upgrading current ventilation systems, fans, filters, dehumidifiers and may have to upgrade auxiliary ventilation devices – which are already required by the current Dog Law regulations at section 21.26 (7 Pa.Code § 21.26). Kennels licensed by USDA and meeting the regulatory standards imposed by USDA will not incur the full costs set forth in detail below, with regard to meeting the ventilation, humidity (cooling under USDA), auxiliary ventilation and lighting standards of this regulation. Where artificial lighting sources are utilized to meet the lighting standards of the regulation, the kennel owners will incur additional costs to upgrade lighting systems to be full spectrum lighting and to meet the foot-candle requirements of the regulation. Flooring requirements are imposed by the Act itself and although the regulations reiterate the standards and set forth requirements for alternative flooring options, they do not impose any costs. The Dog Law itself imposes the flooring costs, at section 207(i)(3) (3 P.S. § 459-207(i)(3)), which establishes the flooring criteria and requires the changes to the flooring systems. The regulations can only expand the type of flooring systems allowed within the scope of the act itself. Therefore, the flooring part of the regulation can have no adverse effect, since the Dog Law statute itself requires the specific changes.

(16) List the persons, groups or entities that will be required to comply with the regulation.
Approximate the number of people who will be required to comply.

As set forth in the answer to question 15, the Act requires these standards to apply to all commercial kennel owners. Commercial kennel owners will be required to comply with the regulatory standards. The regulatory standards are based on expert input and advice and impose proper and minimal ventilation, auxiliary ventilation, humidity, ammonia and lighting criteria to assure proper animal husbandry and the welfare of the dogs. The Department estimates that there are currently 114 licensed commercial kennels in the Commonwealth. Commercial kennels represent about 6% of the total number of kennels regulated by the Department. Nearly all are in 10 of the 67 counties – 47% are in Lancaster County.

Regulatory Analysis Form

SECTION III: COST AND IMPACT ANALYSIS

- (17) Provide a specific estimate of the costs and/or savings to the **regulated community** associated with compliance, including any legal, accounting or consulting procedures which may be required. Explain how the dollar estimates were derived.

Ventilation, auxiliary ventilation, humidity, ammonia and carbon monoxide standards generally - Section 28a.2.:

The final-form regulation provides:

“Kennels and housing facilities ... shall be equipped with circulation equipment that physically moves air with a fan and can provide ventilation, fresh air, circulation, heating, dehumidification and filtration. Such equipment includes: air handlers, roof top units, dehumidifiers, furnaces and unit heaters.”

This final-form regulation builds on existing general standards, found in current law and regulations that commercial kennel owners must already meet. These are not new costs. Costs of heating specifically, and costs of heating fuel, are not included in this analysis because the heat requirement comes from the Dog Law itself - section 207(h)(6) requires that “the ambient temperature in the facility must not fall below 50 degrees F.” (3 P.S. § 459-207(h)(6)) The Dog Law itself also provides in section 207(h)(6) that dogs must be protected from temperature and humidity extremes.

Dog Law ventilation standards:

Section 207(h)(7) requires the Department to promulgate regulations pertaining to proper auxiliary ventilation and ventilation, humidity and ammonia levels. Section 207(h)(7) states, “The Canine Health Board shall determine auxiliary ventilation to provided it the ambient air temperature is 85 degrees F or higher. The relative humidity must be maintained at a level that ensures the health and well-being of the dogs housed therein. The appropriate ventilation, humidity and ammonia ranges shall be determined by the Canine Health Board.” (3 P.S. § 459-207(h)(7)) The Department is mandated to establish standards and techniques to meet them.

Dog Law current regulation standards:

The current Dog Law regulations, which apply to all types of kennels, also set ventilation standards generally in Section 21.26: “Indoor housing facilities for dogs shall be sufficiently ventilated when dogs are present to minimize drafts, odors, ammonia levels and moisture condensation. Ventilation shall be provided by means of windows, doors, vents or air conditioners. Auxiliary ventilation from fans, blowers or air conditioners shall be provided when the ambient temperature is 85° F (29.5° C) or higher. The relative humidity shall be maintained at a level that ensures the health and well-being of the dog housed therein in accordance with generally accepted husbandry practices.” (7 Pa.Code § 21.26). The current regulations also require generally in Section 21.25 that “...kennel temperature shall be maintained at a level to protect the health and comfort of the type of dogs housed.” (7 Pa.Code § 21.25)

Regulatory Analysis Form

USDA Animal Welfare Act & AWA regulation standards:

Approximately 45% of the remaining commercial kennels in Pennsylvania are required to be licensed by the United States Department of Agriculture. These kennels must already comply with the Animal Welfare Act and its attendant regulations at 9 CFR § 3.1 *et seq.*. Those regulations require kennels to: "...have reliable electric power adequate for heating, cooling, ventilation, and lighting, and for carrying out other husbandry requirements in accordance with the regulations in this subpart" (9 CFR § 3.1(d)). The federal regulations, like the Dog Law, require kennel owners to maintain a temperature of at least 50 degrees Fahrenheit in the kennel facility, and to cool the kennel in a manner that will not allow the temperature in the kennel facility to rise above 85 degrees Fahrenheit for more than four consecutive hours (9 CFR §§ 3.2(a) and 3.3(a)). In addition, USDA-licensed kennels must provide sufficient ventilation to provide for the health and well-being of the dogs and to minimize odors, drafts, ammonia levels and moisture condensation, and must have lighting that provides a diurnal cycle, is uniformly diffused, not excessive and is bright enough to permit routine inspection and cleaning of the facility, and observation of the dogs (9 CFR §§ 3.2(b)(c) and 3.3(b)(c)).

General cost estimate:

An average sized commercial kennel housing 100 dogs would have housing facilities of approximately 1500 square feet. The height dimension would range from standard ceiling height to barn height. Pursuant to the minimum primary enclosure size set by section 207(i)(1) of the Dog Law (3 P.S. § 459-207(i)(1)), an average (24" from tip of nose to base of tail) dog must have at least 12.5 square feet of indoor space. Adding in 20% additional space for walkways and area immediately surrounding the primary enclosure gives a density of about one dog per 15 square feet, or about 100 dogs in a 1500 square foot area. This necessarily is only an average – some dogs are smaller, bigger, or have more than the minimum required space. The largest commercial kennel class is a CK6, over 500 dogs, but this is a cumulative total of dogs during a year, not at one time. The Department has made its estimates assuming a 1500 square foot kennel with 100 dogs present because this is average or above for both size and number of dogs. Costs for smaller kennels or those with fewer dogs will be less.

Engineers consulted by the Department have set forth estimates to install or retrofit and certify a system meeting the ventilation, auxiliary ventilation and humidity standards of the final-form regulation. Two engineers gave specific cost ranges: Scott Learned, Owner, Design Learned Inc., Norwich, CT, who specializes in dog kennels, animal shelters and veterinary hospitals; and Rodger Lease, Director of Mechanical Engineering, Paragon Engineering Services, York, PA, who has designed systems for dog kennels and veterinary hospitals. The R. S. Means "Building Construction Cost Data 2010" cost estimating guidebook was used as a reference. The price range identified is between \$13-25 per square foot. For a 1500 foot dog kennel, the cost would range from \$19,500-37,500. A system at the low end of this range probably would not include Energy Recovery Ventilators (to minimize heat and cooling loss), and so may cost more to operate given the heating and humidity range limits for kennels. If energy recovery ventilators are installed (which is not mandated) they cost \$2000-3000 per zone, and achieve 20-30% operating cost savings. In general, better systems cost more to build but less to operate. These estimates also assume that there is either no existing mechanical ventilation system, or the existing system is to be completely retrofitted and renovated. The cost estimate would be less for a kennel owner

Regulatory Analysis Form

fine-tuning an existing functional system to meet the specifics of the final form regulation. Kennels licensed by the USDA should already have at least basic cooling, ventilation, auxiliary ventilation and lighting systems that may or may not need to be upgraded to meet the standards of this regulation. For those kennels the cost estimates set forth below should be very much reduced.

The Department, not the regulated community, will purchase the temperature and humidity monitoring devices to be installed in kennels. This decision took into account comments from the regulated community related to both the cost burden and the need for these devices to be uniform. The Department will bear the cost of buying, calibrating, installing and replacing these devices.

Formulation of final form regulation standards:

The final-form regulation builds on current law and regulation to establish specific and objective standards for proper ventilation, as required by the Act itself. Therefore, the standards and costs imposed are a direct result of the duties imposed by the Act itself.

As set forth in detail in the comment and response document, the source document attached to this RAF, and in summary form below under the heading "Summary of background research supporting specific standards of final-form regulation," the Department consulted engineers and architects that build and design kennels, animal scientists from the Pennsylvania State University and veterinarians from the Canine Health Board and the Department, as well as numerous texts, articles and studies, to establish the proper ventilation, humidity and ammonia level ranges and set forth appropriate auxiliary ventilation techniques and standards. Based specifically on consultations with experts including cost projections, the Department has calculated these estimated costs to the regulated community.

Summary of background research supporting specific standards of final-form regulation:

First, the final-form regulation requires that air must be mechanically circulated. The engineers consulted did not believe that proper volumetric air flow rates could be maintained through natural ventilation. Properties such as inverse convection would prevent such air flow from occurring on a continuous basis and at the proper level of air flow to maintain animal health. Second, the final-form regulation allows for air to be re-circulated and requires filtration of such air. The engineers consulted believe that 100% fresh air would be too costly and would not allow for proper humidity or pathogen control. The final-form regulation establishes specific volumetric air flow rates, fresh air recirculation ranges, and proper filtration of re-circulated air. These standards are based on design standards and animal husbandry practices utilized by the engineers consulted and are approved by the animal scientists and veterinarians consulted.

The Department, as required by sections 207(h)(6) and (h)(7) of the Act (3 P.S. §§ 459-207(h)(6) and (h)(7)), also established auxiliary ventilation requirements. The auxiliary ventilation techniques are techniques currently employed in kennels. This information was gathered from engineers, an AKC Senior Breed Field Representative and Department employees including veterinarians, and all techniques were reviewed by the engineers. Nothing in the final-form regulation requires the reduction of temperature to a level of 85 degrees Fahrenheit (as required by the USDA regulations) or the use of air conditioning. Instead, the final form regulation establishes proper humidity ranges, as required by section 207(h)(7) of the Act (3 P.S. § 459-207(h)(7)).

Regulatory Analysis Form

The Department established proper humidity ranges that must be attained and maintained to assure proper animal health and well-being, as required by section 207(h)(7) of the Act (3 P.S. § 459-207(h)(7)). The final-form regulation does not require the reduction of “ambient air temperature”, but instead requires the kennel owner to employ auxiliary ventilation and reduce the heat index to 85 HI, through the use of humidity reduction, when temperatures within the kennel and kennel housing facility rise above 85 degrees Fahrenheit. With regard to the levels established for the Department consulted with engineers and architects that design and build dog kennels, had discussions with veterinarians - including Department and Canine Health Board veterinarians - and with animal scientists, such as Drs. Kephart and Mikesell, at the Pennsylvania State University. The results of those discussions were that a humidity range of thirty to seventy percent (30%-70%), when temperatures are at 85 degrees Fahrenheit or below, is normal animal husbandry practice and a proper range to control for disease and assure the health, safety and welfare of dogs confined in kennels. Some of these experts suggested an even narrower range of humidity levels that would have capped out at sixty percent (60%) humidity. The Department, however, chose to utilize the minimum standards.

In addition, as required, the Department sought to ascertain the proper humidity levels and auxiliary ventilations standards that would assure the health, safety and welfare of dogs confined to kennels when temperatures rise above 85 degrees Fahrenheit. Kennel owners and others have asserted in their comments that their kennel buildings can be made to “feel cooler” through the use of additional air circulation/ventilation or the mere increase of fan speed and the amount of air being pulled through the kennel building. However, science does not support such a comment or conclusion. There is however, scientific evidence – related to heat studies and heat index values – which support the humidity requirements set forth in the final-form regulations. The Department, with the assistance of veterinarians and research provided by Dr. Overall of the Canine Health Board, reviewed heat index values for cattle, swine, poultry and humans. Those values show that all of those animals are in a danger zone once temperatures rise above 85 degrees Fahrenheit, if there is no correlated reduction in humidity levels. The reason for this is supported by the physiology of cooling. Humans, cattle and equine cool internal body temperatures by perspiring, which is the most efficient cooling mechanism. Dogs cool their internal body temperatures mostly through panting, with a minimum amount of cooling provided by perspiring through the pads on their feet. However, perspiring or panting in and of itself does not result in the cooling of the body. In order for the cooling effect to occur the perspiration or moisture on the tongue of the dog has to be evaporated. On a humid day or in a humid environment the high moisture level in the air makes the evaporative process less efficient or non-existent and the dogs’ internal body temperature continues to rise. A cooling effect cannot be provided simply by increasing the amount of humid air flowing over the body of a dog or any other animal. Pulling moist, humid air over the body does not and will not allow for the evaporation of perspiration and therefore will not cool. Thus when temperatures rise above 85 degrees, humidity levels must be controlled in order to attain a heat index value that will assure the health, safety and welfare of dogs confined in kennels. Heat index charts demonstrate that HI standards should be set at a heat index of 85 (85 HI). The heat index charts (attached to the comment and response document) for various species of animals, including humans, evidences that 85 degrees Fahrenheit is where the danger zone begins. A heat index value of 85 HI or less will protect the health and welfare of dogs and other animals. Most dogs – the only possible exception being short haired

Regulatory Analysis Form

breeds in excellent health - can not survive heat index values in excess of 95-98 degrees for more than six hours. The final-form regulation sets standards for humidity based on heat index values and the use of auxiliary ventilation. The Department with the assistance of Canine Health Board member Dr. Karen Overall found - and along with Department veterinarians reviewed - a dog study that established "survivability" levels for confined dogs. The study evidences that beagle dogs, a short haired breed, cannot survive for more than six hours at maximum heat index values of between 100-106 degrees Fahrenheit. The study concludes that the relative humidity values used in the study should be reduced by twenty percent (20%) to assure safety. The maximum heat index value to ensure survivability and safety, the latter requiring the recommended 20% reduction in humidity levels from the study's maximum values, is 95-98 HI. However, this is tempered by the Tufts Animal Condition and Care (TACC) criteria, specifically the TACC Weather Safety Scale, authored by in 1998 by Dr. Gary Patronek, then-Director of the Center for Animals and Public Policy at Tufts University School of Veterinary Medicine and first published in "Recognizing and Reporting Animal Abuse: A Veterinarian's Guide." This widely-used scale, one of several canine assessment tools focused on consequences for the dog, indicates that, even with water and shade available as in a commercial kennel setting, a potentially unsafe situation develops above a 90 degree F temperature, especially for brachycephalic, obese or elderly dogs, as well as dogs under 6 months of age. Although this regulation is based on heat index, regulates relative humidity rather than temperature, and a temperature of over 90 degrees F would be permitted if combined with a relative humidity that would result in a HI of no more than 90, the inclusion of the TACC Weather Safety Scale as a basis for the regulation emphasizes that the standard being set goes beyond survivability to minimize adverse heat-related consequences for dogs in commercial kennels. The survivability study and the TACC Weather Safety Scale are generally acknowledged to be the only two scholarly resources that give specific heat-related guidance applicable to canines.

The final-form regulation therefore allows a 4 hour window (consistent with Federal Animal Welfare regulations) for kennel owners to reduce the humidity levels in their kennels to attain the required heat index value of 85 (85 HI). However, during that 4 hour window, the heat index value must never go above 90 (90 HI). This is the maximum heat index value to ensure survivability and safety, the latter requiring the recommended 20% reduction in humidity levels from the study's maximum values of 95-98 HI, and consideration of the TACC Weather Safety Scale.

In conclusion, the Department's research and discussions support the humidity levels established in the final-form regulation. The humidity levels are necessary and proper for the health, safety and welfare of dogs confined to kennels, as required by the Act. The range or humidity levels established for kennels when the temperature is 85 degrees Fahrenheit or below is within normal animal husbandry practices and is set at the least stringent levels suggested. Humidity levels, heat indexes and the time period of exposure established in the final-form regulation for temperatures exceeding 85 degrees Fahrenheit are supported by scientific research performed on animals with more efficient cooling mechanisms than dogs or are based on scientific research specifically done on dogs. Finally, the engineers and architects consulted believe the requirements established by the final-form regulation are attainable and the Department has set forth the cost estimates below.

Regulatory Analysis Form

The ammonia level established in the final-form regulation is based on consultations and discussions with animal scientists from the Pennsylvania State University, engineers and architects and Department veterinarians. These experts came to a conclusion, based on animal husbandry practices and studies done on captive animals such as swine, that ammonia levels of 15 parts per million (PPM) were appropriate to assure there were no ill effects – such as respiratory and eye problems – on the health of dogs housed in commercial kennels. The Department consulted with engineers and architects related to the ammonia levels established by the final-form regulation and measurement of same. In addition, the Department consulted with veterinarians and animal scientists and did its own research with regard to commonly accepted levels of ammonia in animal operations. The engineers and architects all stated that if kennels were properly ventilated to achieve the air circulation values established in the regulations, then ammonia levels should not be a problem in the kennel. The Act, however, requires the Department to establish the proper ammonia levels for dogs housed in kennels. Discussions with veterinarians and research done by veterinarians on the Canine Health Board affirm that ammonia levels of 20 PPM or higher will cause respiratory and eye irritation and problems in animals. The veterinarians suggested the levels be set at some point below 20 PPM with a consensus that a level of 15 PPM would provide for animal health and welfare and be measurable. Ammonia levels are measured now in the swine industry and can be accurately measured at levels of 15 PPM. The Department's research also indicated that ammonia is a heavy gas and therefore should be measured near the floor of the kennel. The Dog Law does not allow dogs in kennels to be housed in any primary enclosure that is more than 48 inches high for dogs under twelve weeks of age, or more than 30 inches high for dogs over twelve weeks of age. Therefore, the Department concludes that ammonia measurements should be taken at the height of the dogs.

The Department has modified the carbon monoxide requirements of the final-form regulation. The regulation no longer establishes a range, but instead merely requires kennels that utilize a carbon source mechanical device to install carbon monoxide detectors. Examples of this would be generators or heating systems that use carbon-based fuel such as oil or gas. The definition of ventilation in the regulation (which was specifically approved by the engineers consulted) includes, "...replacing air in any space to control temperature and humidity or remove moisture, odors, smoke, heat, dust, airborne bacteria, carbon monoxide, carbon dioxide, and to replenish oxygen." The Department after consulting with engineers, animal scientists and veterinarians, and reviewing comments, determined that carbon monoxide must be monitored to ensure the welfare of the dogs. Carbon monoxide is an odorless and colorless gas that is deadly if there is prolonged excessive exposure. The experts consulted opined that it was necessary – while not establishing ranges – to at least monitor for this deadly gas. The final form regulation includes no set range, but instead requires installation of common, inexpensive carbon monoxide monitoring devices in any commercial kennel that utilizes a carbon monoxide emitting device. The regulation is tailored to apply only to kennels that may have a carbon monoxide build up, and sets an objective standard by requiring common detection devices to be installed.

Specific standards for ventilation and circulation – Section 28.a.2.(f)(1)-(6):

The final-form regulation sets these specific standards for ventilation and circulation:

“(1) General: Ventilation and circulation of air shall be provided and distributed throughout the entire area of the kennel and kennel housing facility, at the required volumetric rates and in the manner required by this chapter in all rooms or areas of the kennel and housing facility where a dog is housed,

Regulatory Analysis Form

kept or present, including primary enclosures.

(2) Circulation and volumetric rates: Minimum circulation rates in each area or room of a kennel and housing facility, including primary enclosures, where a dog is housed, kept or present shall be maintained at all times at a total volumetric airflow of 100 cubic feet per minute (CFM) per dog. Volumetric air flow rates may be required to be increased as set forth in the Auxiliary Ventilation provisions of this Chapter.

(3) Design capacity: The mechanical ventilation equipment employed to physically circulate and move the air shall be designed, rated and able to circulate and move the required volume of air based on the highest total number of dogs held in the kennel and kennel housing facility, including primary enclosures, at any one time and shall do so in a manner meeting all requirements of this section.

(4) Fresh air rates: At least 30 CFM per dog of the circulated air shall be fresh air, the rest may be re-circulated air.

(5) Filtration: Filtration of circulated air shall be by disposable filters rated at a minimum efficiency reporting value (MERV) of 8 or higher.

(i) Evidence of the MERV filtration level shall be the information printed by the manufacturer on the filters.

(ii) At a minimum, filters shall be replaced quarterly in equipment serving areas of the kennel and kennel housing facility, including primary enclosures, that houses dogs.

(6) Design and placement: Ventilation shall provide circulation at the height of the dog, meaning the ventilation system shall be designed and placed in such a manner that each dog is in the moving air stream provided by the ventilation.”

The need to meet each of these requirements – entire area coverage, 100 CFM airflow per dog, calculated based on dog capacity, 30 CFM fresh air, MERV 8 filtration and circulation at dog height - has been factored into the general cost estimate above, so that these requirements do not add to the cost estimate. There is an additional cost for replacing the disposable filters. MERV 8 filters designed to last 90 days cost between \$14-\$20 per dozen at Grainger Industrial Supply, www.grainger.com, which has stores in Berks, Chester and Lancaster Counties and 18 stores statewide. A 1500 square foot kennel would require a filter for each zone, and zones would range in size from 800-1600 feet. This would require 2 filters per quarter, 8 per year at a total annual cost of \$9-\$13.

Auxiliary ventilation generally - Section 28.a.3(a):

The final-form regulation provides:

“(a) General. When temperatures, in any part of a kennel and kennel housing facility where a dog is housed, kept or present, including primary enclosures, rise above 85 degrees Fahrenheit, auxiliary ventilation shall be provided to the dogs in that part of the kennel and kennel housing facility. The auxiliary ventilation shall provide the increased volumetric air flow rates and humidity control required by this chapter and shall be operated in addition to, not in place of, all other ventilation and humidity requirements set forth in this Chapter. Auxiliary ventilation systems may be utilized in the event of a primary ventilation system failure or malfunction.”

The Dog Law itself provides in section 207(h)(7) that auxiliary ventilation is required if the housing temperature rises above 85 degrees F. The general auxiliary ventilation requirement of the final-form regulation mirrors this section of the Dog Law, and also mirrors current regulations applicable to all dog

Regulatory Analysis Form

kennels, See 7 PA Code §21.26 requiring auxiliary ventilation at temperatures above 85 degrees F “from fans, blowers or air conditioners.” So this general requirement imposes no additional costs on kennel owners, since it is neither new nor different

Auxiliary ventilation types – Section 28.a.3(b):

The final-form regulations provide:

“(b) Types of auxiliary ventilation. Auxiliary ventilation devices and techniques may include:

(1) Utilizing fans or air circulation equipment that increases the total volumetric airflow from 100 cubic feet per minute (CFM) per dog to 200 CFM per dog, either by utilizing any additional capacity the current mechanical ventilation system may provide or by adding additional fans or circulating equipment. The proper humidity levels, as established in section 28a.4 of this chapter, shall be maintained at all times.

(2) Providing cooling by moving or circulating air over cool water coils or piping, cooling towers or ice or providing cooling directly to the primary enclosure or space occupied by the dog by a means capable of cooling the enclosure or floor upon which the dog lays or walks, such as piping or coils capable of carrying cool water under or within the flooring system, and at the same time increasing the total volumetric airflow from 100 cubic feet per minute (CFM) per dog to 200 CFM per dog, either by utilizing any additional capacity the current mechanical ventilation system may provide or by adding additional fans or circulating equipment. The proper humidity levels, as established in section 28a.4 of this chapter, shall be maintained at all times.

(3) Air conditioning sufficient to reduce temperature and humidity levels in the kennel to the required levels.

(4) Geothermal systems sufficient to reduce temperature and humidity levels in the kennel to the required levels.”

Option 1, doubling airflow from 100 to 200 CFM per dog, has the negligible associated cost of purchasing fans with two speeds, so that the fans could be turned up to the higher speed to accomplish auxiliary ventilation in this manner.

Option 2, water-based cooling methods in addition to doubling airflow as prescribed by Option 1, would be part of the \$13-\$25 per square foot cost estimate for ventilation and circulation generally. Using ice or pipes with cool water would cost less than \$13 per square foot, but would be a component of a system still requiring fans, fresh air intakes, etc. Using cooling pipes in the floors of kennels was a concern because a moist floor could encourage fungal growth or create the “slippery or slick” surface prohibited by Section 28.a.8(d)(6). Floors cooled with water would have to be monitored to avoid these problems. Cooling towers have an advantage over pipes of not increasing indoor humidity levels - since outdoor air does not enter the building - but have a higher cost. Again, this cost would be part of the \$13-\$25 per square foot estimate.

Option 3, air conditioning, may be the least expensive option. An air conditioning heat pump system would enable the same set of ductwork and compressor, evaporator and fan equipment to provide ventilation, cooling, heating, and dehumidification in a single simple package. This would also be included in the \$13-\$25 per square foot cost range.

Regulatory Analysis Form

Option 4, geothermal systems, is the exception to this range – such a system would cost approximately twice as much to install, approximately \$24-\$50 per square foot depending on extent of wells required. This system would not require fuel, and is estimated to cut utility costs by 50%, so there would be an operational savings.

Humidity levels – Section 28.a.4:

The final-form regulation provides:

“(a) General Standards: A kennel and kennel housing facility, where a dog is housed, kept or present, including primary enclosures shall meet the following humidity levels:

(1) Temperatures below 85 degrees Fahrenheit. When temperatures in the kennel and kennel housing facility, where any dog is housed, kept or present, including primary enclosures, are below 85 degrees Fahrenheit (85 F), relative humidity levels shall be kept between 30% and 70%.

(2) Temperatures above 85 degrees Fahrenheit. When temperatures, in any part of the kennel and kennel housing facility, where a dog is housed, kept or present, including primary enclosures, rise above 85 degrees Fahrenheit (85 F), the relative humidity level shall be reduced to a level that will accomplish a Heat Index value of eighty-five (85 HI) or lower.

(3) Four hour window. Once the temperature in any part of the kennel and kennel housing facility, where a dog is housed, kept or present, exceeds 85 degrees Fahrenheit (85 F), the kennel owner shall have no more than four (4) hours to accomplish a heat index of eighty-five (85 HI) or lower, as required by subparagraph (2) above. At no time - during that four hour time period or at any other time - shall the Heat Index value ever reach or exceed ninety (90 HI) in any area, room or part of the kennel and housing facility, where a dog is housed kept or present, including primary enclosures.

(4) Calculation of Heat Index. The tool that shall be utilized to determine the Heat Index value and thereby the proper humidity levels when temperatures rise above 85 degrees Fahrenheit (85 F) shall be the Temperature and Humidity Index of the National Weather Service or its successor standard. This is also available at the National Weather Service web site located at:

<http://www.hpc.ncep.noaa.gov/html/heatindex.shtml> (An example of the Heat Index values are: 86 degrees F and 40 percent humidity = Heat Index of 85 degrees F; 90 degrees F and 20 percent humidity = Heat Index of 86 degree F)”

The need to meet each of these requirements – 30-70% humidity range if under 85 degrees F, Heat Index of 85 degrees F if over 85 degrees F with four-hour window to achieve, Heat Index above 90 absolutely prohibited - has been factored into the general cost estimate above, so that these requirements do not add to the cost estimate of \$13-\$25 per square foot.

For commercial kennels that hold USDA licenses - those that sell wholesale, about 51 of Pennsylvania's 114 commercial kennels or approximately 45% - the Animal Welfare Act regulatory requirement that temperatures above 85 degrees F must be remedied within a four-hour period already exists. In fact, USDA requires that the temperature be brought down to 85 degrees F (9 CFR § 3.2(a) and 3.3(a)) rather than the more easily achieved 85 HI. It is also a lower standard than the USDA temperature reduction standard, because it allows ambient air temperature in the kennel to be above 85 degrees F so long as the 85 HI humidity level standard is achieved within four hours. Kennels regulated by USDA, that are meeting USDA standards already, should have no additional cost associated with complying with the Heat Index and humidity requirements of these regulations.

Regulatory Analysis Form

Condensation – Section 28.a.4(a)(5):

The final-form regulation provides:

(5) Condensation. Humidity levels, other than during times of cleaning and sanitizing, shall not rise to the level where condensation occurs in any area of the kennel, kennel housing facility or primary enclosures where a dog is housed, kept or present.

This requirement that condensation shall not occur is imposed by the Act. The regulatory language merely mirrors section 207(h)(7) of the Dog Law: “Housing facilities for dogs must be sufficiently ventilated at all times when dogs are present...to prevent moisture condensation.” (3 P.S. § 459-207(h)(7)) So this requirement imposes no additional costs on kennel owners, since it is imposed by the Act and not the regulation.

Temperature and humidity measurements – Section 28.a.4(b):

The final-form regulation provides:

“(b) Measurement and Control Standards:

(1) Temperature and humidity levels shall be measured in each area or room within the kennel and housing facility where a dog is housed, kept or present and shall be measured and recorded by either a humidity gauge and a temperature gauge or by a thermo-hygrometer, which shall be installed in each room of the kennel and housing facility in which a dog is housed, kept or present.

(2) The measuring devices shall be provided by and be the property of the Pennsylvania Department of Agriculture and will meet the following minimum standards:

(i) Will not require hard wiring, and may be operated by batteries.

(ii) Shall store temperature and humidity data on an hourly basis and for a time period of at least six months.

(iii) Shall be rated as accurate to within ½ (.5) Fahrenheit degree.

(5) The humidity gauge and temperature gauge or thermo-hygrometer installed and provided by the Department shall not be tampered with, destroyed, incapacitated, reset or disturbed, including downloading of data, by any person other than a State dog warden or an authorized employee of the Department.”

The Department, not the regulated community, will purchase the temperature and humidity monitoring devices to be installed in kennels. This decision took into account comments by the regulated community related to both cost burden and the need for these devices to be uniform. The Department will bear the cost of buying, calibrating, installing and replacing these devices. There will be no cost to the regulated community for this equipment.

Humidity control devices – Section 28.a.4(b)(3) &(4):

The final-form regulation provides:

(3) Evidence of humidity control devices shall be either dedicated dehumidifiers in each room and area of the kennel and housing facility in which a dog is housed, kept or present or may be air conditioning equipment. The equipment utilized shall have documented dehumidification capability.

(4) If air conditioning is utilized, the cooling capacity shall be at least 35 Btu/hr per square foot (1 ton of

Regulatory Analysis Form

cooling for every 350 square feet) of animal area as demonstrated by nameplate cooling capability on the cooling equipment.

The required devices – either dedicated dehumidifiers or air conditioning equipment with at least 35 BTU/hour per square foot cooling capacity - have been factored into the general cost estimate above, so the need for humidity control devices does not add to the cost estimate of \$13-\$25 per square foot.

Ammonia levels – Section 28.a.5:

The final-form regulation provides:

“(a) Levels: Ammonia levels in all areas and rooms of the kennel and kennel housing facility, where a dog is housed, kept or present, including primary enclosures shall not be greater than 15 ppm (parts per million) except within 30 minutes of the completion of active sanitation of that primary enclosure.

(b) Measurements: Ammonia level measurements shall be taken at the level of the dogs.”

Ammonia levels are controlled by proper volumetric air flow and ventilation systems and have been factored into the general cost estimate above, so ammonia level control does not add to the cost estimate of \$13-\$25 per square foot.

Measurement devices to determine if ammonia levels are being maintained at or below the required levels will cost some additional money, if purchased by the regulated community. Portable ammonia detectors such as Gastec Dosimeter tubes (generically color detector or grab sample detector tubes) cost \$57.25 for 10 tests. These are used by snapping off the pre-scored end of the tube and inserting it into a tube holder. No chart or analysis is needed - the printed calibrated scale on the tube is read for exposure measurement in parts-per-million-hours. However, one hour of exposure is required to determine PPM. Alternative equipment to measure ammonia levels, the BW Gas Alert Extreme Ammonia Detector, would cost \$490 but does not require a test procedure, and hour of exposure, or continual replacement. Ammonia detectors rather than color detector tubes would be used to test ammonia levels, but ether alternative is available to kennel owners, if they chose to utilize such devices. These devices are considered optional because the engineers consulted stated that, with proper ventilation meeting the specific standards of the final-form regulation, ammonia levels will not rise above the 15 ppm level.

Carbon monoxide detectors – Section 28.a.6:

The final-form regulation provides:

“A kennel or kennel housing facility utilizing any carbon monoxide emitting device, shall install and maintain functioning carbon monoxide detectors in each room or area of the kennel and kennel housing facility in which a dog is housed, kept or present. The carbon monoxide detectors shall meet or exceed the UL standard 2034 or the IAS 6-96 standard, or its successor standards.”

Kennel owners may be required to purchase carbon monoxide detectors. Battery-operated First Alert CO detectors cost \$25, or \$30-\$35 for combination with smoke detector. Kidde CO detectors with alarms cost \$42. Approximately 1-2 CO detectors would be required for a 1500 square foot building, at a cost of \$50-\$84.

Regulatory Analysis Form

Certifying ventilation system – Section 28.a.2(b):

The final-form regulation provides:

“The kennel owner shall supply the following information to the Department:

(1) Written Certification under the signature and seal of a professional engineer verifying the professional engineer has inspected the ventilation system to be certified, acknowledging familiarity with the requirements of the Dog Law and this chapter and certifying that the ventilation system of the kennel meets all of the standards and requirements of this section and sections 28a.3 [auxiliary ventilation], 28a.4 [humidity levels], 28a.5 [ammonia levels] and 28a.6 [carbon monoxide detectors] of this Chapter.”

The cost of certification has been factored into the general cost estimate for ventilation, so this requirement does not add to the cost estimate of \$13-\$25 per square foot. If an engineer who did not design or install the ventilation system is retained for the sole purpose of certifying the system, the cost of this consultation is estimated to range from \$600-\$1000 including the written report.

Cost of operation of ventilation system - Section 28.a.2(a):

The final-form regulation provides:

“The kennel owner or operator shall assure the mechanical ventilation system is functional, in operation at all times and meets the standards and requirements of this section. The kennel owner or operator shall also assure the auxiliary ventilation system, humidity control system and carbon monoxide detectors are functional, operational and operated or operating in a manner that meets the standards and requirements of this section and sections 28a.3 [auxiliary ventilation], 28a.4 [humidity levels], 28a.5 [ammonia levels] and 28a.6 [carbon monoxide detectors] of this Chapter.”

This cost analysis has been prepared as if the cost of operation of the ventilation system is a new cost, even though part of this cost already exists, to comply with the Act itself (3 P.S. § 459-207(h)(6) and (h)(7)) and to comply with the requirements of sections 21.25 and 21.26 of the existing Dog Law regulations (7 Pa.Code §§ 21.25 and 21.26). In addition, for the approximately 51 commercial kennels that must comply with federal Animal Welfare Act regulations, they must already. “...have reliable electric power adequate for heating, cooling, ventilation, and lighting and for carrying out other husbandry requirements in accordance with the regulations in this subpart...” (9 CFR § 3.1(d)). Those 51 kennels must already have ventilation and cooling systems and electric power to operate these systems. There is no way to estimate the added cost of the specific requirements of the final-form regulation, as compared to the existing costs of meeting the current general requirements. As a result the estimates set forth in this regulatory analysis form, particularly for USDA-licensed kennels, are higher than the added cost actually imposed on commercial kennels by the final-form regulation.

Cost of operation encompasses two costs: the cost of energizing the ventilation system to run continuously, and the cost of maintenance. An estimate of energy costs was obtained from Michael Koslap, PPL Corporation, the electrical service provider for nearly all of Lancaster County and for the central Pennsylvania counties with commercial kennels. (PECO provides service for the Lancaster County municipalities of Lower Chanceford and Peach Bottom and for Chester County; Metropolitan Edison Corporation provides service for Berks County; and Penelec Company (First Energy Corporation) provides electric service for most other commercial kennels in the Commonwealth).

Regulatory Analysis Form

Estimated energy cost for ventilation - requiring 7500 CFM fans for the assumed 1500 square foot dog kennel with 100 dogs - is \$782 annually, assuming continuous (720 hours per month) operation. The calculation is 5700 kilowatt hours per year times 13.72 cents, the 2010 average G1D (single phase service cost). Three phase service (2010 average GS3) is slightly cheaper, at a cost of 12.51 cents and a total cost under the same assumptions of \$713. Estimated cost for optional air conditioning for the assumed 1500 square foot dog kennel with 100 dogs and an 85 degree F temperature ceiling is \$767 annually. The calculation is 1397 kilowatt hours per month during air conditioning season, estimated to be four months with the system running no more than 504 hours a month, or 5588 kilowatt hours annually times 13.72 cents or \$767; three phase service \$699. The total annual required energy cost for the ventilation system, without air conditioning which is not required although an estimate has been provided for reference, is \$713-\$782.

The Department is aware that electricity for dog kennels is sometimes supplied by a propane generator rather than from a provider power grid. An assumption has been made that the cost of generating electricity in this manner would be equal to or less than the provider's charge for an equivalent amount of electricity.

An estimate of maintenance cost was obtained from Jason Urich, Commercial Service Account Manager, H. B. McClure Company of Harrisburg, a mechanical contractor that does maintenance work on HVAC systems and offers service contracts for these systems. The cost of maintaining such a system without a service contract in place would be approximately \$960 annually, including quarterly filter replacement. With a service contract, this amount may be reduced but no estimate can be given due to the variability of maintenance required.

Cost of malfunction – Section 28.a.2(g):

The final-form regulation provides:

“Mechanical malfunction or failure: In the event of a mechanical system malfunction or failure, the kennel and kennel housing facility shall have windows, doors, skylights, or other openings in the structure that are operable and may be opened to provide natural ventilation and the auxiliary ventilation techniques established in section 28a.3 may be utilized. In the event of a mechanical system malfunction or failure resulting in a failure to meet the requirements set forth in sections 28a.2-28a.5 of this Chapter, the kennel owner shall do all of the following:

(1) Kennel temperatures below 85 degrees Fahrenheit: Take steps to correct the malfunction or failure immediately and restore the kennel housing facility to a condition complying with sections 28a.2-28a.5 of the Chapter within seventy-two (72) hours of the occurrence of the malfunction or failure. If at any time during the seventy-two (72) hour period the temperature in the kennel or kennel housing facility, including the primary enclosures exceeds 85 degrees, the kennel owner shall follow and comply with the requirements of subparagraph (2) of this subsection (28a.2(g)(2) below).

(2) and (3) Kennel temperatures in excess of 85 degrees Fahrenheit: If at any time after the occurrence of a malfunction or failure, the temperature in the kennel housing facility exceeds 85 degrees Fahrenheit, take steps to correct the malfunction or failure immediately and restore the kennel housing facility to a condition complying with sections 28a.2-28a.5 of the Chapter within four (4) hours. If such malfunction or failure cannot be, or is not, corrected such that the kennel housing facility is compliant with sections 28a.2 -28a.5 within four (4) hours of the occurrence of the malfunction or failure,

Regulatory Analysis Form

immediately notify the kennel's veterinarian and consult on the steps to be taken to protect the health and well being of the dogs as well as notify the Department of the steps being taken to address the malfunction or failure and to protect the health and well being of the dogs. If the malfunction or failure occurs after 4:00 p.m. on a weekday or on a weekend the kennel owner shall notify the Department by 9:00 a.m. of the next Department business day.

(4) Upon the occurrence of a malfunction or failure requiring the notification set forth in subparagraph (2) of this subsection (28a.2(g)(2) above), notify the Department of the date and time the kennel and kennel housing facility, including the primary enclosures were restored to compliance with sections 28a.2-28a.5."

The windows and doors needed to provide natural ventilation are already required by the current Dog Law regulations at Section 21.26: "Ventilation shall be provided by means of windows, doors, vents or air conditioners." (7 Pa.Code § 21.26) The service contract and/or maintenance cost to operate the system would include correcting malfunctions.

The only potential additional cost would be the veterinary consult. However, section 207(h)(4.1) of the Act requires kennels to "establish a veterinarian-client-patient relationship" (3 P.S. § 459-207(h)(4.1)). Section 207(h)(5) requires a program of veterinary care, and section 207(i)(7) requires each dog to be examined at least once every six months (3 P.S. §§ 459-207(h)(5) and 459-207(i)(7)). Given the relationship and the routine care requirements, it is not clear that such a consult would result in an additional charge to the kennel owner. If it did, the charge would not exceed \$200.

Lighting generally – Section 28.a.7(a):

The final-form regulation provides:

"(a) General Lighting Standards: Lighting may be provided by natural or artificial light or both. Whether lighting is provided by natural or artificial light or both, the following standards shall be met:

(1) There shall be ample lighting by natural or artificial means to provide sufficient illumination to allow routine inspection of the kennel, housing facility and primary enclosures and observation of the dogs at any time and to assure proper cleaning and good housekeeping practices and for the well-being of the dogs.

(2) Lighting shall be uniformly diffused throughout the kennel and housing facility where a dog is housed, kept or present, including primary enclosures.

(3) All areas of the kennel and housing facility in which a dog is housed, kept or present, including primary enclosures, shall be provided a regular diurnal cycle through natural or artificial light or both.

(4) The lighting range provided during the twelve hour light period of the diurnal cycle shall be forty to sixty (40 to 60) foot candles, or four-hundred thirty to six-hundred fifty (430-650) lux, in all areas and rooms of the kennel and kennel housing facility, including primary enclosures, where a dog is housed, kept or present.

(5) Primary enclosures and other areas of the housing facility in which a dog is housed, kept or present, including primary enclosures, shall be placed or located in a manner that protects each dog from exposure to excessive light."

NOTE: one foot-candle is the equivalent brightness to 10.76 lux.

Regulatory Analysis Form

Much of the general language and requirements found in the final-form regulation (diurnal cycle, uniformly diffused, sufficient illumination to aid in adequate cleaning and inspection, light not excessive) mirrors the language of the Act, at section 207(h)(8) (3 P.S. § 459-207(h)(8)) and therefore the Act not the regulation imposes any costs associated with compliance. In addition, the current Department regulations (7 Pa.Code § 21.27) and Federal Animal Welfare Act regulations and (9 CFR §§ 3.2(c) and 3.3(c)) impose those standards and therefore they do not present new costs.

The Dog Law at Section 207(h)(8) states: "Housing facilities for dogs must be lighted well enough to permit routine inspection and cleaning of the facility and observation of the dogs. Animal areas must be provided a regular diurnal lighting cycle of either natural or artificial light. Lighting must be uniformly diffused throughout housing facilities and provide sufficient illumination to aid in maintaining good housekeeping practices, adequate cleaning and observation of animals at any time and for the well-being of the animals. Primary enclosures must be placed so as to protect the dogs from excessive light."

Section 21.27 of the Dog Law regulations applicable to all kennels contains similar language: "Indoor housing facilities in kennels shall have ample lighting by natural or artificial means. Lighting in indoor housing facilities shall be sufficient to allow observation of the physical condition of the dogs so housed, and to allow observation of the sanitary condition of the indoor housing facility. Dogs housed in these facilities shall be provided a regular diurnal lighting cycle." (7 Pa. Code § 21.27) The sufficient illumination, uniform diffusion, diurnal cycle, and excessive light protection requirements impose no additional costs on kennel owners, since they are neither new nor different than current law. The lighting ranges found in Section 28.a.7(a)(4) are new, consistent with the Dog Law mandate that "the appropriate lighting ranges shall be determined by the Canine Health Board." The cost of providing light in these ranges will be set forth in the next section relating to specific lighting standards.

Specific lighting standards - Section 28.a.7(b):

The final-form regulation provides:

(b) Specific Lighting Standards: The following specific standards are in addition to, not in place of, all other requirements meeting the general lighting standards established in this section. The following specific standards shall apply:

(1) Natural light. Where kennel and housing facility lighting is provided by natural light, any window or opening, with the exception of the openings that provide for unfettered access to the exercise area, which provides natural light shall be covered with a transparent material such as glass or hard plastic and shall remain unobstructed.

(2) Artificial light. Where kennel and kennel housing facility lighting is provided by artificial lighting the following standards shall apply:

(i) The artificial lighting shall be provided by full spectrum lighting
(ii) Lighting sources and systems shall be kept in good repair and functional and shall not have any bulb or part of the system in disrepair, such as being unable to produce light, burned out or emitting irregular bursts of light, such as when a ballast is in disrepair.

(iii) Light sources, whether their primary purpose is to provide heat or light, shall be provided in a manner that prevents dogs from being injured (i.e. through contact with the light, fixture, bulb, switch or cord or through electrocution).

Regulatory Analysis Form

Where a kennel owner chooses to provide appropriate lighting ranges through artificial lighting the following costs will apply. A cost estimate was obtained for providing full spectrum light in a 1500 square foot dog kennel with a brightness range of 40 to 60 foot-candles/430-650 lux. Scott Learned, Owner, Design Learned Inc., Norwich, CT, who specializes in dog kennels, animal shelters and veterinary hospitals, provided a cost range. The R. S. Means "Electrical Cost Data 2010" cost estimating guidebook was used as a reference, and fixtures and bulbs were priced using the Grainger Industrial Supply website, www.Grainger.com.

A complete lighting renovation by a professional electrical contractor, including all wiring, fixtures and bulbs, has an estimated cost of \$8-9 per square foot, or \$12,000-\$13,500. The Department believes it is unlikely, because of current lighting requirements for kennels, that any kennel would have to do a complete renovation.

The breakdown of costs for complete and partial lighting renovations are as follows: 1. The electrical and wiring portion of this is \$4-5 per square foot. 2. If existing wiring is utilized the cost of purchasing and installing all new fixtures and bulbs would be reduced to about \$4 per square foot or \$6,000. 3. Two-three watts per square foot would be needed to achieve the brightness and uniform diffusion specified. Overhead fixtures, the familiar rectangular 4' long type, fitted with two 32-40 watt tube bulbs, cost between \$60-\$90. 4. A 1500 square foot kennel would require 36-57 fixtures fitted with 72-114 full spectrum lighting tubes. The cost would range from \$2160 (36 fixtures costing \$60 each) to \$5130 (57 fixtures costing \$90 each).

So the cost of compliance for lighting will range from \$0, if existing lighting meets the new quantified brightness and full spectrum requirements, to an average of \$3645 for materials only, to \$6000 for materials and professional installation, to \$12,000-13,500 for a complete renovation by a professional electrical contractor.

For replacement purposes, full spectrum tube bulbs cost \$7-10 each, with the \$10 bulb being a high quality, high energy, low mercury fluorescent. It is assumed these tubes will need to be replaced annually, at a cost of \$504-1140. However, kennel owners currently face the cost of replacing bulbs to assure compliance, so only a portion of this total cost would represent a new or increased cost of purchasing full spectrum, instead of conventional bulbs.

An estimate of energy costs for the required lighting system was obtained from Michael Koslap, PPL Corporation, the electrical service provider for nearly all of Lancaster County and for the central Pennsylvania counties with commercial kennels. This estimate assumes that lighting will be on for 12 hours a day every day to provide a regular diurnal cycle as required by Section 28.a.7(a)(3) of the final-form regulation. To the extent natural light is used to provide this cycle, lighting costs will be less than this estimate. Estimated cost for lighting the assumed 1500 square foot dog kennel with 100 dogs to the required standards is \$3556 annually. The calculation is 25,920 kilowatt hours annually times 13.72 cents 2010 average G1D (single phase service cost) = \$3556; three phase service \$3243.

Regulatory Analysis Form

However, once again, kennels are currently required to provide a diurnal cycle of lighting and the Act imposes the diurnal lighting cycle requirement. Therefore, none of this cost can be attributed to the regulation. It is neither a new cost nor a cost imposed by the regulation itself.

NOTE:

It is difficult to give a cost estimate for ventilation and lighting for the following reasons.

1. There is no way to easily ascertain which kennels would be required to make alterations to their facilities to meet the final-form regulation.
2. The amount of alterations required will vary greatly among kennels based on size, physical layout, age, existing HVAC systems and lighting, use or nonuse of electricity and prior renovations.
- 3.

Flooring – Section 28.a.8:

This section of the final-form regulation approves solid flooring, which has been permissible for all types of kennels although not specifically addressed in law or regulation. It also sets additional flooring requirements, beyond those of the Dog Law and regulations, for any additional flooring options that may be approved by the Canine Health Board. At this time, the Canine Health Board has not approved any such additional flooring options. The Act itself imposes the flooring restrictions and costs. Any new flooring type approved would provide an option from those specifically allowed by the Act (3 P.S. §§ 459-207(i)(3)(i) and (i)(3)(ii)), and as such would not impose a cost. The kennel owner would choose among approved types of flooring using cost effectiveness and other criteria. The regulations reiterate the standards of the Act and set forth the standards the Canine Health Board will utilize to assess whether an additional flooring option meets the standard imposed by section 221(f) of the Dog Law, related to animal husbandry practices that provide for the welfare of the dog (3 P.S. § 459-221(f)).

Cost Summary- Highest cost estimates:

Assuming that a kennel owner needs to build from the ground up, or install both a new ventilation system and all wiring and fixtures for a new lighting system – a worst case scenario given that general ventilation and lighting requirements are already in place – and assuming that professional contractors are used to install both systems, the mandatory costs would be \$19,500-\$37,500 for the ventilation system and \$12,000-\$13,500 for the lighting system. The mandatory costs for the carbon monoxide detectors, assuming that these devices are not already in place, is \$25-\$42 each or \$50-\$84 total annual cost. The cost of powering the ventilation and lighting using grid electricity would be \$3956-\$4338 (\$713-782 ventilation, \$3243-3556 lighting – although lighting should not be included as a new cost or one imposed by the regulation) annually, and the cost of maintaining the ventilation system would be \$960 annually. The cost of replacement lighting tubes would be \$504-\$1140 annually, although once again this is a current cost of compliance and the only added cost would be the difference in price between full spectrum and conventional light bulbs.

Total compliance costs assuming the professional design and installation of a ventilation system (since there is no way to estimate the lesser costs for upgrading an existing system) would range from \$26,626-56,382. Annual costs for ventilation and lighting operation and maintenance would be \$5420-6438.

Regulatory Analysis Form

Optional costs may include handheld devices to measure temperature, humidity, heat index, ventilation and air velocity at a cost of \$259; ammonia detection meter at a cost of \$490 or tubes at a cost of \$300 each year; and light meters at an average cost of \$200.

See also Fiscal Note in Preamble for Final-Form Regulation.

- (18) Provide a specific estimate of the costs and/or savings to **local governments** associated with compliance, including any legal, accounting or consulting procedures which may be required. Explain how the dollar estimates were derived.

The addition of mechanical ventilation, additional artificial and or natural lighting and flooring changes may require UCC permit and inspections. This should not specifically increase or decrease costs to local governments, however. The Department has attached documentation from the Center for Local Government Services, Department of Community & Economic Development (DCED), confirming that municipalities are collecting fees to cover the expenses of Pennsylvania Uniform Construction Code (UCC) administration and enforcement, so that these proposed regulations will not have a fiscal impact on municipalities. Any additional workload generated by these regulations would be offset by the fees collected in association with the specific permit.

The enforcement of the regulations will neither increase nor decrease any costs to local governments. Compliance with these ventilation, lighting and additional flooring standards for commercial kennels standards will be enforced solely by the Department. Local governments will have no role in enforcement or any other area associated with the regulation itself.

Most PA municipalities do not have commercial kennels. Nearly all are in 10 of the 67 counties - 47% are in Lancaster County.

See also Fiscal Note in Preamble for Final-Form Regulation.

- (19) Provide a specific estimate of the costs and/or savings to **state government** associated with the implementation of the regulation, including any legal, accounting, or consulting procedures which may be required. Explain how the dollar estimates were derived.

These costs will be paid for entirely from the Dog Law Restricted Account, which is primarily funded by license fees and receives no tax dollars. No General Fund monies will be used. See Fiscal Note in Preamble for Final-Form Regulation.

Equipment for inspectors – Section 28.a.2(c):

The final-form regulation provides:

“(c) Inspection –

(1) Inspection: A State dog warden or other employee of the Department inspecting the kennel will at a minimum:

- (i) Assure the mechanical ventilation system is functional, operational and in operation.
- (ii) Assure the auxiliary ventilation system is available, functional and operational and, where the temperature in the kennel exceeds 85 degrees, that the auxiliary ventilation system is in operation.
- (iii) Assure the humidity control system is available, functional and operational and operating or

Regulatory Analysis Form

operated in a manner that meets the standards and requirements of section 28a.4 of this chapter.

(2) A State dog warden or other employee of the Department inspecting the kennel may take ventilation, temperature, humidity and ammonia level readings and measurements to assure compliance with this chapter.”

The Department currently has 63 inspectors and supervisors - 14 at most will be equipped and trained for commercial kennel inspections including all supervisors and kennel compliance specialists. This group will be using additional equipment to spot check and assess temperature, humidity, ventilation, cubic feet per minute air flow, ammonia and lighting. The equipment to assess temperature, humidity, heat index, ventilation and air velocity, the Kestrel 4200 Pocket Air Flow Tracker as recommended by USDA, would cost \$259; the equipment to measure ammonia levels, the BW Gas Alert Extreme Ammonia Detector, would cost \$490; and data logging light meters such as Extech brand would average \$200. The total cost to equip each inspector would average \$949, with the total cost for 14 inspectors at \$13,286.

TOTAL COST: \$13,286.

Equipment for kennel owners –Section 28.a.2(a):

The final-form regulation provides:

“(a) General Requirements: Each area of a kennel and kennel housing facility where a dog is housed, kept or present, including primary enclosures, shall utilize a functional, mechanical ventilation system that provides ventilation in a manner that meets the requirements of this section and sections 28a.3 [auxiliary ventilation], 28a.4 [humidity levels], 28a.5 [ammonia levels] and 28a.6 [carbon monoxide detectors] of this Chapter. The kennel owner or operator shall assure the mechanical ventilation system is functional, in operation at all times and meets the standards and requirements of this section. The kennel owner or operator shall also assure the auxiliary ventilation system, humidity control system and carbon monoxide detectors are functional, operational and operated or operating in a manner that meets the standards and requirements of this section and of this Chapter”

Portable temperature humidity data loggers can perform this monitoring function for both the kennel owner and the Department. The Department, not the regulated community, would be required to purchase the temperature and humidity monitoring devices to be installed in kennels. This decision took into account comments from the regulated community expressing concerns related to both cost burden and the need for these devices to be uniform. The Department will bear the cost of buying, calibrating, installing and replacing these devices.

The Department has chosen the Omega data logger, at a cost of \$149, for this purpose. MA-Line loggers are available for \$70 and Amprobe loggers for \$135. The Omega was chosen because it has the highest data storage capacity. Since kennels are inspected twice each year, a data storage capacity of over six months is required. These devices are easily installed, run on batteries, and store data electronically and automatically so that they are tamper-proof. The batteries last for three years, and replacement cost would be \$2.50 per battery or \$277.50 total. The equipment is self-calibrating, and any calibration malfunction can be remedied by the user consulting the manual and or calling the manufacturer’s toll-free hotline. The cost of this equipment for 111 commercial kennels would be \$16,539. TOTAL COST: \$16,539.

Regulatory Analysis Form

Additional Commercial Kennel Inspection Time:

The final-form regulation, although requiring additional measurements and reporting, has significantly reduced the number of measurements needed and the additional inspection time. Air exchanges per hour are no longer required, and the time to spot check CFM velocity will be much less. Reading the data loggers for temperature and humidity levels will take additional time, as will ammonia level testing, but these tasks will not significantly increase the time necessary to inspect each kennel. This will be done with existing staff if possible. It is not possible to assess whether the additional measurements and reporting will require the Department to hire additional wardens to accomplish its duties as a whole. The Department is not planning to do so at this time. TOTAL COST: \$0.

Malfunction reporting – Section 28.a.2(g):

The Department’s Dog Law Enforcement veterinarian would develop a response protocol for these calls, and these calls would be handled by inspectors during normal working hours - Monday through Friday, 8:00 a.m. to 4:00 p.m. If a call requires Department action after hours, the Dog Law veterinarian would be contacted to respond further. This will be done with existing staff if possible. There is now some overtime devoted to various emergency situations that arise at kennels, and this malfunction reporting requirement is not expected to significantly increase this time. TOTAL COST: \$0

Training:

Training to effectuate the final-form regulation would primarily include training on new equipment, obtaining correct measurements, reviewing information to be provided by the kennel owner, and reporting. This would require one full day of training for up to 14 inspectors at a central location with associated travel costs, at an estimated cost of \$2500, assuming trainers can be obtained at no cost to the Department. TOTAL COST: \$5000.

Computer Upgrade and Forms:

PA Dogs and PA DogWarden, the computer applications used by the Department’s Bureau of Dog Law Enforcement to record kennel inspections, will require a major upgrade to capture the additional data the final-form regulation requires. The form given to kennel owners at the completion of an inspection, prior to receiving the official inspection form by mail, will also have to be revised to reflect some of this data and reprinted in bulk. The computer software upgrade is estimated to cost \$20,000; the revision and reprinting of forms is estimated to cost \$10,000. TOTAL COST: \$30,000.

(20) In the table below, provide an estimate of the fiscal savings and costs associated with implementation and compliance for the regulated community, local government, and state government for the current year and five subsequent years.

	Current FY Year(08-09)	FY +1 Year	FY +2 Year	FY +3 Year	FY +4 Year	FY +5 Year
SAVINGS:	\$	\$	\$	\$	\$	\$
Regulated Community	none	None	none	none	none	none
Local Government	N/A	N/A	N/A	N/A	N/A	N/A

Regulatory Analysis Form

State Government	none	None	none	none	none	none
Total Savings	none	None	none	none	none	none
COSTS:						
Regulated Community	none	\$0-51,000 (design & install) + \$5420-6438 (op. & maint. w/o service contract reduction) + \$50-84 (CO detectors) + \$759-949 (optional detection devices)	\$5420-6438 (op. & maint. w/o service contract reduction) + \$504-1140(bulb replacemt) \$9-13 (breakout for filters)	\$5420-6438 (op. & maint. w/o service contract reduction) + \$504-1140(bulb replacemt) \$9-13 (breakout for filters)	\$5420-6438 (op. & maint. w/o service contract reduction) + \$504-1140(bulb replacemt) \$9-13 (breakout for filters)	\$5420-6438 (op. & maint. w/o service contract reduction) + \$504-1140(bulb replacemt) \$9-13 (breakout for filters)
Local Government	None	None	None	None	None	None
State Government	None	\$64,825	\$ 0	\$ 0	\$277.50 (Omega battery replacemt)	\$ 4500 (replace 1/3 of warden equipmt)
Total Costs		\$71054-\$123,296	\$5933-\$7591	\$5933-\$7591	\$6210.50-\$7868.50	\$10,433-\$12,091
REVENUE LOSSES:						
Regulated Community	None	No accurate measure available: economy, costs, marketing	No accurate measure available: economy, costs, marketing	No accurate measure available: economy, costs, marketing	No accurate measure available: economy, costs, marketing	No accurate measure available: economy, costs, marketing

Regulatory Analysis Form

		all play a role in this determination	all play a role in this determination	all play a role in this determination	all play a role in this determination	all play a role in this determination
Local Government	N/A	N/A	N/A	N/A	N/A	N/A
State Government	N/A	N/A	N/A	N/A	N/A	N/A
Total Revenue Losses	none	No accurate measure available	No accurate measure available	No accurate measure available	No accurate measure available	No accurate measure available

(20a) Provide the past three year expenditure history for programs affected by the regulation.

This is a new regulation, based on criteria and authority established through amendments to the current Dog Law. In addition, the regulations do not establish any new "program." Therefore, there is no past expenditure history for any "programs" or other criteria affected by this regulation.

Program	FY -3	FY -2	FY -1	Current FY
N/A – see above.				

Regulatory Analysis Form

(21) Explain how the benefits of the regulation outweigh any cost and adverse effects.

These specific regulations are required by amendments to the Dog Law, effectuated by Act 119 of 2008. The final-form regulation is based on guidelines established by the Canine Health Board, which were promulgated as proposed regulations by the Department. The Canine Health Board is comprised of nine (9) veterinarians, is separate and apart from the Department and was established by legislation to address the very issues that are the subject of the regulation. The regulation effectuates the requirements of the Dog Law, at sections 207(h)(6)(7) and (8), 207(i)(3) and 221(f) (3 P.S. §§ 459-207(h)(6)(7)(8), 459-207(i)(3) and (459-221(f)), to establish ventilation, auxiliary ventilation, humidity, ammonia and lighting standards and address flooring standards. As set forth more fully above and in both the preamble and comment and response document, the final-form regulation is based on comments received during the proposed stage of rulemaking; and consultations with engineers and architects that design and build kennel housing facilities, animal scientists from the Pennsylvania State University, veterinarians from the Canine Health Board and the Department, and literature searches and review of data and scientific studies by the Department. The benefits of the regulation will be that it will carry out the mandates of the Act to establish clear and objective animal husbandry practices related to ventilation, auxiliary ventilation, humidity, ammonia and lighting levels in commercial kennels. The standards will assure the health and welfare of dogs housed in these kennels. The higher and more specific standards for dogs bred, housed and raised in commercial kennels will benefit the kennel owner through more objective standards and healthier dogs and will also benefit consumers who purchase puppies through healthier and better socialized puppies, and will further benefit breeding dogs and other adult dogs housed, often for their entire lives, in commercial kennels. The general public and the legislature of the Commonwealth, through the passage of Act 119 of 2008, demonstrated that there is a compelling public interest in creating better and proper standards for the care of dogs bred, housed and raised in commercial kennels. This regulation effectuates that intent. Although the regulation imposes additional costs on the regulated community, the regulation merely effectuates the intent of the General Assembly and sets acceptable standards, as determined by the Department with the assistance and input of the Canine Health Board, other licensed veterinarians, engineers, architects and animal scientists.

(22) Describe the communications with and input from the public and any advisory council/group in the development and drafting of the regulation. List the specific persons and/or groups who were involved.

The Department met with members of the Canine Health Board (Board) on three occasions to discuss the public comment received regarding ventilation, auxiliary ventilation, humidity, lighting and, to a lesser extent, flooring. Different members of the Board were in attendance at the three meetings, but nearly all attended at least one meeting held by the Department for the sole purpose of discussing the Department's direction on the final-form regulation. The Department also reviewed the transcripts of the six public meetings the Board held in 2008 to develop its Guidelines, using information from those transcripts and contacting several of the persons (engineer Scott Learned, architect Lucinda Schlaffer, and animal scientists Dr. Kenneth Kephart and Dr. Robert Mikesell) previously consulted by the Canine Health Board. All of these experts also made written comments on the proposed regulations, which were reviewed by the Department. Department veterinarians Dr. Craig Shultz and Dr. Danielle Ward were also consulted. The Department discussed engineering and proper ventilation, auxiliary ventilation, humidity and ammonia levels and standards with the engineers and architects. The animal scientist and veterinarians confirmed that the standards were proper and in line with appropriate animal husbandry practices. Board member Dr. Karen Overall supplied the

Regulatory Analysis Form

Department with voluminous data related to animal and canine health: from lighting issues, such as excessive light, full spectrum lighting and health effects of lighting; to ventilation, humidity and temperature levels appropriate for canines and other mammals. Dr. Overall supplied the survivability study and the heat stress indexes that helped establish the appropriate humidity levels in kennels. Dr. Ward reviewed much of the literature supplied by Dr. Overall and helped ensure that the proper levels and ranges of lighting, humidity and ventilation were established in the regulation. Dr. Shultz, Dr. Kephart and Dr. Mikesell also answered animal husbandry questions and concerns related to ventilation ranges, humidity levels, heat stress and lighting. Finally, the Department sought out and consulted with Stacy Mason, an American Kennel Club Senior Field Representative, regarding auxiliary ventilation techniques currently used by kennel owners. The Department then confirmed, with the engineers, that those techniques could be utilized to meet the standards established by the final-form regulation.

In addition, the Board and Department sought out persons with varied relevant expertise, named in the attachment to question 14 above, and consulted with them.

The Department also met with members of the Pennsylvania Professional Dog Breeders Association, their lobbyist Walter Peechatka of Versant Strategies and Robert Yarnall, Jr., President and CEO of the American Canine Association (a purebred canine registry) to discuss their concerns related to the regulation, which related to air conditioning standards, 100% fresh air ventilation requirement, prescribed humidity ranges, the requirement that 8% of kennel space be windows, doors or other openings, and lighting levels. The Department asked for information this group believed was relevant and received a cost estimate from a heating and air conditioning company, supplied by Walter Peechatka and based on compliance with the standards of the proposed regulations. The final-form regulation has reduced the cost of compliance. Messrs. Peechatka and Yarnell also made written comments on the proposed regulations, which were reviewed by the Department, and testified at the October 16, 2009 public hearing.

The Department had a telephone conference with Cori Menkin, an attorney employed by the American Society for the Prevention of Cruelty to Animals (ASPCA). The focus of the final-form regulation was discussed generally and additional information on humidity levels, heat stress and lighting was solicited at the ASPCA's discretion. Attorney Menkin also made written comments on the proposed regulations, which were reviewed by the Department and testified at the October 16, 2009 public hearing.

By the time the final-form regulation is submitted, the Department will have also met with the Honorable Mike Brubaker, Chair of the Senate Agriculture & Rural Affairs Committee, and with Thomas Hickey, a public member of the Dog Law Advisory Board, as well as with representatives of the House Agricultural and Rural Affairs Committee.

The proposed regulations were published on September 12, 2009. During the 45-day comment period, the Department received 4661 comments on the proposed regulation: 4300 form letters total from three advocacy groups; 43 letters from Dog Law Advisory Board members and professionals such as veterinarians and engineers; 20 from legislators; 88 from commercial kennel owners and 210 from the general public. The Department reviewed these letters and responded to all issues raised in its comment and response document.

Regulatory Analysis Form

- (23) Include a description of any alternative regulatory provisions which have been considered and rejected and a statement that the least burdensome acceptable alternative has been selected.

Public comments received were reviewed and alternative provisions offered in these comments were considered. Also, the Department held a public hearing as required by the Dog Law on October 16, 2009 and reviewed the transcript of this hearing. Alternative regulatory provisions or changes were considered and accepted or rejected – many were accepted and the final form regulation was substantially changed from the draft regulation. For example, the ventilation standards are now more objective and can be certified by a professional engineer and verified through inspection of CFM ratings, kennel volume and animal density. Some measuring devices and additional inspection protocols that were viewed by some commentators as burdensome and expensive are not now required. The CFM rating per dog is less burdensome since ventilation can be reduced in smaller kennels. Air can now be re-circulated, reducing heating costs, providing energy recovery options and allowing better control of the kennel environment, including humidity levels. Auxiliary ventilation techniques are based on techniques currently used. There is no longer a temperature cap - instead humidity levels must be monitored and reduced as temperatures rise above 85 degrees F. This is less stringent than federal regulations. The humidity ranges/heat index values are measurable, objective and based on scientific data. Kennel owners have a four hour window to reach the required 85 Heat Index. The humidity ranges for temperatures below 85 degrees are the broadest acceptable animal husbandry standards allowed. Engineers and some veterinarians suggested a narrower range, but the Department employed the broadest range that would still account for animal health and welfare. The lighting levels have been reduced and are based on levels suggested by engineers and animal scientists, as well as those utilized by the National Institutes of Health.

The Department, in consultation with the Canine Health Board, engineers and architects that design and build kennel housing facilities, experts in the field, animal scientists, Department veterinarians and the regulated community, focused on finding less burdensome and acceptable alternatives that still meet animal husbandry and welfare standards and are measurable and objective. The final-form regulation establishes ventilation, auxiliary ventilation, humidity, ammonia level and lighting ranges that can be implemented, verified and complied with, at costs ranging from \$13-\$25 per square foot depending on the sophistication of the systems. The Department, after research and consultation, believes it has selected the least burdensome acceptable standards while ensuring canine welfare as required by the Act.

On December 16, 2006, before Act 119 of 2008 was introduced, the Department had published proposed regulations of broader scope that contained more specific and stringent provisions related to requirements for all licensed kennels - approximately 2700 kennels at that time - rather than the 111 kennels now defined as commercial. Based in part on public comments received from non-commercial kennel owners that the regulations would burden them and would not be consistent with their practices for the keeping and/or breeding of dogs, these regulations were withdrawn in May 2008. The current proposed regulations represent a less burdensome alternative.

- (24) Are there any provisions that are more stringent than federal standards? If yes, identify the specific provisions and the compelling Pennsylvania interest that demands stronger regulations.

This regulation is required by the Dog Law statute and is more specific with regard to ventilation and lighting standards – required by sections 207(h)(7) and (8) of the Dog Law (3 P.S. § 459-207(h)(7) and (8)) - than the

Regulatory Analysis Form

comparable federal standards set by the Animal Welfare Act and its attendant regulations at 9 C.F.R., subpart A, sections 3.2 and 3.3. They may therefore be more stringent when it comes to enforcement. However, they will also add clarity with regard to the standards with which the industry must comply. The federal regulations are broad in nature and therefore may allow for enforcement standards that are more or less stringent than the specific standards set by the final-form regulation with regard to ventilation and lighting. However, the Act requires the regulation to establish specific ventilation, auxiliary ventilation, humidity, ammonia and lighting ranges and standards. The final-form regulation is less stringent than federal requirements with regard to temperature requirements, as the Animal Welfare Act regulations actually require a reduction in temperature. USDA regulated kennels may not exceed 85 degrees Fahrenheit for more than 4 hours. The final-form regulation allows commercial kennels to reduce humidity levels in order to achieve compliance and does not establish a temperature threshold.

The flooring standards set by the regulation are a clarification of specific provisions of the Dog Law, specifically 207(i)(3) (3 P.S. § 459-207(i)(3)), which cannot be amended through regulation.

(25) How does this regulation compare with those of other states? How will this affect Pennsylvania's ability to compete with other states?

Most states either have no dog laws regulating kennels, regulate by county, or regulate kennels based on criteria other than number of dogs, so comparisons are not readily made between Pennsylvania and other states. However, the regulation is based on a Dog Law that arguably is the strictest in the country. This regulation, and the specific standards established in the regulation, is required by the Dog Law to be specific with regard to ventilation and lighting standards. It may therefore be more stringent when it comes to enforcement than some other states. The flooring part of the regulations is no more than a clarification of the specific criteria set by the Dog Law itself.

The initial additional cost that may be required for some commercial kennels to be able to comply with the ventilation requirements will raise their costs initially. Commercial kennels that are complying with all of the standards of the federal regulations – especially regarding electrical power and temperature reduction – will have fewer costs of compliance. The more specific lighting requirements will require some commercial kennels to add lighting. The costs to build a kennel from the ground-up and implement all of the new standards, as well as, the utility costs to run such kennels (normally a cost of doing business), have been set forth specifically above.

The commercial kennels did have the opportunity to defray some of the costs associated with meeting the standards imposed by the Act itself. Under section 207(j) of the Dog Law (3 P.S. § 459-207(j)), commercial kennels were allowed to request a waiver of up to three (3) years, and extensions of that waiver if based on the good faith efforts of the kennel owner to comply. There is no such authority to defer compliance with the regulations. However, those kennels receiving waivers of the statutory standards will be able to spread the regulatory and statutory costs of compliance.

The cost of compliance with the regulatory standards may raise the regulated communities overall cost of operation initially, but should not affect the long term competitiveness of the industry.

Regulatory Analysis Form

(26) Will the regulation affect any other regulations of the promulgating agency or other state agencies? If yes, explain and provide specific citations.

No

(27) Submit a statement of legal, accounting or consulting procedures and additional reporting, recordkeeping or other paperwork, including copies of forms or reports, which will be required for implementation of the regulation and an explanation of measures which have been taken to minimize these requirements.

No appreciable additional legal, accounting or consulting procedures are foreseen. The experts consulted by both the Canine Health Board and the Department donated their time to this effort. The additional regulatory requirements will have to be added to the State dog wardens' kennel inspection forms, to the Bureau's electronic data base and to the paper forms given to kennel owners on site after the inspection. Recordkeeping and paperwork, other than the additional reporting on the inspection forms, will be negligible. State dog wardens will require additional equipment to measure: (1) air flow; (2) humidity; (3) temperature; (4) ammonia levels; and (5) lighting. Inspections will take longer to perform. Wardens will need to be trained to utilize the equipment and review the data collected as required by the regulations.

Costs associated with computer programming changes and recording devices were set forth above.

(28) Please list any special provisions which have been developed to meet the particular needs of affected groups or persons including, but not limited to, minorities, elderly, small businesses, and farmers.

This regulation pertains to commercial kennels, which are defined as: "A kennel that breeds or whelps dogs and: (1) sells or transfers any dog to a dealer or pet shop kennel; or (2) sells or transfers more than 60 dogs per calendar year." (3 P.S. § 459-102).

All commercial kennels, regardless of the nature of the business or group operating the business, must comply with the standards established by Act 119 of 2008 and set forth at sections 207(h) and (i) of the Dog Law (3 P.S. § 459-207(h) and (i)), including the regulations required by sections 207(h)(7) and (8) and 207(i)(3) (3 P.S. §§ 459-207(h)(7)(8) and 207(i)(3)). The statute does not set forth any special exemptions or exceptions - therefore, there are no special provisions or exceptions established by the regulation.

Attachment responsive to Section (14) of IRRC Regulatory Analysis Form for Proposed Regulations titled "Canine Health Board Standards for Commercial Kennel Regulations"

Individuals:

Art Dunham, PhD

Professor and Associate Chair of Biology, specializing in physiological and mathematical ecology; University of Pennsylvania

Elizabeth "Betty" Goldentyer, DVM

**Eastern Regional Director USDA, APHIS Animal Care
consulted by Board member Karen Overall with report to group**

Jim Hanson, American Institute of Architects

**Leadership Energy and Environmental Design
Facilities Services and Construction Management
Architect specializing in animals used in research facilities**

Kate Hurley, DVM

**Director of UC Davis Korat Shelter Medicine Program
Associate Clinical Professor in Department of Medicine and Epidemiology at UC Davis
School of Veterinary Medicine.**

C. Scott Learned, PE, President

**Design Learned Inc.-- Specialists in Animal Care Facility Engineering
Mechanical Engineer, specializing in ventilation for animal facilities**

Rodger Lease, PE, Director of Mechanical Engineering

**Paragon Engineering Services
Mechanical engineer, has designed systems for dog kennels and veterinary hospitals**

Kenneth Kephart, PhD

**Professor of Animal Science, Department of Dairy and Animal Science
The Pennsylvania State University**

Kevin McCarthy

**Director of Facilities and Engineering for Clinical and Research
Children's Hospital of Philadelphia
Specializing in animals used in research facilities**

Bob Mikesell, Jr, PhD

**Senior Instructor
Dept. of Dairy and Animal Science, College of Agriculture Sciences, Penn State University**

Lila Miller, DVM

Senior Director & Veterinary Advisor, ASPCA

Co-editor, "Shelter Medicine for Veterinarians and Staff"
Adjunct Assit.Professor at the University of Pennsylvania School of Veterinary Medicine
Consulted by Chair with report to group

Shlomo Rosenfeld
Shlomo Rosenfeld & Associates
Mechanical Engineer, specializing in ventilation systems

Lucinda Schlaffer, American Institute of Architects, LEED AP
ARQ Architects
Architect of Animal Care Facilities

Cristina M. Schulingkamp, MSEH
Environmental Engineer
Radon/Indoor Air Program Coordinator, U.S. EPA Region 3
Email communications recopied and distributed to Board

Steve Zawistowski, PhD
Senior Vice President & Science Advisor, ASPCA
Co-editor, "Shelter Medicine for Veterinarians and Staff"

Documents:

"Guide for the Care and Use of Laboratory Animals," Institute of Laboratory Animal Resources, Commission on Life Sciences, NRC, National Academy Press, Washington, DC
(<http://www.nap.edu/readingroom/nooks/labrats/>)

"Shelter Medicine for Veterinarians and Staff," Edited by Lila Miller and Stephen Zawistowski, Wiley - Blackwell Publishing, 2004, 1-546 pp.

Patronek, Gary (1998). Issues and guidelines for veterinarians in recognizing, reporting and assessing animal neglect and abuse, in "Recognizing and Reporting Animal Abuse: A Veterinarian's Guide," Edited by P. Olson, G. Patronek & D. Cappucci, Englewood, CO: American Humane Association, 1998, pp. 25-39.

Federal Code of Regulations, Title 9, Vol 1, 1 January 2005, Animals and Animal Products: Chapter 1 – Animal and Plant Health Inspection Service, Department of Agriculture
(http://www.aphis.usda.gov/animal_welfare/downloads/awr/9cfr3.1.tx)

The Berlin Workshop Report on Laboratory Animal Housing 1996
(http://www.ebra.org/ebrabulletin-the-berlin-workshop-report-on-laboratory-animal-housing_13.htm)

NHMRC Policy on the care of dogs used for scientific purposes
(http://www.nhmrc.gov.au/health_ethics/animal/dogs.htm)

Nutrition Advisory Group Handbook, Fact Sheet 002, July 1997. Vitamin D and Ultraviolet Radiation: Meeting Lighting Needs for Captive Animals.

Animal Welfare Act (AWA), 7 U.S.C. §2131 *et seq.*

Title 9 Animals and Animal Products: Chapter 1 – Animal and Plant Health Inspection Service, Department of Agriculture; Subchapter A – Animal Welfare; Part 3 Standards; Subpart A – Specifications for the Humane Handling, Care, Treatment, and Transportation of Dogs and Cats H1 Facilities and Operating Standards; LexisNexis' Code of Federal Regulations, 2008, Matthew Bender and Company, current through 6 November 2008 Issue of the Federal Register.

Title 9 Animals and Animal Products: Chapter 1 – Animal and Plant Health Inspection Service, Department of Agriculture; Subchapter A – Animal Welfare; Part 1 Definition of Terms; LexisNexis' Code of Federal Regulations, 2008, Matthew Bender and Company, current through 6 November 2008 Issue of the Federal Register.

Title 9 Animals and Animal Products: Chapter 1 – Animal and Plant Health Inspection Service, Department of Agriculture; Subchapter A – Animal Welfare; Part 2: Regulations; Subpart A – Licensing; LexisNexis' Code of Federal Regulations, 2008, Matthew Bender and Company, current through 6 November 2008 Issue of the Federal Register.

Title 9 Animals and Animal Products: Chapter 1 – Animal and Plant Health Inspection Service, Department of Agriculture; Subchapter A – Animal Welfare; Part 2: Regulations; Subpart B - Registration; LexisNexis' Code of Federal Regulations, 2008, Matthew Bender and Company, current through 6 November 2008 Issue of the Federal Register.

Title 9 Animals and Animal Products: Chapter 1 – Animal and Plant Health Inspection Service, Department of Agriculture; Subchapter A – Animal Welfare; Part 2: Regulations; Subpart C – Research Facilities; LexisNexis' Code of Federal Regulations, 2008, Matthew Bender and Company, current through 6 November 2008 Issue of the Federal Register.

Title 9 Animals and Animal Products: Chapter 1 – Animal and Plant Health Inspection Service, Department of Agriculture; Subchapter A – Animal Welfare; Part 2: Regulations; Subpart D – Attending Veterinarian and Adequate Veterinary Care; LexisNexis' Code of Federal Regulations, 2008, Matthew Bender and Company, current through 6 November 2008 Issue of the Federal Register.

Title 9 Animals and Animal Products: Chapter 1 – Animal and Plant Health Inspection Service, Department of Agriculture; Subchapter A – Animal Welfare; Part 2: Regulations; Subpart E – Identification of Animals; LexisNexis' Code of Federal Regulations, 2008, Matthew Bender and Company, current through 6 November 2008 Issue of the Federal Register.

Title 9 Animals and Animal Products: Chapter 1 – Animal and Plant Health Inspection Service, Department of Agriculture; Subchapter A – Animal Welfare; Part 2: Regulations;

Subpart F – Stolen Animals; LexisNexis’ Code of Federal Regulations, 2008, Matthew Bender and Company, current through 6 November 2008 Issue of the Federal Register.

Title 9 Animals and Animal Products: Chapter 1 – Animal and Plant Health Inspection Service, Department of Agriculture; Subchapter A – Animal Welfare; Part 2: Regulations; Subpart G - Records; LexisNexis’ Code of Federal Regulations, 2008, Matthew Bender and Company, current through 6 November 2008 Issue of the Federal Register.

Title 9 Animals and Animal Products: Chapter 1 – Animal and Plant Health Inspection Service, Department of Agriculture; Subchapter A – Animal Welfare; Part 2: Regulations; Subpart H – Compliance with Standards and Holding Period; LexisNexis’ Code of Federal Regulations, 2008, Matthew Bender and Company, current through 6 November 2008 Issue of the Federal Register.

Title 9 Animals and Animal Products: Chapter 1 – Animal and Plant Health Inspection Service, Department of Agriculture; Subchapter A – Animal Welfare; Part 2: Regulations; Subpart I – Miscellaneous; LexisNexis’ Code of Federal Regulations, 2008, Matthew Bender and Company, current through 6 November 2008 Issue of the Federal Register.

**AVMA Policy: Companion Animal Care Guidelines: Revisions approved by the Executive Board, November 2003. (Oversight: CHAB; EB 04/91; Revised 11/03, 11/08)
http://www.avma.org/issues/policy/companion_animal_care.asp**

US Department of Commerce, National Oceanic & Atmospheric Administration (NOAA) National Weather Service Heat Index <http://www.srh.noaa.gov/jetstream/global/hi.htm> and Heat Index Calculator, <http://www.hpc.ncep.noaa.gov/html/heatindex.shtml>

**Animal Care Services, University of Florida, Guidelines: Housing Animals Outside Designated Laboratory Animal Housing Facilities in the HSC or CLAS
http://acs.ufl.edu/guidelines/Housing_animals_outside_designated_lab_housing-01.shtml**

Iowa State University Extension, Tunnel Ventilation to Alleviate Animal Heat Stress, March 1995.

Penn State University Cooperative extension, College of Agricultural Sciences, Agricultural and Biological Engineering, Tunnel Ventilation for Tie Stall Dairy Barns, Tyson J, Graves R, McFarland D, Wilson T, undated.

Alabama A & M and Auburn Universities Cooperative Extension System, Tunnel Ventilation in Poultry Housing, www.aces.edu

National Institutes of Health, “Ventilation Design Handbook on Animal Research Facilities Using Static Microisolators,” Volumes 1 & 2, Farhad Memarzadeh, Division of Engineering Services, Office of Research Services, NIH, Bethesda, MD, September 1998.

Animal Care Resource Guide, Dealer Inspection Guide, Animal and Plant Health Inspection Service, Department of Agriculture
(http://www.aphis.usda.gov/animal_welfare/downloads/awr/9cfr3.1.tx)

PA Labor and Industry Internet, Laws and Regulations, Building Energy Conservation Act (L & I:A-222 Building Energy Conservation Act), Act 222 of 1980, 35 P.S. §§ 7201, repealed and subsumed by Section 1102 of the Pennsylvania Construction Code Act, 35 P.S. § 7210
(<http://www.dli.state.pa.us/landi/CWP/view.asp?A=185&Q=70346&pp=12&n=1>)

The Animal Care Program and the US Department of Agriculture's Authority under the Animal Welfare Act: Basic Questions and Answers
http://www.aphis.usda.gov/publications/animal_welfare/content/printable_version/faq_awa.pdf

Swine and cattle heat stress graphs: http://www3.abe.iastate.edu/livestock/heat_stress.asp

**Stormfax Weather Almanac: Philadelphia Record Highs and Lows
Daily High/Low Temperature Records**
<http://www.stormfax.com/phlminmax2.html>

FY2005 Annual Report for Air Quality National Program 203

"Guidelines to Promote the Wellbeing of Animals Used for Scientific Purposes: The Assessment and Alleviation of Pain and Distress in Research Animals." Australian Government, National Health & Medical Research Council,
(<http://www.nhmrc.gov.au/index.htm>)

"Comfortable Quarters for Dogs in Research Institutions" by Robert Hubrecht of UK Universities Federation for Animal Welfare.

"Code of Practice for the Housing of Animals in Designated Breeding and Supplying Establishments," UK Home Office

Optimization of housing conditions on pig farms, Venglovsky J, Harichova D, Pacajova Z, Placha I, Sasakova N, Sutiakova I, Greserova G, Dostal A, ISAH, 2003, Mexico.
<http://www.isah-soc.org/documents/speakers/S21%20VenglovskySlovak.doc>

Working party for the preparation of the fourth multilateral consultation of parties to the European convention for the protection of vertebrate animals used for experimental and other scientific purposes, species specific provisions for dogs, 6th meeting, Counsel of Europe, Strasbourg, March 25-27, 2003

Humane Society International, Electronic Library, Controlling Upper Respiratory Infections in Your Shelter, Leslie Sinclair, DVM.

Ammonia Emissions and Animal Agriculture, Becker JG, Graves RE. CSREES Mid-Atlantic Regional Water Quality Program
<http://agenvpolicy.aers.psu.edu/Documents/BeckerGravesAmmonia101.pdf>

State Energy Assessment Workshop-- Lighting
by DTE Energy Partnership & Services
Detriot Edision [www.michigan.gov/documents/CIS EO DTE Lighting 138467 7.pdf](http://www.michigan.gov/documents/CIS_EO_DTE_Lighting_138467_7.pdf)

Ammonia Summary Document of Ammonia Levels for Pigs, Broiler Chickens, Laying Hens. Provided by Steve Zawistowski, VMD
based upon Certified Humane (HFAC), Industrial Guidelines (United Egg Producers Animal Husbandry Guidelines for US Egg Laying Flocks 2008).

Code of Recommendations and Minimum Standards for the Welfare of Dogs
<http://www.biosecurity.govt.nz/animal-welfare/codes/dogs/index.htm>

OSHA Ammonia
Safety and Health Topics
OSHA IMIS Code Number 0170

USDA Cooperative State Research, Education and Extension Service Program
Animal Well-Being. <http://www.csrees.usda.gov/animalwellbeing.cfm>

Iowa Concentrated Animal Feeding Operations Air Quality
Chapter 6.2 Animal Health Effects p. 116-120
R. Holland, T. Carson and K. Donham

International Air Transport Association (IATA) for air transport of dogs and other species 2002, as referenced in "Shelter Medicine for Veterinarians and Staff", p.434

State of Rhode Island and Providence Plantations Department of Environmental Management, Division of Agriculture Draft 10-18-04
Rules and Regulations Governing Animal Care p.1-113

"A Temperature/Humidity Tolerance Index for Transporting Beagle Dogs in Hot Weather," by Gerald D. Hanneman & James L. Sershon, sponsored by Federal Aviation Administration and available from National Technical Information Service, Springfield, VA.

Cornucopia of Disability Information, Full spectrum light source, <http://codi.buffalo.edu>

Lux, Full Spectrum Light – Wikipedia (<http://en.wikipedia.org>)

Ackerman B, Sherwonit E, Williams J (1989) Reduced incidental light exposure: effect on the development of retinopathy of prematurity in low birth weight infants. Pediatrics 83:958-962.

Adams K, Navarro A, Hutchinson E, Weed J (2004) A canine socialization and training program at the National Institutes of Health. *Lab Animal* 33: 32-36.

Berardi N, Pizzorusso T, MaVei L (2000) Critical periods during sensory development. *Curr Opin Neurobiol* 10:138-145.

Berardi N, Pizzorusso T, Ratto GM, MaVei L (2003) Molecular basis of plasticity in the visual cortex. *Trends Neurosci* 26:369-378.

Davies R, Breslin M (2003) Observations on *Salmonella* contamination of commercial laying farms before and after cleaning and disinfection. *Veterinary Record* 152: 283-287.

Dityatev A, Schachner M (2003) Extracellular matrix molecules and synaptic plasticity. *Nat Rev Neurosci* 4:456-468.

Donham KJ. 2000. The concentration of swine production. *Vet Clin NA: Food Animal Practice* 16:559-597

Fagiolini M, Pizzorusso T, Berardi N, Domenici L, Maffei L (1994) Functional postnatal development of the rat primary visual cortex and the role of visual experience: dark rearing and monocular deprivation. *Vision Res* 34:709-720.

Fujieda H, Sasaki H (2008) Expression of brain-derived neurotrophic factor in cholinergic and dopaminergic amacrine cells in the rat retina and the effects of constant light rearing. *Exp Eye Res* 86:335-343.

He HY, Ray B, Dennis K, Quinlan EM (2007) Experience-dependent recovery of vision following chronic deprivation amblyopia. *Nat Neurosci* 10:1134-1136.

Hensch TK (2004) Critical period regulation. *Annu Rev Neurosci* 27:549-579.

Hensch TK (2005) Critical period plasticity in local cortical circuits. *Nat Rev Neurosci* 6:877-888.

Jacobs JB, Dell'Osso LF, Hertle RW, Acland GM, Bennett J (2006) Eye movement recordings as an effectiveness indicator of gene therapy in PRE65-deficient canines: implications for the ocular motor system. *Invest Ophth Visual Sci* 47:2865-2875.

Katz LC, Shatz CJ (1996) Synaptic activity and the construction of cortical circuits. *Science* 274:1133-1138.

Kulpa-Eddy j, Taylor s, Adams K (2005) USDA perspective on environmental enrichment for animals. *ILAR Journal* 46: 83-94.

Li T, Howland HC, Troilo D (2000) Diurnal illumination patterns affect the development of

the chick eye. *Vision Res* 40:2387-2393.

Majewska A, Sur M (2003) Motility of dendritic spines in visual cortex in vivo: changes during the critical period and effects of visual deprivation. *Proc Natl Acad Sci U S A* 100:16024-16029.

McGreevy P, Grassi TD, Harman AM (2004) A strong correlation exists between the distribution of retinal ganglion cells and nose length in the dog. *Brain Behav Evol* 63: 13-22.

Meunier L (2006) Selection, acclimation, training and preparation of dogs for the research setting. *ILAR Journal* 47: 326-347.

Miller PE, Murphy CJ (1995) Vision in dogs. *J Am Vet Med Assoc* 207:1623-1634.

Mitchell DE, Giffin F, Wilkinson F, Anderson P, Smith ML (1976) Visual resolution in young kittens. *Vision Res* 16: 363-366.

Myopia and Ambient Lighting at Night, *Nature* 399: 113-115 (May 1999).

Neitz J, Geist T, Jacobs GH (1989) Color vision in the dog. *Visual Neurosci* 3:119-125.

Nithianantharajah J, Hannan AJ (2006) Enriched environments, experience-dependent plasticity and disorders of the nervous system. *Nat Rev Neurosci* 7:697-709.

Noell WK 1980 Possible mechanisms of photoreceptor damage by light in mammalian eyes. *Vision Res* 20:1163-1171.

Odom, JV, Bromberg NM, Dawson WW (1983) Canine visual acuity: retinal and cortical field potentials evoked by pattern stimulation. *Am J Physiol Reg Integr Comp Physiol* 245:637-641.

Overall K, Dyer D (2005) Enrichment Strategies for laboratory animals from the viewpoint of clinical veterinary behavioral medicine: emphasis on dogs and cats. *ILAR Journal* 46: 202-216.

Parry HB (1953) Degenerations of the dog retina. I. Structure and development of the retina of the normal dog. *Br J Ophthalmol* 37:385-404.

Patronek G (July-August 1998) Tufts University Care and Condition Scales (TACC), *Animal Sheltering Magazine*.

Quinn GE, Shin CH, Maguire MG, Stone RA (1999) Myopia and ambient lighting at night. *Nature* 399:113-114.

Stephen Reynolds, PhD(1996) Longitudinal evaluation of dose-response relationships for environmental exposures and pulmonary function in swine production workers. *CIH Journal of Industrial Medicine* 29:33-40.

Rylander, R (2006) Endotoxin and Occupational Airway Disease. *Current Opinion in Allergy and Clinical Immunology*, 6:62-66.

Schapiro H, Wruble LD, Britt LG, Bell TA. (1970) Sensory deprivation on visceral activity. I. The effect of visual deprivation on canine gastric secretion. *Psychosom Med* 32(4):379-396.

Schierl R, Heise A, Egger U, Schneider F, Eiochelser R, Nesor Sm and Nowak D. 2007. Endotoxin concentration in modern animal houses in southern Bavaria. *AAEM* 14:129-136.

Singer W. (1985) Central control of the developmental plasticity in the mammalian visual cortex. *Vision Res* 25:389-396.

Spolidoro M, Sale Alessandro, Berardi N, Maffei L. (2009) Plasticity in the adult brain: lessons from the visual system. *Exp Brain Res* 192:335-341.

Teller DY (1986) Visual development. *Vision Res* 26: 1483-1506.

Valter K, Kirk DK, Stone J (2009) Optimising the structure and function of the adult P23H-3 retina by light management in the juvenile and adult. *Exp Eye Res* 89:1003-1011.

van Praag H, Kempermann G, Gage FH (2000) Neural consequences of environmental enrichment. *Nat Rev Neurosci* 1:191-198.

Product information:

MERV 8 filters, auxiliary exhaust fans, dehumidifiers, lighting eqpt (www.grainger.com)

Amprobe (www.ambrobe.com)

BW Gas Alert Extreme Ammonia Detector (www.allgasdetectors.com)

Extech data logging light meters (www.extech.com)

First Alert & Kidde carbon monoxide detectors (www.resculite.com)

Johnsonite ComforTech Cushioned Rubber Flooring (www.johnsonite.com)

Kenneldeck (<http://www.kenneldeck.com>)

Kestrel 4200 Pocket Air Flow Tracker (www.kestrelmeters.com)

MA-Line loggers (www.ma-line.com or www.hvacproductratings.com)

Omega data logger (www.omega.com)

**RKI Single Toxic Gas (ammonia) Detector SC01 (www.rkiinstruments.com)
www.rkiinstruments.com/pages/sc01.htm?clid=CLH9--Ldm**

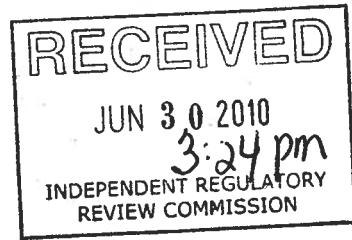
SKC Gastec Dosimeter Color Detector Tubes (www.skcin.com or www.gastectubes.com)

Thermochron iButtons (www.embeddeddatasystems.com)

CDL-1

**FACE SHEET
FOR FILING DOCUMENTS
WITH THE LEGISLATIVE REFERENCE
BUREAU**

(Pursuant to Commonwealth Documents Law)



DO NOT WRITE IN THIS SPACE

Copy below is hereby approved as to form and legality.
Attorney General

By: _____
(Deputy Attorney General)

DATE OF APPROVAL

Check if applicable
Copy not approved. Objections attached.

Copy below is hereby certified to be true and
correct copy of a document issued, prescribed or
promulgated by:

Department of Agriculture

DOCUMENT/FISCAL NOTE NO. 2-170

DATE OF ADOPTION 6-24-10

BY Russ M. C. Perkins

TITLE Secretary

EXECUTIVE OFFICER CHAIRMAN OR SECRETARY

Copy below is hereby approved as to form and legality
Executive of Independent Agencies

BY: Andrew C. Clark
JUN 29 2010

DATE OF APPROVAL

(Deputy General Counsel)
(~~Chief Counsel - Independent Agency~~)
(~~Strike inapplicable title~~)

Check if applicable. No Attorney General Approval or
objection within 30 days after submission.

NOTICE OF FINAL RULEMAKING

**Department of Agriculture
Canine Health Board
7 Pa. Code Chapter 28a.
Commercial Kennel Canine Health Regulation**

RULES AND REGULATIONS

Title 7--AGRICULTURE

DEPARTMENT OF AGRICULTURE

[7 PA. CODE CH 28a]

Commercial Kennel Canine Health Regulation

The Pennsylvania Department of Agriculture (Department) hereby creates Chapter 28a (relating to conditions for canine health in commercial kennels) to read as set forth in Annex A.

Statutory Authority

The Department establishes and adopts this final-form rulemaking under the Pennsylvania Dog Law (Act)(3 P.S. § 459-101 *et seq.*) and under the specific authority established by sections 221(g) and 902 of the Act (3 P.S. §§ 459-221(g) and 459-902).

The Canine Health Board (Board), created under section 221 of the Dog Law (3 P.S. § 459-221), issued temporary guidelines which were published at 39 *Pennsylvania Bulletin* 310, on January 17, 2009. As required by section 221(g) of the Act (3 P.S. § 459-221(g)), those temporary guidelines were published by the Department as proposed regulations at 39 *Pennsylvania Bulletin* 5315, on September 12, 2009.

More specifically, section 221(f) of the Act (3 P.S. § 459-221(f)), charges the Board and the Department with the duty to determine standards and promulgate regulations to provide for the health and well being of dogs in the specific areas of ventilation, auxiliary ventilation, humidity and ammonia levels, lighting and flooring in commercial kennels, as set forth at sections 207(h)(6), (7) and (8), (i)(3) and 221(f) of the Act (3 P.S. §§ 459-207(h)(6), (7) and (8), (i)(3) and 459-221(f)).

The Department, under its general authority at section 902 of the Act and under the specific duty and authority established at section 221(g) of the Act, hereby creates Chapter 28a (relating to canine health standards for commercial kennels) of Title 7 of the *Pennsylvania Code*.

Purpose of the Final-Form Rulemaking

The final-form rulemaking is required to effectuate the edicts of the Act and the duty of the Board and the Department to determine and establish standards, based on animal husbandry practices, to provide for the welfare of dogs under sections 207(h)(7), 207(h)(8) and 207(i)(3) of the Dog Law (3 P.S. §§ 459-207(h)(7) and (8), (i)(3) and 459-

221(f)). The final-form rulemaking establishes standards for ventilation, auxiliary ventilation, humidity and ammonia levels, delineates lighting requirements for either natural or artificial lighting or both, requires carbon monoxide detectors in some commercial kennels and sets forth the flooring standards required by the Act, as well as, establishing parameters for additional flooring options. The standards are based on consultation, input and verification from experts such as engineers that design and build kennel housing facilities, architects, animal scientists from the Pennsylvania State University and veterinarians from the Board and the Department. The Department also consulted the minutes of the Canine Health Board meetings, did its own research and relied upon animal, including canine, health studies. In addition, the Department met or had discussions with a group of kennel owners from the Pennsylvania Professional Dog Breeders Association and their lobbyist, the President and CEO of the American Canine Association and a senior field representative from the American Kennel Club.

Comment and Response

The final comment and response document is over 400 pages in length. Therefore, the Department has set the comment and response document forth as a separate document, as it would have been impossible to include in the preamble to this final-form regulation. The comment and response document is posted on the Department's website and will be sent to any person upon written request.

Summary of Overall Changes

The major features of and changes to the final-form regulation are summarized as follows:

The Department agrees that the Canine Health Board (Board), crafted guidelines, promulgated as proposed regulations by the Department with the intent to insure the health and welfare of dogs housed in commercial kennels, including that the kennels remained "sufficiently ventilated at all times when dogs are present", to "determine auxiliary ventilation to be provided" if the air temperature reaches or exceeds 85 degrees, provide for proper humidity and ammonia levels, delineate proper lighting ranges and establish dog health criteria for alternative flooring options. However, in the final-form regulation the Department has made changes to the format and substance of the standards established by the Board.

First, the Department has reorganized the final-form regulation by breaking it into sections that reflect specific areas of authority granted by the Act, namely ventilation, auxiliary ventilation, humidity levels, ammonia levels, lighting and flooring. This was done to provide more clarity to the reviewing entities and to provide clarity to the regulated community.

Second, the Department made substantive changes to the ventilation provisions of the final-form regulation. Although based on the work done by the Board, the measurement standards have been amended. In its consultations with engineers and architects – all of whom design kennel facilities – those experts confirmed that mechanical ventilation systems were necessary to assure the proper ventilation levels in kennel facilities. The

proper levels were determined by the research done by the Board and additional research done by the Department in drafting the final-form regulation. The research included additional discussions with engineers and architects that design and build kennel facilities, consultations with animal scientists, a meeting with an AKC senior field representative and information and input from Board and Department veterinarians.

The Department, in the final-form regulation, no longer requires a measurement of "air changes per hour", but instead requires a measurement of cubic feet per minute per dog. Air changes per hour have been replaced by cubic feet per minute (CFM) per dog and standards and measuring tools for the CFM per dog standard are quite specific and have been set forth in subsections (b) and (f) of section 28a.2 of the final form regulation.

The change to CFM per dog is consistent with comments submitted by Dr. Kephart of the Pennsylvania State University and discussions and consultations with Dr. Mikesell and Dr. Kephart, as well as, discussions and consultations with engineers from Learned Design and Paragon Engineering Services. Additional, standards related to circulation of the air, minimum fresh air rates and filtration have been established in subsection (f) of the final-form regulation. The provisions of subsection (b) of the final-form regulation now entails information the Department requires of the kennel owner. The information requested is directly related to and provides verification of compliance with the ventilation and air circulation standards established in section 28a.2 and the auxiliary ventilation, humidity and ammonia level provisions established in sections 28a.3, 28a.4 and 28a.5 of the final-form regulation.

Because of the restructuring of the final-form regulation, many of the provisions of section 28a.2 of the proposed regulations have been moved, modified or deleted from the final-form regulation.

In addition, the provisions of section 28a.2(i) requiring 100% fresh air has been deleted from the final-form regulation. Although 100% fresh air circulation is not prohibited by the final-form regulation, the change to the regulation was made after consultations with the engineers and architects that design kennel buildings revealed that a 100% fresh air exchange rate in Pennsylvania would make it too expensive and difficult to heat or cool the kennel housing facility, would not allow for recapture of heated or cooled air and would not allow for proper humidity control in the kennel housing facility. The ventilation standards now established in the final-form regulation are more easily measured and verified, continued to account for the health and safety of dogs housed in commercial kennels and require or allow kennel owners to increase or reduce the air circulation in a kennel based on the number of dogs housed in the kennel facility.

There are two general reasons behind these changes. First, CFM per dog is much more easily measured and verified and is more objective in nature. As set forth in the final-form regulations, compliance will be based on CFM information on the ventilation equipment, certification from an engineer or architect that installed or inspected the equipment and information supplied by the kennel owner and verified by a professional engineer, such as the cubic feet of each area of the kennel housing facility in which dogs are housed and the number of dogs housed or able to be housed in each area of the kennel housing facility. Second, CFM per dog will require and allow kennel owners to design their ventilation systems to have the total capacity required to assure circulation of the proper amount of air required by the regulations for the total number of dogs able to be housed in the kennel housing facility. It will then allow the kennel operator to utilize only

that capacity necessary to achieve the required circulation for the number of dogs housed or kept in the kennel facility. In other words, the system will be easier to design, ventilation rates will be more specific and easier to verify and the system will be less costly to operate. While still requiring the system to be designed to account for the maximum number of dogs the kennel owner will have in the kennel housing facility, it will allow the kennel owner to utilize less of the total capacity of the system if dog numbers decrease. This not only lowers operation costs, but sets a proper standard to assure dogs are not subjected to a circulation standard that is too strong or unable to be enforced. It is a more objective standard, easier to measure and verify and fairer and less costly to operate, as the total CFM rate will increase and decrease based on the number of dogs.

A one time certification, by a professional engineer, of the ventilation, auxiliary ventilation and humidity system to be utilized is required by the final-form regulation. This requirement allows the kennel owner and the Department to assure the required standards can and will be met by the operating system and does not require or rely upon measurements or assessments made by non-engineers such as the kennel owner or State dog wardens.

The illness standards established under the ventilation provisions of the final-form regulation have also been changed from the proposed regulations. Section 28a.2(9) of the proposed regulations, which related to conditions in dogs that were signs of illness and stress has been modified in the final-form regulations. The corresponding provisions of the final-form regulation are found at subsection 28a.2(h).

The Department discussed these issues with animal scientists from the Pennsylvania State University, as well as, with Department and Board veterinarians. The number and type of conditions in dogs that may denote poor ventilation has been reduced and are consistent with the suggestions of the experts consulted. In addition, the signs of stress or illness trigger an investigation of the ventilation, air circulation, humidity levels, heat index values and ammonia levels in the area or room of the kennel where those signs exist in dogs. If the investigation reveals problems in those areas, then proper enforcement action may be taken by the Department. However, the mere existence of the signs of stress or illness does not in and of itself constitute a violation of these regulations.

The type of conditions in dogs and the illnesses or signs of stress listed are all associated with conditions that veterinarians have asserted can result from poor ventilation, air circulation, humidity, heat stress or ammonia or carbon monoxide levels that are not within the ranges established by the regulations. For instance, respiratory distress can be associated with humidity, temperature levels or ammonia levels that are too high, as well as, insufficient air circulation or auxiliary ventilation. Paragraph (2) sets forth all the signs associated with heat distress or heat stroke, which again denotes insufficient air circulation, auxiliary ventilation and/or humidity level controls in that part of the kennel facility. Matted, puffy, red or crusted eyes and listlessness can be associated with high ammonia or high carbon monoxide levels. Fungal and skin disease can denote improper humidity control in the kennel facility.

Third, the final-form regulation no longer requires the reduction of ambient temperature levels in commercial kennels. Although the implementation and use of temperature reducing air conditioning systems is still allowed and preferable, the

Department, after viewing the comments submitted by the Office of Attorney General, Independent Regulatory Review Commission and Legislators related to requiring ambient air temperature reduction when kennel housing facilities exceeded 85 degrees Fahrenheit, decided to utilize the absolute authority set forth in the statute to regulate humidity levels and thereby assure a proper environment. The authority to regulate humidity levels is absolute. The humidity levels established in the final-form regulation are based on animal husbandry and scientific information related to dog survivability and safety and heat index levels. The rationale for the approach and support for the levels established in the final-form regulation is set forth in previous answers to comments and hereafter.

With no temperature control, the Department sought to ascertain the proper humidity levels and auxiliary ventilations standards that would assure the health, safety and welfare of dogs confined to kennels when temperatures rise above 85 degrees Fahrenheit. Kennel owners and others have asserted in their comments that their kennel buildings can be made to "feel cooler" through the use of additional air circulation/ventilation or the mere increase of fan speed and the amount of air being pulled through the kennel building. However, science does not support such a comment or conclusion.

The Department, with the assistance of engineers and Department and Board veterinarians and research provided by Dr. Karen Overall of the Board, reviewed heat index values for cattle, swine, poultry and humans. Those values show that all of those animals are in a danger zone once temperatures rise above 85 degrees Fahrenheit, if there is no correlated reduction in humidity levels. The reason for this is supported by the physiology of cooling. Humans, cattle and equine cool their internal body temperatures by perspiring, which is the most efficient cooling mechanism. Dogs and swine do not have sweat glands over a majority of their body and do not perspire. Dogs cool their internal body temperatures mostly through panting, with a minimum amount of cooling provided by perspiring through the pads on their feet. However, perspiring or panting in and of itself does not result in the cooling of the body. In order for the cooling effect to occur the perspiration or moisture, whether it be a human, cow or on the tongue of the dog, has to be evaporated. On a humid day or in a humid environment there is already a lot of moisture in the air and therefore the evaporative process is either less efficient or does not take place and the internal body temperature continues to rise.

In sum, you can not provide a cooling effect by simply increasing the amount of humid air flowing over the body of a dog or any other animal. Pulling already moist and humid air over the body does not and will not allow for the evaporation of perspiration and therefore will not provide a cooling of the body. The result is that when temperatures rise above 85 degrees, humidity levels must be controlled in order to attain a heat index value that will assure the health, safety and welfare of dogs confined in kennels. The heat index charts, which are attached to the comment and response document, all evidence that value should be set at a maximum heat index of 85 (85 HI).

Finally the Department with the assistance of Board member Dr. Overall found - and along with Department veterinarians reviewed - a dog study that established "survivability" levels for confined dogs. The study, which is attached to the comment and response document, sets forth evidence that beagle dogs can not survive for more than six hours at maximum heat index values of between 100-106 degrees Fahrenheit. The study goes further, to conclude the relative humidity values in the study should be reduced by

twenty percent (20%) to assure the welfare and safety of all dogs. The final-form regulation therefore allows a 4 hour window (consistent with Federal Animal Welfare regulations standards) for kennel owners to reduce the humidity levels in their kennels to attain the required heat index value of 85 (85 HI). However, during that 4 hour window, the heat index value must never go above 90 (90 HI). The maximum heat index value to ensure survivability and safety, the latter requiring the recommended 20% reduction in humidity levels from the study's maximum values, is 95-98 HI. However, this is tempered by the Tufts Animal Condition and Care (TACC) criteria, specifically the TACC Weather Safety Scale, authored by in 1998 by Dr. Gary Patronek, then-Director of the Center for Animals and Public Policy at Tufts University School of Veterinary Medicine and first published in "Recognizing and Reporting Animal Abuse: A Veterinarian's Guide." This widely-used scale, one of several canine assessment tools focused on consequences for the dog, indicates that, even with water and shade available as in a commercial kennel setting, a potentially unsafe situation develops above a 90 degree F temperature, especially for brachycephalic, obese or elderly dogs, as well as dogs under 6 months of age. Although this regulation is based on heat index, regulates relative humidity rather than temperature, and a temperature of over 90 degrees F would be permitted if combined with a relative humidity that would result in a HI of no more than 90, the inclusion of the TACC Weather Safety Scale as a basis for the regulation emphasizes that the standard being set goes beyond survivability to minimize adverse heat-related consequences for dogs in commercial kennels. The survivability study and the TACC Weather Safety Scale are generally acknowledged to be the only two scholarly resources that give specific heat-related safety guidance applicable to canines.

The Department will be able to monitor and regulate this requirement because of a change to the regulation that requires the Department to provide and install the temperature and humidity recording devices. This takes away the cost to the kennel owner of purchasing such devices, allows the kennel owner to constantly and consistently monitor temperature and humidity levels and removes any inconsistency in the devices utilized to take such readings or the areas of the kennel measured.

In conclusion, the Department's research, consultations and discussions support the humidity levels established in the final-form regulation. The humidity levels are necessary and proper for the health, safety and welfare of dogs confined to kennels. The range or humidity levels established for kennels when the temperature is 85 degrees Fahrenheit or below is within normal animal husbandry practices and is set at the least stringent levels suggested. Humidity levels and the time period of exposure established in the final-form regulations for temperatures above 85 degrees Fahrenheit are supported by scientific research performed on animals with more efficient cooling mechanisms than dogs or are based on scientific research specifically done on dogs. Finally, the engineers and architects consulted believe the requirements established by the final-form regulation are attainable and the Department has set forth the cost estimates in the regulatory analysis form that accompanies the final-form regulation.

Fourth, the Department reassessed the auxiliary ventilation standards that must be utilized when the temperature within the commercial kennel rises above 85 degrees Fahrenheit. The Department after consultation with engineers and an AKC senior field representative set forth auxiliary ventilation options that are currently being utilized by

kennel owners and that are approved and verified by the engineers as being attainable and, if properly utilized in conjunction with humidity standards, providing appropriate ventilation to address dog health issues when temperatures rise above 85 degrees Fahrenheit.

Fifth, with regard to lighting, the Department, with the assistance of members of the Board and Department veterinarians did additional research into the issue of the proper illumination levels in kennels. In addition, the Department spoke with animal husbandry scientists at the Pennsylvania State University and with engineers (Learned Design and Paragon Engineering Services) who designs kennel buildings. The consensus was that forty to sixty (40-60) foot candles of light is necessary to assure proper animal husbandry practices, including the ability to monitor the dogs, assure sanitation and cleanliness of the kennel (compliance with statutory and regulatory standards) and provide for the proper health and welfare of the dogs. In addition, the Department researched and reviewed the National Institutes of Health (NIH), policies and guidelines related to biomedical and animal research facility design. The NIH requires average lighting levels in animal facilities to be between twenty-five to seventy-five (25-75) footcandles, which translates to two-hundred seventy to eight-hundred (279-800) lux. The guidelines state the exact lighting levels should be based on species.

The veterinarians and animal husbandry scientists consulted felt the range of 40-60 footcandles, which translates to 430-650 lux, was appropriate for both the dogs and the humans that had to care for those dogs. This level is further supported by the NIH standards for office and administration areas and Penn State University's standards for class room lighting, which are also between 40-60 footcandles. This level will provide for the health and welfare needs of the dogs housed in the facilities and will allow for proper inspection of the facilities and animal husbandry practices, such as cleaning and sanitizing and monitoring the dogs for health issues.

The nighttime lighting provision has been removed from the final-form regulation. However, for clarity purposes the nighttime lighting standard was consistent with studies done that show dogs need a minimum level of nighttime lighting (1-5 footcandles) to allow a natural startle response. The nighttime lighting standard was for the welfare of the dogs. Kennel owners can turn on or add additional light at nighttime if there is a need for them to be in the kennel.

The final-form regulation allows lighting standards to be achieved through the use of either natural or artificial light or both and sets both general and specific standards for each type of lighting. The final-form regulation does not require that a certain area of the kennel facility be devoted to windows or skylights to allow natural light, and utilizes the language of the Animal Welfare Act regulations with regard to the type of coverings for windows and skylights. In addition, the final-form regulation reiterates the language of the Act with regard to excessive light and uniformity of diffusion of such light (which is also consistent with the Federal code of regulations) The Department has also defined excessive light, based on literature provided by a Board veterinarian.

Finally, based on clarity comments set forth by the Independent Regulatory Review Commission, the Department reformatted the flooring section of the final-form regulation. The flooring section now begins by reiterating the standards established by the Act. The last subsection of the flooring section then addresses alternative flooring.

The Board has the authority, but is under no obligation, to address individual

alternative flooring requests or types under section 207(i)(3)(iii) of the Dog Law. That provision clearly states the Board “may” address. The Board is under no obligation to address such requests, either through the regulations or through another avenue such as a public meeting or hearing of the Board (3 P.S. § 459-207(i)(3)(iii)). If the Board chooses to address a particular type of flooring, the Board can determine based on its expertise whether or not that particular type of flooring meets the standards of the Act, set forth at section 207(i)(3)(i) and the animal husbandry and welfare requirements established at section 221(f) of the Act (3 P.S. §§ 459-207(i)(3)(i) and 221(f)).

To the extent the Board, and hence the Department, did address alternative flooring in the final-form regulation, it did so by establishing requirements that are based on animal husbandry, their expertise as veterinarians and input received during their deliberations on the Guidelines. The Department included the standards set by the Board in the initial guidelines and the proposed regulations – such as requiring proper drains, flooring that is not capable of heating to a level that could cause injury to the dogs and will provide a non-skid surface – in the final-form regulations, but added language to these provisions to clarify the intent and provide more objective standards. In addition, based on discussions with Department veterinarians and veterinarians from the Board, the Department added language that provides for the welfare of the dogs, based on proper animal husbandry practices. The Department’s State dog wardens and veterinarian have witnessed the ill effects caused to dogs that are housed on a surface that splays their feet, caused damages to the feet or pads or allows the pad, foot or toenail of the dog to become snared or entrapped. Therefore, an additional provision, subsection 28a.8(d)(4), was inserted into the final form regulation in order to effectuate those animal husbandry and welfare practices. This should add some clarity to the requirements for alternative flooring.

Summary of Major Features

Section 28a.1. Definitions.

This section defines various terms utilized in the body of the regulations to further clarify the regulations. The Department has made significant amendments to the substantive provisions of the final-form regulation, based on comments received after publication of the proposed rulemaking and on research and input from experts (as set forth above) and industry members. As a result the Department has modified the definition of “Excessive light” and has added definitions to the final-form regulation.

“Excessive light” was modified as a result of comments from the Independent Regulatory Review Commission and others regarding clarity. The term “excessive light” and the prohibition against excessive light is actually contained in section 207(h)(8) of the Act (3 P.S. § 459-207(h)(8)). In addition, the prohibition against excessive light is also contained in the Animal Welfare Act regulations at sections 3.2(c) and 3.3(c) (9 CFR §§ 3.2(c) and 3.3(c)). The regulations merely restate the requirements of the Act with regard to excessive light. However, since the definition was questioned, the Department, with the assistance of Dr. Karen Overall of the Board researched what level of lighting would be considered excessive for canines. The result of that research is the definition set forth in the final-form regulation, which essentially states that direct, undiffused light of an intensity that is twelve footcandles (12fc) or more greater than the maximum

footcandles of light (that the dog is raised in) required by the regulations would be considered harmful and therefore “excessive” if it is shining directly into the primary enclosure of a dog.

The following definitions were added and for the following reasons:

“Circulation or circulated air” – This definition was added to provide clarity to the ventilation provisions of the final-form regulation. As set forth in the general synopsis of changes above, the Department made significant changes to the ventilation requirements of the proposed regulations. The changes were based on input from the engineers consulted. Those engineers also suggested adding this definition and provided and approved the language for the definition.

“Commercial kennel” – The definition from the Act was added just to allow more clarity for both the regulated community and the general public.

“Cubic Feet per Minute or CFM” – As set forth more specifically in the comment and response document, based on input from engineers and animal scientists, the Department changed the ventilation measurement standard in the final-form regulation, from “air exchanges per hour” to cubic feet per minute per dog. In general, the change allows for a more accurate, objective and consistent measurement that is easier to comply with and verify. It also provides economic advantages with regard to the ability to tailor the ventilation system and the rate of air circulation to the number of dogs housed in the commercial kennel facility.

“Diurnal light cycle” – The lighting provisions of the final-form regulation – consistent with the requirement set forth in section 207(h)(8) of the Act – mandates that dogs receive a diurnal light cycle. The proposed regulation did not define what that entailed and commentators requested that the Department more fully define or provide substantive language to provide clarity with regard to what pattern of lighting would be considered a diurnal light cycle. The Department decided to define the phrase. The Department consulted animal scientists and the Board and Department veterinarians to come up with an appropriate definition. The definition is consistent with normal animal husbandry practices and definitions.

“Fresh Air Ventilation” – As with the definition of “circulation”, this definition was added to provide clarity to the ventilation provisions of the final-form regulation. The term was also added because of comment related to the phrase “100% fresh air”, which appeared in the proposed regulation. The term now helps to define what percent of the ventilated and circulated air in a kennel facility must be “fresh air ventilation”, which is at least 30 CFM of the total ventilated air. The definition was provided and approved by the engineers consulted.

“Full-spectrum lighting” - Numerous commentators suggested the Department should define full-spectrum lighting in the final-form regulation. Full-spectrum lighting is required for commercial kennels that utilize “artificial” light to illuminate their kennel facility. The Department consulted dictionaries and the internet, as spoke with the

engineers consulted in establishing the definition of “full-spectrum lighting.” Full-spectrum lighting has been available since the 1930’s.

“Heat Index (HI) or Temperature and Humidity Index (THI)” – For reasons set forth more fully and specifically in the comment and response document that accompanies the final-form regulation, the final-form regulation does not require a reduction in ambient temperatures inside a commercial kennel facility. Instead the final-form regulation focuses on appropriate humidity levels. Humidity and temperature levels go hand-in-hand in determining the heat index, which is the human-perceived equivalent temperature. High heat and humidity are dangerous to human and animal health. The Department has utilized heat index charts and studies to determine the proper heat index for dogs. The definition is taken from the definition established by the United States National Weather Service.

“Professional engineer” – The definition was taken directly from the Amusement Ride regulations – section 139.2. This definition was inserted to account for and give clarity to a new provision - (28a.2(b)(1)) - that was added to the final-form regulation. The new provision requires certification by a professional engineer that the ventilation system in the commercial kennel meets all the standards and requirements of the regulation. This is a one time requirement and alleviates the necessity for a kennel owner to purchase measurement equipment or attempt to ascertain compliance on his own or to rely on measurements, readings and calculations performed by the Department.

“Ventilation or ventilating” – The engineers consulted suggested the Department define the terms ventilation or ventilating to provide clarity. The Department agreed and utilized a definition supplied by one and approved both engineers.

Section 28a.2. Ventilation.

As set forth above, generally the provisions of the ventilation section of the proposed regulation have been significantly amended, including changing the measurement of ventilation and air circulation to cubic feet per minute per dog, and provisions related to auxiliary ventilation, humidity and ammonia standards have been reestablished under their own section headings.

The following is information on the specific changes made to the ventilation provisions of the proposed regulation in the final form regulation:

(1) The first sentence of the ventilation provision is not a regulatory standard and has been removed from the final-form regulation.

(2) Section 28a.2(1) regarding the reduction of temperature and removal of dogs once the kennel temperature reaches 85 degrees has been removed from the final-form regulation. As set forth above, the reviewing entities - Office of Attorney General, Agricultural and Rural Affairs Committees of the General Assembly and the Independent Regulatory Review Commission – all questioned the authority of the Department to require the ambient temperature be reduced to or maintained at 85 degrees Fahrenheit in commercial kennels. While temperature reduction is not prohibited and is preferred, the Department utilized its absolute authority and duty to regulate humidity in order to

account for the health and welfare of dogs in commercial kennels, once the temperature rises above 85 degrees Fahrenheit.

(3) Sections 28a.2(2) and (3) of the proposed regulations, related to humidity standards, has been deleted. The Department has reestablished humidity standards under section 28a.4 of the final-form regulation. The humidity provisions in the final-form regulation establish separate and distinct humidity levels for when temperatures in the commercial kennel are 85 degrees Fahrenheit and below and for when the temperature in the kennel facility rises above 85 degrees Fahrenheit. The humidity range for temperatures below 85 degrees Fahrenheit has been broadened to 30%-70% and the humidity ranges acceptable when temperatures rise above 85 degrees Fahrenheit are very specific and based on heat index values. The ranges established are based on consultations with engineers, architects, animal scientists and veterinarians, as well as, national weather service information, heat index standards for animals such as swine, poultry, cattle and humans, a survivability study conducted on dogs and the TACC Weather Safety Scale for dogs. The ranges are therefore based on animal science and evidence of heat stress and are consistent with the ranges engineers suggest are utilized in their designed facilities or are proper and attainable in commercial kennels.

(4) Section 28a.2(4) of the proposed regulation related to ammonia levels has been deleted and reestablished at section 28a.5 of the final-form regulation. The ammonia level standards, after consultation and discussions with engineers, architects, animal scientists and veterinarians, as well as, research cited or done by those experts, denoted that 10 parts per million was too low to effectively measure and monitor. The consensus of the experts consulted was that a level of 15 parts per million or lower was acceptable and proper for animal welfare. All agreed that a level of 20 parts per million still caused eye and respiration problems in animals with long term exposure to such levels.

(5) Section 28a.2(5) of the proposed regulations, related to proper levels of carbon monoxide, has been deleted from the final-form regulation. The final-form regulation reestablishes provisions related to carbon monoxide, since animal scientists and veterinarians agree that the colorless and odorless gas can be harmful or deadly to the dogs. However, the new provisions, established at section 28a.6 of the final-form regulation, does not set a carbon monoxide level, but instead requires carbon monoxide monitors to be installed in any kennel that utilizes a carbon based heating, cooling or ventilating system. This provides the kennel owner with a warning that the dogs and humans in the facility are in danger from high carbon monoxide levels. The expulsion of carbon monoxide and other gases are part of ventilation and regulated under that authority.

(6) Section 28a.2(6) of the proposed regulations related to a malfunction of the mechanical ventilation system has been amended in the final-form regulation – now at 28a.2(g). The kennel owner no longer has to consult with the Department on the steps to be taken and the Department will no longer be required to retain an engineer. Instead, under the new provisions 28a.2(g)(1-4), the kennel owner must immediately take steps to correct the malfunction or failure and if temperatures rise above 85 degrees Fahrenheit, notify the kennel's veterinarian within 4 hours and the Department, after 24 hours, there has been a malfunction. The provision sets forth the time period within which notification must be given and now takes weekends, nights and holidays into consideration. The

kennel owner must contact the kennel veterinarian to consult on any dog health issues and again notify the Department when the malfunction has been repaired.

(7) Section 28a.2(7)(related to particulate matter) of the proposed regulation has been deleted from the final-form regulation.

(8) Section 28a.2(8)(related to air changes) of the proposed regulation has been removed from the final-form regulation. The provisions that were contained in that section of the regulation have been replaced in the following manner:

a. The provisions of 28a.2(8)(i) related to air exchanges per hour have been replaced in the final-form regulation with a cubic feet per minute (CFM) per dog standard (see 28a.2(f)(2) and (4) of the final-form regulation). The rate of 100 CFM per dog per minute is standard practice according to the engineers consulted and comports with the information and suggestions of the animal scientists consulted by the Department. In addition, the 100% fresh air requirement has been deleted from the final-form regulation. Now, a minimum of 30 CFM per dog per minute must be fresh air, the rest may be recirculated. This standard also comports with the standards suggested by the engineers and animal scientists. As set forth more fully in the comment and response document, the change to CFM was made after consultations with engineers and animal scientists and provides for a more objective measurement standard. It will also decrease the cost of compliance and monitoring to both the regulated community and the Department.

b. The provisions of 28a.2(8)(i), (i)(A) and (ii) related to calculating air exchanges per hour have been replaced in the final-form regulation. The final-form regulation now measures ventilation in CFM per dog and certification of the systems by a professional engineer (28a.2(b) and (f)). This includes information regarding the volume and dimensions of the facility and the total number of dogs to be housed in the facility (28a.2(b)). In addition, the Department may take periodic measurements and readings (28a.2(c)(2)).

c. The provisions of 28a.(8)(iii) related to violations have been deleted. The kennel owner will be in violation of any specific section or subsection of the final-form regulation with which he does not comply. The related provisions of 28a.(8)(iv) have also been deleted.

d. Subsection 28a.(8)(v) requiring the Department to hire an engineer if the kennel owner violates a ventilation provision, has been removed from the final-form regulation. The kennel owner, not the Department is responsible for taking steps to attain and assure compliance and the Department has no authority to require the kennel owner to allow a person who is not an employ of the Department into the kennel.

(9) Section 28a.2(9) of the proposed regulation (related to signs of illness and stress in dogs) has been amended in the final-form regulation (28a.2(h) (related to illness and stress)). The number and type of conditions in dogs that may denote poor ventilation has been reduced. In addition, the signs of stress or illness trigger an investigation of the ventilation, air circulation, humidity levels, heat index values and ammonia levels in the area or room of the kennel where those signs exist. If the investigation reveals problems in those areas, then proper enforcement action may be taken by the Department. The mere existence of the signs of stress or illness however, does not in and of itself constitute a violation of these regulations. The type of conditions in dogs and the illnesses or signs of stress listed are all associated with conditions that veterinarians have asserted can result from poor ventilation, air circulation, humidity, heat stress or ammonia or

carbon monoxide levels that are not within the ranges established by the regulations. For instance, respiratory distress can be associated with humidity and temperature levels or ammonia levels that are too high, as well as, insufficient air circulation or auxiliary ventilation. Paragraph (2) sets forth all the signs associated with heat distress or heat stroke, which again denotes insufficient air circulation, auxiliary ventilation and/or humidity level controls in that part of the kennel facility. Matted, puffy, red or crusted eyes and listlessness can be associated with high ammonia or high carbon monoxide levels. Fungal and skin disease can denote improper humidity control in the kennel facility.

(10) Section 28a.2(10) of the proposed regulation (related to dog odor, stale air, moisture and air flow) have been deleted from the final-form regulation. The final-form regulation establishes specific ventilation and ammonia and humidity control mechanisms which if implemented properly will control for all of these factors.

(11) Section 28a.2(11) of the proposed regulation (related to filtering the air with small particle, non-ozone producing air filters) has been replaced in the final-form regulation – at section 28a.2(f)(5) – with filtration standards that merely require a common MERV rated filter that can be acquired at any home building supply store. The minimum MERV value is 8. This is standard practice in kennel facilities designed by the engineers consulted.

(12) Section 28a.2(12) of the proposed regulation (related to applicable codes) has been deleted from the final-form regulation. As set forth more fully in the comment and response document, the Department has no authority to regulate the applicable federal, state or local building codes.

(13) New sections of the final-form regulation and reasons for those provisions:

a. Section 28a.2(a) of the final-form regulation amends the introductory language of section 28a.2 of the proposed regulation. The new language still requires a mechanical ventilation system, but adds the word “functional” for more clarity and to denote it must be able to ventilate and circulate air. The system must also be in operation at all times in order to meet the 100 CFM per dog air circulation standards of the section. The 100 CFM per dog standard was set in conjunction with consultations with engineers that design and build kennel facilities and utilize this rate as a standard in those kennel designs; and in response to animal scientists who suggested a CFM rating per dog was more objective and fair. The CFM rate per dog allows a kennel owner to provide ventilation on a basis that takes into account the number of dogs in the kennel facility.

The final-form regulation also adds language to this section that makes it clear the system must meet the requirements of section 28a.3 (related to auxiliary ventilation), 28a.4 (related to humidity levels), 28a.5 (related to ammonia levels) and 28a.6 (related to carbon monoxide monitoring). These sections are new sections that have been set forth as independent – but related – sections for clarity and form.

b. Subsection 28a.2(b) of the final-form regulation (related to certification of ventilation system) requires written certification, from a professional engineer, attesting they have designed or inspected the system and that the system meets all the standards and requirements of the ventilation, auxiliary ventilation, humidity and ammonia control sections of the regulation and that carbon monoxide monitors are installed where necessary. It also requires the submission of information setting forth the dimensions of the kennel, a description of the mechanical ventilation equipment, including CFM ratings

and the humidity control and auxiliary ventilation equipment or system to be utilized, as well as, the highest number of dogs upon which the certification was based. The latter information will allow the Department to assure no changes have been made to the certified system going forward. Engineers must also set forth where the temperature and humidity monitors required by the regulations must be installed. The time line for submission of such certification is established in subsections 28a.2(b)(2) and (3).

The certification requirement as a whole was implemented in response to comments questioning the subjectivity and expense of kennel owners and State dog wardens having to take individual readings on each visit to assure compliance. Commentators wanted a more objective approach that would be less costly and time consuming to both the regulated community and the Department. By requiring a one-time certification (unless recertification is required based on the standards of that provision) the kennel owner and the Department are assured by an independent, professional party, that the system installed – if operated correctly – meets all the requirements of the regulation. In addition, the engineers consulted have verified that they would already be certifying any system they designed or inspected and that there are enough engineers to handle the certification process that would have to take place in Pennsylvania. This process lowers the cost of compliance, allows for a completely objective approach to assuring compliance, interjects a third party chosen by the kennel owner to design or retrofit the kennel to comply with the regulatory standards, and the party must be a licensed professional engineer, who is familiar with the standards of the regulations and can assure the system installed meets all the parameters of the regulations.

c. Subsection 28a.2(c) of the final-form regulation (related to inspection) establishes the general minimum criteria and standards related to the ventilation, auxiliary ventilation and humidity control systems that will be reviewed and checked during each kennel inspection by a State Dog Warden or other employee of the Department.

d. Subsection 28a.2(d) of the final-form regulation (related to recertification) requires a kennel owner to have his ventilation, auxiliary ventilation or humidity control system recertified by a professional engineer if he is found to be in violation of any of the ventilation, auxiliary ventilation, humidity or ammonia level requirements of the regulation.

e. Subsection 28a.2(e) of the final-form regulation (related to ventilation and circulation) sets forth the general standard provided for in the proposed regulation, requiring mechanical ventilation equipment. It sets forth additional objective and clarifying language requiring the system to physically move air, provide ventilation, fresh air exchange, circulation, heating, dehumidification and filtration and gives examples of the type of equipment that may be included. The mechanical system is necessary to provide and meet the cubic feet per minute ventilation requirements of the regulation. The CFM rates are established based on consultations with engineers that design kennel facilities, animal scientists and veterinarians.

f. Subsection 28a.2(f) of the final-form regulation (related to standards) establishes general and specific ventilation rates for the area of kennels and kennel facilities that house dogs.

Part (1) establishes the general criteria that ventilation and circulation, at the required rates, be provided throughout the kennel and kennel housing facility where dogs are housed, kept or present.

Part (2) establishes the circulation rate – at 100 CFM per dog per minute. This rate is consistent with the rates espoused by animal scientists and engineers that design and build kennel housing facilities. The rate will provide proper ventilation and air circulation. The CFM per dog will be required to be increased when temperatures in the kennel and kennel housing facility rise above 85 degrees Fahrenheit and auxiliary ventilation is required.

Part (3) requires the ventilation system to have the capacity to meet the CFM per dog rate established in Part (2), by requiring the capacity to be based on the highest total number of dogs held in the kennel at any one time.

Part (4) no longer requires 100% fresh air, but instead allows air to be recirculated in the kennel. It requires that at least 30 CFM per dog of the circulated air be fresh air (fresh air is defined in the final-form regulation). The engineers and animal scientists consulted, set this standard forth as a common animal husbandry practice and a standard that will protect the health and welfare of the dogs. In addition, the recirculated air standard will allow kennel owners to control humidity and ammonia levels in the kennel facility and reduce heating costs in the winter months.

Part (5) requires a standard air filter meeting at least a MERV 8 efficiency. These filters are standard filters utilized in ventilation and air circulation systems and can be found in most building supply stores. The standard was suggested by and agreed upon by the engineers and animal scientists consulted.

Part (6) establishes the design and placement of the ventilation to assure it provides proper circulation of air to the dogs housed in the kennel facility. The engineers consulted suggested and agreed upon such language.

g. Subsection 28a.2(g) of the final-form regulation (related to malfunctions) establishes general and specific requirements and actions a kennel owner must take in response to a mechanical malfunction or failure of the ventilation system. This section prescribes notice provisions for when the temperature inside the kennel exceeds 85 degrees Fahrenheit and requires the kennel owner to consult with his veterinarian regarding canine health issues. When temperatures in the kennel building exceed 85 degrees during the malfunction or breakdown the kennel owner has a four hour time period to correct the malfunction, after which he must consult his veterinarian regarding dog health issue, this is consistent with the four hour window provided for humidity levels and dog health issues in other parts of the regulation, and begin recording temperature and humidity levels within the kennel facility. The kennel owner must notify the Department of the malfunction if it exceeds 24 hours and temperatures in the kennel are above 85 degrees Fahrenheit.

Section 28a.3. Auxiliary Ventilation.

As set forth in the general changes statements above, the Department added a section specifically related to auxiliary ventilation. This was done to provide more clarity to the final-form regulation, both with regard to notification of specific standards to the regulated community and authority under the statute. The auxiliary ventilation standards were not clearly or specifically set forth in the proposed regulation. The auxiliary ventilation provisions of the final-form regulation are within the mandates of the Act, which requires, at sections 207(h)(7), "... The Canine Health Board shall determine auxiliary ventilation to be provided if the ambient air temperature is 85 degrees F or higher."

The specific changes made to the final-form regulation regarding auxiliary ventilation are summarized as follows:

(1) General. This section sets forth the general standard required by sections 207(h)(6) and (7) of the Act (3 P.S. §§ 459-207(h)6 and (h)(7)), regarding the requirement that auxiliary ventilation be utilized in any part of a kennel facility where dogs are present, housed or kept, when the temperature in the kennel rises above 85 degrees Fahrenheit. It provides the clarity that the auxiliary ventilation is to be provided in addition too (auxiliary), not in place of the required ventilation and humidity standards of the regulation. The kennel must still maintain the ventilation and humidity controls required by the regulation. It also provides that in the event of a malfunction or failure of the primary ventilation system, the auxiliary ventilation system may be utilized.

(2) Types of auxiliary ventilation. This section sets forth some auxiliary ventilation devices and techniques that may be utilized by the kennel owner. They are based on discussions with an AKC Senior Breed Field Representative that has knowledge of techniques currently utilized in breeding kennels and were reviewed and approved by engineers consulted by the Department. These techniques and devices are not the only ones that can be utilized, but the section provides guidance to the regulated community regarding what may be utilized.

Section 28a.4. Humidity Levels.

The Act, at section 207(h)(7) and 221(f) (3 P.S. §§ 459-207(h)(7) and 459-221(f)) confers upon the Canine Health Board and the Department, as the promulgating agency, the authority and the absolute duty to establish humidity levels that account for the health and welfare of dogs housed in commercial kennels. Section 207(h)(7), states, "Housing facilities for dogs must be sufficiently ventilated at all times when dogs are present to provide for their health and well-being and to minimize odors, drafts, ammonia levels and to prevent moisture condensation.... The relative humidity must be maintained at a level that ensures the health and well-being of the dogs housed therein. The appropriate...humidity...ranges shall be determined by the Canine Health Board." (3 P.S. § 459-207(h)(7)) Section 221(f), regarding the purpose of the Canine Health Board, states, "The board shall determine the standards based on animal husbandry practices to provide for the welfare of dogs under section 207(h)(7)..." (3 P.S. § 459-221(f)).

The standards set forth and established in sections 28a.4(a)(1),(2),(3) and (4) of the final-form regulation are based on discussions with engineers that build and design

kennel housing facilities, animal scientists from the Pennsylvania State University and veterinarians from the Board and the Department.

With regard to the standard humidity range established by section 28a.4(a)(1) of the final-form regulation, the humidity range of 30%-70% when temperatures are below 85 degrees Fahrenheit is a standard range utilized in most animal husbandry practices. This is according to the experts consulted. The engineers and some veterinarians believed the range should be tighter (40% - 65%), but the Department chose to utilize the greater range, since the experts consulted did not believe that range would be detrimental to the welfare of the dogs.

With regard to the humidity levels to be established when temperatures in a kennel facility rise above 85 degrees Fahrenheit, the Department utilized the heat index. The heat index combines the effects of temperature and humidity to come up with a heat index value. The heat index value establishes what a certain temperature and humidity combined actually feels like. A heat index does not require the control of temperature. It in fact allows for higher temperatures, so long as humidity is properly controlled. It thereby gives kennel owners more flexibility than the federal regulations and allows the Department to determine the humidity level that must be attained, when temperatures are above 85 degrees Fahrenheit, in order for the kennel facility to be at a value that will account for the welfare of the dogs housed therein.

The science behind controlling humidity to allow for proper animal welfare is that the higher the humidity level, the more water vapor the air is holding or carrying. The more water vapor in the air the harder it is for any animal to cool its internal body temperature, since cooling of the body is not achieved through mere perspiration or panting, but rather through the absorption of the perspiration by the air passing over the skin of an animal or the tongue of the dog. Air containing high levels of humidity can not absorb the perspiration on the skin or water on the dogs tongue and therefore cooling does not occur or is less efficient. That is why high temperatures and high humidity combine to form heat stress dangers. It is also the reason that merely blowing a larger volume of hot, humid air over a dog or any other animal will not allow for additional cooling of the internal body temperature of that animal.

Section 28a.4(a)(2) addresses the humidity range, expressed in a heat index value, that must be achieved when the temperature in any part of the kennel housing facility rises above 85 degrees Fahrenheit. The heat index value of 85 (85 HI), established by this section, is based on heat index charts that apply to other animals, such as swine, cattle and fowl and also on heat index values that apply to humans. In all cases, a heat index that is higher than 85 (85 HI) begins to put these animals into a heat stress danger. Most of these animals have body cooling systems that are more efficient than those of dogs, with humans being the most efficient. Therefore, the Department believes a heat index of 85 (85 HI) for dogs is the most conservative regulatory approach the Department can take and still provide a humidity level that accounts for the welfare of dogs. The engineers, animal scientists and veterinarians consulted agree a heat index value of 85 (85 HI) is appropriate. In addition, the 85 heat index value is consistent with the temperature extremes regulated by the Federal Animal Welfare Act, which requires kennel owners to reduce temperature levels in kennels to 85 degrees Fahrenheit (9 C.F.R. §§ 3.2(a) and 3.3(a)). It allows a four hour window to achieve that temperature. That temperature extreme is consistent with the heat stress indexes referenced above. Furthermore, a

survivability study conducted on beagles, entitled "A Temperature/Humidity Tolerance Index for Transporting Beagle dogs in Hot Weather", which was sponsored by the Federal Aviation Administration, supports the heat stress tolerances established by this section, as does the TACC Weather Safety Scale for dogs.

Section 28a.4(a)(3) establishes a window of time, once the temperature in the kennel rises above 85 degrees Fahrenheit, for kennel owners to address humidity levels in order to comply with the 85 heat index requirement of the regulation. The four hour window is consistent with the four hour window established by the Federal Animal Welfare regulations (9 C.F.R. §§ 3.2(a) and 3.3(a)), in which a kennel owner must achieve a temperature of 85 degrees Fahrenheit.

The Department's final-form regulation does not require a temperature reduction, and temperatures in the kennel facility may remain above 85 degrees Fahrenheit, after the four hour period, but the humidity levels within the kennel facility must have been adjusted to comply with and achieve a heat index value of 85. In addition, the four hour window is consistent with the survivability study conducted on beagles entitled, "A Temperature/Humidity Tolerance Index for Transporting Beagle Dogs in Hot Weather", which was sponsored by the Federal Aviation Administration. The study referenced above, as well as the Tufts Animal Condition and Care (TACC) criteria, specifically the TACC Weather Safety Scale, authored by Dr. Gary Patronek, then-Director of the Center for Animals and Public Policy at Tufts University School of Veterinary Medicine and first published in "Recognizing and Reporting Animal Abuse: A Veterinarian's Guide," form the basis for setting the heat index cap of 90 (90 HI). A kennel facility may never go above a heat index value of 90 and may not exceed that value during the four hour window provided by the regulation. The survivability study and the TACC Weather Safety Scale are generally acknowledged to be the only two scholarly resources that give specific heat-related safety guidance applicable to canines.

The survival study establishes scientific evidence that most breeds of dogs would not survive for more than six hours in conditions where the heat index rose above 95-98 (95-98 HI). The study is a survival study, so it does not mean that conditions of 95-98 HI are proper or should be sustained for any length of time. An upper cap of 90 HI that may not be crossed was established using both this study and the TACC Weather Safety Scale.

Kennel owners must still utilize auxiliary ventilation immediately upon the temperature reaching 85 degrees Fahrenheit and should begin to immediately take action to decrease humidity levels to assure the 85 HI value required by the regulations is met and maintained. Again, this is the most conservative regulatory approach the Department felt it could take and, based on scientific evidence, still protect the health and welfare of the dogs.

Section 28a.4(a)(4) sets forth how the Heat Index must be calculated and provides an objective standard for both the regulated community and the Department regulator. The Department has attached the heat index chart to the regulation and made it a part thereof. The Department has also provided the website where the heat index calculation can be performed and provided examples of the heat index values.

The Department consulted engineers to assure the humidity levels associated with the heat index values could be achieved and that kennels could be built or retrofitted or employ dehumidification devices that would allow them to meet the standards. The engineers assured the Department such humidity levels could be achieved in commercial

kennels and systems could be designed or dehumidification devices placed to assure compliance.

Section 28a.4(a)(5) sets forth a moisture condensation requirement that is consistent with the edict of section 207(h)(7) of the Act, which requires, "Housing facilities for dogs must be sufficiently ventilated at all times when dogs are present to provide for their health and well-being and...to prevent moisture condensation..." (3 P.S. § 459-207(h)(7)).

Section 28a.4(b)(1) related to "Measurement and Control Standards" delineates and sets clear and objective standards regarding where and how humidity level readings must be taken. A primary concern throughout the comments was that the regulation establish clear standards, including standards denoting how the regulation would be enforced and the measurement standards to be utilized. This language provides the regulated community and the Department clarity with regard to enforcement of this provision.

Section 28a.4(b)(2) establishes the standards the measuring devices must meet and sets forth the requirement that the Department own and therefore pay for the devices. The Department researched devices on the market to assure they met the standards established by this provision and were readily available. The Department also checked with the engineers to assure the devices met with their approvals. In establishing this particular provision, the Department took into account numerous comments that called for a more objective standard for measuring devices and a standard that would reduce the cost to the regulated industry. This provision accomplishes both goals. There will be only one standard type of measuring device that must meet standards established by the regulation. The Department will pay for and install the devices in accordance with the recommendations of the engineer certifying the kennel. Both the kennel owner and the Department may refer to the devices, the kennel owner to assure he is meeting the standards on an hourly and daily basis and the Department to assure the kennel is complying with the humidity requirements of the regulation. The final standard is completely objective, standardizes the measurement devices and reduces the cost to both the regulated community and the Department (both equipment costs and the time cost associated with taking measurements utilizing hand-held devices).

Section 28a.4(b)(3) delineates what Department inspectors will look for and what is required to establish some evidence that the kennel can regulate humidity.

Section 28a.4(b)(4) sets an objective cooling capacity requirement IF air conditioning is utilized in the kennel facility. The requirements were established by the engineers consulted.

Sections 28a.4(b)(5) and (6) make it clear that the humidity monitoring devices may not be tampered with or changed in any manner by any person other than a State dog warden or employee of the Department. This will maintain the integrity of the readings and assure the readings are accurate and not able to be manipulated or changed.

Section 28a.4(b)(7) was put into the regulation to address the concerns expressed by some commentators related to proper calibration of measurement devices and the frequency at which measuring devices will be checked to assure proper accuracy.

Section 28a.4(b)(8) establishes enforcement standards related to the monitoring devices.

Section 28a.5. Ammonia Levels.

The Act, at section 207(h)(7) and 221(f) (3 P.S. §§ 459-207(h) and 459-221(f)) confers upon the Canine Health Board and the Department, as the promulgating agency, the authority and the absolute duty to establish ammonia levels that account for the health and welfare of dogs housed in commercial kennels. Section 207(h)(7), states, "Housing facilities for dogs must be sufficiently ventilated at all times when dogs are present to provide for their health and well-being and to minimize odors, drafts, ammonia levels....The appropriate...ammonia ranges shall be determined by the Canine Health Board" (3 P.S. § 459-207(h)(7)). Section 221(f), regarding the purpose of the Canine Health Board, states, "The board shall determine the standards based on animal husbandry practices to provide for the welfare of dogs under section 207(h)(7)..." (3 P.S. § 459-221(f)).

The level established by section 28a.5(a), was established after consultations with veterinarians and animal scientists. The consensus was that levels of 10 ppm were too low to be accurately measured, but that levels of 20 ppm were too high for long term exposure. Therefore, the agreement was that a level of 15 ppm or lower was the appropriate standard. The 20 ppm decision was based on the expertise of the veterinarians and animal scientists and their experience with animal husbandry and the effects of ammonia levels of 20 ppm on the eyes and respiratory system of agricultural animals. The measurement standards of subpart (b) were established because the science around ammonia establishes that it is a heavy gas that will be found close to the floor of an enclosed building. The consensus of the engineers and the veterinarians was that the readings should therefore be taken at the level of the dogs.

Section 28a.6. Carbon Monoxide Detectors.

The Act, at section 207(h)(7) and 221(f) (3 P.S. §§ 459-207(h) and 459-221(f)) confers upon the Board and the Department, as the promulgating agency, the authority and the absolute duty to establish proper ventilation rates that account for the health and welfare of dogs housed in commercial kennels. Section 207(h)(7), states, "Housing facilities for dogs must be sufficiently ventilated at all times when dogs are present to provide for their health and well-being and to minimize odors, drafts, ammonia levels and to prevent moisture condensation...The appropriate...ventilation...ranges shall be determined by the Canine Health Board" (3 P.S. § 459-207(h)(7)). Section 221(f), regarding the purpose of the Canine Health Board, states, "The board shall determine the standards based on animal husbandry practices to provide for the welfare of dogs under section 207(h)(7)..." (3 P.S. § 459-221(f)). The definition of ventilation set forth in the regulation (meeting the engineers' approval) includes, "...replacing air in any space to control temperature and humidity or remove moisture, odors, smoke, heat, dust, airborne bacteria, carbon monoxide, carbon dioxide, and to replenish oxygen.

The Department after consulting with the engineers, animal scientists and veterinarians from the Board and the Department and reviewing comments, determined that carbon monoxide should be monitored in order to assure the proper ventilation ranges are being achieved and to assure the welfare of the dogs. Carbon monoxide is an

odorless and colorless gas that is deadly if there is prolonged exposure to a range that is too high. The persons consulted felt it was absolutely necessary to – while not establishing ranges – at least monitor for the gas. The final form regulation therefore, does not include any set range, but instead requires the installation of common carbon monoxide monitoring devices in those kennels that utilize a carbon monoxide emitting device. The regulations is therefore tailored only to kennels that may have a carbon monoxide build up, sets an objective standard by requiring common detection devices to be installed and does not add a big equipment or monitoring cost to the regulation.

Section 28a.7. Lighting.

The final form regulation delineates lighting standards for both natural and artificial light in accordance with the duty and requirements set forth in section 207(h)(8) of the Act (3 P.S. § 459-207(h)(8)) and conferred upon the Board and the Department.

The Department agreed with the comments that the first sentence was not proper regulatory language and has removed that sentence from the final form regulation. In addition the final form regulation no longer requires natural light or some of the mandates, set forth in the proposed regulation, associated with providing natural light.

The Department has deleted from the final form regulation what was previously sections 28a.3(1)(i)-(vi) of the proposed regulation. Those sections set forth standards related to natural lighting. The Department agrees there is no legal authority to require natural light, when the statute states light shall be provided by natural *or* artificial means.

The provisions that have been deleted from the final form regulation required that: (i) each dog have exposure to natural light through windows, skylights or other external openings; (ii) a total combined minimum amount of the kennel area that must be external openings, such as windows or skylights (8% of the floor space); (iii) the requirement that dogs be protected from excessive light (this requirement is in the Act and has been reinserted in the final form regulation); (iv) a requirement to provide an outdoor area of shade and (v) and (vi) which set requirements that kennels receiving approval to provide indoor exercise only be required to be configured in a manner that would provide natural light to each primary enclosure and provide full spectrum lighting.

In addition, the proposed regulations set standards, at section 28a.3(2)(i)-(v) that provided requirements for artificial lighting. Those standards have been modified in the final form regulation as set forth below in more detail.

The Department added provisions to the final form regulation that allow for both natural or artificial lighting or both. The final form regulation provides general lighting standards that apply to both natural and artificial lighting and then sets forth specific standards that apply only to natural or artificial lighting.

Section 28a.7(a) of the final form regulation provides the general lighting standards that apply to all lighting no matter if it is provided by natural or artificial means. These general standards – set forth in subsections (1)-(3) and (5) mirror the requirements and standards established in section 207(h)(8) of the Act, which states, “Housing facilities for dogs must be lighted well enough to permit routine inspection and cleaning of the facility and observation of the dogs. Animal areas must be provided a regular diurnal lighting cycle of either natural or artificial light. Lighting must be uniformly diffused throughout housing facilities and provide sufficient illumination to aid in maintaining good

housekeeping practices, adequate cleaning and observation of animals at any time and for the well-being of the animals. Primary enclosures must be placed so as to protect the dogs from excessive light. The appropriate lighting ranges shall be determined by the Canine Health Board” (3 P.S. § 459-207(h)(8))

Subsection 28a.7(a)(1) of the final form regulation relates to the sufficient lighting to allow for observation and maintenance provisions of the Act.

Subsection 28a.7(a)(2) relates to uniform diffusion of the lighting.

Subsection 28a.7(a)(3) sets forth the diurnal lighting cycle language of the Act.

Subsection 28a.7(a)(4) establishes the lighting ranges that shall be provided to carry out the mandates of section 207(h)(8) of the Act. The Department changed these standards in the final form regulation. The changes were based on additional research and consultations undertaken by the Department in response to comments that stated the lighting ranges of the proposed regulations –up to 80 footcandles – were excessive. The standards established in the final form regulation (40-60 footcandles) are based on NIH standards and the fact that exam rooms at the Pennsylvania State University require lighting of 40-60 footcandles. The Department, with the assistance of members of the Board and Department veterinarians did additional research into the issue of the proper illumination levels in kennels. In addition, the Department spoke with animal husbandry scientists at the Pennsylvania State University and with engineers who designs kennel buildings. The consensus was that forty to sixty (40-60) foot candles of light is necessary to assure proper animal husbandry practices, including the ability to monitor the dogs, assure sanitation and cleanliness of the kennel (compliance with statutory and regulatory standards) and provide for the proper health and welfare of the dogs.

Subsection 28a.7(a)(5) reiterates the exposure to excessive light standard of the Act.

Section 28a.7(b) of the final form regulation establishes additional standards that are specific to natural light and artificial light sources.

With regard to natural light, in section 28a.7(b)(1), the Department followed the language of the Federal Animal Welfare Act in requiring that any window or opening, with the exception of the openings that provide for unfettered access to the exercise area, which provides natural light shall be covered with a transparent material such as glass or hard plastic and shall remain unobstructed.

With regard to artificial light, the Department made the following changes to the provisions that were set forth at section 28a.3(2) of the proposed regulations (now section 28a.7(b)(2)(i)-(iii) of the final form regulation):

Section 28a.7(b)(2)(i) still requires that artificial lighting be provided by full spectrum lighting. Full spectrum lighting is the only lighting source that nearly approximates the spectrum of light provided by the sun. According to the veterinarians consulted by the Department, natural sunlight is important for the health of dogs housed in kennels – for vitamin D levels and eye development among other issues. Therefore, the lighting to be provided has been determined to be full spectrum, which most closely imitates the spectrum and wavelengths of light received from the sun. The Department did remove the footcandle provisions from this section and set them forth in the general standards of the final-form regulation. In addition, as set forth previously, the footcandle standard was reduced from 50-80 to 40-60 footcandles.

The Department deleted the requirement – contained in section 28a.3(2)(ii) of the proposed regulations regarding providing night time artificial lighting. The purpose of the

provision was to provide some low level lighting to allow for the dogs natural startle responses. However, it became apparent from the comments received the provision was causing confusion. The veterinarians consulted agreed the provision could be taken out without harming the welfare of the dogs.

What was Section 28a.3(2)(iii)(relating to diurnal lighting cycle) of the proposed regulation was deleted and similar language was moved to the general provisions of the final form regulation.

The Department amended the language of section 28a.3(2)(iv) of the proposed regulation, now section 28a.7(b)(2)(ii) of the final form regulation. After consulting with the Board members, it became apparent that intent of the provision was to assure the lighting was kept in good repair. The Department removed the language “may not have a visible flicker” and utilized language that brings clarity and objectivity to the provision.

The Department amended the language of what was section 28a.3(2)(v) of the proposed regulations, now section 28a.7(b)(2)(iii) of the final form regulation. The purpose of the provision is to assure the lighting sources are placed and utilized in a manner that will not cause injury to a dog. The new language more clearly expresses the intent and gives examples.

Section 28a.3(3) of the proposed regulations, relating to applicable codes has been deleted from the final form regulation. Local codes vary and are enforced by the local township, borough or municipality. The Department could not know all applicable local codes and has no authority to enforce those code provisions. The kennel owners will be required by local and federal code officials to comply with any such applicable codes.

Section 28a.8. Flooring.

The final form regulation, at the suggestion of the Independent Regulatory Review Commission and other commentators, has been amended to delineate the flooring standards established by the Act and to then set forth alternative flooring standards in a separate subsection. This should provide the regulated community with more clarity regarding the standards established by the Act and the regulation.

Subsection 28a.8(a)(1) and (2) reiterate the flooring standards set forth at sections 207(h)(9) and 207(i)(3)(i) of the Act.

Subsection 28a.8(b) reiterates the flooring requirements delineated at section 207(i)(3)(ii) of the Act, related to slatted flooring.

Subsection 28a.8(c) sets forth the Board’s authority under section 207(i)(3)(iii) of the Act and is inserted to provide clarity to the regulated community.

Subsection 28a.8(d) establishes standards for additional flooring options and maintains most of the standards set forth by the Board in their Guidelines and contained in the proposed regulation.

Section 28a.4(1) of the proposed regulation, was deleted and was combined with the language of section 28a.4(2) of the proposed regulation, to form section 28a.8(d)(1) of the final-form regulation. The Department, in response to comments, added clarifying language to this provision, the clarifying language nearly mirrors the language of the Federal Animal Welfare Act regulations regarding proper drainage.

Section 28a.8(d)(2) of the final form regulation was modified to denote that where a drain is provided it shall have a drain cover. The purpose of a drain cover is to assure no dog's foot, paw or pad will become stuck or be harmed by an open drain.

Section 28a.8(d)(3) of the final form regulation modifies the language of Section 28a.4(4) of the proposed regulation. The modifications were made in response to comments that stated these provisions needed more clarity. The Department has more closely set forth the intent of the provision, which is that materials that may harm the dog, because they become exceptionally hot when exposed to direct rays of the sun or a heating source may not be utilized. The Department also separated the provision related to radiant heat flooring from this provision.

Section 28a.8(d)(4) was added after consultation with the Bureau and with Board veterinarians to address animal husbandry and dog welfare issues not addressed in the proposed regulation. The Board is required to address these issues, under section 221(f) of the Dog Law, when reviewing alternative flooring options. The Bureau has witnessed the foot and pad problems set forth in section 28a.8(d)(4) and these are the very problems and dog welfare issues the Act was intended to rectify. The language of this provision makes it clear that alternative flooring that would continue to cause the problems delineated in the provision is not acceptable.

Section 28a.8(d)(5) was added to specifically address the use of radiant heat flooring or floor cooling systems. Radiant heat floors were addressed in the proposed regulation, but commentators expressed confusion regarding the language and requested more clarity. The modified language is intended to add such clarity and objectivity to this provision.

Section 28a.4(5) of the proposed regulation, related to applicable codes for drains has been deleted from the final form regulation. The Department can not know all the separate applicable local codes, nor does the Department have the authority to enforce local codes. The kennel owners will be required by local and federal code officials to comply with any such applicable codes.

Section 28a.8(d)(6) modifies the language of section 28a.4(6) of the proposed regulation. The modifications were made in response to comments suggesting the language of the proposed regulation was not clear or objective enough. The new language adds clarity and objectivity to the requirements of this provision. Examples of materials were deleted, because they seemed to cause confusion as to whether they were the only materials allowed and since the new language adds such clarity.

Section 28a.8(d)(7) was modified in the final form regulation to once again add clarity. The new language is consistent with the provisions of the Dog Law and the Department's current regulations and references the applicable provisions. This should add all the clarity and objectivity necessary for compliance and enforcement.

Section 28a.8(d)(8) of the final form regulation was modified in response to comments related to clarity.

Section 28a.9 Scope and Effective Date. This provision was added to clarify that the regulations pertain only to commercial kennels and to establish the effective date of the regulation.

Fiscal Impact

Commonwealth

The proposed regulations, once published as final-form regulations, would impose additional fiscal impacts upon the Department's Bureau of Dog Law Enforcement (Bureau). As set forth more specifically in the regulatory analysis form, the cost to the Commonwealth, in the first year of the regulations will be approximately \$64,825. The general breakdown of those first year costs are \$30,000 for computer programming upgrades and changes to existing forms, \$16,539 for humidity/temperature data loggers that will be purchased and installed by the Department, \$13,000 to equip the kennel inspectors with the necessary light, ammonia and other measurement devices and \$5000 for training costs. Those costs will be paid for entirely from the Dog Law Restricted Account. No general fund money will be used. The Department, in the Regulatory Analysis Form that accompanies the proposed regulation, has set forth an estimate of costs to the Bureau to enact and enforce the new regulatory standards that would be imposed by the final regulations.

Political Subdivisions

The addition of mechanical ventilation, additional artificial or natural lighting and flooring changes may require UCC permit and inspections. This should not specifically increase or decrease costs to local governments, however. Documentation from the Center for Local Government Services, Department of Community and Economic Development (DCED), confirms that municipalities are collecting fees to cover the expenses of Pennsylvania Uniform Construction Code (UCC) administration and enforcement, so that these proposed regulations will not have a fiscal impact on municipalities. Any additional workload generated by the regulation would be offset by the fees collected in association with the specific permit.

The enforcement of the regulations will neither increase nor decrease any costs to local governments. Compliance with the ventilation, lighting and additional flooring standards required of Class C kennels standards will be enforced solely by the Department. Local governments will have no role in enforcement or any other area associated with the regulations in the Commonwealth.

Most municipalities do not have commercial kennels. Nearly all are in 10 of the 67 counties—more than half are in Lancaster County. Commercial kennels represent about 6% of the total number of kennels regulated by the Department.

Private Sector

The regulations once published as final-form regulations will impose additional costs, most of which will be imposed for initial compliance, on the regulated community (Class C kennels). Class C kennels will likely have to make changes (some significant

depending on the current state of their kennel operation) to comply with the ventilation, humidity, ammonia and lighting provisions of the regulation. The flooring provisions of the regulation actually expand the type of flooring allowed under the act, in section 207(i)(3) and do not impose any new requirement. The costs to the regulated community will be varied, depending on the size and condition of the existing kennel. The Department, in the Regulatory Analysis Form, has provided an estimate of costs for a Commercial Kennel to comply with all of the provisions of the regulation, assuming the kennel does not comply with any of the provisions of the final-form regulation and would not meet current federal regulatory standards. The costs include the cost to install and operate (on a 24/7 basis) the proper ventilation, auxiliary ventilation systems and lighting systems that meet all of the ventilation, humidity, ammonia and lighting standards of the regulation. They also include the cost of any monitoring equipment and the cost of replacing light bulbs and general maintenance. The highest total cost for any kennel in the first year would be approximately \$59,000.

The breakdown of costs are based on a 1500 square foot kennel, which could house about 100 dogs, and generally fall into the following categories: 1. Design, installation and certification of the ventilation, auxiliary ventilation, humidity and ammonia systems - \$12-\$25 per square foot which equals \$37,500 at the top end; 2. Yearly operation of the systems set forth previously and cost of lighting and maintenance and replacement bulbs - estimated at \$6400 per year, at the top end; 3. Cost to install and maintain a full spectrum lighting system - \$12,000-\$13,500 assuming there is no infrastructure or wiring already in place; and 4. Cost to buy all measuring tools (which is not absolutely necessary) of just under \$1000. The total high end cost in the first year of the regulation would be approximately \$58,500.

That said, 50 of the 111 remaining commercial kennels are currently licensed by the USDA and subject to the Federal Animal Welfare Act and its attendant regulations. Those regulations already require, kennels to be heated to at least 50 degrees Fahrenheit and kennel owners to reduce temperature levels in kennels to 85 degrees Fahrenheit (9 C.F.R. §§ 3.2(a) and 3.3(a)). It allows a four hour window to achieve that temperature. In addition, the Federal Animal Welfare Act regulations currently require licensed kennels to have, "...reliable electric power adequate for heating, cooling, ventilation, and lighting, and for caring out other husbandry requirements in accordance with the regulations in this subpart." (9 C.F.R. § 3.1(d)). Ventilation, under the federal standards may be provided by, "...windows, vents, fans, or air conditioning. Auxiliary ventilation, such as fans, blowers, or air conditioning must be provided when the ambient temperature is 85 degrees F...or higher. The relative humidity must be maintained at a level that ensures the health and well-being of the dogs...housed therein, in accordance with the directions of the attending veterinarian and generally accepted professional and husbandry practices." Therefore, the commercial kennels regulated under these regulations should already be utilizing some type of auxiliary ventilation when temperatures are above 85 degrees F, should be providing appropriate humidity control and should be doing so in accordance with proper animal husbandry practices, as established by a veterinarian. They should therefore be incurring some electrical, cooling and heating costs, and should be incurring lighting costs under the standards established by sections 3.2(c) and 3.3(c) of the federal code of regulations.

The remaining commercial kennels are subject to the Department's current regulatory requirements for lighting, ventilation, auxiliary ventilation and temperature and humidity levels, which are vague, but do require some type of systems to be in place.

The ventilation, humidity and lighting standards of the final-form regulation add the specificity (required by the Act itself) that is not part of the current federal or State regulations. The standards established in the final-form regulations were done in consultation with veterinarians from the Board, who did research into the appropriate ranges and standards required for proper animal husbandry practices and were reviewed and confirmed by Department veterinarians, animal scientists and engineers that build and design kennel housing facilities. The final-form regulations impose specific and objective ranges, as required by the Act itself and those ranges are based on animal husbandry practices, data, research and expert advice.

General Public

The final-form regulations may raise the cost of purchasing a dog and therefore may affect purchasers of dogs. The Department however, has no way to know or calculate if such an increase will occur, how much that increase would be or if it would be implemented by all commercial kennels. The general public will however benefit from the implementation of the standards in the regulations, as the standards are intended, as were the amendments to the Dog Law that precipitated the regulations, to improve the health and welfare of the dogs and puppies that are sold to the general public. There are no mandatory requirements imposed on the general public by the regulation.

Paperwork Requirements

The Department will not have to develop a large array of new application forms or review procedures, but will have to amend current kennel inspection forms and implement changes to the current computer program related to kennel inspection. The Department has already worked with its IT department to develop and implement these changes. As set forth in the regulatory analysis form the total estimated cost to make such changes is \$30,000.

Effective Date

The proposed rulemaking will be effective immediately upon publication in the *Pennsylvania Bulletin* as final-form rulemaking, with an effective or compliance date of July 1, 2011.

Additional Information

Further information is available by contacting the Department of Agriculture, Bureau Dog Law Enforcement, 2301 North Cameron Street, Harrisburg, PA 17110-9408; Attn: Special Deputy Secretary Jessie Smith – (717) 214-3447 or Bureau Director Sue West - (717) 787-4833. A copy of the final-form regulation, preamble to the regulation, regulatory analysis form and the comment and response document can be found at the Department of Agriculture's website at: <http://www.agriculture.state.pa.us>.

Regulatory review

Under section 5(a) of the Regulatory Review Act (71 P. S. § 745.5(a)), the Department submitted a copy of the Notice of Proposed Rulemaking published at 39 *Pennsylvania Bulletin* 5315, on September 12, 2009, to the Independent Regulatory Review Commission (IRRC) and to the Chairpersons of the House and Senate Agriculture and Rural Affairs Committees (Committees) for review and comment.

In compliance with § 5(b), the Department also provided the Commission and the Committees with copies of all comments received. In preparing this final-form regulation, the Department has considered all comments received from the Commission, the Committees and the public.

This final-form regulation was deemed approved by the House Agriculture and Rural Affairs Government Committee on _____; was deemed approved by the Senate Agriculture and Rural Affairs Committee on _____ and was approved by IRRC on _____.

Findings

The Department finds that:

- (1) Public notice of intention to adopt this final-form regulation has been given under sections 201 and 202 of the act of July 31, 1968 (P.L. 769, No. 240) (45 P.S. §§ 1201 and 1202) and their attendant regulations at 1 Pa. Code §§ 7.1 and 7.2.
- (2) A public comment period was provided as required by law and all comments received were considered.
- (3) Numerous modifications to this regulation in response to comments received were made, however all such modification were within the scope of the original proposed rulemaking and there was no enlargement of the purpose of the proposed regulation published at 39 *Pennsylvania Bulletin* 5315, on September 12, 2009.
- (4) The adoption of the regulation in the manner provided in this Order is necessary and appropriate for the administration of the authorizing statute.

Order

The Department, acting under the authorizing statute, orders the following:

- (1) The Department of Agriculture adopts the final-form regulation (related to Commercial Kennel canine health) to read as set for in the Annex A.
- (2) The Secretary of Agriculture shall submit this order and Annex A to the Office of General Counsel and Office of Attorney General for approval as required by law.
- (3) The Secretary of Agriculture shall certify and deposit this order and Annex A with the Legislative Reference Bureau as required by law.
- (4) This order shall take effect upon publication in the *Pennsylvania Bulletin*.

RUSSELL C. REDDING,

Secretary

Annex A

TITLE 7. DEPARTMENT OF AGRICULTURE

PART II. DOG LAW ENFORCEMENT BUREAU

CHAPTER 28a. [(Reserved)]

§§ 28.1—28.[3]§ [(Reserved).]

CHAPTER 28a. [CANINE HEALTH BOARD STANDARDS FOR
COMMERCIAL KENNELS] COMMERCIAL KENNEL CANINE
HEALTH REGULATION

GENERAL PROVISIONS

Sec.

- 28a.1. Definitions
- 28a.2. Ventilation.
- 28a.3. [Lighting] Auxiliary Ventilation.
- 28a.4. [Flooring] Humidity Levels.
- 28a.5. Ammonia Levels.
- 28a.6. Carbon Monoxide Detectors.
- 28a.7. Lighting.
- 28a.8. Flooring.
- 28a.9. Scope and Effective Date.

§ 28a.1. Definitions.

The following words and terms, when used in this chapter have the following meanings, unless the context clearly indicated otherwise.

ANSI/U.L. Standard 2034 and IAS 6-96 – Independent laboratory testing standards for carbon monoxide detectors.

Circulation or circulated air – The air that is mixed within a room and typically provides heating and cooling.

Commercial kennel – A kennel that breeds or whelps dogs and (1) Sells or transfers any dog to a dealer or pet shop kennel or (2) Sells or transfers more than 60 dogs per calendar year.

Cubic Feet per Minute or CFM – A measurement of the flow of a gas or liquid that indicates how much volume in cubic feet pass by a stationary point in one minute.

Diurnal light cycle - The daily lighting cycle provided by artificial or natural light or both which shall be twelve hours of light and twelve hours without light. The twelve hours of light shall coincide with and be provided during normal daylight hours.

Excessive light—Direct, undiffused light from either the sun or artificial light, such as from a lighting fixture of an intensity that is twelve foot candles or more greater than the maximum footcandles of light required by this chapter, which is placed or directed in a manner such that the light is allowed to or is shining directly into a primary enclosure of a dog.

Fresh Air Ventilation – That portion of circulated air that is from the outdoors.

Full-spectrum lighting - Full-spectrum light is light that covers the electromagnetic spectrum from infrared through near-ultraviolet, or all wavelengths that are useful to plant or animal life; in particular, sunlight is considered full spectrum, even though the solar spectral distribution reaching Earth changes with time of day, latitude, and atmospheric conditions. When applied to an electrical light bulb the term implies the product emulates natural light.

Heat Index (HI) or Temperature and Humidity Index (THI) - An index, published by the United States National Weather Service, that combines air temperature and relative humidity to determine the human-perceived equivalent temperature. Heat index values

are calculated based on temperature measurements taken in the shade. Exposure to full sunshine can increase index values by up to fifteen degrees Fahrenheit (15 F) and strong winds carrying very hot, dry air will add heat to the body. (United States National Weather Service).

Mechanical ventilation—Ventilation produced by operation of a machine. So long as its operation results in compliance with the standards established in this chapter, a mechanical ventilation system may range from very basic, such as an exhaust fan, to more sophisticated systems such as a HVAC system with temperature and humidity controls.

Primary enclosure—

(i) The primary structure that restricts a dog's ability to move in a limited amount of space, such as a room, cage or compartment.

(ii) The term does not include a run described in section 207(i)(6) of the act (3 P.S. § 459-207(i)(6)).

Professional engineer—

(i) An individual licensed and registered under the Engineer, Land Surveyor and Geologist Registration Law (63 P. S. §§ 148--158.2) or a successor statute to engage in the practice of engineering.

(ii) The term does not include a person who is exempt from licensure and registration under section 5(b) of the Engineer, Land Surveyor and Geologist Registration Law (63 P.S. § 152(b)).

Ventilation or ventilating – The process of "changing" or replacing air in any space to control temperature and humidity or remove moisture, odors, smoke, heat, dust, airborne

bacteria, carbon monoxide, carbon dioxide, and to replenish oxygen. Ventilation includes both the exchange of air to the outside as well as circulation of air within the building. Ventilation is used to remove unpleasant smells and excessive moisture, introduce outside air and to keep interior building air circulating, to prevent stagnation of the interior air.

§ 28a.2. Ventilation.

[Proper ventilation helps ensure that dogs are healthy and not stressed.]

(a) General Requirements: Each area of [the] a commercial kennel and commercial kennel housing facility where a dog[s] [are] is housed, kept or present, including primary enclosures, [must] shall utilize a functional, mechanical ventilation system that provides ventilation [to] in a manner that [satisfy] meets the requirements of this section and sections 28a.3, 28a.4, 28a.5 and 28a.6 of this Chapter. The kennel owner or operator shall assure the mechanical ventilation system is functional, in operation at all times and meets the standards and requirements of this section. The kennel owner or operator shall also assure the auxiliary ventilation system, humidity control system and carbon monoxide detectors are functional, operational and operated or operating in a manner that meets the standards and requirements of this section and sections 28a.3, 28a.4, 28a.5 and 28a.6 of this Chapter.

(b) Certification of ventilation system - The kennel owner shall supply the following information to the Department:

(1) Written Certification under the signature and seal of a professional engineer verifying the professional engineer has inspected the ventilation system to be certified, acknowledging familiarity with the requirements of the Dog Law and this

chapter and certifying that the ventilation system of the kennel meets all of the standards and requirements of this section and sections 28a.3, 28a.4, 28a.5 and 28a.6 of this Chapter. In addition, the certification shall contain the following information:

(i) The total cubic feet of the kennel and kennel housing facility, and the cubic feet of each separate room or area of the kennel and kennel housing facility where a dog is kept, housed or present.

(ii) A description of the mechanical ventilation equipment to be utilized in each room or area of the kennel and kennel housing facility where a dog is kept, housed or present, including primary enclosures. The description shall include the cubic feet per minute capacity of that equipment.

(iii) A description of the humidity control system, devices or equipment to be utilized, including the total capacity of the system, devices or equipment.

(iv) A description of the auxiliary ventilation system, devices or equipment to be utilized.

(v) The highest total number of dogs that will be kept, held or present in the kennel and kennel housing facility, including primary enclosures, at any time.

(vi) The location where each and every device for measuring temperature and humidity required by section 28a.4(b)(1) should be installed in order to accurately measure temperature and humidity as required by this chapter in each area and room within the kennel and kennel housing facility where a dog is housed, kept or present, including primary enclosures.

(2) The certification shall be submitted to the Department by May 30, 2011, for all commercial kennels licensed as of that date, and thereafter, the certification shall

be submitted as part of all commercial kennel license applications; and within 90 days of any change to the volume, cubic feet or linear dimensions of the kennel housing facility where a dog is kept, housed or present, including primary enclosures, a change in the highest total number of dogs kept, held or present, or a change to the volumetric, capacity, circulation or air exchange portions of the ventilation system or a change in any part of the auxiliary ventilation or humidity control system.

(3) A new certification shall not be required for the submission of a commercial kennel license application, if the commercial kennel submitting the kennel license application was licensed in the previous year, submitted a valid certification in that year and there have been not changes to the volume, cubic feet or linear dimensions of the kennel or kennel classification since the submission of the last kennel license application and certification. In such an instance, the certification submitted with the most recent commercial kennel license application may be re-submitted.

(4) The information submitted to the Department shall be kept as part of the kennel's records.

(c) Inspection –

(1) Inspection: A State dog warden or other employee of the Department inspecting the kennel will at a minimum:

(i) Assure the mechanical ventilation system is functional, operational and in operation.

(ii) Assure the auxiliary ventilation system is available, functional and operational and, where the temperature in the kennel exceeds 85 degrees, that the auxiliary ventilation system is in operation.

(iii) Assure the humidity control system is available, functional and operational and operating or operated in a manner that meets the standards and requirements of section 28a.4 of this chapter.

(2) A State dog warden or other employee of the Department inspecting the kennel may take ventilation, temperature, humidity and ammonia level readings and measurements to assure compliance with this chapter.

(d) Recertification – The Department may require recertification by a professional engineer where the ventilation, auxiliary ventilation, humidity or ammonia levels or standards fail to comply with the requirements of this chapter.

(e) Ventilation and Circulation - Kennels and housing facilities where a dog is housed, kept or present, including primary enclosures, shall be equipped with mechanical ventilation equipment that physically moves air and can provide ventilation, fresh air ventilation, circulation, heating, dehumidification and filtration meeting the standards of this chapter. Such equipment includes: air handlers, roof top units, dehumidifiers, furnaces, unit heaters and heat pumps.

(f) Standards - The [following] standards established herein shall be met at all times that a dog is housed, kept or present in the kennel or kennel housing facility, including primary enclosures:

[(1) When the ambient air temperature is 85° F, a form of mechanical ventilation capable of reducing air temperature shall be utilized to reduce air temperature where dogs are present. If the ambient air temperature in any portion of the facility is 86° F or higher, despite mechanical ventilation utilized, dogs may not be present in those portions of the facility. This paragraph does not apply to outdoor exercise areas.

(2) When the temperature is 50—75° F, the relative humidity shall be in the range of 40—60%. The relative humidity shall be measured at standing shoulder level of 10% of the dogs in the kennel, randomly selected from all rooms. Relative humidity may not be measured in a primary enclosure within 30 minutes of the completion of active cleaning of that primary enclosure.

(3) When the temperature is above 75° F, the relative humidity shall be 1%—50%. The relative humidity shall be measured at standing shoulder level of 10% of the dogs in the kennel, randomly selected from all rooms. Relative humidity may not be measured in a primary enclosure within 30 minutes of the completion of active cleaning of that primary enclosure.

(4) Ammonia levels must be less than 10 ppm. The ammonia level shall be measured at shoulder level of dogs housed in the primary enclosure of 10% of the dogs in the kennel at standing shoulder height, randomly selected from all rooms, as well as on the floor of the four corners of the housing facility and at least one location on the floor along each wall of the facility. Ammonia in a primary enclosure may not be measured within 30 minutes of the completion of active cleaning of that primary enclosure.

(5) The means of ventilation employed must ensure that carbon monoxide (CO) levels are maintained below detectable levels in all areas of the kennel. Kennels shall install and maintain CO detectors with the ability to monitor the CO level throughout the entire facility. The detectors must meet or exceed the UL standard 2034 or the IAS 6-96 standard, or its successor standards.]

(1) General: Ventilation and circulation of air shall be provided and distributed throughout the entire area of the kennel and kennel housing facility, at the required

volumetric rates and in the manner required by this chapter in all rooms or areas of the kennel and housing facility where a dog is housed, kept or present, including primary enclosures.

(2) Circulation and volumetric rates: Minimum circulation rates in each area or room of a kennel and housing facility, including primary enclosures, where a dog is housed, kept or present shall be maintained at all times at a total volumetric airflow of 100 cubic feet per minute (CFM) per dog. Volumetric air flow rates may be required to be increased as set forth in the Auxiliary Ventilation provisions of this Chapter.

(3) Design capacity: The mechanical ventilation equipment employed to physically circulate and move the air shall be designed, rated and able to circulate and move the required volume of air based on the highest total number of dogs held in the kennel and kennel housing facility, including primary enclosures, at any one time and shall do so in a manner meeting all requirements of this section.

(4) Fresh air rates: At least 30 CFM per dog of the circulated air shall be fresh air, the rest may be re-circulated air.

(5) Filtration: Filtration of circulated air shall be by disposable filters rated at a minimum efficiency reporting value (MERV) of 8 or higher.

(i) Evidence of the MERV filtration level shall be the information printed by the manufacturer on the filters.

(ii) At a minimum, filters shall be replaced quarterly in equipment serving areas of the kennel and kennel housing facility, including primary enclosures, that houses dogs.

(6) Design and placement: Ventilation shall provide circulation at the height of the dog, meaning the ventilation system shall be designed and placed in such a manner that each dog is in the moving air stream provided by the ventilation.

([6]g) Mechanical malfunction or failure: In the event of a mechanical system malfunction or failure, the kennel and kennel housing facility [must] shall have windows, doors, skylights, or other openings in the structure that are operable and may be opened to [maintain] provide natural ventilation and the auxiliary ventilation techniques established in section 28a.3 may be utilized. In the event of a mechanical system malfunction[,] or failure resulting in a failure to meet the requirements set forth in sections 28a.2-28a.5 of this Chapter, the kennel owner shall do all of the following: [contact the Bureau of Dog Law and consult on the steps to be taken to protect the health and well being of the dogs and take steps to correct the malfunction immediately.]

(1) Kennel temperatures below 85 degrees Fahrenheit: Take steps to correct the malfunction or failure immediately and restore the kennel housing facility to a condition complying with sections 28a.2-28a.5 of the Chapter within seventy-two (72) hours of the occurrence of the malfunction or failure. If at any time during the seventy-two (72) hour period the temperature in the kennel or kennel housing facility, including the primary enclosures exceeds 85 degrees, the kennel owner shall follow and comply with the requirements of subparagraph (2) of this subsection (28a.2(g)(2) below).

(2) Kennel temperatures in excess of 85 degrees Fahrenheit: Take steps to correct the malfunction or failure immediately and restore the kennel housing facility to a condition complying with sections 28a.2-28a.5 of the Chapter within four (4) hours of

such malfunction or failure. If such malfunction or failure cannot be, or is not, corrected such that the kennel housing facility is compliant with sections 28a.2 -28a.5 within four (4) hours of the occurrence of the malfunction or failure, immediately notify the kennel's veterinarian and consult on the steps to be taken to protect the health and well being of the dogs, as well as, contemporaneously keep records of:

(i) the time of the malfunction or failure;

(ii) temperature and humidity readings every four hours thereafter until the temperature is reduced to below 85 degrees;

(iii) the time of the notification to the kennel's veterinarian and all steps taken to protect the health and well being of the dogs.

(3) Malfunctions or failures reaching or exceeding 24 hours: If a failure or malfunction reaches or exceeds 24 hours, immediately notify the Department of the steps being taken to address the malfunction or failure and to protect the health and well being of the dogs. If notification to the Department is required after 4:00 p.m. on a weekday or on a weekend or holiday the kennel owner shall notify the Department by 9:00 a.m. of the next Department business day.

(4) Upon the occurrence of a malfunction or failure requiring the notification set forth in subparagraph (2) of this subsection (28a.2(g)(2) above), notify the Department of the date and time the kennel and kennel housing facility, including the primary enclosures were restored to compliance with sections 28a.2-28a.5.

[(7) The means of ventilation employed must ensure that particulate matter (PM) from dander, hair, food, bodily fluids, and other sources in a primary enclosure are below 10 milligrams per meter cubed. The PM shall be measured at shoulder level of

dogs housed in the primary enclosure of 10% of the dogs in the kennel. The PM may not be measured within 30 minutes of the completion of active cleaning of that primary enclosure.

(8) The following requirements apply to air changes:

(i) The kennel shall provide between 8—20 air changes of 100% fresh air per hour in each room of the facility that houses dogs.

(A) The air changes shall be calculated using the following information supplied by the kennel to the Department:

(I) The volume of the facility.

(II) The linear dimensions of the facility.

(III) The number of primary enclosures.

(IV) The cubic feet occupied by each primary enclosure.

(V) The dimensions of all intake or exhaust vents of any fans as well as their capacity, or other system specifications.

(B) The information shall be submitted to the Department by _____

(Editor's Note: The blank refers to a date after the regulations are published as final-form rulemaking in the Pennsylvania Bulletin.) and within 90 days of any change to the volume of the facility, the linear dimensions of the facility, the number of primary enclosures, or the dimensions of the opening and exhaust vents of any fans. The information submitted to the Department shall be kept as part of the kennel's records.

(ii) Air velocity measurements will be taken at all intake vents or exhaust vents and at shoulder level of dogs housed in the primary enclosure for 10% of the dogs in the kennel randomly selected from each room.

(iii) The kennel owner shall be in violation if one or more of the following apply:

(A) The computed air change rate based on the data submitted under subparagraph (i) is not 8—20 air changes per hour.

(B) If the air change rate as measured at the vents is not 8—20 air changes per hour, and there is a simultaneous noncompliance with any of the requirements in paragraphs (1)—(7), (9)—(12) or this paragraph.

(C) If the measured velocity reading at standing dog shoulder height does not result in a computation of 8—20 air changes in the primary enclosure and the air change in subparagraph (i) is satisfactory violation will not be issued unless there is a simultaneous noncompliance with any of the requirements in paragraphs (1)—(7), (9)—(12) or this paragraph.

(iv) If a computation or measurement under subparagraph (iii) is not satisfactory, the kennel owner shall take the necessary steps to meet the requirements.

(v) The Department may hire or consult with an engineer to recommend improvements be made to kennels to meet compliance with this paragraph.]

(h) *Illness or stress:* [(9) Dogs may not exhibit conditions or] If upon inspection, dogs exhibit conditions or signs of illness or stress associated with poor or improper ventilation, air circulation, auxiliary ventilation or humidity levels the State dog warden or other employee of the Department performing the inspection may take appropriate measurements and readings in all areas of the kennel where such illness or stress is present to determine if the kennel is in compliance with all provisions of this Chapter related to ventilation, auxiliary ventilation, humidity and ammonia levels and may require a recertification under section 28a.2(d) be provided within a time period specified, but in

no event shall the time period specified be more than 30 days or less than 7 days. Signs of illness or stress associated with poor or improper levels of ventilation, air circulation, auxiliary ventilation or humidity, ammonia or carbon monoxide levels include:

(i) 1) Respiratory distress, such as [E] excessive panting, breathing problems and hyperventilation.

[(ii) Elevated body temperature.]

(2) Signs of heat distress or heat stroke, including excessive panting, hyperventilation, increased salivation, gums that are dry, pale, grayish and tacky, rapid pulse, weakness, confusion, inattentive behavior, vomiting, elevated body temperature or rectal bleeding.

(3) Matted, puffy, red or crusted eyes.

(4) Listlessness.

(5) Fungal and skin diseases.

[(iii) Active avoidance of areas of the kennel.

(iv) Shivering.

(v) Huddling of dogs 12 weeks of age or older.

(vi) Mucous dripping from the nose of a dog.

(vii) Redness or crusting of eyes or nose.

(viii) Runny eyes.

(ix) Blindness.

(x) Coughing or sneezing.

(xi) Moist areas of hair.

(xii) Diarrhea.

(xiii) Bloody diarrhea.

(xiv) Vomiting.

(xv) Listlessness.

(xvi) Presence of blood.

(xvii) Death.

(10) The air in the facility may not have excessive dog odor, other noxious odors, stale air, moisture condensation on surfaces, or lack of air flow.

(11) When employing mechanical means of ventilation and recirculating air, the air shall be filtered with small particle, non-ozone producing air filters.

(12) All ventilation systems must comply with the latest edition of applicable codes.]

§ 28a.3. [Lighting.] Auxiliary Ventilation.

(a) General. When temperatures, in any part of a kennel and kennel housing facility where a dog is housed, kept or present, including primary enclosures, rise above 85 degrees Fahrenheit, auxiliary ventilation shall be provided to the dogs in that part of the kennel and kennel housing facility. The auxiliary ventilation shall provide the increased volumetric air flow rates and humidity control required by this chapter and shall be operated in addition to, not in place of, all other ventilation and humidity requirements set forth in this Chapter. Auxiliary ventilation systems may be utilized in the event of a primary ventilation system failure or malfunction.

(b) Types of auxiliary ventilation. Auxiliary ventilation devices and techniques may include:

(1) Utilizing fans or air circulation equipment that increases the total volumetric airflow from 100 cubic feet per minute (CFM) per dog to 200 CFM per dog, either by utilizing any additional capacity the current mechanical ventilation system may provide or by adding additional fans or circulating equipment. The proper humidity levels, as established in section 28a.4 of this chapter, shall be maintained at all times.

(2) Providing cooling by moving or circulating air over cool water coils or piping, cooling towers or ice or providing cooling directly to the primary enclosure or space occupied by the dog by a means capable of cooling the enclosure or floor upon which the dog lays or walks, such as piping or coils capable of carrying cool water under or within the flooring system, and at the same time increasing the total volumetric airflow from 100 cubic feet per minute (CFM) per dog to 200 CFM per dog, either by utilizing any additional capacity the current mechanical ventilation system may provide or by adding additional fans or circulating equipment. The proper humidity levels, as established in section 28a.4 of this chapter, shall be maintained at all times.

(3) Air conditioning sufficient to reduce temperature and humidity levels in the kennel to the required levels.

(4) Geothermal systems sufficient to reduce temperature and humidity levels in the kennel to the required levels.

§ 28a.4. [Flooring.] Humidity Levels.

(a) General Standards: A kennel and kennel housing facility, where a dog is housed, kept or present, including primary enclosures shall meet the following humidity levels:

(1) Temperatures below 85 degrees Fahrenheit. When temperatures in the kennel or kennel housing facility, where any dog is housed, kept or present, including primary enclosures, are below 85 degrees Fahrenheit (85 F), relative humidity levels shall be kept between 30% and 70%.

(2) Temperatures above 85 degrees Fahrenheit. When temperatures, in any part of the kennel or kennel housing facility, where a dog is housed, kept or present, including primary enclosures, rise above 85 degrees Fahrenheit (85 F), the relative humidity level shall be reduced to a level that will accomplish a Heat Index value of eighty-five (85 HI) or lower.

(3) Four hour window. Once the temperature in any part of the kennel or kennel housing facility, where a dog is housed, kept or present, exceeds 85 degrees Fahrenheit (85 F), the kennel owner shall have four (4) hours to accomplish and maintain a heat index of eighty-five (85 HI) or lower, as required by subparagraph (2) above. At no time during that four hour time period or at any other time shall the Heat Index value ever exceed ninety (90 HI) in any area, room or part of the kennel or housing facility, where a dog is housed kept or present, including primary enclosures. If within four hours, the kennel owner is unable to accomplish and maintain a heat index of eighty-five (85 HI) or lower, the kennel owner shall immediately notify the kennel's veterinarian and consult on the steps to be taken to protect the health and well being of the dogs, as well as contemporaneously keep the records required by section 28a.2(g)(2)(ii)-(iii) of this Chapter. If such a failure to accomplish and maintain a heat index of eighty-five (85 HI) or lower exceeds 24 hours, the kennel owner shall contact the Department in the manner prescribed and

provide them with the information required by section 28a.2(g)(3) and (4) of this Chapter.

(4) Calculation of Heat Index. The tool that shall be utilized to determine the Heat Index value and thereby the proper humidity levels when temperatures rise above 85 degrees Fahrenheit (85 F) shall be the Temperature and Humidity Index of the National Weather Service or its successor standard. This is also available at the National Weather Service web site located at: <http://www.crh.noaa.gov/>. and then search heat index; the Heat Index Calculator is located at <http://www.hpc.ncep.noaa.gov/html/heatindex.shtml>.

A chart setting forth the Heat Index values is attached to and hereby made a part of this regulation as Appendix A . (Examples of the Heat Index values are: 86 degrees F and 40 percent humidity = Heat Index of 85 degrees F; 90 degrees F and 20 percent humidity = Heat Index of 86 degree F)

(5) Condensation. Humidity levels, other than during times of cleaning and sanitizing, shall not rise to the level where condensation occurs in any area of the kennel, kennel housing facility or primary enclosures where a dog is housed, kept or present.

(b) Measurement and Control Standards:

(1) Temperature and humidity levels shall be measured in each area or room within the kennel and housing facility where a dog is housed, kept or present and shall be measured and recorded by either a humidity gauge and a temperature gauge or by a thermo-hygrometer, which shall be installed in each room of the kennel and housing facility in which a dog is housed, kept or present.

(2) The measuring devices shall be provided by and be the property of the Pennsylvania Department of Agriculture and will meet the following minimum standards:

(i) Will not require hard wiring, and may be operated by batteries.

(ii) Shall store temperature and humidity data on an hourly basis and for a time period of at least six months.

(iii) Shall be rated as accurate to within one degree Fahrenheit (1F).

(iv) Shall be rated as accurate to within plus or minus two percent relative humidity (2% RH) from 10% to 90% RH.

(3) Evidence of humidity control devices shall be either dedicated dehumidifiers in each room and area of the kennel and housing facility in which a dog is housed, kept or present or may be air conditioning equipment. The equipment utilized shall have documented dehumidification capability.

(4) If air conditioning is utilized, the cooling capacity shall be at least 35 Btu/hr per square foot (1 ton of cooling for every 350 square feet) of animal area as demonstrated by nameplate cooling capability on the cooling equipment.

(5) The humidity gauge and temperature gauge or thermo-hygrometer installed and provided by the Department shall not be tampered with, destroyed, incapacitated, reset or disturbed, including downloading of data, by any person other than a State dog warden or an authorized employee of the Department.

(6) If such a device is tampered with, destroyed, incapacitated, reset or disturbed, it shall be the responsibility of the kennel owner to notify the Department within 24

hours on normal business days and by 9:00 a.m. of the next Department business day if the occurrence is on a weekend or holiday.

(7) The Department will remove and have the device checked for proper calibration and accuracy according to manufacturer specifications. The Department will replace any removed device with an accurate and properly calibrated humidity and temperature gauge or thermo-hygrometer.

(8) Data taken from these devices shall not be used as the sole basis for a civil penalty or criminal penalty under 3 Pa.C.S.A. § 459-903 (a) or (b) for violation of section 28a.4 of this Chapter.

§ 28a.5. Ammonia Levels.

(a) Levels: Ammonia levels in all areas and rooms of the kennel and kennel housing facility, where a dog is housed, kept or present, including primary enclosures shall not be greater than 15 ppm (parts per million) except within 30 minutes of the completion of active sanitation of that primary enclosure.

(b) Measurements: Ammonia level measurements shall be taken at the level of the dogs.

§ 28a.6. Carbon Monoxide Detectors. A kennel or kennel housing facility utilizing any carbon monoxide emitting device, shall install and maintain functioning carbon monoxide detectors in each room or area of the kennel and kennel housing facility in which a dog is housed, kept or present. The carbon monoxide detectors shall meet or exceed the UL standard 2034 or the IAS 6-96 standard, or its successor standards.

§ 28a.7. Lighting.

[Natural lighting is important to the development of dogs. Each kennel shall have a mix of natural and artificial light, provided in the following manners:]

(a) General lighting standard for commercial kennels: Lighting in commercial kennels may be provided by natural or artificial light or both. Whether lighting is provided by natural or artificial light or both, the following standards shall be met:

(1) There shall be ample lighting by natural or artificial means to provide sufficient illumination to allow routine inspection of the kennel, housing facility and primary enclosures and observation of the dogs at any time and to assure proper cleaning and good housekeeping practices and for the well-being of the dogs.

(2) Lighting shall be uniformly diffused throughout the kennel and housing facility where a dog is housed, kept or present, including primary enclosures.

(3) All areas of the kennel and housing facility in which a dog is housed, kept or present, including primary enclosures, shall be provided a regular diurnal cycle through natural or artificial light or both.

(4) The lighting range provided during the twelve hour light period of the diurnal cycle shall be forty to sixty (40 to 60) foot candles, or four-hundred thirty to six-hundred fifty (430-650) lux, in all areas and rooms of the kennel and kennel housing facility, including primary enclosures, where a dog is housed, kept or present.

(5) Primary enclosures and other areas of the housing facility in which a dog is housed, kept or present, including primary enclosures, shall be placed or located in a manner that protects each dog from exposure to excessive light.

(b) Specific Lighting Standards: The following specific standards are in addition to, not in place of, all other requirements meeting the general lighting standards established in this section. The following specific standards shall apply:

(1) *Natural light.* Where kennel and housing facility lighting is provided by natural light, any window or opening, with the exception of the openings that provide for unfettered access to the exercise area, which provides natural light shall be covered with a transparent material such as glass or hard plastic and shall remain unobstructed.

(i) Each dog shall have exposure to light from natural sources passing through external windows, external sky lights or other external openings.

(ii) The minimum combined total of net glazed area of external windows, external sky lights or area of other external openings through which natural light passes within each room where dogs are housed may not be less than 8% of the floor space. All external windows, external skylights and external openings must be transparent and unobstructed to satisfy this section.

(iii) Dogs shall be protected from excessive light.

(iv) Outdoor exercise areas shall provide an area of shade large enough to protect all the dogs utilizing the exercise area from the direct rays of the sun.

(v) If a kennel is granted a waiver for indoor exercise under section 207(i)(6)(x)(B) of the act (3 P.S. § 459-207(i)(6)(x)(B)), the primary enclosure must be configured to allow natural light to come into each primary enclosure.

(vi) If a kennel is granted a waiver for indoor exercise under section 207(i)(6)(x)(B) of the act (3 P.S. § 459-207(i)(6)(x)(B)), full spectrum lighting shall be provided for the entirety of the daytime cycles in areas that house dogs.]

(2) *Artificial light.* Where kennel and kennel housing facility lighting is provided by artificial lighting the following standards shall apply:

(i) [Artificial, indoor, daytime] The artificial lighting [must] shall be provided by full spectrum lighting. [between 50—80 foot candles at standing shoulder level of the dogs for daytime lighting.]

[(ii) Night time artificial lighting must be 1—5 foot candles at standing shoulder level of the dogs of lighting.

(iii) Artificial lighting provided must approximately coincide with the natural diurnal cycle.]

([iv] ii) Lighting sources and systems shall be kept in good repair and functional and shall not have any bulb or part of the system in disrepair, such as being unable to produce light, burned out or emitting irregular bursts of light, such as when a ballast is in disrepair. [may not have a visible flicker.]

([v] iii) Light sources, whether their primary purpose is to provide heat or light, shall be provided in a manner that prevents dogs from being injured (i.e. through [touching] contact with the [a] light, fixture, bulb, switch or cord or through electrocution).

[(3) *Applicable codes.* All lighting must comply with the latest edition of applicable codes.]

§ 28a.8. Flooring.

[Proper flooring is essential for normal behavior and proper orthopedic development of the dogs.] For dogs over 12 weeks of age, the flooring in commercial kennels [must] shall meet the following standards [in the act or as set forth as follows]:

(a) General requirements of the Act.

(1) The floors of all primary enclosures shall be impervious to moisture, as required by section 207(h)(9) of the Dog Law (3 P.S. § 459-207(h)(9)).

(2) All flooring shall comply with the flooring standards established at section 207(i)(3)(i) of the Dog Law, which states “ The floor of the primary enclosure shall be strong enough so that the floor does not sag or bend between the structural supports, shall not be able to be destroyed through digging or chewing by the dogs housed in the primary enclosure, shall not permit the feet of any dog housed in the primary enclosure to pass through any opening, shall not be metal strand whether or not it is coated, shall allow for moderate drainage of fluids and shall not be sloped more than 0.25 inches per foot” (3 P.S. § 459-207(i)(3)(i)).

(b) Flooring constructed with slats. The Dog Law, at section 207(i)(3)(ii) (3 P.S. § 459-207(i)(3)(ii)), allows floors to be constructed with slats so long as the floor is in compliance with the general requirements of the Act, established at section 207(i)(3)(i) (3 P.S. § 459-207(i)(3)(i)), and set forth in paragraph (1) of this section and meets all the following condition:

(1) Is flat.

(2) Has spaces between the slats that are no more than 0.5 inches in width.

(3) Has spaces between the slats that run the length or the width of the floor, but not both.

(4) Has slats that are no less than 3.5 inches in width.

(5) All the slats are level with slat next to it within a single primary enclosure.

(c) Additional flooring options. Any flooring options that may be approved by the Canine Health Board, pursuant to their authority at section 207(i)(3)(iii) of the Dog Law (3 P.S. § 459-207(i)(3)(iii)) shall meet the standards of the Dog Law, section 221(f) of the Dog Law, and the additional flooring requirements established by subsection (d) of this section.

(d) Additional flooring requirements.

[(1) In addition to the flooring already approved in section 207(i)(3) of the act (3 P.S. § 459-207(i)(3)), solid flooring is approved for use.]

[(2)](1) Solid flooring [must] is approved and shall be sloped to a drain that is properly maintained, such as being free of debris and in good repair, so that the drain is functioning and capable of rapidly removing waste and water and keeping animals dry.

[(3)](2) Any drain shall have a drain cover [Drain covers shall be provided and] which shall be securely fixed and made of a noncorrosive substance.

[(4)](3) Flooring [may] shall not be made of a material, that when exposed to a heat source such as the direct rays of the sun, a lamp or radiant heating can rise to temperatures that may cause injury to the skin, feet or pads of a dog [not be metal nor any other material with high thermal conductance. This does not exclude the use of]

(4) The flooring shall not splay the feet of a dog, cause or result in damage such as cuts, swelling or ulceration to the pads of a dog's foot or allow the dog toe or toenail to slip between any openings in the floor thereby causing injury.

(5) [r] Radiant heat flooring, or a [flooring system to cool] floor cooling system, may be utilized to temper the dogs' primary enclosure, but shall not be utilized as the primary heating or cooling mechanism. The temperature of such flooring shall be able to be regulated in a manner that assures it will not rise or fall to levels that would cause injury to a dog's skin feet or pads or cause hypothermia, hyperthermia, heat stress or heat stroke. [provided that a dog has an area to escape the heat if it gets too warm or too cold.]

[(5) All floors and drains must comply with the latest edition of applicable codes.]

(6) The surface of the flooring [must] shall be constructed of such material or in such a manner that it will provide the dogs with [good] footing that is not slippery or slick, such that the dog will have traction and may stand, walk and move about without falling, slipping, sliding or causing injury to its legs, hips or back. Utilizing non-slip coating and textures are one means of providing sure footing. [Examples include sealed concrete, painted concrete, epoxy flooring, sealed wood, textured and sealed tile.]

(7) Flooring shall be made of material that is impervious to moisture, capable of being cleaned on a daily basis or as often as necessary as required by the act and section 21.29 (related to sanitation)(7 Pa.Code § 21.29) of the regulations and capable of being sanitized in accordance with section 207(h)(14) (3 P.S. § 459-207(h)(14)) of the act. [and may be subject to microbial assessment.]

(8) Flooring [may] shall not be made of or coated with materials that can be chewed and readily ingested, or are toxic to dogs or both.

§ 28a.9. Scope and Effective Date.

(a) Scope – These regulations apply only to commercial kennels.

(b) Effective Date – These regulations shall become effective July 1, 2011.

APPENDIX A
85 HI

HEAT INDEX FROM TEMPERATURE
AND HUMIDITY

The following Chart Delineates the Relative Humidity Level That Shall be Reached and Maintained to Achieve a Heat Index Value of 85.

When Air Temperature In Any Part of the Kennel or Kennel Housing Facility, Where Any Dog is Housed, Kept or Present, Including Primary Enclosures Rises Above 85 Degrees Fahrenheit (85 F) The Following Relative Humidity Levels Shall be Achieved and Maintained.

Temperature (air) in Fahrenheit	Relative Humidity (RH)
86 Degrees Fahrenheit	40 % RH or less
87 Degrees Fahrenheit	34 % RH or less
88 Degrees Fahrenheit	28 % RH or less
89 Degrees Fahrenheit	21 % RH or less
90 Degrees Fahrenheit	11 % RH or less
91 Degrees Fahrenheit	6 % RH or less
92 Degrees Fahrenheit	1 % RH or less

NOTE: At temperatures in excess of 92 Degrees Fahrenheit there is no relative humidity level that will allow an HI of 85 to be achieved.

APPENDIX A

90 HI FOUR HOUR WINDOW

HEAT INDEX FROM TEMPERATURE AND HUMIDITY

The following Chart Delineates the Relative Humidity Levels That Shall Not Be Exceeded at Any Time.

Once The Air Temperature in Any Part of the Kennel or Kennel Housing Facility, Where a Dog is Housed, Kept or Present, Exceeds 85 Degrees Fahrenheit (85 F), the Kennel Owner Shall Have No More Than Four (4) Hours to Accomplish and Maintain a Heat Index of Eighty-Five (85 HI) or Lower, as Required by the Regulations. At No Time - During That Four Hour Time Period or at Any Other Time - Shall the Heat Index Value Ever Exceed Ninety (90 HI) in Any Area, Room or Part of the Kennel or Housing Facility, Where a Dog is Housed Kept or Present, Including Primary Enclosures.

Temperature (air) in Fahrenheit	Relative Humidity (RH)
86 Degrees Fahrenheit	58 % RH or less
87 Degrees Fahrenheit	53 % RH or less
88 Degrees Fahrenheit	48 % RH or less
89 Degrees Fahrenheit	43 % RH or less

Temperature (air) in Fahrenheit	Relative Humidity (RH)
90 Degrees Fahrenheit	39 % RH or less
91 Degrees Fahrenheit	35 % RH or less
92 Degrees Fahrenheit	30 % RH or less
93 Degrees Fahrenheit	25 % RH or less
94 Degrees Fahrenheit	20 % RH or less
95 Degrees Fahrenheit	13 % RH or less
96 Degrees Fahrenheit	10 % RH or less
97 Degrees Fahrenheit	7 % RH or less
98 Degrees Fahrenheit	3 % RH or less

NOTE: At temperatures in excess of 98 Degrees Fahrenheit there is no relative humidity level that will allow an HI of 90 to be achieved.

COMMENT AND RESPONSE DOCUMENT
PROPOSED REGULATION
Canine Health Board Standards for Commercial Kennel Regulations
AGR 2-170
7 PA Code, Chapter 28a

Comments of the Independent Regulatory Review Commission
Department of Agriculture Regulation #2-170 (IRRC #2785)
Canine Health Board Standards for Commercial Kennels
November 30, 2009

We submit for your consideration the following comments on the proposed rulemaking published in the September 12, 2009 Pennsylvania Bulletin. Our comments are based on criteria in Section 5.2 of the Regulatory Review Act (71 P.S. § 745.5b). Section 5.1(a) of the Regulatory Review Act (71 P.S. § 745.5a(a)) directs the Department of Agriculture (Department) to respond to all comments received from us or any other source.

Comments: General - Statutory authority; Legislative intent; Fiscal impact; Need; Consistency with statute.

1. Fiscal impact

Several commentators, including legislators, expressed concerns over the fiscal impact of this proposed regulation on both the Department and the regulated community. The Preamble of the proposed regulation provides no cost estimates but it does refer to the Department's estimates in the Regulatory Analysis Form (RAF) that was submitted with this proposed regulation. In item #17 on page five of the RAF, the Department offers a total cost estimate of \$12,955 for commercial kennels. In contrast, the Pennsylvania Farm Bureau (PFB) stated that the total costs for the required upgrades could range from \$200,000 to over \$1 million.

Another aspect of increased costs that is not mentioned in the RAF is kennel staff costs. The statutory requirements for flooring and exercise areas do not allow kennel operators to rely on wire floors to allow for easy removal of dog wastes and fluids. In order to clean and maintain the dogs, and floors or flat surfaces in primary enclosures and exercise areas, there may be a need for additional staff at kennels which will increase costs. The Department needs to include these factors in its cost estimates for commercial kennels.

The feasibility and fiscal impact of certain provisions in the proposed regulation, particularly those in the areas of ventilation and lighting, are of particular concern. As expressed by Representative Michael K. Hanna in his letter dated October 27, 2009, and by Senator Mike Brubaker in his remarks on the Senate floor urging his colleagues to

support the legislation that became Act 119 (see Senate Journal, October 8, 2008, p. 2636), the intent of the 2008 amendments to the Dog Law was that commercial kennels would continue to operate successfully in Pennsylvania. The Department needs to estimate the full economic impact of this proposed regulation.

2. Rulemaking authority

Senator Brubaker, by letter dated October 27, 2009, and Representatives Sam Smith, John Maher (Republican Chairman of the House Agriculture and Rural Affairs Committee), Jerry Stern, Sam Rohrer, Scott Hutchinson, Jim Cox, Gordon Denlinger, Mark Keller, David Millard, Tina Pickett, Jeffrey Pyle, Michele Brooks, Michael Fleck, Carl Walker Metzgar, Richard Stevenson and Martin Causer via a joint letter dated October 27, 2009, (Representatives' comments) submitted objections and recommendations on the proposed regulation. Both Senator Brubaker and the Representatives' comments expressed concern with the roles of the Department and Canine Health Board (Board) in the development of this proposed regulation and in receiving comments on the rulemaking.

Section 221 (g) of the Dog Law (Law) (3 P.S. § 459-221(g)) gave the Board the task of issuing guidelines. However, it placed the task of issuing the regulation with the Department. Section 902 of the Law gives authority to the Secretary of Agriculture to promulgate rules and regulations to carry out the provisions and intent of the statute. It is clear that the Department is the sole entity with the authority to promulgate and enforce regulations. Unlike some other boards, such as the Environmental Quality Board which is empowered with rulemaking authority by statute, Act 119 did not give such authority to this Board. The Department needs to provide a statement with the final-form regulation that fully explains its authority in rulemaking and the functions of the Board.

3. Public interest

Section 5.2 of the Regulatory Review Act (71 P.S. § 745.5b) directs the Independent Regulatory Review Commission (Commission) to determine whether a regulation is in the public interest. When making this determination, we consider criteria relating to economic or fiscal impact and reasonableness. To make that determination, the Commission must analyze the text of the Preamble and proposed regulation and the reasons for the new or amended language. The Commission also considers the information a promulgating agency is required to provide in the Regulatory Analysis Form pursuant to Section 5(a) of the Regulatory Review Act (71 P.S. § 745.5(a)). This proposed rulemaking is a comprehensive set of provisions under the Law. The Preamble included with the proposal does not provide an adequate description of the numerous sections of the rulemaking and the rationale behind the language. Without this information, this Commission is unable to determine if the regulation is in the public interest. In the Preamble submitted with the final-form rulemaking, the Department should provide more detailed information, including a description of the language proposed for each section of the regulation and why the language is required.

RESPONSE

1. Fiscal Impact: The Department has fully set forth costs estimates in the regulatory analysis form that accompanies the final-form regulation. The regulatory analysis form provides cost estimates for implementation of the final-form regulation, including estimates received from engineers and architects or firms that design and/or build kennels. The cost estimates are based on the language of the final-form regulations related to ventilation, auxiliary ventilation, humidity, ammonia and carbon monoxide controls and lighting requirements. The Department points out that the Farm Bureau offered no data or other information to substantiate the costs estimates it submitted in its comments. The Department has done that research and set forth what it believes to be the appropriate costs associated with the final form regulations.

The Commission must keep in mind that the majority of costs of redesign and construction were imposed by the Act itself and should not confuse those costs with the costs imposed by the regulations. In fact, the Commission's comment related to wire flooring and additional staff costs imposed because of the prohibition against wire flooring is a condition imposed by the Act itself and not the regulations. All of the flooring requirements are imposed by the Act. The regulations mirror the language of the Act and set forth standard the Canine Health Board will consider when approving any **additional types of flooring** submitted by the regulated community (which would be their choice of flooring – not a choice imposed by the regulations). Therefore, the regulations themselves do not impose additional costs related to the types of flooring that must be utilized in kennels. Sections 207(i)(3)(i) and (ii) of the Dog Law impose those costs, including any additional manpower costs related to cleaning or care of the flooring. In addition, the Act, not the regulations, sets forth the requirements for exercise areas. The regulations do not impose any requirements on or for the exercise areas of the kennel and therefore, impose no costs related to the exercise area of the kennels. Furthermore, many of the conditions and requirements imposed by the regulations (as set forth more fully in responses to questions related to specific provisions of the regulations) are standards with which kennels regulated by the United States Department of Agriculture are already required to comply and therefore, although part of the cost estimates set forth in the regulatory analysis form, those standards, if already being complied with, will not in practice impose any additional costs on those types of kennels.

More specifically with regard to the fiscal impact of the regulations, the final-form regulations have been substantially and substantively changed. As set forth in greater detail to other similar comments, the final-form regulatory analysis form has captured the applicable and reasonable cost of the regulation. The Department has consulted with engineers that build and design kennel housing facilities and they have provided the cost estimates of implementing the regulatory provisions, either with regard to retrofitting an existing kennel or building a new kennel. In addition, the Department has researched once again, the cost of any measurement equipment to be utilized, reviewed training and paperwork costs and other costs estimates required in the regulatory analysis form.

The amendments made to the final-form regulation, besides being based on expert input from engineers and architects that design and build kennel facilities, animal scientists from the Pennsylvania State University and veterinarians from the Canine Health Board and the Department, also reduce the cost of compliance with the regulation in several ways.

The final-form regulation contains no requirement for temperature reduction. Air conditioning or HVAC is allowed but not required. The final form regulation focuses on humidity levels in kennel housing facilities, and expands the range of the humidity level to 30%-70% when temperatures are between 50 and 85 degrees Fahrenheit. The final form regulation requires additional humidity reduction when temperatures inside the kennel housing facility rise above 85 degrees Fahrenheit, but allow the kennel owner four hours to reach the humidity level necessary to assure a 85 Heat Index value in the facility. The humidity ranges are based on expert analysis and opinion provided by the engineers consulted (Learned Design, Paragon Engineering Services), animal scientists and Canine Health Board and Department veterinarians, as well as animal heat index charts.

The Department with the assistance of Dr. Overall from the Canine Health Board found and utilized a dog survivability study that pinpoints the upper most range of the heat index that would allow for survival of dogs. The upper most Heat Index value is based on the results and recommendations of a survivability study conducted on beagles. The study entitled "A Temperature/Humidity Tolerance Index for Transporting Beagle Dogs in Hot Weather", was sponsored by the Federal Aviation Administration and authored by Gerald D. Hanneman and James L. Sershon. The document is available to the public through the National Technical Information Service, Springfield, Virginia 22161.

The Heat Index Value is also based on the Tufts Animal Condition and Care (TACC) criteria, specifically the TACC Weather Safety Scale, authored by in 1998 by Dr. Gary Patronek, then-Director of the Center for Animals and Public Policy at Tufts University School of Veterinary Medicine and first published in "Recognizing and Reporting Animal Abuse: A Veterinarian's Guide." This widely-used scale, one of several canine assessment tools focused on consequences for the dog, indicates that, even with water and shade available as in a commercial kennel setting, a potentially unsafe situation develops above a 90 degree F temperature, especially for brachycephalic, obese or elderly dogs, as well as dogs under 6 months of age. Although the regulation is based on heat index, regulates relative humidity rather than temperature, and a temperature of over 90 degrees F would be permitted if combined with a relative humidity that would result in a HI of no more than 90, the inclusion of the TACC Weather Safety Scale as a basis for the regulation emphasizes that the standard being set goes beyond survivability to minimize adverse heat-related consequences for dogs in commercial kennels. The survivability study and the TACC Weather Safety Scale are generally acknowledged to be the only two scholarly resources that give specific heat-related guidance applicable to canines.

The Department will purchase temperature and humidity monitoring devices to be installed in kennels as set forth at subsections 28a.4(b)(4) and (5) of the final-form regulation. In deciding to purchase the temperature and humidity monitoring devices the Department took into account the comments of kennel owners and other related to the cost to the kennel owners of having to purchase such equipment to monitor their kennels and the issue of standardization of such equipment so that measurements are taken in the same manner and by the same type of equipment. The Department will bear the cost of buying, calibrating, replacing and installing the monitors and kennel owners will be able to continually check the monitors to assure their kennel facility is in compliance with the standards of the regulations.

The ventilation system language and requirements are based on consultations with and were reviewed by engineers – that design and build kennel housing facilities – and

discussions with animal scientists. The humidity levels are based on consultations with animal scientists from the Pennsylvania State University, Canine Health Board and Department veterinarians, scientific research undertaken by Dr. Overall of the Canine Health Board, standards already contained in the Federal Animal Welfare Act and the experience and expertise of engineers that design and build kennel housing facilities.

The final-form regulation implements changes, such as establishing ventilation standards in cubic feet per minute per dog instead of air exchanges per hour. This was done in response to comments from and discussions with the architects, engineers and animal scientists consulted by the Department. This allows the Department to check the CFM or capacity rating on the ventilation and air circulation equipment employed by the kennel owner to assure it meets the required air circulation values. It also allows the kennel owner and engineer or architect to design and base the ventilation system on an objective capacity rating as opposed to a more subjective air exchange rate.

The final-form regulation requires written certification under the signature and seal of a professional engineer verifying the engineer has inspected the ventilation system and that it meets all of the requirements of the regulations, including auxiliary ventilation and humidity standards. This change was made in response to comments that the ventilation standards were too subjective, too burdensome to continually assure compliance, could result in different readings depending on the equipment utilized or the place in the kennel the readings were taken and were too expensive to monitor. The certification is a one time cost, that according to the engineers consulted, is part of the price quoted for a project. The engineers would already certify a system to comply with applicable regulations and code requirements. Therefore, the change allows for an objective standard, does not increase the cost of the regulation and in fact decreases equipment, monitoring and training costs and allows for a professional third party, trained in to make such evaluations to assure the system installed or retrofitted to the kennel meets the requirements of the regulations.

The final-form regulation also allows up to seventy percent (70%) of the air to be re-circulated, as opposed to 100% fresh air. That change will reduce the necessity to purchase air circulation monitoring equipment and provides an objective measurement of air circulation, while at the same time, reducing the cost of operation to the kennel owner. The changes were contemplated in response to issues set forth in the comments received and were made pursuant to the Department's consultation with animal scientists and engineers – Learned Design and Paragon Engineering Services – that design and build kennel housing facilities.

The cost of the mechanical ventilation system will vary according to the sophistication and complexity of the system the kennel owner decides to install. However, the Department has consulted several engineers and engineering companies that build kennel buildings and asked them to assess the cost of designing and installing a ventilation system that would meet all the ventilation requirements – including auxiliary ventilation and humidity levels - of the final-form regulation. The costs are based on a kennel owner having to retrofit or build from the ground up and include the cost of installing all of the equipment, even though most kennel owners, especially those subject to United States Department of Agriculture regulations, should already have some form of mechanical ventilation, auxiliary ventilation and – in the case of USDA – temperature control devices already installed in the kennel. These estimates do not take into account the fact that kennel owners already had previous existing utility costs. In fact, the Federal Animal Welfare Regulations, at section 3.1(d)(related to housing facilities, general)

require, "The housing facility must have reliable electric power adequate for heating, cooling, ventilation, and lighting and for carrying out other husbandry requirements in accordance with the regulations in this subpart..." (9 CFR § 3.1(d)). Therefore, the costs estimates, which are set forth in the regulatory analysis form that accompanies the final-form regulation will most likely set forth a greater cost than will be necessary for or actually incurred by many kennels.

Although the need for specific measurement tools has been significantly reduced by the changes made to the final-form regulation, the cost of any measurement tools has been assessed by the Department and added to the regulatory analysis form. The kennel owner may elect to purchase a light meter or ammonia level meter or both. The kennel owner will be able to utilize the Department's temperature and humidity monitoring devices to assure compliance with those standards and capacity or CFM standards for air circulation will be certified by an engineer and can be calculated based on the cubic feet of each area of the kennel housing dogs and the total number of dogs housed in that area of the kennel. The capacity or CFM rating is listed on fans and other forms of mechanical ventilation and the professional engineer, State dog warden and kennel owner can match those standards without buying any monitoring equipment. The kennel owner can adjust the level of the air circulation based on the number of dogs in the kennel at any one time, and no additional equipment or monitoring devices are necessary for such calculations. Standard carbon monoxide monitors, for those kennels that need to install them, will have to be purchased, but actual carbon monoxide level readings will not have to be taken, so no additional devices are necessary.

The Department has no baseline data with regard to a kennel's current utility costs, so it is impossible to project the amount of any increase in such costs. However, the regulatory analysis form accompanying the final-form regulation does estimate the average yearly cost of operating a system that would meet the ventilation, auxiliary ventilation and humidity standards of the regulations. These estimates do not take into account the fact that kennel owners already had previous existing utility costs. Therefore, the estimates set forth in the regulatory analysis form will include those already existing costs. The existing costs for kennels regulated by the USDA will be much less, as those kennels already had to comply with specific heating (50 F) and cooling (85 F) regulations and therefore, should already be operating heating and cooling systems in their kennels. The Federal Animal Welfare Act regulations in fact require the kennel to reduce the temperature to 85 degrees Fahrenheit.

In addition, both the Federal Animal Welfare Act regulations and the Department's current regulations require the use of auxiliary ventilation when temperatures in kennels rise above 85 degrees Fahrenheit, so kennels should already have some form of auxiliary ventilation in place or available.

The lighting should not cost any additional amount, since kennels were already required, by the Department's current regulations and USDA regulations to provide a diurnal lighting cycle and enough light to allow for observation of the dogs and normal animal husbandry practices. The amendments made by Act 119 also require and set forth those same general standards. The new regulations quantify the intensity of the light to be provided and the type of lighting. The regulatory analysis form sets forth the cost estimates to install new full spectrum lighting, if a kennel does not already have such lighting, but there should be no additional cost of operating the lighting, since proper lighting is already required.

In short, the Department consulted with engineers who design and build kennel buildings, to determine the potential cost of the ventilation, auxiliary ventilation, humidity, ammonia and lighting standards of the final-form regulation. The new cost estimates, set forth in the accompanying regulatory analysis form, are based on their input. The final-form regulation, especially the ventilation provisions of the final-form regulation, has reduced the need for some of the measurement equipment that would have been required by the proposed regulation. Although the need for specific measurement tools has been significantly reduced by the changes made to the final-form regulation, the cost of any measurement tools has been assessed by the Department and added to the regulatory analysis form.

The Independent Regulatory Review Commission (IRRC) must decide whether the final-form regulations are in the best interest of the general public. In doing so the IRRC must consider all the costs associated with the regulation and can certainly consider costs associated with not properly regulating the industry. Regulations can impose costs on the regulated community and others. In fact, most if not all regulations do impose costs. But, the costs must be accounted for and justified under the duty imposed by the statute. The Department in the final-form regulation has worked diligently to assure the regulation is within the parameters of the statutory authority granted by the Act, is objective in nature, sets forth measurable standards and imposes reasonable standards and costs to accomplish the duty imposed on the Department by the statute. The Department has also assured, through consultation with experts in the field, such as the engineers, animal scientists and veterinarians, that the final-form regulations provide for design options and are workable and able to be implemented, while at the same time accounting for the health and welfare of the dogs housed in commercial kennel housing facilities.

2. Rulemaking Authority: The Department under its authority at sections 902 and 221(g) of the Dog law is the promulgating authority (3 P.S. §§ 459-902 and 459-221(g)). The Department reviewed the "Guidelines" drafted by the Canine Health Board and with some changes to account for form and legality drafted the Guidelines as proposed regulations. The Department held the public hearing required by section 902 of the Dog Law. The Department also drafted the preamble to the proposed regulations and the regulatory analysis form. The Department then received, reviewed and formatted all comments submitted by the public, House and Senate Committees and the Independent Regulatory Commission. The Department consulted with the Canine Health Board members, as well as, with Department veterinarians, architects, engineers, a regulated community group and animal scientists, as well as doing its own research with regard to questions and issues that arose from the comments. The Department utilized all of these resources in making changes to the final-form regulations, drafting the comment and response document and putting together the preamble and regulatory analysis form that accompanies the final-form regulations. The Canine Health Board did not act in its official capacity and was utilized by the Department for its expertise in veterinary matters, just as other groups were questioned and consulted in their areas of expertise. In general, the Department acted as the promulgating authority throughout the regulatory process and utilized the expertise of – among others – the Canine Health Board to answer questions and concerns expressed by commentators.

3. Public Interest: The language of the preamble to the final-form regulation does reflect the overall language of each section of the regulation and the rationale for that language and any changes made to the original language of the proposed regulation.

Comments: Specific by Section:

1. Section 28a.1. Definitions. - Reasonableness; Possible conflict with other regulations; Implementation procedure; Clarity.

The definition of "excessive light" is vague. There is no indication of what levels and types of light would be excessive or cause harm or discomfort to dogs. The Department needs to clarify the purpose and intent of this definition and its related provision at Section 28a.3(I)(iii). Depending on how this term is defined, interpreted or applied, Sections 28a.3(I)(i) and (ii), relating to dogs' required exposure to natural light, may be in conflict with Section 28a.3(I)(iii) if natural sunlight is determined to be excessive. If the intent is that primary enclosures should provide shade from direct light regardless of whether it is natural or artificial, then such a statement should be included in the final-form regulation and this definition could be deleted.

RESPONSE

The Department has provided a detailed definition of "Excessive light." The added detail is based upon discussions with members of the Canine Health Board (Board) and research undertaken by Dr. Karen Overall (who is a member of the Board). The research and citation is that light of 130-270 lux above the light intensity under which an animal was raised damages retinas in albino rats. Albino rats are actually a good model for dogs because of the genetics of coat color and tapetal color. Dogs, especially those with complex color patterns, do not have the same pigmented retinas that we are accustomed to seeing in humans. The reference for this discussion is: Guide for the Care and Use of Laboratory Animals, Institute of Laboratory animal Resources, Commission on Life Science, National Research Council, National academy Press, Washington, DC, Chapter 2: Animal Environment, Housing, and Management, page 35. (<http://www.nap.edu/readingroom/books/labrats/>). The original reference is: Semple-Rowland, SL, Dawson WW. 1987. Retinal cyclic light damage threshold for albino rats. Lab. Anim. Sci. 37(3):289-298. Only an abstract, Attached as Exhibit A, is readily available.

Note: The regulations set forth light parameters in footcandles. One footcandle is equal to 10.467 lux. Lux and footcandles are different units of the same quantity and therefore it is perfectly valid to convert footcandles to lux or lux to footcandles. A footcandle conveys the illuminance cast on a surface by a one-candela source one foot away.

2. Section 28a.2. Ventilation. - Statutory authority; Fiscal impact; Need; Reasonableness; Consistency with statute; Feasibility; Implementation procedure.

a. Ambient air temperature

(i) Please explain the authority for the Department to require, in Paragraph (1), that the ambient air temperature be kept below 85°F. Section 207(h)(7) of the Law reads: "The Canine Health Board shall determine auxiliary ventilation to be provided if the ambient air temperature is 85 degrees F or higher." Furthermore, Senator Brubaker expresses concern that the definition of "mechanical ventilation" is "subjective enough that an inspector may have the ability to demand air conditioning." While the Department has the authority to require mechanical ventilation when the temperature goes above 85 degrees, the Senator asserts that the Department does not have the authority to require temperature reduction. We agree. Based upon a meeting with Department staff, we understand that air conditioning was not intended to be required by this proposed regulation. This provision should be amended in the final-form regulation to clearly state the Department's intent.

(ii) Also, what is the Department's authority to require dogs to be removed from a facility when the ambient air temperature goes above 85 degrees?

(iii) Finally, numerous commentators assert that there are situations where it is important for the ambient air temperature to be well above 85 degrees in certain portions of a kennel. For instance, numerous commentators indicated that newborn puppies cannot regulate their own body temperature until they are 10-14 days old and need ambient air temperatures in the mid 90s. However, this proposed regulation appears to prohibit the necessary temperatures in this circumstance. The Department should add a provision that would address these concerns.

b. Recirculation of air

Subsection (8)(i) requires a kennel to " ... provide between 8-20 air changes of 100% fresh air per hour " (Emphasis added.) However, Subsection (11) requires a specific type of air filter "when employing mechanical means of ventilation and re-circulating air " (Emphasis added.) It is unclear how a kennel would be able to re-circulate air, while using 100% fresh air for its air changes. These provisions appear to conflict with one another. The Department should clearly indicate how these provisions work together. If they do conflict, these provisions should be amended in the final-form regulation to reflect the Department's intent with regard to the circulation of air.

In addition, compliance with the requirement for " 100% fresh air" in the air changes could be prohibitively expensive. We question the fiscal impact and feasibility of this requirement.

c. Paragraphs (2) and (3)

Commentators, including the Pennsylvania Veterinary Medical Association, state that the humidity levels established in this proposed regulation are not always attainable, unless the kennel is hermetically sealed. They further state that these humidity levels required by the regulation may not necessarily be the most beneficial to the dogs. The Department should justify how these humidity levels can reasonably be attained and how these are the best levels for the benefit of dogs.

d. Paragraph (4)

Commentators assert that the ammonia levels required in Subsection (4) are too difficult to achieve and the technology for monitoring ammonia at this level does not exist. How did the Department arrive at the 10 ppm requirement for ammonia? How is this level achievable for kennels, in light of commentators' assertions that it is extremely difficult to monitor it at this level?

e. Paragraph (5)

This paragraph establishes requirements with regard to carbon monoxide, including the installation of carbon monoxide detectors. Senator Brubaker and the Representatives' comments both assert that the authority to establish these requirements is lacking and the entire paragraph should be deleted. The Department should set forth its authority to require carbon monoxide monitoring or it should delete these provisions. Similar concerns apply to Paragraphs (7) (relating to particulate matter) and (10) (relating to odor, stale air, moisture condensation or lack of air flow).

f. Paragraph (6)

This paragraph requires the kennel to contact the Bureau of Dog Law "in the event of a mechanical system malfunction." This provision lacks clarity. First, in what time frame should this contact be made? Second, how should a kennel owner contact the Bureau if a malfunction occurs during the night or weekend when the Bureau is not open? Will the Bureau establish a 24-hour contact number? These items should be clarified and set forth in the final-form regulation.

g. Paragraph (8)

The Representatives' comments raised several questions with regard to this paragraph. These questions include calculation methods and several clarity concerns. We will evaluate the Department's response to these questions in our consideration of whether the final-form regulation is in the public interest.

h. Subparagraph (8)(v)

This subparagraph states that the "Department may hire or consult with an engineer to recommend improvements be made to kennels to meet compliance " Senator Brubaker and the Representatives' comments both assert that the Department is not authorized to

hire or consult with an engineer to inspect kennels. They further state that only State Dog Wardens and employees of the Department are authorized to inspect kennels and enforce provisions of the Law. The Department should state its authority to allow engineers to inspect a kennel under this subparagraph, or this provision should be deleted.

i. Paragraph (9)

This paragraph lists several conditions that are associated with poor ventilation. However, numerous commentators indicate that poor ventilation is not the only cause of these conditions. The Department should clearly explain why it is appropriate to tie these symptoms to poor ventilation or this subsection should be deleted.

RESPONSES

a. (i) A definition is not a substantive provision of an act or regulation. The definition is only to add clarity to the substantive provisions of an act or regulation. There is no provision within the final-form regulation that requires air conditioning. Air condition is allowed and may be utilized to both cool and dehumidify, but it is not required by any substantive provision of the regulation. Auxiliary ventilation and humidity are the controlled and controlling factors when temperatures in the kennel and kennel housing facility rise above 85 degrees Fahrenheit.

a. (ii) The Department has deleted from the final-form regulation the condition that dogs be removed from a facility when the ambient air temperature goes above 85 degrees.

a. (iii) The Federal Code of Regulations, which would apply to kennels selling dogs at wholesale, at sections 3.2 and 3.3 establish even more stringent standards, which absolutely require temperature reductions within the kennel facility to 85 degrees Fahrenheit (with a 4 hour window). Many of the kennels affected by the commercial kennel standards and these regulations must also comply with the Federal Code of Regulations. The Department does not believe it should set a standard that would be in absolute conflict with the temperature requirements of the Federal Code of Regulations, and in fact would be less stringent than the Federal Code of Regulations. Since it has been asserted by the General Assembly and this Commission, that the Department can not require temperatures within a kennel or kennel housing facility to be reduced to or held at 85 degrees Fahrenheit there is no such set standard in the final-form regulation.

The final-form regulation does not require the reduction of “ambient air temperature”, but instead requires the kennel owner to employ auxiliary ventilation and reduce the heat index to 85 HI, through the use of humidity reduction, when temperatures within the kennel and kennel housing facility rise above 85 degrees Fahrenheit. There is scientific evidence – related to heat studies and heat index values – which support the humidity requirements set forth in the final-form regulations. The attached heat index charts for various species of animals, including humans, evidences that 85 degrees Fahrenheit is where the danger zone begins. A heat index value of 85 HI or less will protect the health and

welfare of dogs and other animals. Dogs, other than healthy, short haired breeds, can not survive heat index values in excess of 95-98 HI for more than six hours (See Exhibit C and response c below). The final-form regulation sets standards for humidity based on heat index values and the use of auxiliary ventilation. The auxiliary ventilation techniques are techniques currently employed in kennels. This information was gathered from an AKC Senior Breed Field Representative and the Department and reviewed by engineers. Nothing in the final-form regulation requires the reduction of temperature to a level of 85 degrees Fahrenheit or the use of air conditioning.

b. The final-form regulation no longer requires 100% fresh air circulation. After consultation with architects and engineers – that design and build dog kennels and research kennels - and discussions with veterinarians, including Department and Canine Health Board veterinarians, and discussions with animal scientists, such as Dr. Kephart at The Pennsylvania State University, the Department believes that proper and normal animal husbandry practices for dogs confined in kennels dictates that air can and should be re-circulated and filtered. The discussions led to a general consensus that the proper “minimum” amount of “fresh air” circulation should be thirty percent (30%), with seventy percent (70%) of the air being re-circulated through filters. This rate allows for pathogens to be removed and filtered, reduces heating costs in the winter and cooling and humidity control costs in the summer and allows for better control of the dog kennel environment. The use of tunnel ventilation is costly and does not allow for proper control of either temperature or humidity levels. In addition, it would not allow kennels and kennel housing facilities to attain the proper heat index values on hot, humid summer days. Costs estimates on installing and operating the minimal and rudimentary air recirculation/ventilation systems that would be necessary to meet the ventilation, humidity, ammonia and carbon monoxide requirements of the final-form regulations were also obtained from architects and engineers that design and build kennel facilities. Those cost estimates are set forth in the regulatory analysis form that accompanies the final-form regulation.

c. It should be noted that although the PVMA makes the statements and assertions related to humidity levels, it offers no research or justifications for those statements. The PVMA is certainly in the position to have offered the basis for their comments, but no engineering standards or other data were offered to justify the comment that the humidity levels established by the proposed regulations were unattainable. In contrast, the Department has consulted with engineers and architects that build and design kennel buildings for such use as humane societies, boarding kennels and research kennels. Those consultations have led the Department to the conclusion that the humidity levels established by the final-form regulations are in-use, even in buildings with access to outdoor runs, and attainable.

With regard to the levels established for animal health reasons, again in contrast to the unsupported comments, the Department consulted with engineers and architects that design and build dog kennels, had discussions with veterinarians - including Department and Canine Health Board veterinarians - and with animal scientists, such as Dr. Kephart at the Pennsylvania State University.

The results of those discussions were that a humidity range of thirty to seventy percent (30%-70%), when temperatures are at 85 degrees Fahrenheit or below, are normal animal husbandry practices and are proper levels to control for disease and assure the health, safety and welfare of dogs confined in kennels. Many of these experts in fact suggested an even narrower range of humidity levels that would have capped out at sixty percent (60%) humidity. The Department, however, chose to utilize the minimum standards.

In addition, with no temperature control, the Department sought to ascertain the proper humidity levels and auxiliary ventilations standards that would assure the health, safety and welfare of dogs confined to kennels when temperatures rise above 85 degrees Fahrenheit. Kennel owners and others have asserted in their comments that their kennel buildings can be made to "feel cooler" through the use of additional air circulation/ventilation or the mere increase of fan speed and the amount of air being pulled through the kennel building. However, science does not support such a comment or conclusion.

The Department, with the assistance of veterinarians and research provided by Dr. Overall of the Canine Health Board, reviewed heat index values for cattle, swine, poultry and humans. Those values show that all of those animals are in a danger zone once temperatures rise above 85 degrees Fahrenheit, if there is no correlated reduction in humidity levels. The reason for this is supported by the physiology of cooling. Humans, cattle, equine and swine cool internal body temperatures by perspiring, which is the most efficient cooling mechanism. Dogs cool their internal body temperatures mostly through panting, with a minimum amount of cooling provided by perspiring through the pads on their feet. However, perspiring or panting in and of itself does not result in the cooling of the body. In order for the cooling effect to occur the perspiration or moisture on the tongue of the dog has to be evaporated. On a humid day or in a humid environment there is already a lot of moisture in the air and therefore the evaporative process is either less efficient or does not take place and therefore the internal body temperature continues to rise. In sum, you can not provide a cooling effect by simply increasing the amount of humid air flowing over the body of a dog or any other animal. Pulling already moist and humid air over the body does not and will not allow for the evaporation of perspiration and therefore will not provide a cooling of the body. The result is that when temperatures rise above 85 degrees, humidity levels must be controlled in order to attain a heat index value that will assure the health, safety and welfare of dogs confined in kennels. The heat index values referred to earlier, and attached hereto as Exhibit B, all evidence that value should be set at a heat index of 85 (85 HI).

Finally the Department with the assistance of Canine Health Board member Dr. Karen Overall found - and along with Department veterinarians reviewed - a dog study that established "survivability" levels for confined dogs. The study, which is attached hereto as Exhibit C, sets forth evidence that beagle dogs can not survive for more than six hours at maximum heat index values of between 100-106 degrees Fahrenheit. The study goes further, to conclude the relative humidity values in the study should be reduced by twenty percent (20%) to assure safety. The maximum heat index value to ensure survivability and safety, the latter requiring the recommended 20% reduction in humidity levels from the study's maximum values, is 95-98 HI. However, this is tempered by the

Tufts Animal Condition and Care (TACC) criteria, specifically the TACC Weather Safety Scale, authored by in 1998 by Dr. Gary Patronek, then-Director of the Center for Animals and Public Policy at Tufts University School of Veterinary Medicine and first published in "Recognizing and Reporting Animal Abuse: A Veterinarian's Guide." This widely-used scale, one of several canine assessment tools focused on consequences for the dog, indicates that, even with water and shade available as in a commercial kennel setting, a potentially unsafe situation develops above a 90 degree F temperature, especially for brachycephalic, obese or elderly dogs, as well as dogs under 6 months of age. Although this regulation is based on heat index, regulates relative humidity rather than temperature, and a temperature of over 90 degrees F would be permitted if combined with a relative humidity that would result in a HI of no more than 90, the inclusion of the TACC Weather Safety Scale as a basis for the regulation emphasizes that the standard being set goes beyond survivability to minimize adverse heat-related consequences for dogs in commercial kennels. The survivability study and the TACC Weather Safety Scale are generally acknowledged to be the only two scholarly resources that give specific heat-related guidance applicable to canines.

The final-form regulation therefore allows a 4 hour window (consistent with Federal Animal Welfare regulations standards) for kennel owners to reduce the humidity levels in their kennels to attain the required heat index value of 85 (85 HI). However, during that 4 hour window, the heat index value must never go above 90 (90 HI), the maximum heat index value to ensure survivability and safety, the latter requiring the recommended 20% reduction in humidity levels from the study's maximum values of 95-98 HI and consideration of the TACC Weather Safety Scale.

In conclusion, the Department's research and discussions support the humidity levels established in the final-form regulation. The humidity levels are necessary and proper for the health, safety and welfare of dogs confined to kennels. The range or humidity levels established for kennels when the temperature is 85 degrees Fahrenheit or below is within normal animal husbandry practices and is set at the least stringent levels suggested. Humidity levels and the time period of exposure established in the final-form regulations for heat indexes above 85 degrees Fahrenheit are supported by scientific research performed on animals with more efficient cooling mechanisms than dogs or are based on scientific research specifically done on dogs. Finally, the engineers and architects consulted believe the requirements established by the final-form regulation are attainable and the Department has set forth the cost estimates in the regulatory analysis form that accompanies the final-form regulation.

d. The Department consulted with engineers and architects related to the ammonia levels established by the proposed regulation and with regard to the ability to measure ammonia levels. In addition, the Department consulted with veterinarians and animal scientists and did its own research with regard to commonly accepted levels of ammonia in animal operations such as swine operations. The engineers and architects all believed that if kennels were properly ventilated and achieved the air circulation values established in the regulations, then ammonia levels should not be a problem in the kennel.

The Act, however, requires the Department to establish the proper ammonia levels for dogs housed in kennels. Discussions with veterinarians and research done by veterinarians on the Canine Health Board affirm that ammonia levels of 20 parts per million or higher will cause respiratory and eye irritation and problems in animals. The veterinarians suggested the levels be set at some point below 20 parts per million and the consensus was that a level of 15 parts per million would both account for proper animal health and welfare and would be measurable.

The Department's research also indicated that ammonia is a heavy gas and therefore should be measured near the floor of the kennel. The Act establishes parameters that do not allow dogs in kennels to be housed in any primary enclosure that is more than 48 inches high for dogs under twelve weeks of age or more than 30 inches high for dogs over twelve weeks of age. Therefore, the Department believes ammonia measurements should be taken at the height of the dogs.

e. The Department agrees with the Canine Health Board, that carbon monoxide levels should at the very least be monitored for safety purposes and to assure proper ventilation and air circulation is occurring within a kennel that utilizes a carbon based form of heating or mechanical ventilation. One of the most acutely toxic indoor air contaminants is carbon monoxide (CO), a colorless, odorless gas that is a byproduct of incomplete combustion of fossil fuels. Common sources of carbon monoxide are tobacco smoke, space heaters using fossil fuels, defective central heating furnaces and automobile exhaust. By depriving the brain of oxygen, high levels of carbon monoxide can lead to nausea, unconsciousness and death. According to the American Conference of Governmental Industrial Hygienists (ACGIH), the time-weighted average (TWA) limit for carbon monoxide (630-08-0) is 25 ppm.

The engineers consulted by the Department believe that carbon monoxide levels will take care of themselves if the kennel is properly ventilated and meets the air exchange rate criteria of the regulations. However, the engineers and animal scientists acknowledge and agree that carbon monoxide gas can build up in any enclosed building where carbon based mechanical ventilation or heating equipment is in use. Carbon monoxide is colorless and odorless and is deadly. The regulations only require that carbon monoxide detectors be installed. If carbon monoxide levels rise to the point the detectors are triggered the kennel has a problem with ventilation or air exchange in that part of the kennel housing facility and needs to take action to assure the health, safety and welfare of the dogs housed in that area of the kennel. Section 207(h)(7) of the Act (3 P.S. § 459-207(h)(7)) states in pertinent part, "Housing facilities for dogs must be sufficiently ventilated at all times when dogs are present to provide for their health and well-being and to minimize odors, drafts, ammonia levels and prevent moisture condensation ...the appropriate ventilation...ranges shall be determined by the Canine Health Board. One of the purposes of ventilation is to exchange or re-circulate air in a manner that removes pathogens, including carbon monoxide and replenishes oxygen. The regulatory requirement is inexpensive and necessary to assure the health, safety and welfare of dogs housed in kennels, which is the

general overall duty and authority of the Canine Health Board under section 221(f) of the Act (3 P.S. § 459-221(f)).

While the Department believes the Canine Health Board had and the Department has the authority and ability to regulate air flow, stale air, odor and certainly moisture content – all of which are part of ventilation or humidity control – the Department believes these issues have been addressed in the final-form regulation by setting proper ventilation, humidity and auxiliary ventilation standards. Therefore, the Department has removed the language set forth in subsection 28a.2 (10) from the final-form regulation.

f. The language of paragraph (6) of section 28a.2 of the proposed regulation has been modified in the final-form regulation. The modified language is now set forth in section 28a.2(g) of the final-form regulation and sets forth the duties and requirements of the kennel owner in the event of a mechanical system malfunction. The kennel owner is still required to contact the Department, but the requirements are set forth in specific detail regarding the timing of the contact and the information the kennel owner is required to give to the Department. The kennel owner is no longer required to consult with the department regarding the steps to be taken to correct the problem. The kennel owner is free and required to contact the proper persons to correct the problem in as expedient a manner as possible and must notify the Department of the steps taken to correct the problem.

g. In general, paragraph (8) of section 28a.2 the proposed regulations has been deleted or extensively modified in the final-form regulation. Air changes have been replaced by cubic feet per minute (CFM) per dog and standards and measuring tools for the CFM per dog standard are quite specific and have been set forth in subsections (b) and (f)(1) and (2) of section 28a.2 of the final form regulation. Additional, standards related to circulation of the air, minimum fresh air rates and filtration have been established by subsections (f)(3)-(6) of the final-form regulation. The provisions of subsection (b) of the final-form regulation now entail information, including certification, the Department requires of the kennel owner. The information requested is directly related to and provides verification of compliance with the ventilation and air circulation standards established by the final-form regulation. Because of the restructuring of that section, all of the provisions of section 28a.2(8)(iii) have been deleted from the final-form regulation.

As set forth previously, the final-form regulation requires written certification under the signature and seal of a professional engineer verifying the engineer has inspected the ventilation system and that it meets all of the requirements of the regulations, including auxiliary ventilation and humidity standards. This change was made in response to comments that the ventilation standards were too subjective, too burdensome to continually assure compliance, could result in different readings depending on the equipment utilized or the place in the kennel the readings were taken and were too expensive to monitor. The certification is a one time cost, that according to the engineers consulted, is part of the price quoted for a project. The engineers would already certify a system to comply with applicable regulations and code requirements. Therefore, the change allows for an objective standard, does not increase the cost of the regulation and

in fact decreases equipment, monitoring and training costs and allows for a professional third party, trained in to make such evaluations to assure the system installed or retrofitted to the kennel meets the requirements of the regulations.

In addition, the provisions of section 28a.2(i) requiring 100% fresh air has been deleted from the final-form regulation. This was done after consultations with engineers and architects that design kennel buildings revealed that a 100% fresh air exchange rate in Pennsylvania would make it too expensive to heat or cool the kennel housing facility, would not allow for recapture of heated or cooled air and would not allow for proper humidity control in the kennel housing facility.

h. The requirements set forth in section 28a.2(8)(v) of the proposed regulation – regarding the requirement that the Department – not the kennel owner – consult an engineer and recommend improvement to meet compliance standards has been removed from the final-form regulation. Kennel owners are responsible for compliance and they must take appropriate steps – including contacting the proper experts – if there is a mechanical malfunction or compliance standard issue.

i. Section 28a.2(9) of the proposed regulations, which related to conditions in dogs that were signs of illness and stress has been modified in the final-form regulations (See section 28a.2(h) of the final-form regulation. The number and type of conditions in dogs that may denote poor ventilation has been reduced. In addition, the signs of stress or illness trigger an investigation of the ventilation, air circulation, humidity levels, heat index values, ammonia and carbon monoxide levels in the area or room of the kennel where those signs exist. If the investigation reveals problems in those areas, then proper enforcement action may be taken by the Department. The mere existence of the signs of stress or illness does not in and of constitute a violation of these regulations. The type of conditions in dogs and the illnesses or signs of stress listed are all associated with conditions that veterinarians have asserted can result from poor ventilation, air circulation, humidity, heat stress or ammonia or carbon monoxide levels that are not within the ranges established by the regulations. For instance, respiratory distress can be associated with humidity and temperature levels or ammonia levels that are too high, as well as, insufficient air circulation or auxiliary ventilation. Section 28a.2(h)(2) sets forth all the signs associated with heat distress or heat stroke, which again denotes insufficient air circulation, auxiliary ventilation and/or humidity level controls in that part of the kennel facility. Matted, puffy, red or crusted eyes and listlessness can be associated with high ammonia or high carbon monoxide levels. Fungal and skin disease can denote improper humidity control in the kennel facility.

3. Section 28a.3. Lighting. - Statutory authority; Fiscal impact; Need; Reasonableness; Consistency with statute; Feasibility; Implementation procedure; Clarity.

a. Natural light

Senator Brubaker and the Representatives' comments assert that any reference to natural light must be removed from this regulation, including Subparagraphs (1)(i), (ii) and (v). They point out that the Law specifically states, at Section 207(h)(8), that dogs should be provided with natural or artificial light. What is the Department's authority to require a kennel to provide both natural and artificial light to its dogs? Another question is why would it be necessary to have natural light inside the kennels if the dogs have access to outdoor exercise areas? These should be clearly explained in the final-form regulation.

b. Excessive lighting

Subsection (1)(ii) sets a minimum amount of external windows and skylights in order to aid in meeting the lighting standards in this section. However, Subsection (1)(iii) states, "Dogs shall be protected from excessive light" (Emphasis added). Excessive light is defined as "direct, undiffused light, from either the sun or a lighting fixture placed in a manner that the light is shining directly into a primary enclosure of a dog." As noted earlier, it appears that these two provisions conflict with each other. A dog is not to be exposed to "excessive light," yet a kennel will be required to allow sunlight to beam into the rooms where dogs are housed. The Department should clearly explain its intent and amend the regulation accordingly.

c. "Full spectrum lighting"

Senator Brubaker suggests that this term, used in Subsections (1)(vi) and (2)(i), be defined. We agree.

d. Subparagraph (1)(ii)

The first sentence of this subparagraph is long and confusing. There are two questions. First, regarding the phrases "within each room where dogs are housed may not be less than 8% of the floor space," it is unclear which floor space is being referenced. Is it the total floor space of each room or the whole kennel? Second, does the Department intend to apply the "external opening" requirement to existing kennels? If so, the Department should clearly explain its authority to retroactively apply this standard to kennels that were in place and operating prior to the effective date of this regulation. The Department should also examine the fiscal impact of this requirement.

e. Subparagraph (2)(i)

This subsection requires the kennel to provide "full spectrum lighting between 50-80 foot candles" during the daytime. Commentators have expressed concern that this would be too bright for the dogs. Why must lighting be 50-80 foot candles during the day? How did the Department determine this was reasonable? Is this requirement based on animal husbandry practices, as required by the Law?

f. Subparagraph (2)(iv)

Under this subsection, lighting sources "may not have a visible flicker." It is not clear how the elimination of flickering lights will benefit dogs. Further, Senator Brubaker asserts that the prohibition of a "visible flicker" is not in the scope of the Law and should be removed from this regulation. The Department should explain its authority for banning lighting with a "visible flicker" or delete the provision. If the Department does provide adequate statutory authority, it should explain how the prohibition of flickering lights benefits dogs.

RESPONSES

a. The final-form regulation deletes the requirement for kennels to provide both artificial and natural light. The language now mirrors the language of the statute with regard to providing light through natural or artificial light. The final-form regulation sets general standards that apply to lighting whether provided by artificial or natural light and also sets forth standards that apply specifically to either natural or artificially provided light. The final-form regulation does require some natural lighting source in kennels that do not provide outdoor exercise. It requires the light to reach each dog, but does not require the window or skylight to be directly over or in front of the primary enclosure. The Department agrees, from its research into the heat index that such exposure may not only violate the provisions of the lighting section related to "excessive light", but would run the risk of increasing temperatures – on a hot day – within the primary enclosure to levels that would be detrimental to the dogs' health. However, research done by the Canine Health Board indicates the exposure to natural light is vital to the health and welfare of dogs. In addition, this requirement is congruent with the requirement that kennels buildings have operational windows, doors and other openings that can be opened in the event of a mechanical malfunction of the ventilation equipment. It should not be an added burden or cost on the kennel.

b. The final-form regulation no longer sets or requires a minimum amount of external windows and skylights in order to aid in meeting the lighting standards of the regulations. Light may be provided by artificial or natural light, as set forth, in the answer to part a. above. With regard to clarity, excessive light has been further defined. However, it should be understood the standard that light must not be "excessive" and must be "uniformly diffused" is a standard that is set forth in the Act itself (3 P.S. § 459-207(h)(8)) and kennels regulated by the United States Department of Agriculture (USDA) must already comply with under the Animal Welfare Act regulations, sections 3.2 and 3.3 (9 C.F.R. §§ 3.2(c) and 3.3(c)).

Kennel owners are required to uniformly diffuse light throughout the animal facility and primary enclosures must be placed so as to protect the dogs from excessive light. Therefore, these standards are already in operation to protect the health and welfare of dogs in kennels regulated by the USDA. There is no reason the Commonwealth should not employ these same long standing standards. There should be no additional expense involved for any kennel currently regulated by the USDA and the kennel owners should readily understand the requirements to be met. As stated previously, the Department has also further clarified the definition of "excessive light" in the final-form regulation.

c. Full spectrum lighting is a type of lighting system that is available. It is the type of lighting system that most readily mirrors the spectrum of light provided by the sun. The Department has defined full spectrum lighting in the final-form regulation.

d. This requirement has been eliminated from the final-form regulation. The final-form regulation no longer sets or requires a minimum amount of external windows and skylights in order to aid in meeting the lighting standards of the regulations. The sixteen or so kennels that received approval for indoor exercise only, will still most likely provide some light through external doors and openings. Because such external openings must be present in the kennel to allow air flow and ventilation, especially if a ventilation system malfunctions. With regard to authority to require external doors and openings in a kennel building, the Department, in this regulation, requires external openings to allow for ventilation if the mechanical ventilation system fails.

With regard to the fiscal impact of the regulation on those sixteen kennels, the Department is not aware of and does not collect or have data regarding how many kennels may have no external openings. It would be unlikely that there are many, if any, kennels with no external openings, since they are already required to provide proper ventilation under the Department's current regulations. Many kennels currently provide ventilation by merely opening doors and windows and utilizing a fan(s).

e. The Department, with the assistance of members of the Canine Health Board and Department veterinarians did additional research into the issue of the proper illumination levels in kennels. In addition, the Department spoke with animal husbandry scientists at the Pennsylvania State University and with an Engineer who designs kennel buildings. The consensus was that forty to sixty (40-60) foot candles of light is necessary to assure proper animal husbandry practices, including the ability to monitor the dogs, assure sanitation and cleanliness of the kennel (compliance with statutory and regulatory standards) and provide for the proper health and welfare of the dogs. In addition, the Department researched and reviewed the National Institutes of Health (NIH), policies and guidelines related to biomedical and animal research facility design. The NIH requires average lighting levels in animal facilities to be between twenty-five to seventy-five (25-75) footcandles, which translates to two-hundred seventy to eight-hundred (279-800) lux. The guidelines state the exact lighting levels should be based on species. The veterinarians and animal husbandry scientists consulted felt the range of 40-

60 footcandles, which translates to 430-650 lux, was appropriate for both the dogs and the humans that had to care for those dogs. This level is further supported by the NIH standards for office and administration areas and Penn State University's standards for class room lighting, which are also 50 footcandles (as set forth in Dr. Kephart's comments). This level will provide for the health and welfare needs of the dogs housed in the facilities and will allow for proper inspection of the facilities and animal husbandry practices, such as cleaning and sanitizing and monitoring the dogs for health issues. The NIH standards are attached to this document as Exhibit D.

f. The Department has modified the language of this provision to better clarify its intent. The word "flicker" is no longer set forth in the regulation. Instead, the focus is on the lighting being kept in good repair. The language will actually effectuate the intent of the Canine Health Board. In speaking to members of the Canine Health Board, it became clear the intent of the Canine Health Board was to assure the lighting fixtures were kept in good repair and were functioning properly. The reference to a "visible flicker" was important to the veterinarians on the Canine Health Board, because they assert that flickering lights – such as the flickering caused by defective ballast – can result in seizures in some dogs. Therefore, in order to assure the health, safety and welfare of the dogs through proper animal husbandry related to lighting, it is important that artificial lighting sources within the kennel building be kept in good repair and not result in problems such as a "flickering" light source.

4. Section 28a.4. Flooring. - Consistency with statute; Reasonableness; Clarity.

a. Identifiable options for flooring in primary enclosures

Section 207(i)(3) of the Law (3 P.S. § 459-207(i)(3)) provides detailed specifications for the required flooring in primary enclosures. Section 207(i)(3)(iii) states that "additional flooring options that meet the provisions of subparagraph (i) may be approved by the Canine Health Board." Given the statute, the structure and provisions of this section are confusing. In order to clearly delineate the primary enclosure flooring options, the reference to the statutory requirements in Section 207(i)(3) of the Law should be listed by itself in one subsection as the initial flooring option provided by the statute. A second subsection could set forth the requirements for the option of solid flooring. In this format, provisions such as those in Subsections (2) and (3) of this proposed regulation would be moved to be subparagraphs in the second subsection on solid floors.

This section should also include a process and procedure whereby kennels could submit proposals for new flooring options to the Department and Board for review and approval in the future. This would invite technological innovation which could reduce costs while improving the health and welfare of dogs. It would also allow for the full realization of the statutory provision allowing for additional floor options.

b. Vague terms and phrases

i. In Paragraph (4), what is considered "high thermal conductance"? The intent is unclear. Another concern is in Paragraph (6). Who would determine if a floor surface provides "the dogs with good footing"? How will such a standard be measured and enforced? The Department needs to re-write these subsections as requirements that can be easily measured, assessed and enforced, or delete them from the final-form regulation.

ii. Paragraph (7) is also vague and it is unnecessary. The insertion of the words "and may be subject to microbial assessment" serves no purpose because no standard is established. The statutory basis for this vague phrase should be explained. As written, this is non-regulatory language because the regulated community is not notified when a "microbial assessment" will be required, how it will be performed, or what standard will be enforced. This should be set forth in the final-form regulation or this phrase should be deleted.

RESPONSES

a. The Department has taken the Commissions suggestion and restructured the section related to flooring, section 28a.8 of the final-form regulation. In restructuring this section the Department felt it would be even more helpful to the regulated community if all the flooring standards established by the Act, were also delineated in the regulation. Therefore, the Department established two new subsections which reiterate the language contained in sections 207(i)(3)(i)(related to general flooring standards) and (i)(3)(ii)(related to slatted flooring) of the Act (3 P.S. §§ 459-207(i)(3)(i) and (ii)). In addition, the Department had to then modify the language of the proposed regulations which sought to espouse the additional flooring options. In doing so, the Department established subsection 28a.8(c), which sets forth the language of the statute allowing the Canine Health Board to approve additional flooring options, and delineates the authority and duty of the Canine Health Board to assure the additional flooring standards adhere to the general requirements established by section 207(i)(3)(i) of the Act and that additional flooring options, based on proper animal husbandry practices, provide for the health, safety and welfare of the dogs confined to these kennels, as required by section 221(f) of the Act (3 P.S. §§ 459-207(i)(3)(i) and 459-221(f)). The Department included the standards set by the Canine Health Board in the proposed regulations – such as requiring proper drains, flooring that is not capable of heating to a level that could cause injury to the dogs and will provide a non-skid surface – but added language to these provisions to clarify the intent and provide more objective standards. In addition, based on discussions with Department veterinarians and some Canine Health Board veterinarians, the Department added language that provides for the welfare of the dogs, based on proper animal husbandry practices. The Department's veterinarians have witnessed the ill effects caused to dogs that are housed on a surface that splays their feet, caused damages to the feet or pads or allows the pad, foot or toenail of the dog to become snared or entrapped. Therefore, an additional provision,

subsection 28a.8(c)(4), was inserted into the final form regulation in order to effectuate those animal husbandry and welfare practices.

b.i. The Department rewrote both subsection (4), which is now subsection (3) in the final-form regulation, and subsection (6) in a manner that further clarifies and adds objectivity to the review. For instance, subsection (3) makes it clear the Department does not allow a flooring type that could be heated through mere exposure to direct sunlight or lighting source to a temperature that would be harmful to the dogs confined to that surface. With regard to subsection (6), the Department added language to define and clarify what was referred to in the proposed regulation as "good footing." That subsection now makes it clear that the flooring surface must not allow the dog to slip or loose traction, which could then result in injury to the dog.

b.ii. In the final-form regulation, the Department has modified the language of what is now subsection 28a.8(c)(7), which was 28a.4(7) of the proposed regulations, by specifically removing the language "and may be subject to microbial assessment" and replacing that language with clear and distinct language regarding the ability of the flooring to be cleaned and sanitized in concurrence with the Act and current Department regulations.

5. Miscellaneous - Reasonableness; Clarity.

a. Non-regulatory language

i. The first sentences in Sections 28a.2, 28a.3 and 28a.4 are non-regulatory language and should be deleted. For example, the first sentence in Section 28a.2 reads: "Proper ventilation helps ensure that dogs are healthy and not stressed." This is not a prescriptive standard, directive or requirement, and therefore, it serves no purpose in the text of a regulation. It is a supportive statement which belongs in the narrative in the Preamble of a rule making.

ii. The term "satisfactory" in Section 28a.2(8)(iv) also is non-regulatory language and should be amended.

b. Applicable codes

Sections 28a.2(12), 28a.3(3) and 28a.4(5) in this proposed regulation state that the ventilation systems, lighting and floors and drains "must comply with the latest edition of applicable codes." To which codes are these subsections referring? In order to properly notify the regulated community of the standards required for compliance, the final-form regulation should specifically identify the "applicable codes."

RESPONSES

- a.i.** The Department agrees with the Commissions' comment and has removed the non-regulatory language from those sections of the final-form regulation.
- a.ii.** The language of that subsection has been removed from the final-form regulation.
- b.** The Department has removed all language related to "applicable codes" from the final-form regulation. Any applicable Federal, Commonwealth or local codes will be enforced by the agency with such authority. The Department does not have authority to enforce such codes and has removed the reference to those codes from the final-form regulation.

LEGISLATIVE COMMENTS

I. SENATOR MIKE BRUBAKER – 36th DISTRICT

Commentator:

Submitted by: Honorable Mike Brubaker, State Senator, 36th District
Chairman Senate Agriculture & Rural Affairs Committee
The State Capitol
Senate Box 203036
Harrisburg, PA 17120-3036

Comment: General

This letter shall serve as my comments, as Chair of the Senate Agriculture & Rural Affairs Committee, on the Canine Health Board Standards for Commercial Kennels, as published in the Pennsylvania Bulletin on Saturday, September 12, 2009. These comments are general in nature and are not comprehensive. I have not commented on the actual ventilation, humidity, ammonia or lighting ranges established by the Canine Health Board (CHB), as I am not an expert in this area; I would encourage close scrutiny of these portions of the proposed regulation and strong consideration given to technical experts as well as those who have extensive experience operating kennels that have consistently produced healthy dogs.

RESPONSE

In redrafting the final-form regulation and answering comments, the Department, in addition to doing its own research, contacted and replied upon experts in the fields of engineering and architecture, all of whom design or build or both, kennel facilities around the country and in Pennsylvania. In addition, the Department consulted with its own veterinarians and veterinary members of the Canine Health Board, animal scientists from the Pennsylvania State University, a former Senior Breeder Field Representative from the AKC, and met with a group representing the regulated community and received input from their members. The

Department utilized this broad base of expertise and common field knowledge, as well as research done by these experts and the Department itself (some of which is attached to this comment and response document) to draft the final-form regulations.

Comments: Scope of Authority and Clarity

I understand that the CHB was under a tremendous time constraint and is voluntary in nature, and I commend each of the members of the Board for his dedication to the improvement of the lives of dogs kept in breeding operations in the Commonwealth. In numerous sections of the Guidelines, however, the CHB has exceeded their mandate under Act 225 of 1982. In addition, I do not believe the proposed regulations provide the clarity necessary for proper adherence to or enforcement of the law. The following are some of the major concerns I wish to identify:

1. Summary of Major Features:

it is not appropriate for comments on the proposed regulation to be directed to the Canine Health Board as commentators are directed under the *Public Comment Period* section; as it states in section 221 (Canine Health Board) (g) of Act 225 of 1982, " ... the department shall promulgate the temporary guidelines as a regulation concurrently with publication in the Pennsylvania Bulletin." Although the regulation was not published concurrently as a regulation by the department, as was required by the law, it was the legislative intent for the department to be in charge of the regulatory process, to develop the comment response document and to make any and all revisions as necessary to the proposed regulation. The CHB is not a required part of the regulatory process.

2. Section 28a.2, Ventilation:

The first sentence "Proper ventilation helps ensure that dogs are healthy and are not stressed." serves no purpose other than commentary, and should be removed. Further, the section requires mechanical heating and cooling systems in each kennel and while mechanical ventilation is defined, I am concerned that it is subjective enough that an inspector may have the ability to demand air conditioning. Although the CHB has the authority to establish "auxiliary ventilation to be provided if the ambient temperature is 85 degrees F or higher," it does not have the authority to require temperature reduction.

In the writing of this section of the law, the legislative intent was to allow for means of ventilation that did not require the use of air conditioning, and thus the CHB was charged with determining appropriate methods of ventilation to be used when the temperature exceeded 85 degrees F.

3. Section 28a.2(1), Ventilation:

The CHB does not have the authority to establish a maximum temperature. As is established in §207(h)(7) of Act 225, the CHB was to determine "auxiliary ventilation to be provided if the ambient temperature is 85 degrees F or higher" but the law does not require that the temperature be kept below 86 degrees. Further, the CHB does not have the authority to require removal of dogs from a portion of the facility if the ambient temperature rises above 85 degrees. This paragraph should be removed.

4. Section 28a.2(5), Ventilation:

The CHB is not authorized under the law to establish carbon monoxide levels in kennels, nor are they authorized to require the installation and maintenance of carbon monoxide detectors. This paragraph should be removed.

5. Section 28a.2(6), Ventilation:

The requirement that a "kennel contact" the BDLE before acting on a mechanical failure is impractical and not in the best interest of the dogs (ie: what if the failure takes place on a Friday evening?). From a grammatical standpoint, the "kennel" will not contact the bureau. This paragraph should be removed.

6. Section 28a.2(7), Ventilation:

The CHB is not authorized under the law to establish requirements for particulate matter. This paragraph should be removed.

7. Section 28a.2(8)(iv), Ventilation:

This section states "If a computation or measurement under subparagraph 8(iii) *is not satisfactory* the kennel owner shall take the necessary steps to meet the requirements." (emphasis added). The phrase "is not satisfactory" is subjective and should be removed or changed.

8. Section 28a.2(8)(v), Ventilation:

Permits the Department of Agriculture to hire or consult with an engineer to inspect kennels. This is not within the authority granted the CHB and according to §218(a) of Act 225, only State dog wardens and employees of the department are authorized to inspect kennels and enforce the provisions of the Act. This paragraph should be removed.

9. Section 28a.2(9), Ventilation:

The CHB is not authorized under the law to establish conditions or signs that dogs may not exhibit; the conditions listed are very subjective and have numerous causes, only one of the many causes would be poor ventilation. This paragraph should be removed.

10. Section 28a.2(10), Ventilation:

The CHB is not authorized under the law to establish restrictions on odor, stale air, moisture condensation or lack of air flow. Further, it is unclear what is meant by "excessive dog odor, other noxious odors, stale air" and "lack of air flow." These provisions are unenforceable and do not provide clear requirements for kennel owners to comply with. This paragraph should be removed.

11. Section 28a.2(11), Ventilation:

The provision for only one type of filter is unreasonably restrictive. This paragraph should be removed.

12. Section 28a.2(12), Ventilation:

The CHB is not authorized under the law to require the ventilation system be in compliance with "the latest edition of applicable codes" and further, it is unclear what codes are being referenced and whose responsibility it is to ensure that the ventilation system is in compliance. This paragraph should be removed.

13. Section 28a.3, Lighting:

The first sentence of this section: "Natural lighting is important to the development of dogs; each kennel shall have a mix of natural and artificial light, provided in the following means:" is part commentary, is not supported by the law, and should be removed.

14. Section 28a.3(1), Lighting:

The requirement for a natural diurnal light cycle is in direct contradiction to the law at §207(h)(8), which states "Animal areas must be provided a regular diurnal lighting cycle of either natural or artificial light" (emphasis added). Any reference to a requirement for natural lighting must be removed from the proposed regulation, including §28a.3(1)(i), (ii) and (v).

15. Section 28a.3(1)(iv), Lighting:

Only "appropriate lighting ranges" for "housing facilities" (§207(h)(8) of Act 225) are to be determined by the CHB; therefore, the requirement for shading of the outdoor exercise area, subsection (iv), area must be removed, as it is outside the scope of the CHB's authority.

16. Section 28a.3(1)(vi), Lighting:

Under (vi), "full spectrum lighting" is required; this term must be defined.

17. Section 28a.3(2)(i), Lighting:

Again, the term "full spectrum lighting" must be defined.

18. Section 28a.3(2)(iv), Lighting:

Prohibiting "a visible flicker" in an artificial light source is not within the scope of the law, which is to establish "the appropriate lighting ranges " This paragraph should be removed.

19. Section 28a.3(2)(v), Lighting:

This provision, which prohibits light sources from being provided in a manner which allows the dog to touch a light, fixture, bulb, switch or cord, is outside the scope of the law, which is to establish "the appropriate lighting ranges " This paragraph should be removed.

20. Section 28a.4, Flooring:

The first sentence of this section: "Proper flooring is essential for normal behavior and proper orthopedic development of the dogs." is commentary, not appropriate, and should be removed.

21. Section 28a.4 (1), (2) and (3), Flooring:

The charge under this section of the law was to approve additional flooring options that meet the requirements of the law; solid flooring is approved under (1) and the language regarding drainage in (2) and (3) should be included in (1) so that we know it is in reference to drains in solid floors.

22. Section 28a.4(4), Flooring:

Prohibiting flooring options is not within the charge of the CHB. This paragraph should be removed in its entirety.

23. Section 28a.4(5), Flooring:

It is unclear what codes are being referenced and whose responsibility it is to ensure that the flooring and drains are in compliance.

24. Section 28a.4(6), Flooring:

Under this paragraph, the CHB is requiring that the surface of the flooring provide "good footing"; the term "good footing" is unclear and subjective, and goes beyond the scope of authority of the CHB. If it is the intent of the CHB to describe what types of solid flooring (which it approves under (1)) are appropriate, the description should be included under that same paragraph.

25. Section 28a.4(7), Flooring:

This section establishes cleaning requirements and states that the flooring "may be subject to microbial assessment." This statement is unclear and is beyond the scope of authority of the CHB; cleaning requirements are already established under the law. This paragraph should be removed in its entirety.

RESPONSES

1. The Department was the promulgating agency. As set forth in the Department's response to a similar comment received from the Independent Regulatory Commission, the Department under its authority at section 902 of the Dog law is the promulgating authority (3 P.S. §§ 459-902). The Department reviewed the "Guidelines" drafted by the Canine Health Board and with some changes to account for form and legality drafted the Guidelines as proposed regulations. The held the public hearing required by section 902 of the Dog Law. The Department also drafted the preamble to the proposed regulations and the regulatory analysis form. The Department then received and reviewed all comments submitted by the public, House and Senate Committees and the Independent Regulatory Commission. The Department consulted with the Canine Health Board members, as well as, with Department veterinarians, architects, engineers, a regulated community group and animal scientists and did its own research with regard to questions and issues that arose from the comments. The Department utilized all of these resources in making changes to the final-form regulations, drafting the comment and response document and putting together the preamble and regulatory analysis form that accompanies the final-form regulations. In general, the Department acted as the promulgating authority throughout the regulatory process and utilized the expertise of – among others – the Canine Health Board to answer questions and concerns expressed by commentators.

With regard to the comment that the Department was required to "...promulgate the temporary guidelines as a regulation concurrently with publication in the Pennsylvania Bulletin," the Pennsylvania Professional Dog Breeders Association litigated that very issue and Judge Rambo of the Federal Court for the Middle District of Pennsylvania found in favor of the Department. In order for the language of the statute to be implemented, the language would have had to intend that the Regulatory Review Act and the Commonwealth Documents Law were to be abrogated. In that case, the Guidelines would have been promulgated as regulations, without any public, legislative or Commission comment or review. The Federal Court did not believe that was the intent or plain meaning of the Act.

2. The first sentence of section 28a.2 of the proposed regulations has been removed from the final-form regulations. The definition of mechanical ventilation is not a substantive provision of the regulation. The substantive provisions of the regulation do not require the use of air conditioning and the final-form regulation does not require a reduction in temperature or for dogs to be removed if the temperature in a kennel rises above 85 degrees Fahrenheit. The final-form regulation, allows for air conditioning, but in no manner requires it. The final-form regulation seeks to add clarity to this and other issues by separating sections related to ventilation, auxiliary ventilation, humidity and ammonia levels and carbon monoxide detection. Nothing in any of these sections requires the use of air conditioning. The humidity level standards are based on scientific evidence and will effectively account for the health and safety of dogs housed in kennels. A more in depth response related to the humidity standards is set forth in the Department's answer to the Commission's comments (see Comment 2 - related to section 28a.2 - and the Department's responses to parts a.iii. and c. of that Comment, including the attached literature).

3. The substantive provisions of the regulation do not require the use of air conditioning and the final-form regulation does not require a reduction in temperature or for dogs to be removed if the temperature in a kennel rises above 85 degrees Fahrenheit. The final-form regulation, allows for air conditioning, but in no manner requires it or temperature reduction. The final-form regulation seeks to add clarity to this and other issues by separating sections related to ventilation, auxiliary ventilation, humidity and ammonia levels and carbon monoxide detection. The auxiliary ventilation provisions set forth several means of auxiliary ventilation that do not require air conditioning. The humidity provisions do not require air conditioning or temperature reduction, and are based on scientific studies and application. Nothing in any of these sections requires the use of air conditioning. The humidity level standards are based on scientific research and will effectively account for the health and safety of dogs housed in kennels. A more in depth response related to the humidity standards is set forth in the Department's answer to the Commission's comments (see Comment 2 - related to section 28a.2 - and the Department's responses to parts a.iii. and c. of that Comment, including the attached literature).

4. The common definition of ventilation, which is set forth in the final-form regulation, establishes the purposes for which ventilation is utilized and one of those purposes is to remove gases such as carbon dioxide and carbon monoxide. The Canine Health Board and the Department realize that some kennels heat the kennel with a

equipment that produces carbon monoxide, which is odorless and colorless and therefore is best measured or monitored by a device such as a carbon monoxide detector.

One of the most acutely toxic indoor air contaminants is carbon monoxide (CO), a colorless, odorless gas that is a byproduct of incomplete combustion of fossil fuels. Common sources of carbon monoxide are tobacco smoke, space heaters using fossil fuels, defective central heating furnaces and automobile exhaust. By depriving the brain of oxygen, high levels of carbon monoxide can lead to nausea, unconsciousness and death. According to the American Conference of Governmental Industrial Hygienists (ACGIH), the time-weighted average (TWA) limit for carbon monoxide (630-08-0) is 25 ppm.

The engineers the Department consulted believe that carbon monoxide levels will take care of themselves if the kennel is properly ventilated and meets the air exchange rate criteria of the regulations. However, the engineers and animal scientists consulted acknowledge and agree that carbon monoxide gas can build up in any enclosed building where carbon based mechanical ventilation or heating equipment is in use. Carbon monoxide is colorless and odorless and is deadly.

The final-form regulation only requires that carbon monoxide detectors be installed. If carbon monoxide levels rise to the point the detectors are triggered the kennel has a problem with ventilation or air exchange in that part of the kennel housing facility and needs to take action to assure the health, safety and welfare of the dogs housed in that area of the kennel. Section 207(h)(7) of the Act (3 P.S. § 459-207(h)(7)) states in pertinent part, "Housing facilities for dogs must be sufficiently ventilated at all times when dogs are present to provide for their health and well-being and to minimize odors, drafts, ammonia levels and prevent moisture condensation ...the appropriate ventilation...ranges shall be determined by the Canine Health Board. One of the purposes of ventilation is to exchange or re-circulate air in a manner that removes pathogens, including carbon monoxide and replenishes oxygen. The regulatory requirement is inexpensive and necessary to assure the health, safety and welfare of dogs housed in kennels, which is the general overall duty and authority of the Canine Health Board under section 221(f) of the Act (3 P.S. § 459-221(f)). The final-form regulation only requires the use of carbon monoxide detectors in kennels that heat with carbon monoxide producing equipment and does not require the measurement or set any specific standard for carbon monoxide levels. The kennel must merely install and maintain functional carbon monoxide detectors. This will account for the health of the dogs and the persons working in the kennel.

5. The final-form regulation addresses the issues set forth in this comment. First, the final-form regulation refers to the kennel "owner" and establishes clear and precise steps to be taken if there is a malfunction of the mechanical ventilation system. Those steps to be taken and the correction of the malfunction are incumbent upon the kennel owner, not the Department. The first step is for the kennel owner to take action to correct the malfunction. There is now clear direction with regard to the time period within which the kennel owner must contact the Department to report the malfunction and with regard to what the kennel owner must report to the Department. In addition, the kennel owner must contact a veterinarian, not the Department, to consult on the proper steps to be taken to protect the health and well being of the dogs during the time period of the malfunction.

6. The Department has removed this provision from the final-form regulation. The Department through its consultation with engineers, architects, veterinarians and animal scientists, has determined that regulation of particulate matter is not necessary or warranted. In particular, the engineers and architects opined that so long as the ventilation requirements of the regulations were being met, particulate matter would not pose a problem in the kennel.

7. The language that appeared in subsection 28a.2 (8)(iv), has been removed from the final-form regulation.

8. The language that appeared in subsection 28a.2(8)(v), has been removed from the final-form regulation. Without regulations, the Department can still consult an engineer or other qualified individual if wardens are reporting problems or have issues they believe needs the review of an expert and can make suggestions to a kennel owner. The kennel owner, however, is the person responsible for making any decision to hire an engineer or appropriate expert to remedy any violations or unsatisfactory conditions at the kennel.

9. The language that appeared in subsection 28a.2(9) of the proposed regulations, is now subsection 28a.2(h) in the final form regulation. The Department has modified this provision in the final-form regulation. First, the Department shortened the list of illnesses and second, the Department clearly establishes that the illnesses or stressors are possible signs of poor or improper ventilation, air circulation, auxiliary ventilation or humidity levels. All issues related to and within the authority granted under the Statute. The recourse for finding these illnesses or stress is for the Department to take specific measurements and readings in the area of the kennel where dogs are exhibiting those signs in order to assure the kennel is in compliance with the ventilation and other requirements of the regulations. The illnesses or stresses listed were developed in consultation with veterinarians and are illnesses or stresses that can result from improper ventilation, auxiliary ventilation, air circulation or humidity, ammonia or carbon monoxide levels. For example, fungal and skin disease may denote improper humidity levels, matted eyes improper ammonia levels, heat distress and respiratory distress can be caused by improper ventilation, auxiliary ventilation, air circulation and humidity/heat index levels. The State dog warden would then check to see if such issues existed.

10. While the Department believes the Canine Health Board had and the Department has the authority and ability to regulate air flow, stale air, odor and certainly moisture content – all of which are part of ventilation or humidity control – the Department believes these issues have been addressed in the final-form regulation by setting proper ventilation, humidity and auxiliary ventilation standards. Therefore, the Department has removed the language set forth in subsection 28a.2(10) from the final-form regulation.

11. After consultation with engineers and architects the Department broadened the language of what was subsection 28a.2 (11) of the proposed regulations. The new language appears at subsection 28a.2 (b)(5) of the final-form regulation and simply states any filter must have a minimum MERV value of 8 or higher. The kennel owner can choose a variety of filter types and brands, so long as they meet a MERV value of at least 8.

12. The language that appeared in subsection 28a.2 (12) has been removed from the final-form regulation. In fact, all references to “the latest edition of applicable codes” has been removed from the final-form regulations. As stated in the answer to a similar question from the Independent Regulatory Review Commission, the Department believes “applicable codes” can and will be enforced by the entities that have the specific authority to draft and enforce those codes.

13. The language that was contained in the first sentence of section 28a.3 (related to lighting), which is section 28a.7 of the final-form regulation has been removed from the final-form regulation.

14. The Department has removed the requirement for both natural and artificial light from the final-form regulation, with one exception. In the case of a kennel that has received permission to house the dogs inside the kennel on a permanent basis, including exercising the dogs indoors, the Department still requires there by external openings and doors that provide sunlight and can be opened in the case of a mechanical ventilation malfunction.

In addition, the need for exposure to some natural sunlight was discussed with veterinarians from the Canine Health Board and the Department. Dogs, like all humans and most other animals need vitamin D. Food sources can not always provide an adequate amount of vitamin D. Dogs need exposure to natural sunlight in order to assure proper production of vitamin D and proper development of their eyesight. The Department does not agree however, that all reference to natural light be removed from the final-form regulation. Natural sunlight is an alternative that is specifically allowed by the Act and can be utilized in conjunction with artificial lighting and thereby lower operation and maintenance costs – both for lighting and heating a kennel. In the final-form regulation the Department has set forth general criteria required of both lighting sources and have set forth specific criteria – that in addition to the general criteria – apply to either natural lighting or artificial lighting.

15. The requirements that were in subsection 28a.3 (i)(iv) related to shading of the outdoor exercise area have been removed from the final-form regulation.

16. The requirement term “Full spectrum lighting” has been defined in the final-form regulation. From the research done by the Department, some form of full spectrum lighting has been available and in use since the 1930’s, so it is not a new or novel type of lighting and it is readily available from various manufacturers.

17. The requirement term “Full spectrum lighting” has been defined in the final-form regulation.

18. The Department has modified the language of what was subsection 28a.3 (2)(iv) of the proposed regulation, in a manner to better clarify its intent. The word “flicker” is no longer set forth in the final-form regulation. The modified language appears in subsection 28a.7 (b)(2)(ii) of the final-form regulation. The focus is on the lighting being kept in good repair. The language will actually effectuate the intent of the Canine Health Board. In speaking to members of the Canine Health Board, it became clear the intent of the Canine Health Board was to assure the lighting fixtures were kept in good repair and

were functioning properly. The reference to a “visible flicker” was important to the veterinarians on the Canine Health Board, because they assert that flickering lights – such as the flickering caused by defective ballast – can result in seizures in some dogs. Therefore, in order to assure the health, safety and welfare of the dogs through proper animal husbandry related to lighting, it is important that artificial lighting sources within the kennel building be kept in good repair and not result in problems such as a “flickering” light source. The revised language of the final-form regulation requires lighting to be kept in good repair and sets forth – among other examples - such as emitting irregular bursts of light, as when a ballast is in disrepair.

19. The language contained in subsection 28a.3 (2)(v) of the proposed regulation related to light sources being set or employed in such a manner as to prevent injury to the dog has been modified for clarity, but not removed from the final-form regulation. The modified language is contained at subsection 28a.7(b)(2)(iii). The Department believes it is within the scope of the authority of the Act. Specifically, the Canine Health Board was to establish Guidelines for lighting standards that based on animal husbandry practices provided for the welfare of dogs in kennels. This regulatory requirement, while the Department agrees kennel owners should already be adhering to standards that would prevent such harm and therefore the provision should not be necessary, is essential to assure proper animal husbandry practices with regard to the lighting placement and standards. It merely requires kennel owners to not place or provide artificial lighting in such a manner that it would cause injury to the dogs.

20. The language in the first sentence of what was section 28a.4 (related to flooring) of the proposed regulation, has been deleted from the final-form regulation. The flooring section is now section 28a.8 of the final-form regulation.

21. The Department, upon recommendations suggested by this commentator and the Independent Regulatory Review Commission has reformatted the flooring provisions of the final-form regulation. In restructuring this section, now section 28.8a of the final-form regulations, the Department felt it would be even more helpful to the regulated community if all the flooring standards established by the Act, were also delineated in the regulation. Therefore, the Department established two new subsections which reiterate the language contained in sections 207(i)(3)(i)(related to general flooring standards) and (i)(3)(ii)(related to slatted flooring) of the Act (3 P.S. §§ 459-207(i)(3)(i) and (ii)). In addition, the Department had to then modify the language of the proposed regulations which sought to espouse the additional flooring options. In doing so, the Department established subsection 28a.8(c), which sets forth the language of the statute allowing the Canine Health Board to approve additional flooring options, and delineates the authority and duty of the Canine Health Board to assure the additional flooring standards adhere to the general requirements established by section 207(i)(3)(i) of the Act and be based on proper animal husbandry practices, providing for the health and welfare of the dogs confined to these kennels, as required by section 221(f) of the Act (3 P.S. §§ 459-207(i)(3)(i) and 459-221(f)). The Department included the standards set by the Canine Health Board in the proposed regulations – such as requiring proper drains, flooring that is not capable of heating to a level that could cause injury to the dogs and will provide a non-skid surface – but added language to these provisions to clarify the intent and provide more objective standards. In addition, based on discussions with Department

veterinarians and some Canine Health Board veterinarians, the Department added language that provides for the welfare of the dogs, based on proper animal husbandry practices. The Department's veterinarians have witnessed the ill effects caused to dogs that are housed on a surface that splays their feet, caused damages to the feet or pads or allows the pad, foot or toenail of the dog to become snared or entrapped. Therefore, an additional provision, subsection 28a.8(c)(4), was inserted into the final form regulation in order to effectuate those animal husbandry and welfare practices

22. The Canine Health Board may approved additional flooring options that meet the general requirements of subparagraph 207(i)(3)(i) of the Dog Law, but also has the authority and duty to assure such additional flooring, based on animal husbandry practices, will account for the welfare of the dogs housed on that flooring, as required by section 221(f) of the Dog Law (3 P.S. § 459-221(f)). The section 221(f) standards are the very reason the flooring alternatives must be reviewed by the Canine Health Board, which is comprised of nine veterinarians. Otherwise, the task would be to merely assure the flooring meets the very general standards of section 207(i)(3)(i), which in and of themselves do not assure or account for the health, safety and welfare of the dogs housed on the flooring. In doing so, the Board and hence the Department has the authority and duty to set forth standards that will account for the welfare of the dog. The standard in subsection 28a.4(4) of the proposed regulations, now subsection 28a.8(c)(3) of the final-form regulation, does not prohibit a flooring type or option, it merely sets a standard for any flooring type presented to the Board for approval. The language has been modified to assure it sets a standard, and does not prohibit any particular type or style of flooring.

23. The language that was contained in subsection 28a.4(5) of the proposed regulations related to applicable codes has been removed from the final-form regulation.

24. The Canine Health Board may approved additional flooring options that meet the general requirements of subparagraph 207(i)(3)(i) of the Dog Law, but also has the authority and duty to assure such additional flooring, based on animal husbandry practices, will account for the welfare of the dogs housed on that flooring, as required by section 221(f) of the Dog Law (3 P.S. § 459-221(f)). The section 221(f) standards are the very reason the flooring alternatives must be reviewed by the Canine Health Board, which is comprised of nine veterinarians. Otherwise, the task would be to merely assure the flooring meets the very general standards of section 207(i)(3)(i), which in and of themselves do not assure or account for the health, safety and welfare of the dogs housed on the flooring. In doing so, the Board and hence the Department has the authority and duty to set forth standards that will account for the welfare of the dog. The standard in subsection 28a.4(6) of the proposed regulations, now subsection 28a.8(c)(6) of the final-form regulation, does not prohibit a flooring type or option, it merely sets a standard for any flooring type presented to the Board for approval. The language has been modified and the wording "good footing" has been replaced with more descriptive language to assure it sets a more objective standard.

25. In the final-form regulation, the Department has modified the language of what is now subsection 28a.8(c)(7), which was 28a.4(7) of the proposed regulations, by specifically removing the language “and may be subject to microbial assessment” and replacing that language with clear and distinct language regarding the ability of the flooring to be cleaned and sanitized in concurrence with the Act and current Department regulations.

Comment: General Summary

I wholeheartedly support a high level of regulatory control of commercial dog breeding in Pennsylvania. However, these regulations must be clearly stated, must be within the confines of the law and must be written so that enforcement is not arbitrary.

RESPONSE

The Department appreciates the support for the regulations and the general concerns expressed by the Honorable Senator Brubaker. The Department has taken these concerns very seriously, as can be seen, in the responses to Senator Brubaker’s comments and in the language of the final-form regulation. The final-form regulation is within the scope of authority granted by the Act, is drafted in a manner intended to provide additional clarity and contains language and standards that are objective and measurable.

II. REPRESENTATIVE MICHAEL K. HANNA

Commentator:

Submitted by: Honorable Michael K. Hanna, Member,
Pennsylvania House of Representatives,
Chairman House Agriculture & Rural Affairs Committee
302 Main Capitol
P.O. Box 202076
Harrisburg, PA 17120-2076

Background:

The Pennsylvania Department of Agriculture recently promulgated Regulation 2-170, Canine Health Board Standards for Commercial Kennels, required under the Dog Law as amended by Act 119 of 2008. Since then many individuals and organizations have provided comments in an effort to assist IRRC in its regulatory review.

Comment: General Scope of Authority

As Chairman of the House Agriculture and Rural Affairs Committee, I am pleased to comment on the proposed regulation. The act established the Canine Health Board comprised of veterinarians who, by training and practice, understand the care and treatment of canines. The board was authorized to issue temporary guidelines and regulations specifically regarding appropriate auxiliary ventilation requirements, humidity standards, and ammonia and lighting ranges.

In addition, the board was given discretionary authority to establish additional flooring options and alternatives to accessing exercise areas.

RESPONSE

The Department has scrutinized all of the comments, consulted with engineers, architects, Departmental and Canine Health Board veterinarians, experts in auxiliary ventilation utilized in kennels, members of a commercial kennel group and done its own further research in order to assure the final-form regulation meets the mandates of the Act. The final-form regulation is within the scope of authority granted by the Act, is drafted in a manner intended to provide additional clarity and contains language and standards that are objective and measurable.

Comment: Department's duty

I appreciate the efforts of board members who donated their time and expertise in developing the proposed regulation, particularly given the statutory time constraints. As required under the act, the Pennsylvania Department of Agriculture promulgated the board's temporary guidelines as a regulation. Although the department was unable to modify the board's proposed regulation initially, the department is required to respond to comments and may make changes prior to delivering a final-form regulation.

RESPONSE

The Department is the promulgating authority and agrees with the comment submitted by the Honorable Representative Hanna. The Department has taken the comments and concerns expressed in those comments very seriously, as can be seen, in the responses to the comments and in the language of the final-form regulation. As stated above, the Department scrutinized all of the comments, consulted with engineers, architects, Departmental and Canine Health Board veterinarians, experts in auxiliary ventilation utilized in kennels, members of a commercial kennel group and done its own further research in order to assure the final-form regulation meets the mandates of the Act. The final-form regulation is within the scope of authority granted by the Act, is drafted in a manner intended to provide additional clarity and contains language and standards that are objective and measurable.

Comment: Testimony

Testimony and written comments at the department's recent hearing expressed genuine concern about compliance with the proposed regulation. Specifically, kennel owners suggest the lighting and ventilation standards may be too restrictive due to vague standards or variables beyond the control of kennel owners. Others noted the board's disregard of the explicit authority granted to identify additional flooring options. Recently renovated kennels may have flooring that is not harmful but may not comply with the proposed standard.

RESPONSE

Although the hearing and the testimony are not part of the regulatory review process. The Department once again listened closely. Much of the testimony offered at that hearing was reduced to comments, which the Department has answered in this document. In addition, the Department has made changes in the final-form regulation that address many of the comments. The changes to the final-form regulation are based on

comments and the research done by the Department, as set forth, in the Department's answer to the previous question. The final-form regulation is within the scope of authority granted by the Act, is drafted in a manner intended to provide additional clarity and contains language and standards that are objective and measurable. With regard to alternative flooring samples submitted of the Canine Health Board's review, the Board did take up the matter at a March 31, 2010 public meeting.

Comment:

The act was never intended to eliminate the commercial breeding of dogs in the Commonwealth. I encourage the department to consider the legitimate concerns of responsible dog breeders and revise the proposed regulation to accommodate these concerns.

RESPONSE

As stated previously, the Department has taken the comments and concerns expressed in all of the submitted comments very seriously. This should be evident in the responses to the comments and in the language of the final-form regulation. As stated above, the Department scrutinized all of the comments, consulted with engineers, architects, Departmental and Canine Health Board veterinarians, experts in auxiliary ventilation utilized in kennels, members of a commercial kennel group and did its own further research in order to assure the final-form regulation meets the mandates of the Act. The final-form regulation is intended to set standards that are within the scope of authority granted by the Act, and that meet the duty to protect the health and welfare of the dogs housed in commercial kennels. The final-form regulation is drafted in a manner intended to provide additional clarity and contains language and standards that are objective and measurable.

III. MEMBERS, PENNSYLVANIA HOUSE OF REPRESENTATIVES

Commentators:

Submitted by: Following Members, Pennsylvania House of Representatives:

Honorable Sam Smith, Republican Leader

Honorable Jerry A. Stern, Republican Caucus Secretary

Honorable John A. Maher, Republican Chairman

Honorable Samuel E. Rohrer

Honorable Scott E. Hutchinson

Honorable Jim Cox

Honorable Gordon R. Denlinger

Honorable Mark K. Keller

Honorable David R. Millard

Honorable Tina Pickett

Honorable Jeffrey P. Pyle

Honorable Michele Brooks

Honorable Michael E. Fleck

Honorable Carl Walker Metzgar

Honorable Richard R. Stevenson

Honorable Martin T. Causer

Background:

We appreciate the tremendous amount of time and *effort* expended by the members of the Canine Health Board and understand that their service is voluntary. We recognize that the decisions made by the Canine Health Board were made by majority vote and that not all members of the board agreed with the decisions. We further recognize that several members of the board made repeated attempts to keep the deliberations and decisions made to those which are authorized by law. Unfortunately, the resulting temporary guidelines fail to meet that responsibility. We appreciate the opportunity to *offer* comments. Once again, we emphasize that the comments contained in this correspondence are only highlights of our concerns.

Comment:

Pursuant to the invitation for public comment published with the proposed rulemaking J.D. No. 2-170, Canine Health Board Standards for Commercial Kennels published in the September 12, 2009 *Pennsylvania Bulletin*, we submit the following comments. This proposal is largely unchanged from the Canine Health Board's Temporary Guidelines Standards for Commercial Kennels published in the January 17, 2009 *Pennsylvania Bulletin*. The attached February 13, 2009 letter sent in response to the temporary guidelines highlighted significant departures from statutory authority in the hope that the defects would be cured before the department published a proposed rulemaking. Instead, the current proposal suffers from the same statutory departures and dishonors the legislative authority and intent. Therefore, our collective comments to this proposed rulemaking incorporate the attached letter to the temporary guidelines.

RESPONSE

The Department has made substantive changes to the final-form regulation, including deleting and restructuring language that was in the proposed regulation, which the Department believes may have either been outside the statutory authority granted by the statute or was unclear or too subjective in nature. A majority of the overall changes made to the final-form regulations were based upon the comments and the input received during the rulemaking process. As stated previously, the Department has taken the comments and concerns expressed in all of the submitted comments very seriously. This should be evident in the responses to the comments and in the language of the final-form regulation. As stated in answers to similar comments from other commentators, the Department scrutinized all of the comments, consulted with engineers, architects, Departmental and Canine Health Board veterinarians, experts in auxiliary ventilation utilized in kennels, members of a commercial kennel group and did its own additional research in order to assure the final-form regulation meets the mandates of the Act. The final-form regulation is intended to and does set standards that are within the scope of authority granted by the Act and that meet the Department's statutory duty to protect the health and welfare of the dogs housed in commercial kennels. The final-form regulation is drafted in a manner – breaking the regulation into sections that set standards for the specific provisions required to be addressed by the regulation - intended to provide additional clarity and contains language and standards that are objective and measurable.

Comment:

We are concerned that public comments are being directed to the Canine Health Board instead of to the Department of Agriculture. The Canine Health Board did nothing with the public comments submitted in response to the temporary guidelines. Section 221(g) of the Dog Law (Act 225 of 1982) clearly requires, and it was the legislative intent for, the Department of Agriculture to promulgate the regulation. We recognize that the department was restricted to promulgating the content of the Temporary Guidelines as developed and published by the Canine Health Board, but it is now the department's responsibility to receive public comments and develop the required comment/response document. Now that the department (agency) has published the proposed rulemaking, the Canine Health Board no longer has a role in this regulatory review process.

RESPONSE

The Department under its authority at sections 902 and 221(g) of the Dog law is the promulgating authority (3 P.S. §§ 459-902 and 459-221(g)). The Department reviewed the "Guidelines" drafted by the Canine Health Board and with some changes to account for form and legality drafted the Guidelines as proposed regulations. The Department held the public hearing required by section 902 of the Dog Law. The Department also drafted the preamble to the proposed regulations and the regulatory analysis form. The Department then received, reviewed and formatted all comments submitted by the public, House and Senate Committees and the Independent Regulatory Commission. The Department consulted with the Canine Health Board members, as well as, with Department veterinarians, architects, engineers, a regulated community group and animal scientists, as well as doing its own research with regard to questions and issues that arose from the comments. The Department utilized all of these resources in making changes to the final-form regulations, drafting the comment and response document and putting together the preamble and regulatory analysis form that accompanies the final-form regulations. The Canine Health Board did not act in its official capacity and was utilized by the Department for its expertise in veterinary matters, just as other groups were questioned and consulted in their areas of expertise. In general, the Department acted as the promulgating authority throughout the regulatory process and utilized the expertise of – among others – the Canine Health Board to answer questions and concerns expressed by commentators.

Comment:

In addition, we are aware that seven of the nine Canine Health Board members have formally recommended to the department that this proposed rulemaking be suspended and that the board reconvene under specific organizational parameters to develop a new set of guidelines, presumably for the department to publish as a proposed rulemaking. Since the proposed rulemaking is such a broad departure from the statutory authority provided, we endorse that sentiment, and encourage the department to develop a proposed regulation that complies with the legislative authority and intent, using whatever resources it finds most appropriate.

RESPONSE

The Department, being the promulgating agency, decided to proceed with the proposed rulemaking realizing that, as with nearly all regulations, changes would most likely have to be made to the final-form regulation. In addition, the Department felt this was the best mechanism to assure a more timely set of regulations and to comply as nearly as possible with the mandate of the Act.

Original comments on the Guidelines – incorporated as requested above

Comments: Fiscal Impact

We recognize that these temporary guidelines, *as such*, will not impose significant additional fiscal impacts to the Bureau of Dog Law Enforcement (Bureau), the regulated community, political subdivisions, or to consumers at large. However, should similar provisions be promulgated *as regulation*, we believe that significant financial burden will be placed on both the Bureau and the regulated community, and additional financial burden will likely be placed on *affected* political subdivisions and the general public.

For example:

1. How many of and what specific equipment will be purchased by the Bureau to measure temperature, humidity levels, ammonia levels, carbon monoxide levels, particulate matter, air velocity and foot candles?
2. How much will it cost to train each dog warden to use and calibrate/recalibrate this equipment?
3. How many more dog wardens will need to be employed, since so much additional time will be needed to perform commercial kennel inspections?
4. How much will it cost each commercial kennel owner to acquire/install, and be trained to use, the same equipment?
5. We presume the regulated community will need to take similar measurements to determine initial and continued compliance.
6. How often will an engineer consultant be hired by the Bureau, and at what cost?
7. How much will it cost each commercial kennel to install a mechanical ventilation system?
8. How much will it cost each commercial kennel to install additional windows necessary to "allow each dog an unobstructed view of the outdoor environment"?
9. How much will the utility costs of each commercial kennel increase as a result of the requirements for lighting, ventilation and certain monitoring equipment?
10. The requirements for installation of mechanical ventilation systems, other physical changes to an existing structure, as well as the plans for new commercial kennel structures, will, in many cases, need to be reviewed by a local zoning board or other local body. How much will it cost for a commercial kennel owner to have the appropriate plans developed, submitted and reviewed by the applicable authorities?
11. If a commercial kennel closes as a result of not being able to afford the required upgrades, how much tax revenue loss will that represent to affected taxing bodies?
12. How much financial impact will the closing of a commercial kennel have on the industries that serve such a business?

13. Since most businesses pass on costs of doing business to the consumers they serve, how much more will it cost for a consumer to purchase a dog?

We realize that many of these costs will be variable, but they need to be considered nonetheless.

RESPONSES

1. The final-form regulations remove the necessity of the Department to purchase any equipment to measure particulate matter or carbon monoxide levels. Standard carbon monoxide monitors will be required to be installed in kennels that utilize a carbon monoxide producing heating or cooling source, but there is no set level to be measured.

The final-form regulation requires air flow to be measured in cubic feet per minute per dog, as was the suggestion of the architects, engineers and animal scientists consulted by the Department. This allows the Department to check the CFM rating on the ventilation and air circulation equipment employed by the kennel owner to assure it meets the required air circulation values. In addition, the final-form regulation requires written certification under the signature and seal of a professional engineer verifying the engineer has inspected the ventilation system and that it meets all of the requirements of the regulations, including auxiliary ventilation and humidity standards. This change was made in response to comments that the ventilation standards were too subjective, too burdensome to continually assure compliance, could result in different readings depending on the equipment utilized or the place in the kennel the readings were taken and were too expensive to monitor. The certification is a one time cost, that according to the engineers consulted, is part of the price quoted for a project. The engineers would already certify a system to comply with applicable regulations and code requirements. Therefore, the change allows for an objective standard, does not increase the cost of the regulation and in fact decreases equipment, monitoring and training costs and allows for a professional third party, trained in to make such evaluations to assure the system installed or retrofitted to the kennel meets the requirements of the regulations.

Therefore, the Department will purchase some equipment to measure air circulation, but such equipment will be utilized for spot checks and if the dogs in the kennel exhibit signs of illness or stress that may be associated with ventilation problems, as set forth more fully at subsections 28a.2(c) and (h) of the final form regulations.

The Department will have to purchase ammonia level monitors and will purchase temperature and humidity monitoring devices to be installed in kennels as set forth at subsections 28a.4(b)(4) and (5) of the final-form regulation. In deciding to purchase the temperature and humidity monitoring devices the Department took into account the comments of kennel owners and other related to the cost to the kennel owners of having to purchase such equipment to monitor their kennels and the issue of standardization of such equipment so that measurements are taken in the same manner and by the same type of equipment. The Department will bear the cost of buying, calibrating, replacing and installing the monitors and kennel owners will be able to continually check the monitors to assure their kennel facility is in compliance with the standards of the regulations. regulation.

Finally, light meters will be purchased to assure the lighting in the kennels provides the appropriate footcandle range of lighting.

The total number of all such devices and the costs to buy, calibrate and train wardens in their use is contained in the regulatory analysis form that accompanies the final-form

2. The total number of all such devices and the costs to buy, calibrate and train wardens in their use is contained in the regulatory analysis form that accompanies the final-form

3. The Department did not believe it would have to employ any additional dog wardens to carry out inspections under the proposed regulations. The final-form regulations employ means and mechanisms, as set forth in the answer to question 1 above, which will require less time to monitor, inspect and assure compliance during a kennel inspection. The Department has no plans to employ any additional dog wardens, as it believes the current staff of dog wardens is sufficient to assure at least two kennel inspections each year and to respond to complaints or conduct follow-up inspections of non-compliant kennels.

4. The Department has set forth the cost to kennel owners in the regulatory analysis form that accompanies this final-form regulation.

5. The kennel owner may elect to purchase a light meter or ammonia level meter or both. The kennel owner will be able to utilize the Department's temperature and humidity monitoring devices to assure compliance with those standards and CFM standards for air circulation will be certified by an engineer, for reasons set forth previously, and can be calculated based on the cubic feet of each area of the kennel housing dogs and the total number of dogs housed in that area of the kennel. The CFM rating is listed on fans and other forms of mechanical ventilation and the professional engineer, State dog warden and kennel owner can match those standards without buying any monitoring equipment. The kennel owner can adjust the level of the air circulation based on the number of dogs in the kennel at any one time, and no additional equipment or monitoring devices are necessary for such calculations. Standard carbon monoxide monitors, for those kennels that need to install them, will have to be purchased, but actual carbon monoxide level readings will not have to be taken, so no additional devices are necessary.

6. The final-form regulation, completely eliminates the requirement or necessity for the Department to hire an engineer or other consultant.

7. The cost of the mechanical ventilation system will vary according to the sophistication and complexity of the system the kennel owner decides to install. However, the Department has consulted several engineers/engineering companies that build kennel buildings and asked them to assess the cost of installing a ventilation system that would meet all the ventilation requirements of the final-form regulation. The costs are based on a kennel owner having to purchase and install all of the equipment, even though most kennel owners, especially those subject to United States Department of Agriculture regulations, should already have some form of mechanical ventilation, auxiliary ventilation and – in the case of USDA – temperature control devices already installed in the kennel.

The Department has no baseline data with regard to a kennel's current utility costs, so it is impossible to project the amount of any increase in such costs. However, the regulatory analysis form accompanying the final-form regulation does estimate the average yearly cost of operating a system that would meet the ventilation, auxiliary ventilation and humidity standards of the regulations. However, as pointed out, these estimates do not take into account the fact that kennel owners already have previous existing utility costs. In fact, the Federal Animal Welfare Regulations, at section 3.1(d)(related to housing facilities, general) require, "The housing facility must have reliable electric power adequate for heating, cooling, ventilation, and lighting and for carrying out other husbandry requirements in accordance with the regulations in this subpart..." (9 CFR § 3.1(d)) Therefore, the costs estimates, which are set forth in the regulatory analysis form that accompanies the final-form regulation, will set forth costs that are or should already be incurred by USDA regulated kennels. The costs delineated in the regulatory analysis form also delineate the physical costs that could be incurred for a system that would meet the standards of the regulation.

8. The requirement that additional windows be installed, each dog have an unobstructed view or that 8% of the kennel building have windows, skylights or other means to allow natural light into the kennel have been eliminated from the final-form regulation. Kennels that received an exemption from outdoor exercise are the only kennels that will have to provide some amount of natural light and, like all other kennels will be required to have functioning windows, doors or other openings to allow for ventilation in the case of a malfunction of the mechanical ventilation system.

9. First, the Department has no baseline data with regard to a kennel's current utility costs, so it is impossible to project the amount of any increase in such costs. However, the regulatory analysis form accompanying the final-form regulation does estimate the average yearly cost of operating a system that would meet the ventilation, auxiliary ventilation and humidity standards of the regulations. As the commentator points out, these estimates do not take into account the fact that kennel owners already had previous existing utility costs. In fact, the Federal Animal Welfare Regulations, at section 3.1(d)(related to housing facilities, general) require, "The housing facility must have reliable electric power adequate for heating, cooling, ventilation, and lighting and for carrying out other husbandry requirements in accordance with the regulations in this subpart..." (9 CFR § 3.1(d)). Therefore, the estimates set forth in the regulatory analysis form will include those already existing costs. The existing costs for kennels regulated by the USDA will be much less, as those kennels already have to comply with heating (50 F) and cooling (85 F) regulations (9 CFR §§ 3.2(a) and 3.3(a)).

Second, the cost to operate the lighting should not cost any additional amount, since kennels are already required, by the Department's current regulations and USDA regulations to provide a diurnal lighting cycle and enough light to allow for observation of the dogs and normal animal husbandry practices. In fact, the Federal Animal Welfare Regulations, at section 3.1(d)(related to housing facilities, general) require, "The housing facility must have reliable electric power adequate for heating, cooling, ventilation, and lighting and for carrying out other husbandry requirements in accordance with the regulations in this subpart..." (9 CFR § 3.1(d)) and "Indoor housing facilities for dogs...must be lighted well enough to permit routine inspection and cleaning of the facility, and observation of the dogs...and provide sufficient illumination to aid in

maintaining food housekeeping practices, adequate cleaning, and the well-being of the animals (9 CFR § 3.2(c)) The Dog Law sets forth those same standards at section 207(h)(8) (3 P.S. § 459-207(h)(8)). The requirement to and cost of providing adequate lighting is actually established in the Act itself. The regulations merely mirror that language and then set forth a level of lighting as required by the Act.

The new regulations quantify the intensity of the light to be provided and the type of lighting. The regulatory analysis form sets forth the cost estimates to install new lighting, if required, but there should be no additional cost of operating the lighting.

10. This is a question that is impossible for any agency to answer with any accuracy. There are over twenty-six hundred municipalities, boroughs and townships in the Commonwealth. All of the those entities have their own ordinances and zoning regulations and all have their own costs for planning and review. In addition, it would require a review of each kennel, because different kennels will have different needs and therefore different costs. The Department has never been asked or made to answer such a broad and impossible question in any other regulation it has previously promulgated. Any estimates in the regulatory analysis form are subject to all of the variables set forth above.

In addition, it should be noted that the majority of the structural changes necessary for kennel owners to undertake – replacing and expanding primary enclosures, putting in outdoor exercise areas, heating the kennel and employing auxiliary ventilation when temperatures rise above 85 degrees Fahrenheit, are actually imposed by the Act itself.

It is the Act that requires the Department to promulgate regulations setting forth the proper ventilation, humidity and ammonia levels, as well as lighting levels.

The Department, through conversations and consultation with architects, engineers, animal scientists and veterinarians has determined the proper levels for these areas, including proper ventilation levels. The proper ventilation levels, which in turn affect or are necessary to control, ammonia and humidity levels, cannot be consistently achieved through any means other than mechanical ventilation.

Finally, kennel owners regulated by the United States Department of Agriculture, under the Animal Welfare Act should already have ventilation, auxiliary ventilation, cooling and heating systems installed and operational. The Federal Animal Welfare Regulations, at section 3.1(d)(related to housing facilities, general) require, “The housing facility must have reliable electric power adequate for heating, cooling, ventilation, and lighting and for carrying out other husbandry requirements in accordance with the regulations in this subpart...” (9 CFR § 3.1(d)). Sections 3.2 and 3.3 of the Federal Animal Welfare Act Regulations set forth heating, cooling, ventilation and lighting standards for those kennels (9 CFR. §§ 3.2(a), (b) and (c) and 3.3(a), (b) and (c)).

11. This is a question that would require the Department to have authority to access the tax returns of all individual kennels and the ability to pre-determine which and how many kennels may decide to close solely as a result of the regulations. The Department has neither. Once again, much of the cost and much of the upgrades are required by the Act itself. Some of the comments fail to appreciate that fact, or seem determined to mix the costs and make them all inclusive. The regulations will impose only a portion of the total costs of all upgrades and changes necessary to commercial kennels. Much of the additional cost comes from the Act itself. In addition, the Department is required, by the Act, to promulgate the regulations. All regulations impose additional costs. The question

is not the total cost, but whether the Department has consulted with appropriate experts and done research and taken steps to try to allow choices – where able – and minimize costs. The Department has done extensive research through its consultations with architects, engineers, animal scientists and veterinarians – including the expert veterinarians appointed by the General Assembly and the Governor. The Department has redrafted the final-form regulation to impose standards that, based on the information received, present the minimum level of regulation necessary to carry out its duty to set levels for ventilation, auxiliary ventilation, humidity, ammonia and lighting that will account for the welfare of dogs housed in commercial kennels. It has done so in a manner that it believes gives kennel owners various choices in meeting those standards. Once again, many of the standards and “upgrades” – especially those associated with heating and proper temperature levels are standards already required for USDA regulated kennels and therefore should impose little to no additional costs on those kennels.

12. These comments are outside the scope of any comments the Department has seen associated with any previous regulation. Once again, this may be because to accurately answer the question posed, the Department would have to have the authority to access and review the purchasing records of every individual kennel. It does not. The questions asked in comments 9, 10, 11, 12 and 13 are questions that would require access to records, many of them confidential in nature or related to business practices of individual kennel owners, which the Department has no authority to demand or review. The Department would be happy to review any such records that a representative sample of kennel owners may wish to turn over to the Department to analyze in order to accurately answer comments 9-13.

13. To answer the question posed by this comment the Department would have to know both the additional cost each individual kennel will incur (which depends on how compliant that kennel already is with USDA and other regulations and the structure of each individual kennel, as well as, the system the kennel is going to choose to employ and the contractor the kennel owner will hire to do any “upgrades”), and the business strategy of each individual kennel owner. The Department has no manner, authority or means to make such a prediction. Making an accurate prediction of the sale price of dogs is too subjective for any agency to be required to answer or predict.

Comments: Section 28.1. Ventilation.

1. The requirement for a mechanical ventilation system goes beyond the authority in the law.
2. The only type of ventilation that should be addressed by the Canine Health Board is "auxiliary ventilation" and only "if the ambient air temperature is 85 degrees or higher." (emphasis added; language cited is from Section 207(h)(7) of the act).
3. The responsibility of the Canine Health Board is to determine a ventilation range, for limited circumstances.
4. **Paragraph 28.1(2)** - Paragraph (2) limits the temperature in a commercial kennel to a maximum of 86 degrees Fahrenheit and goes beyond the authority of the Canine Health Board. In Section 207(h)(6) of the law, the General Assembly established a temperature range for commercial kennels of 50 to 85 degrees

Fahrenheit, *unless* auxiliary ventilation is provided when the air temperature rises above 85 degrees Fahrenheit. The Canine Health Board has no authority whatsoever to address temperature.

5. **Paragraphs 28.1(3)(4) and (5)** - Are the relative humidity and ammonia ranges prescribed in paragraphs (3) through (5) based on animal husbandry practices, as required by Section 221(f) of the law? While we recognize that little research has been published regarding the appropriate environmental conditions for dogs specifically, we do recognize that human standards should not be applied.

6. **Paragraph 28.1(6)** - Paragraph (6) requires a commercial kennel to install and maintain carbon monoxide detectors. The Canine Health Board has no authority whatsoever to address carbon monoxide levels.

7. **Paragraph 28.1(8)** - Paragraph (8) establishes a limit for particulate matter. The Canine Health Board has no authority whatsoever to address particulate matter.

8. **Paragraph 28.1(9)** - Paragraph (9) addresses both air changes and air velocity. Is the prescribed range of air changes per hour based on animal husbandry practices, as required by Section 221(f) of the law? What is "fresh air"? Are the factors prescribed for making an air change calculation correct? What is the formula for calculating air change? Should the number of air changes vary, based on the size of the facility and number of dogs housed within it? What equipment will be used to measure air changes and air velocity? How will measurements be taken if intake or exhaust vents are at a height that cannot be sufficiently or safely reached by a dog warden?

9. **Paragraph 28.1(9)(iii)** - Is the language at paragraph (9)(iii) construed to require simultaneous noncompliance with *one* of paragraphs (1) through (8) or (10) through (13), or *all* of paragraphs (1) through (8) or (10) through (13)?

10. **Paragraph 28.1(9)(v)** - Under what specific circumstances would the department hire or consult with an engineer, and to what conclusion? The provision at paragraph (9)(v) for an engineer to recommend improvements without requiring a kennel owner to incorporate them is meaningless at the least, and fiscally irresponsible at the most. Furthermore, a commercial kennel operator is under no obligation to permit anyone who is not an employee of the department to enter property or inspect kennels.

11. **Paragraph 28.1(10)** - The list of signs of illness at paragraph (10) could exist in dogs independent of ventilation, and are not necessarily signs of poor ventilation. Many of the factors are subjective. What is "excessive" panting, "elevated" body temperature, "active" avoidance, and "huddling", and will a dog warden be able to properly evaluate and measure these factors, and to what standard? This provision has no basis within the limited authority of the Canine Health Board to establish appropriate ventilation ranges.

12. **Paragraph 28.1(11)** - What standards are defined and measurable in paragraph (11), which prohibits "excessive dog odor, other noxious odors, stale air, moisture condensation on surfaces [and] lack of air flow"? Again, this provision has no basis within the limited authority of the Canine Health Board to establish appropriate ventilation ranges.

13. **Paragraph 28.1(12)** - The requirements of paragraph (12) related to recirculated air seem to contradict the requirement in paragraph (9)(i) for fresh air

changes. Further, the limited authority of the Canine Health Board to establish appropriate ventilation *ranges* does not include the authority to require air filters.

14. **Paragraph 28.1(13)** - Paragraph (13) is not clear. What are "applicable codes"? Regardless, the Canine Health Board does not have the authority to establish this provision.

15. **Paragraph 28.1(14)** - Paragraph (14) is vague. What is "the higher end of the applicable temperature range"? What is the "applicable temperature range"? Regardless, the Canine Health Board has no authority whatsoever to address temperature.

RESPONSES

1. The Canine Health Board and hence the Department as the promulgating agency has the absolute authority, under section 207(h)(8) of the Dog Law (3 P.S. § 459-207(h)(7)) to set and establish proper ventilation, humidity and ammonia levels. The Board also has the authority to set auxiliary ventilation standards when the temperature in the kennel housing facility rises above 85 degrees Fahrenheit. Section 207(h)(7) reads, "...The relative humidity must be maintained at a level that ensures the health and well-being of the dogs housed therein. The appropriate ventilation, humidity and ammonia ranges shall be determined by the Board." This provision is in addition too, not a modification of the auxiliary ventilation authority. Under the authority set forth at section 221(f) of the Dog Law (3 P.S. 459-221(f)) these standards have to be and are based on animal husbandry practices that assure the welfare of dogs housed in commercial kennels. As set forth in answers to previous comments, the Department researched and consulted with engineers and architects that build and design kennel buildings, animal scientists from the Pennsylvania State University and department and Canine Health Board veterinarians in establishing the proper ventilation, humidity and ammonia ranges. It was determined by the engineers and architects consulted, that the proper rates of ventilation could not be achieved or properly maintained without a mechanical means of air circulation. Various factors, including wind, wind direction and inverse convection to name a few, make it impossible for any kennel building to be designed in a manner that would allow it to obtain the proper ventilation levels, on a consistent and necessary basis, without mechanical means.

2. The Department agrees that section 207(h)(7) establishes the authority for the Department to address auxiliary ventilation and that such ventilation can only be required to be employed when the temperature in the kennel goes above 85 degrees Fahrenheit (3 P.S. § 459-207(h)(7)). However, the word "auxiliary" itself implies or means additional or extra ventilation. That along with the express and specific language of section 207(h)(7) of the Dog Law – in its entirety – establishes the complete authority of the Canine Health Board and the Department to establish standards. Section 207(h)(7) reads, in pertinent part, "Housing facilities for dogs must be sufficiently ventilated at all times when dogs are present to provide for their health and well-being and to minimize odors, drafts, ammonia levels and to prevent moisture condensation..." The Canine Health Board is given the duty to determine those levels in the same section, which states, "...The appropriate ventilation, humidity and ammonia levels shall be determined by the Canine Health Board." (3 P.S. § 459-207(h)(7)) In addition, the language of section 221(f) directs that the very purpose of the Board is to "...determine the standards bases

on animal husbandry practices to provide for the welfare of dogs under section 207(h)(7)....” (3 P.S. § 459-207(h)(7)) The language is very clear and precise. The Board and the Department have the authority to set “at all times” the proper ventilation, humidity and ammonia standards in commercial kennels. This authority is in addition too, not a modification of the auxiliary ventilation authority and makes it perfectly clear the Department has absolute and specific authority to address proper ventilation, at all times, in commercial kennels.

3. The responsibility of the Canine Health Board and the Department is to assure proper ranges of relative humidity, ventilation and ammonia levels and to set forth auxiliary ventilation standards when the temperature in a kennel rises above 85 degrees Fahrenheit (3 P.S. § 459-207(h)(7)). That same section requires that, “Housing facilities for dogs must be sufficiently ventilated at all time when dogs are present to provide for their health and well-being and to minimize odors, drafts, ammonia levels and to prevent moisture condensation...” The Canine Health Board is given the duty to determine those levels in the same section, which states, “...The appropriate ventilation, humidity and ammonia levels shall be determined by the Canine Health Board.” (3 P.S. § 459-207(h)(7)) In addition, the language of section 221(f) directs that the very purpose of the Board is to “...determine the standards bases on animal husbandry practices to provide for the welfare of dogs under section 207(h)(7)....” (3 P.S. § 459-207(h)(7)) The language is very clear and precise. The Board and the Department have the authority to set “at all times” the proper ventilation, humidity and ammonia standards in commercial kennels.

4. The final-form regulation does not require the use of air conditioning and the final-form regulation does not require a reduction in temperature or for dogs to be removed if the temperature in a kennel rises above 85 degrees Fahrenheit. The final-form regulation, allows for air conditioning, but in no manner requires it or temperature reduction. The final-form regulation seeks to add clarity to this and other issues by separating sections related to ventilation, auxiliary ventilation, humidity and ammonia levels and carbon monoxide detection. The auxiliary ventilation provisions set forth several means of auxiliary ventilation that do not require air conditioning. The humidity provisions do not require air conditioning or temperature reduction, and are based on scientific studies and application. Nothing in any of these sections requires the use of air conditioning. The humidity level standards are based on scientific research and will effectively account for the health and safety of dogs housed in kennels. A more in depth response related to the humidity standards is set forth in the Department’s answer to the Independent Regulatory Review Commission’s comments (see Comment 2 - related to section 28a.2 - and the Department’s responses to parts a.iii. and c. of that Comment, including the attached literature).

5. The Federal Code of Regulations, which would apply to kennels selling dogs at wholesale, at sections 3.2 and 3.3 establish even more stringent standards, which absolutely require temperature reductions within the kennel facility to 85 degrees Fahrenheit (with a 4 hour window). Many of the kennels affected by the commercial kennel standards and these regulations must also comply with the Federal Code of Regulations. The Department does not believe it should set a standard that would be in absolute conflict with the temperature requirements of the Federal Code of Regulations, and in fact would be less stringent than the Federal Code of Regulations. Since it has

been asserted by the General Assembly and this Commission, that the Department can not require temperatures within a kennel or kennel housing facility to be reduced to or held at 85 degrees Fahrenheit there is no such set standard in the final-form regulation.

The final-form regulation does not require the reduction of "ambient air temperature", but instead requires the kennel owner to employ auxiliary ventilation and reduce the heat index to 85 HI, through the use of humidity reduction, when temperatures within the kennel and kennel housing facility rise above 85 degrees Fahrenheit. The Department has the authority to regulate humidity and may also set auxiliary ventilation standards when temperatures in the kennel housing facility rise above 85 degrees Fahrenheit (3 P.S. §§ 459-207(h)(7) and 459-221(f)). The standards in the final-form regulation are based on the Department's consultations and research as set forth previously. There is scientific evidence – related to heat studies and heat index values – which support the humidity requirements set forth in the final-form regulations. The attached heat index charts for various species of animals, including humans, evidences that 85 degrees Fahrenheit is where the danger zone begins. A heat index value of 85 HI or less will protect the health and welfare of dogs and other animals. Dogs, other than healthy, short haired breeds, can not survive and remain safe with heat index values in excess of 90 HI for more than six hours (See Exhibit C and TACC Weather Safety Scale). The final-form regulation sets standards for humidity based on heat index values and the use of auxiliary ventilation. The auxiliary ventilation techniques are techniques currently employed in kennels. This information was gathered from an AKC Senior Breed Field Representative and the Department and reviewed by engineers. Nothing in the final-form regulation requires the reduction of temperature to a level of 85 degrees Fahrenheit or the use of air conditioning.

The ammonia level established in the final-form regulation is based on consultations and discussions with animal scientists from the Pennsylvania State University, engineers and architects and Department veterinarians. These experts came to a conclusion, based on animal husbandry practices and studies done on captive animals, such as swine, that ammonia levels of 15 parts per million were appropriate to assure there were no ill effects – such as respiratory and eye problems – on the well-being of dogs housed in commercial kennels. The Department consulted with engineers and architects related to the ammonia levels established by the proposed regulation and with regard to the ability to measure ammonia levels. In addition, the Department consulted with veterinarians and animal scientists and did its own research with regard to commonly accepted levels of ammonia in animal operations such as swine operations. The engineers and architects all believed that if kennels were properly ventilated and achieved the air circulation values established in the regulations, then ammonia levels should not be a problem in the kennel. The Act, however, requires the Department to establish the proper ammonia levels for dogs housed in kennels. Discussions with veterinarians and research done by veterinarians on the Canine Health Board affirm that ammonia levels of 20 part per million or higher will cause respiratory and eye irritation and problems in animals. The veterinarians suggested the levels be set at some point below 20 parts per million and the consensus was that a level of 15 parts per million would both account for proper animal health and welfare and would be measurable. Ammonia levels are measured in the swine industry and can be accurately measured at levels of 15 parts per million. The Department's research also indicated that ammonia is a heavy gas and therefore should be measured near the floor of the kennel. That Act establishes parameters that do not allow dogs in kennels to be housed in any primary

enclosure that is more than 48 inches high for dogs under twelve weeks of age or more than 30 inches high for dogs over twelve weeks of age. Therefore, the Department believes ammonia measurements should be taken at the height of the dogs.

6. The common definition of ventilation, which is set forth in the final-form regulation, establishes the purposes for which ventilation is utilized and one of those purposes is to remove gases such as carbon dioxide and carbon monoxide. The Canine Health Board and the Department realize that some kennels heat the kennel with a equipment that produces carbon monoxide, which is odorless and colorless and therefore is best measured or monitored by a device such as a carbon monoxide detector. The final-form regulation only requires the use of carbon monoxide detectors in kennels that heat with carbon monoxide producing equipment and does not require the measurement or set any specific standard for carbon monoxide levels. The kennel must merely install and maintain functional carbon monoxide detectors. This will account for the health of the dogs and the persons working in the kennel. The Department agrees with the Canine Health Board, that carbon monoxide levels should at the very least be monitored for safety purposes and to assure proper ventilation and air circulation is occurring within a kennel that utilizes a carbon based form of heating or mechanical ventilation. The engineer consulted by the Department believes that carbon monoxide levels will take care of themselves if the kennel is properly ventilated and meets the air exchange rate criteria of the regulations. However, the engineers and animal scientists consulted acknowledge and agree, carbon monoxide gas can build up in any enclosed building where carbon based mechanical ventilation or heating equipment is in use. Carbon monoxide is colorless and odorless and is deadly. The regulations only require that carbon monoxide detectors be installed. If carbon monoxide levels rise to the point the detectors are triggered the kennel has a problem with ventilation or air exchange in that part of the kennel housing facility and needs to take action to assure the health, safety and welfare of the dogs housed in that area of the kennel. Section 207(h)(7) of the Act (3 P.S. § 459-207(h)(7)) states in pertinent part, "Housing facilities for dogs must be sufficiently ventilated at all times when dogs are present to provide for their health and well-being and to minimize odors, drafts, ammonia levels and prevent moisture condensation ...the appropriate ventilation...ranges shall be determined by the Canine Health Board. One of the purposes of ventilation is to exchange or re-circulate air in a manner that removes pathogens, including carbon monoxide and replenishes oxygen. The regulatory requirement is inexpensive and necessary to assure the health, safety and welfare of dogs housed in kennels, which is the general overall duty and authority of the Canine Health Board under section 221(f) of the Act (3 P.S. § 459-221(f)).

7. The Department has removed this provision from the final-form regulation. The Department through its consultation with engineers, architects, veterinarians and animal scientists, has determined that regulation of particulate matter is not necessary or warranted. In particular, the engineers and architects opined that so long as the ventilation requirements of the regulations were being met, particulate matter would not pose a problem in the kennel.

8. The Department, in the final-form regulation, no longer requires a measurement of "air changes per hour", but instead requires a measurement of cubic feet per minute per dog. In general, paragraph (8) of section 28a.2 the proposed regulations has been

deleted or extensively modified in the final-form regulation. Air changes have been replaced by cubic feet per minute (CFM) per dog and standards and measuring tools for the CFM per dog standard are quite specific and have been set forth in subsections (b) and (f)(1) and (2) of section 28a.2 of the final form regulation. Additional, standards related to circulation of the air, minimum fresh air rates and filtration have been established by subsections (f)(3)-(6) of the final-form regulation. The provisions of subsection (b) of the final-form regulation now entail information, including certification, the Department requires of the kennel owner. The information requested is directly related to and provides verification of compliance with the ventilation and air circulation standards established by the final-form regulation.

As set forth previously, the final-form regulation requires written certification under the signature and seal of a professional engineer verifying the engineer has inspected the ventilation system and that it meets all of the requirements of the regulations, including auxiliary ventilation and humidity standards. This change was made in response to comments that the ventilation standards were too subjective, too burdensome to continually assure compliance, could result in different readings depending on the equipment utilized or the place in the kennel the readings were taken and were too expensive to monitor. The certification is a one time cost, that according to the engineers consulted, is part of the price quoted for a project. The engineers would already certify a system to comply with applicable regulations and code requirements. Therefore, the change allows for an objective standard, does not increase the cost of the regulation and in fact decreases equipment, monitoring and training costs and allows for a professional third party, trained in to make such evaluations to assure the system installed or retrofitted to the kennel meets the requirements of the regulations.

Because of the restructuring of that section, all of the provisions of section 28a.2(8)(iii) have been deleted from the final-form regulation. In addition, the provisions of section 28a.2(i) requiring 100% fresh air has been deleted from the final-form regulation. This was done after consultations with an engineer and architects that design kennel buildings revealed that a 100% fresh air exchange rate in Pennsylvania would make it too expensive to heat or cool the kennel housing facility, would not allow for recapture of heated or cooled air and would not allow for proper humidity control in the kennel housing facility. The provisions of the final-form regulation no longer require a measurement of "air exchanges", but are instead based on the cubic feet of the kennel, the number of dogs housed in the kennel and the CFM ratings on the ventilation equipment creating air circulation in the kennel building. The change to CFM per dog was based on the comments and then consultation with engineer Scott Learned and Animal Scientist, Dr. Ken Kephart of the Pennsylvania State University and consultations with other engineers that design or build kennel facilities.

9. The paragraph referred to has been removed and significantly modified in the final-form regulation. Therefore, the issues that arose regarding the clarity and enforcement provisions of that section no longer exist in the final-form regulation.

10. The paragraph and provision referred to has been removed from the final-form regulation. The Department is no longer required to hire or consult with an engineer. Kennel owners are free to consult with whomever they deem appropriate and necessary to solve any compliance issue with their kennel.

11. The Department discussed these issues with Dr. Mikesell and Dr. Kephart of the Pennsylvania State University, as well as, with Department and Canine Health Board veterinarians. In response to those discussions, section 28a.2(9) of the proposed regulations, which related to conditions in dogs that were signs of illness and stress has been modified in the final-form regulation (see 28a.2(h) of the final-form regulation). The number and type of conditions in dogs that may denote poor ventilation has been reduced and are consistent with the suggestions of the experts consulted, including Dr. Mikesell. In addition, the signs of stress or illness trigger an investigation of the ventilation, air circulation, humidity levels, heat index values, ammonia and carbon monoxide levels in the area or room of the kennel where those signs exist. If the investigation reveals problems in those areas, then proper enforcement action may be taken by the Department. The mere existence of the signs of stress or illness does not in and of constitute a violation of these regulations. The type of conditions in dogs and the illnesses or signs of stress listed are all associated with conditions that veterinarians have asserted can result from poor ventilation, air circulation, humidity, heat stress or ammonia or carbon monoxide levels that are not within the ranges established by the regulations. For instance, respiratory distress can be associated with humidity and temperature levels or ammonia levels that are too high, as well as, insufficient air circulation or auxiliary ventilation. Section 28a.2(h)(2) of the final form regulation sets forth all the signs associated with heat distress or heat stroke, which again denotes insufficient air circulation, auxiliary ventilation and/or humidity level controls in that part of the kennel facility. Matted, puffy, red or crusted eyes and listlessness can be associated with high ammonia or high carbon monoxide levels. Fungal and skin disease can denote improper humidity control in the kennel facility.

12. While the Department believes the Canine Health Board had and the Department has the authority and ability to regulate air flow, stale air, odor and certainly moisture content – all of which are part of ventilation or humidity control – the Department believes these issues have been addressed in the final-form regulation by setting proper ventilation, humidity and auxiliary ventilation standards. Therefore, the Department has removed the language set forth in subsection 28a.2 (10) from the final-form regulation.

13. After consultation with engineers and architects the Department broadened the language of what was subsection 28a.2 (11) of the proposed regulations. The new language appears at subsection 28a.2 (b)(5) of the final-form regulation and simply states any filter must have a minimum MERV value of 8 or higher. The kennel owner can choose a variety of filter types and brands, so long as they meet a MERV value of at least 8. The Canine Health Board and the Department have the authority and the duty to set ventilation ranges and standards that are based on animal husbandry practices and protect the welfare of dogs housed in the kennels. Proper ventilation, for the well-being of the dogs housed in the kennels requires that air be filtered in some manner, when air is re-circulated. The final-form regulations no longer require 100% fresh air, but instead allow for up to 70% of the air in a kennel to be re-circulated.

14. The language that appeared in subsection 28a.2 (12) has been removed from the final-form regulation. In fact, all references to “the latest edition of applicable codes” has been removed from the final-form regulations. As stated in the answer to a similar question from the Independent Regulatory Review Commission, the Department believes “applicable codes” can and will be enforced by the entities that have the specific authority to draft and enforce those codes.

15. Paragraph 28a.1(14) which is referred to in this comment may have been part of the Guidelines drafted by the Canine Health Board, but the language does not appear in the proposed or final-form regulation.

Comments: Section 28.2. Lighting.

Section 207(h)(8) of the act establishes lighting requirements for commercial kennels, which authorizes either natural or artificial light. The only responsibility of the Canine Health Board is to establish "appropriate lighting ranges" for housing facilities of dogs.

1. **Paragraph 28.2(1)** - The provisions in paragraph (1) go beyond the authority of the Canine Health Board.
2. **Paragraph 28.2(1)** - The provisions of paragraph (2) also go beyond the authority of the Canine Health Board, except for the lighting ranges established in subparagraphs (i) and (ii). However, the provisions in subparagraphs (i) and (ii) are unclear, and we therefore question their enforceability.
3. **Paragraph 28.2(3)** - Paragraph (3) is unclear and furthermore, goes beyond the authority of the Canine Health Board to establish appropriate lighting ranges for housing facilities of dogs in commercial kennels.

RESPONSES

1. The final-form regulation no longer contains the language of what was section 28a.3(1) of the proposed regulation (now section 28a.7 of the final-form regulation). The final-form regulation now allows for either natural or artificial light or for a combination of both. It sets general standards for all lighting and establishes specific standards that in addition to the general standards, apply to either type of lighting. What was subparagraph (1) of the proposed regulation is now contained in a provision that relates only to natural light. Natural light is no longer required. What were subparagraphs (1)(ii)-(1)(vi), have been removed from the final-form regulation. The new language, regarding general lighting standards, mirrors the language of the Act and is consistent with existing USDA standards. In addition, the final form regulations, at section 28a.7(a)(5), sets a lighting range of 40-60 foot candles. The range was modified and established based on expert opinions – as set forth more fully in answers to similar comments posed by the Honorable Senator Brubaker and the Independent Regulatory Review Commission.

2. Paragraph (2) is now subsection 28a.7(b)(2) and the language has been significantly amended. The new subsection is now specific to artificial lighting standards and eliminates what were subparagraphs (2)(ii) and (2)(iii). Other provisions of the proposed regulations have been modified to allow for more clarity. There is no longer a requirement that lighting does not “flicker.” In speaking with Board members it became apparent they intended that wording to mean the lighting had to be kept in good repair and that lights could not “flicker” or emit irregular bursts of light – such as when a ballast

is going bad in a light. The reasoning is that bursts of light or strobe like effects can cause seizures in dogs. The language has been changed to reflect that intent. With regard to authority, the Canine Health Board and hence the Department have the authority to set appropriate lighting ranges, but the duty to assure the lighting standards account for the welfare of the dogs (3 P.S. § 459-221(f)). Full spectrum lighting is the only lighting that even closely simulates the wavelengths of natural sunlight. As set forth in previous answers to comments from the Honorable Senator Brubaker and the Independent Regulatory Review Commission, natural sunlight is important for the health of dogs housed in kennels – for vitamin D levels and eye development among other issues. In addition, the Department has the duty and authority to enforce and clarify the lighting standards in the Act. The final-form regulations set forth the language of the Act and clarifying standards. The language of the Act requires, “Housing facilities for dogs must be lighted well enough to permit for routine inspection and cleaning of the facility and observation of the dogs. Animal areas must be provided a regular diurnal lighting cycle of either natural or artificial light. Lighting must be uniformly diffused throughout housing facilities and provide sufficient illumination to aid in maintaining good housekeeping practices, adequate cleaning and observation of animals at any time and for the well-being of the animals. Primary enclosures must be placed so as to protect the dogs from excessive light...” Commentators in fact asked that at least some of these standards be defined in the regulation and clarified. The regulation does add clarity for the regulated community.

3. Paragraph (3) of the proposed regulations referred to applicable codes. This provision has been deleted from the final-form regulation.

Comment: Section 28.3. Flooring.

Section 207(i)(3)(iii) of the law permits the Canine Health Board to approve flooring options that meet the specifications of Section 207(i)(3)(i) of the law. The Canine Health Board chose to exercise this permission and approve solid flooring for primary enclosures in commercial kennels. We note that approval of this type of flooring by the Canine Health Board is not a prerequisite for use by a commercial kennel. We further assert that solid flooring does not meet the provisions of Section 207(i)(3)(i).

RESPONSE

Although the flooring options language of the final-form regulation has been modified for among other reasons clarity purposes, the Department does not agree with the assertion that solid flooring is some how prohibited by the Act and does not meet the requirements of section 207(i)(3)(i) of the Dog Law. The plain reading of the language of the Act would not support that contention and furthermore, it could not have been the intent of the General Assembly to outlaw the ability of commercial kennels to place their dogs on a solid surface, such as concrete or tile. Solid surfaces that support the full size of the foot/paw of the dog cause fewer medical problems, such as splaying of the foot or ulceration of the pads of the dog and are a much more natural surface for dogs to walk or be housed on than is a metal strand or wire floor.

IV. REPRESENTATIVE JAMES E. CASORIO, JR.

Commentator:

Submitted by: Honorable James E. Casorio, Jr., Member,
Pennsylvania House of Representatives,
P.O. Box 202056
Harrisburg, PA 17120-2056

Comment:

As the prime sponsor of House Bill 2525, which was signed into law as Act 119 of 2008, I want to express my support for the Canine Health Board's recommended regulations pertaining to lighting, temperature control, ventilation, humidity and ammonia levels in Pennsylvania's large-scale dog breeding facilities.

RESPONSE

The Department and the Board appreciate the support for the regulations and the authority to address lighting, temperature control, ventilation, humidity and ammonia levels in commercial kennels.

Comment:

Act 119 gives the Canine Health Board the authority to implement regulations in these areas to ensure the safety, health and well-being of dogs in breeder kennels, and these regulations should be put into effect as soon as possible.

RESPONSE

The Department has made amendments to the final-form regulations based on comments received and on consultation and input from experts in the field, such as engineers and architects that build commercial kennel buildings, animal scientists from the Pennsylvania State University, AKC specialist in auxiliary ventilation techniques utilized in the field and veterinarians from the Canine Health Board and the Department. The Department has endeavored to gather the information, revise the proposed regulation, format and answer all comments received and draft a new regulatory analysis form in as complete and swift a manner as possible.

Comment:

Already, Pennsylvania has been able to save many dogs, shut down several non-compliant kennels, and improve conditions for thousands of dogs in Pennsylvania because of the health, safety and enforcement provisions in Act 119 that are already in place. Passing the regulations recommended by the Canine Health Board represents the final step in fully implementing Act 119 and finalizing the work that I and others in the General Assembly did - and that thousands of people in Pennsylvania support - to end the suffering and inhumane treatment of dogs throughout Pennsylvania. Please do not delay any further the relief these dogs have waited so long to receive, and expedite the passage of the regulations as soon as possible.

RESPONSE

The Department has made amendments to the final-form regulations based the comments received and on consultation and input from experts in the field, such as engineers and architects that build commercial kennel buildings, animal scientists from the Pennsylvania State University, AKC specialist in auxiliary ventilation techniques utilized in the field and veterinarians from the Canine Health Board and the Department. The Department believes the final-form regulations protect the health and welfare of dogs housed in kennels, while staying within the authority of the Dog Law. The Department has endeavored to gather the information, revise the proposed regulation, format and answer all comments received and draft a new regulatory analysis form in as complete and swift a manner as possible.

V. **REPRESENTATIVE JENNIFER L. MANN**

Commentator:

Submitted by: Honorable Jennifer L. Mann, Member
Pennsylvania House of Representatives,
Majority Caucus Secretary,
132nd Legislative District
333 Main Capitol
P.O. Box 202132
Harrisburg, PA 17120-2132

Background:

As you know, the Pennsylvania Dog Law was amended with the passage of Act 119 of 2008, requiring the Canine Health Board to create regulations regarding the lighting, ventilation, and flooring requirements for commercial dog kennels. I was proud to support this legislation when it passed overwhelmingly in the House of Representatives.

Comment:

The Canine Health Board has proposed the required regulations, with the goal of promoting ethical treatment of animals and consumer protection, as well as not placing financial burdens on local government. I believe the facets of each regulation accomplish each of these goals.

RESPONSE

The Department and the Canine Health Board appreciate the support for the proposed regulations. The Department has made amendments to the final-form regulations based the comments received and on consultation and input from experts in the field, such as engineers and architects that build commercial kennel buildings, animal scientists from the Pennsylvania State University, AKC specialist in auxiliary ventilation techniques utilized in the field and veterinarians from the Canine Health Board and the Department. The Department believes the final-form regulations protect the health and welfare of dogs housed in kennels, while staying within the authority of the Dog Law. In addition, the final-form regulations impose no duty on local governments and should

present no financial burdens on local governments. The Department has endeavored to gather the information, revise the proposed regulation, format and answer all comments received and draft a new regulatory analysis form in as complete and swift a manner as possible.

Comment:

The standards will improve the conditions under which dogs are housed and raised, allowing for healthier animals and more suitable environments. By promoting healthier animals, consumers will also be better protected, by ensuring healthier pets from the time of purchase.

RESPONSE

The Department agrees with this comment and has crafted regulations that it believes will improve the conditions under which dogs in commercial kennels are raised.

Comment:

Local governments will not experience any change in costs - compliance with the proposed standards will be enforced solely by the Department of Agriculture's Bureau of Dog Law Enforcement.

RESPONSE

The Department agrees with this comment. The final-form regulation imposes no duty or enforcement requirements on local government. Local government is free to enforce its own ordinances and regulations, but none are imposed by the Department's regulations.

Comment:

Enforcement at the state level will not be supported by tax dollars, but by the Dog Law Restricted Account, which is funded mostly by license fees.

RESPONSE

The Department agrees with this comment and appreciates that the Honorable Representative Mann has addressed that issue.

Comment:

As a State Representative, I understand the need for the regulations proposed by the Canine Health Board, and remain a strong supporter for the ethical, moral, and humane treatment of dogs in commercial kennels. I support these regulations and look forward to their implementation within the Commonwealth.

RESPONSE

The Department and the Canine Health Board appreciate the support for the proposed regulations. The Department has made amendments to the final-form regulations based the comments received and on consultation and input from experts in the field, such as engineers and architects that build commercial kennel buildings, animal scientists from the Pennsylvania State University, AKC specialist in auxiliary ventilation

Comment: Ventilation, Natural Light and Flooring

An animal's behavior is affected by his/her surroundings. When a dog is confined in a small space where he cannot turn without touching his nose and tail, he will exhibit negative behaviors such as pacing, jumping, digging and barking. It follows that in commercial kennels the design and construction of the housing itself is critical to breeding dogs that will be both physically and medically healthy. To that end, we support the inclusion of the natural light criteria, the ventilation rates identified and the use of solid flooring as part of the regulation of Commercial Kennel design, all three elements work together to provide a healthy space for dogs to thrive.

RESPONSE

The Department very much appreciates this commentator's expert opinion and has endeavored with the assistance of this commentator and other experts to draft a final-form regulation that effectuates standards that are within the authority of the Act and provide for the health and welfare of dogs housed in commercial kennels. To that end, the Department consulted with and utilized some of the ideas and expert advice received from this commentator in crafting ventilation and lighting criteria for the final-form regulation. With regard to lighting, the Department agrees – and veterinarians support – the statement that natural light is very important to the health and safety of dogs housed in kennels. Therefore, the Department has required full-spectrum artificial lighting (which most closely simulates the spectrum of light received from natural sunlight) to be utilized in kennels and in kennels where dogs have no access to an outdoor exercise area and thus no access to natural light, has required that some natural light be provided through windows and other openings.

Section 28a.3 Lighting

Comments: Lighting

1. It is our standard of care to provide natural light as well as the ability to turn off artificial light to allow the animal to know day and night. It is widely agreed that lack of exposure to the diurnal cycle in humans contributes to increased sickness and stress in work settings where shifts make it difficult to experience the natural day/night cycle.

2. Providing windows to allow natural light to enter dog areas supports this needed biological stimulus for healthy wake and rest periods over a 24-hour cycle.

3. Day lighting is also a sustainable practice in allowing the sun to offset the amount of electrical lighting demand in space design.

4. Ultra-violet rays from the sun naturally assist in deterring the growth of surface mold and bacteria,

RESPONSES

1. The regulations do not require natural light in all kennels. However, dogs will have access to natural light, through unfettered access to outdoor exercise areas. In kennels where no such access is provided the regulations, based on expert comments such as provided herein and consultation with veterinarians, require some natural light be

introduced into the kennel housing facility through windows, skylights or other openings. In addition, artificial light must be provided through full spectrum lighting, which is the type of lighting that most closely imitates the spectrum and wavelengths of light receive from the sun. The regulations and the Act require that dogs be given a diurnal cycle of light and thereby allows for the health rest periods over a 24-hour cycle.

2. The Department hopes that most kennels will provide some form of natural light to allow for needed biological stimulus and more natural wake and rest periods. However, the Act, as pointed out by several members of the General Assembly allows kennel owners to choose between providing natural or artificial light. The regulations and the Act require that dogs be given a diurnal cycle of light and thereby allows for the health rest periods over a 24-hour cycle.

3. Kennel owners have expressed concern about the cost of the regulations, but have also opposed any imposition or requirement of natural light. The Department hopes the potential cost savings associated with providing natural light will result in most kennels providing such light.

4. Kennel owners are required to clean and sanitize their kennels. The Department agrees that natural sunlight can assist in preventing surface mold and bacteria and hope that this will result in most kennel owners providing natural light in their kennel housing facilities.

Section 28a.2 Ventilation

Comment: Ventilation

Ventilation rates and minimizing recirculation of air greatly reduces airborne disease as well as removes odors from chemical products used for cleaning or from kennel area waste prior to regular clean up.

RESPONSE

The Department appreciates this comment and agrees that proper ventilation includes the circulation of air in such a manner and at proper rates to reduce airborne diseases and impurities and remove odors – such as those associated with ammonia – from the kennel. The ventilation provisions and rates set forth in the final-form regulations are based on input from architects, such as the commentator, engineers, who design and build kennel buildings and animal scientists. The rates and techniques set forth in the final-form regulation are based on that input will provide for the health and welfare of the dogs housed in the kennels.

Section 28a.4 Flooring

Comments: Flooring

1. In our practice, we utilize solid flooring for all dog areas. We have concerns about wood products for flooring given they may splinter and should not be pressure-treated type wood. Sealed wood is more likely to deteriorate than the other products suggested as good flooring alternates.

2. Any floor material that is going to experience water regularly during cleaning should be smooth and impervious so that the surface can be easily cleaned and sanitized.

3. Some products such as epoxy are durable enough for kennel use, but if a dog becomes stressed and starts to "dig" the epoxy top layer can be broken into and create a hole. Dense materials such as hard-troweled sealed concrete, terrazzo and porcelain tiles are particularly suitable as they are hard to destruct by a dog and easily cleaned. Utilizing non-slip coatings and textures provide sure footing.

RESPONSES

1, 2 and 3. The Department, in consultation with veterinarians from the Department and the Canine Health Board has incorporated many of the requirements suggested by this commentator. In addition to removing other examples, the Department has eliminated the example of wood flooring from the final-form regulation. Instead, the final-form regulation states, the flooring must impervious to water (as already required by the Act) and must be able to be cleaned and sanitized in the manner required by the Act. Furthermore, the final-form regulation requires that the flooring must provide proper traction for the dogs and provides the examples set forth by this commentator.

Summary General Comment

Comment: In summary, we support the inclusion of the design standards to provide adequate light, air and solid floor surfacing in the regulation section Chapter 28a. These standards will contribute greatly to the health and well-being of dogs in the Commercial Kennel setting.

RESPONSE

The Department appreciates the supportive statement offered by this commentator, who is an expert in the field of the latest architectural designs and techniques necessary to provide proper animal husbandry practices that provide for the health and welfare of dogs housed in kennels. Many of the ideas and much of the expert advice given by this commentator has been incorporated into the ventilation, lighting and flooring provisions of the final-form regulations.

II. JACKSON & RYAN ARCHITECTS - Comments-General

Commentator:

Submitted by: Martha T. Seng, PAIA, Principal
2370 Rice Blvd, Suite 210
Houston, TX 77005

Background:

I am an architect who specializes in animal care design, and I have a great deal of experience with this building type. I have reviewed the Canine Health Board Standards for Commercial Kennel Regulations - IRRC Number 2785, of the Pennsylvania Department of Agriculture, Bureau of Dog Law Enforcement.

Comment: Cost Analysis

The Cost Impact Analysis of the Canine Health Board Standards for Commercial Kennel Regulations that appears under Question #17 on Page 5 appears to be in order. While there are many variations of ventilation equipment with quite a range in pricing, the approximated costs quoted in this regulation would fall within the range. I would also venture to say that the requirements stipulated in this regulation could be met by kennel operators without any extraordinary hardship.

RESPONSE

The Department very much appreciates the cost analysis undertaken by the commentator – who builds and designs kennel buildings. As set forth by the commentator there are many variations of ventilation equipment with quite a range in pricing. In addition, the final-form regulations leave open a range of techniques and manners by which the overall ventilation, humidity, auxiliary ventilation and ammonia levels can be achieved. The Department has therefore again consulted with engineers and architects to establish the price ranges set forth in the regulatory analysis form to the final-form regulation. We appreciate the assistance of these experts in coming to a final estimate.

Comment: Ventilation

Proper ventilation in animal environments is crucial to ensure good health and limit the spread of disease. I congratulate the state of Pennsylvania for recognizing this fact and taking appropriate action to set these operational standards.

RESPONSE

The Department appreciates this comment and agrees that proper ventilation includes the circulation of air in such a manner and at proper rates to reduce airborne diseases and impurities and remove odors – such as those associated with ammonia – from the kennel. The ventilation provisions and rates set forth in the final-form regulations are based on input from architects, such as the commentator, engineers, who design and build kennel buildings and animal scientists. The rates and techniques set forth in the final-form regulation are based on that input and will provide for the health and welfare of the dogs housed in the kennels.

III. DESIGN LEARNED, INC. - Comments- Specific as to sections

Commentator:

Submitted by: C. Scott Learned, PE, LEED AP
Pennsylvania PE#053213-E
116 Main Street
Norwich, CT 063360

Background:

We have reviewed the proposed regulation and provide the following comments. Ours is the leading firm in the country for animal care facility mechanical, electrical, plumbing, fire protection and noise control engineering.

Section 28a.2 Ventilation

Comments: Ventilation

1. 8 to 20 air: changes per hour should be clarified as "fresh air changes per hour" or "total circulated air changes per hour".
2. 8 to 20 air: changes per hour is too broad. A properly designed air: system by our standards will have 12 to 18 air: changes per hour total circulated air: of which 4 to 6 air changes (or about one-third) is fresh air.
3. Paragraph 28a.2(8) is unrealistic. 8 to 20 air changes of 100% outside air is extremely expensive to heat and cool. Typically 30% outside air: coupled with properly filtered and dehumidified return air will produce an odor free facility.
4. Paragraph 28a.2(7) should be developed to include the type and location of filtration for re-circulated air. Typically return grilles should have coarse filters and equipment filters should be MERV 8 (medium efficiency level) and impregnated with carbon for odor control. Finally some form of duct mounted ionization or UV -C with ionization/oxidation capability is essential.
5. Humidity levels were properly specified.
6. Humidity ranges indicated are appropriate
7. Temperature levels should be in a range from 60 deg F to 80 deg F. A temperature range of 50 degrees is probably too low for some dogs.

RESPONSES

1. and 2. Based on comments 1 and 2 and additional correspondence, including phone conversations and written materials, the Department redrafted much of the language in the ventilation provisions of the regulation. In addition to the correspondence with Mr. Learned, the Department reviewed similar comments submitted by Dr. Kephart of the Pennsylvania State University and corresponded with Dr. Kephart regarding ventilation issues. The culmination of the conversations and consultations was to measure ventilation rates in cubic feet per minute (CFM) per dog, as opposed to air changes per hour. There are two general reasons behind this change. CFM per dog is much more easily measured and verified and is more objective in nature. As set forth in the final-form regulations, compliance will be based on certification from a professional engineer and CFM information on the ventilation equipment, and information supplied by the kennel owner and verified in the certification, such as the cubic feet of each area of the kennel housing facility in which dogs are housed and the number of dogs housed or able to be housed in each area of the kennel housing facility. Second, CFM per dog will allow kennel owners to design their ventilation systems to have only that total capacity required to circulate the minimum amount of air for the total number of dogs able to be housed in the kennel housing facility. It will then allow the kennel operator to utilize only that capacity necessary to achieve the required circulation for the number of dogs present. In other words, the system will be easier to design, will only have to be designed to account for the maximum number of dogs the kennel owner will have in the kennel housing facility and will allow the kennel owner to utilize less of the total capacity of the system if dog numbers decrease. It is a more objective standard, easier to measure and verify and fairer and less costly to operate, as the total CFM rate will increase and decrease based on the number of dogs. Neither the Department nor the kennel owner will have to be an engineer to figure out the required ventilation rates in the kennel housing facility.

3. Based on this comment and additional correspondence with Mr. Learned and other architects, the Department agrees that 100% fresh air exchange would be too costly to require in a State with the climate of Pennsylvania. In addition, 100% fresh air exchange would make it impossible to control, humidity levels and the temperatures – especially to assure compliance with the low temperature standard of 50 degree established by the Act. Therefore, the Department allows for and encourages the recirculation of air within kennel housing facilities. The exchange ratio of at least 30% fresh air is based on the expertise and common animal husbandry practices espoused by Mr. Learned, other architects consulted, Dr. Ken Kephart of the Pennsylvania State University and veterinarians from the Canine Health Board and the Department. In addition, the recirculation of air also addresses concerns expressed by many commentators, including kennel owners, the Pennsylvania Farm Bureau, the Pennsylvania Professional Dog Breeders Association and the Pennsylvania Veterinary Medical Association related to the cost of operating ventilation systems that would require a 100% fresh air exchange. The recirculation of air standard and rate are based on rates currently utilized in the design and operation of kennels. Finally, as set forth in the comment and in further correspondence with Mr. Learned, proper recirculation of air will address other areas of concern, such as odors and particulate matter (which are no longer part of the final-form regulation) and issues such as ammonia and carbon monoxide levels. In addition, it will reduce heating costs and allow for humidity control in the kennel housing facility.

4. The Department agrees with the expert analysis of Mr. Learned regarding the necessity to filter air that is recirculated. The Department has also addressed comments submitted by other commentators, such as the Honorable Senator Brubaker regarding specifying one type or form of filter. The final-form regulation now sets forth a very general standard that relates to many different brands of common filters that can be found in farm and home and garden stores, as well as, common chain stores such as Lowes and Home Depot. In further conversations and correspondence with Mr. Learned the Department was able to have Mr. Learned set forth the minimum filtration necessary. Therefore, the final-form regulation does not address UV -C with ionization/oxidation capability. In addition, the Department did not address location of filters since that is a design criteria and function and the Department wanted to assure the broadest leeway for kennel owners to design and install systems that meet the basic ranges and levels established by the regulations.

5. and 6. The Department, after consultation with Animal Scientists and veterinarians from the Department and the Canine Health Board, along with additional conversations with Mr. Learned, has determined that a broad humidity range of 30-70% is appropriate and constitutes normal animal husbandry practices for animals, including dogs, when temperatures are between 50 degrees Fahrenheit and 85 degrees Fahrenheit. As more fully set forth in the Department's Responses to the Independent Regulatory Review Commissions Comments a.(iii) and (c), humidity levels must be altered when temperatures rise above 85 degrees Fahrenheit in order to properly account for and protect the health, safety and welfare of dogs housed in commercial kennels.

7. The Department appreciates this comment, but has no ability to set forth such requirements in the regulations. The temperatures noted are similar to the temperatures the Department's research and consultations with Department and Canine Health Board veterinarians show is the healthiest temperature ranges for captive animals. It is the Act however that establishes the low temperature at 50 degrees Fahrenheit. In addition, it is

the Act that dictates the Department's authority to regulate high temperatures. The Act allows for auxiliary ventilation when temperatures rise above 85 degrees Fahrenheit. The Act also specifically establishes the Department's authority to regulate humidity. Based on consultations and research – as more fully set forth in the Department's Responses to the Independent Regulatory Review Commissions Comments a.(iii) and (c)- the Department has established such humidity levels for a range of temperatures, including temperatures above 85 degrees Fahrenheit, in the final-form regulation.

Section 28a.3 Lighting

Comment: Lighting

Levels of 60 foot candles, minimum, at the floor is necessary for proper cleaning.

RESPONSE

The Department agrees with this comment, which is supported by comments received from other commentators to this regulation and is also supported by consultations, discussions and research undertaken by the Department. As stated previously, the Department, with the assistance of members of the Canine Health Board and Department veterinarians did additional research into the issue of the proper illumination levels in kennels. In addition, the Department spoke with animal husbandry scientists at the Pennsylvania State University and with an Engineer who designs kennel buildings. The consensus was that forty to sixty (40-60) foot candles of light is necessary to assure proper animal husbandry practices, including the ability to monitor the dogs, assure sanitation and cleanliness of the kennel (compliance with statutory and regulatory standards) and provide for the proper health and welfare of the dogs. In addition, the Department researched and reviewed the National Institutes of Health (NIH), policies and guidelines related to biomedical and animal research facility design. The NIH requires average lighting levels in animal facilities to be between twenty-five to seventy-five (25-75) footcandles, which translates to two-hundred seventy to eight-hundred (279-800) lux. The guidelines state the exact lighting levels should be based on species. The veterinarians and animal husbandry scientists consulted felt the range of 40-60 footcandles, which translates to 430-650 lux, was appropriate for both the dogs and the humans that had to care for those dogs. This level is further supported by the NIH standards for office and administration areas and Penn State University's standards for class room lighting, which are also 50 footcandles (as set forth in Dr. Kephart's comments). This level will provide for the health and welfare needs of the dogs housed in the facilities and will allow for proper inspection of the facilities and animal husbandry practices, such as cleaning and sanitizing and monitoring the dogs for health issues. The NIH standards are attached to this document as Exhibit D.

Section 28a.4 Flooring

Comment: Flooring

Flooring should be specified as impervious flooring with coved edges and proper drainage. The fact that flooring is solid does not make it impervious. Good flooring options such as epoxy, acrylic, sealed concrete, tile with epoxy grout and agricultural rubber flooring can all be chemically cleaned and sanitized.

RESPONSE

The Act, at section 207(h)(9) of the Act (3 P.S. § 459-207(h)(9)) requires “The floors and walls of primary enclosures must be impervious to moisture...” However, it is appropriate to restate such a requirement in the regulations for clarity to the regulated community. The Department has set forth that requirement, as well as listed some of the examples set forth in this comment, in subsections 28a.8(c)(7) and (8) of the final-form regulation.

General Comment

Comment:

The regulations are silent on cleaning systems. Proper solid waste disposal and chemical cleaning systems (preferably pressure washing) are essential to cleanliness and the mitigation of odor and disease. There should be some requirement for cleaning systems and waste disposal.

RESPONSE

The cleaning and sanitation provisions are contained in the Act and in the Department’s current regulations. The Department can cite to the appropriate sections of the Act and current regulations and may require compliance with those cleaning and sanitation standards, but has no authority to establish any new cleaning or sanitation requirements in this final-form regulation.

IV. PROFESSOR OF BIOLOGY UNIVERSITY OF PENNSYLVANIA

Commentator:

Submitted by: Arthur E. Dunham, Ph.D., Professor and Associate Chair,
Department of Biology
University of Pennsylvania
433 South University Ave.
Philadelphia, PA 19104-6018

Background:

I am writing to strongly endorse the regulations created and propose by the Canine Health Board. I testified as an expert on vertebrate environmental physiology before the Canine health Board on the conditions necessary to ensure that dogs kept in kennel conditions are free of environmentally induced physiological stress.

Comment:

The regulations adopted by the Canine Health Board, if followed by kennels, will largely accomplish this critical goal. Any kind of kenneling which allows exposure to environmental conditions that result in physiological stress are inhumane and are not allowed by federal regulation in colonies that maintain animals (including dogs) that are used in laboratory research. We should at least provide dogs destined to be pets with an equivalent standard of care.

RESPONSE

The Department, under the constraints of the statute, has endeavored to draft a final-form regulation that comports with the statutory mandates and still establishes ventilation, auxiliary ventilation, humidity, ammonia level, lighting and flooring standards that protect the health and welfare of dogs housed in commercial kennels. In doing so, the Department contacted and consulted with many of the engineers, architects, animal scientists that commented on the proposed regulation. The Department also consulted veterinarians from the Canine Health Board and Department veterinarians with regard to the final standards established in the final-form regulation. The standards in the final-form regulation are within the statutory mandate of the Act, are objective and measurable and will be enforceable.

Comment:

The regulations as written by the Canine health board are based in scientific research and on advice provided by scientific experts. These regulations will ensure that any commercially bred dog will be given adequate light, air, ventilation, air quality, flooring, and social exposure and interaction to minimize environmentally induced physiological stress. These essential factors that were all omitted from the recently enacted dog law so it is critical that these additional regulations go into effect.

RESPONSE

The final-form regulation incorporated many of the same ideas and scientific research based requirements set forth in the proposed regulation. The final-form regulation restructured the proposed regulation to add clarity and changed or modified some of the ideas and concepts based on statutory authority and additional research and input from engineers, architects, animal scientists and veterinarians from the Canine Health Board and the Department.

Comments:

I strongly support the regulations for the following reasons:

1. Pennsylvania's reputation has been tarnished by being branded a "puppy mill" capital which allows dogs to be raised inhumane conditions.
2. For the first time, commercially bred puppies and dogs will have guarantee of an environment that will promote – not hinder – behavioral and physical health and which will help protect dogs and the ultimate owners from the often tragic consequences of an inadequate and stressful kennel environment.
3. It is time that Pennsylvania was a leader in humane care of animals, rather than always appearing in the news for the numerous abuses that occur here. This regulation will ensure humane care.
4. The Canine health Board received testimony from dozens of experts which informed the current regulations which are some of the first truly scientifically informed canine breeding regulations in the USA. The commonwealth received this extensive expertise at no cost simply because experts believe that the scientific data mandated that we change how we treat commercially bred dogs. The regulations as written by the Canine Health Board are a road map for doing so.

RESPONSES

1. The final-form regulations impose new standards, many of them consistent with current USDA standards of care for dogs housed in kennels and all of them based on input from experts and/or people with experience in the field of kennel construction and design and actual practices, as well as, expert advice from animal scientists and veterinarians. Upon implementation the regulations will provide for a higher level of care for dogs housed in Pennsylvania's commercial kennels. The standards in the final-form regulation are within the statutory mandate of the Act, are objective and measurable and will be enforceable.
2. The Department agrees with this comment and has set forth a final-form regulation that will account for the health and welfare of dogs housed in commercial kennels and will reduce the stress of the environment in which they are bred and raised.
3. The Department agrees and believes that with the Governor's leadership in passing the new legislation and with the implementation of these regulation, Pennsylvania will ensure the humane care of dogs housed in commercial kennels.

4. The Department, under the constraints of the statute, has endeavored to draft a final-form regulation that comports with the statutory mandates and still establishes ventilation, auxiliary ventilation, humidity, ammonia level, lighting and flooring standards that protect the health and welfare of dogs housed in commercial kennels. In doing so, the Department utilized the expertise of the Canine Health Board and the persons utilized by the Canine Health Board to construct the final-form regulation. The Department contacted and consulted with many of the engineers, architects, animal scientists that commented on the proposed regulation. The Department also consulted veterinarians from the Canine Health Board and Department veterinarians with regard to the final standards established in the final-form regulation. The standards in the final-form regulation are within the statutory mandate of the Act, are objective and measurable and will be enforceable. These experts have continued to provide their time, knowledge, experience and expertise to the Department free of charge. The Department very much appreciates the contributions of all of those willing to consult with and provide information to the Department with regard to this regulation.

Comment:

The Canine Health Board is to be commended for reaching out into the scientific community and allowing its members to contribute to this important process. I was impressed by the caliber of questions asked by members of the Canine Health Board during my testimony who, I understand are all veterinarians and members of the PVMA. I am also impressed by the use of the scientific information provided by the experts by the Canine Health Board in formulating these regulations. It is unfortunate that the legislative committee of the PVMA did not avail themselves of the opportunity to become educated on these critical issues that affect animal welfare.

RESPONSE

The Department appreciates the hard work done by the Canine Health Board in crafting the initial Guidelines and its members continued input of time, expertise and knowledge as the Department crafted the final-form regulation. As stated previously, the Department consulted many of the experts and persons utilized by the Canine Health Board in finding answers to questions posed by commentators and ultimately drafting the final-form regulation. The Department very much appreciates the contributions of all of those willing to consult with and provide information to the Department with regard to this regulation

**V. SENIOR INSTRUCTOR AND FACULTY MEMBER DEPARTMENT OF DAIRY AND ANIMAL SCIENCE PENN STATE UNIVERSITY
Comments General and Specific**

Commentator:

Submitted by: Robert Mikesell, PhD
Senior Instructor
Department of Dairy and Animal Science
The Pennsylvania State University

Background:

My name is Dr. Robert Mikesell, Senior Instructor and faculty member in the Department of Dairy and Animal Science at Penn State. My background is in livestock production and I have over 20 years of experience in managing confined animals. My PhD research was in the field of livestock odors, odorous compounds, and management strategies to reduce odors from livestock farms. Within the past two years, I played a large role in developing the regulations for the odor section of the Act 38 Nutrient Management Regulations in cooperation with the State Conservation Commission. Given my practical background and research interest in animal housing and ventilation in relation to odors and gasses, I was asked to participate in the early stages of the Pennsylvania Dog Law regulatory process, specifically on the ventilation section. This testimony is intended to offer some scientific and practical comments on the promulgated regulatory package.

Comments: Section 28a.2. Ventilation

1. Subsections 1, 2, and 3 are well worded, easily measured, and would ensure adequate ventilation for confined dogs in nearly all cases.
2. Section 4. Field-based ammonia testing is not inexpensive nor is it terribly accurate. Three general categories of ammonia measurement options exist¹:
¹Wheeler, E. F., R.W.J. Weiss, and E. Weidenboerner. 2000. Evaluation of instrumentation for measuring aerial ammonia in poultry houses. J. Appl. Poultry Res. 9:443-452.
 - a. Passive diffusion tubes (the least expensive measuring device) cost approximately \$4-\$6 each and are not reusable. For most accurate results, tubes should be in place for 10 hours. Accuracy is generally +/- 20%.
 - b. Pull tube equipment is much faster, but requires a \$380 handheld sample pump plus a \$4-\$6 tube for each sample collected. Accuracy is +/- 25%.
 - c. Electrochemical handheld devices must be calibrated periodically and cost more than \$1500 each, but may be reused. Accuracy is +/- 9 ppm.
 - d. None of the available ammonia measurement devices exhibit acceptable accuracy when considering a 10 ppm ammonia threshold. In my experience, if temperature and relative humidity are at acceptable levels, ammonia is generally controlled. The threshold ammonia level used for most livestock buildings (and the National Institute for Occupational Health and Safety) is 25 ppm. At 10 ppm, people may or may not notice ammonia odors. I would suggest allowing enforcement officers the discretion of measuring ammonia if they perceive obvious ammonia odor when entering the building, and would suggest using 25 ppm as the regulatory threshold.
3. Section 6. The intent of requiring an emergency ventilation backup system is excellent. However, I would suggest including an electrical generator as a viable option in addition to the listed building openings.

4. Section 7. The practical measurement of particulate matter is somewhat similar to that of ammonia. Expensive equipment would be required, the process would be complex and time consuming, and results would be difficult to repeat. Again, in my experience if temperature and relative humidity are acceptable, particulate matter (dust) should not cause air quality problems.
5. Section 8. The measurement of air exchanges is, in my opinion, untenable from an enforcement officer's perspective. The calculations are cumbersome, complicated, and not repeatable because of changes in fan capacity in response to changing temperatures (for mechanically ventilated buildings) or wind speed (for naturally ventilated buildings). Additionally, if sections 1,2, and 3 are in compliance, Section 8 will be in compliance as well.
6. Section 9. The list of conditions "associated with poor air quality" could easily be a result of other factors. For example, the presence of blood may be a result of whelping. As written, the regulations would prohibit any sickness or physical abnormality, whether ventilation-related or not. I would suggest eliminating this list or at least condensing it to three symptoms that would strongly suggest poor ventilation:
 - a. (i.) excessive panting
 - b. (v.) huddling of dogs 12 weeks of age or older
 - c. (vii. and viii combined) red or runny eyes
7. Section 10. Again, section 10 is redundant and is covered adequately in sections 1-3.

RESPONSES

1. In general, paragraphs (1), (2), (3) and (8) of section 28a.2 the proposed regulations has been extensively modified in the final-form regulation. Air changes have been replaced by cubic feet per minute (CFM) per dog and standards and measuring tools for the CFM per dog standard are quite specific and have been set forth in subsection (f) (1) through (6) of section 28a.2 of the final form regulation. The change to CFM per dog is consistent with comments submitted by Dr. Kephart of the Pennsylvania State University and discussions and consultations with Dr. Mikesell and Dr. Kephart, as well as, discussions and consultations with engineer Scott Learned of Learned Design. Additional, standards related to circulation of the air, minimum fresh air rates and filtration have been established by subsection (f)(3)-(6) of the final-form regulation. The provisions of subsection (b) of the final-form regulation now entail information the Department requires of the kennel owner to verify the standards of the regulations are met. The information requested is directly related to and provides verification of compliance with the ventilation and air circulation standards established in the final form regulation.

Because of the restructuring of this section, all of the provisions of section 28a.2(8)(iii) have been deleted from the final-form regulation. In addition, the provisions of section 28a.2(i) requiring 100% fresh air has been deleted from the final-form regulation. This was done after consultations with an engineer and architects that design kennel buildings revealed that a 100% fresh air exchange rate in Pennsylvania would

make it too expensive to heat or cool the kennel housing facility, would not allow for recapture of heated or cooled air and would not allow for proper humidity control in the kennel housing facility. The ventilation standards now established in the final-form regulation are more easily measured and verified, continued to account for the health and safety of dogs housed in commercial kennels and allow kennel owners to increase or reduce the air circulation in a kennel based on the number of dogs housed in the kennel facility. This is a more equitable and proper manner by which to regulate ventilation.

With regard to humidity levels, the Department again consulted with both Dr. Mikesell and Dr. Kephart, as well as, engineer Scott Learned and veterinarians from the Canine Health Board and the Department. With regard to the humidity levels established the Department consulted with engineers and architects that design and build dog kennels, had discussions with veterinarians - including Department and Canine Health Board veterinarians - and with animal scientists, such as Dr. Kephart and Dr. Mikesell at the Pennsylvania State University. The results of those discussions were that a humidity range of thirty to seventy percent (30%-70%), when temperatures are at 85 degrees Fahrenheit or below, are normal animal husbandry practices and are proper levels to control for disease and assure the health, safety and welfare of dogs confined in kennels. Many of these experts in fact suggested an even narrower range of humidity levels that would have capped out at sixty percent (60%) humidity. The Department, however, chose to utilize the minimum standards suggested by a majority of the experts consulted.

In addition, with no temperature control, the Department sought to ascertain the proper humidity levels and auxiliary ventilations standards that would assure the health, safety and welfare of dogs confined to kennels when temperatures rise above 85 degrees Fahrenheit. Kennel owners and others have asserted in their comments that their kennel buildings can be made to "feel cooler" through the use of additional air circulation/ventilation or the mere increase of fan speed and the amount of air being pulled through the kennel building. However, science does not support such a comment or conclusion.

The Department, with the assistance of veterinarians and research provided by Dr. Overall of the Canine Health Board, reviewed heat index values for cattle, swine, poultry and humans. Those values show that all of those animals are in a danger zone once temperatures rise above 85 degrees Fahrenheit, if there is no correlated reduction in humidity levels. The reason for this is supported by the physiology of cooling. Humans, cattle, equine and swine cool internal body temperatures by perspiring, which is the most efficient cooling mechanism. Dogs cool their internal body temperatures mostly through panting, with a minimum amount of cooling provided by perspiring through the pads on their feet. However, perspiring or panting in and of itself does not result in the cooling of the body. In order for the cooling effect to occur the perspiration or moisture on the tongue of the dog has to be evaporated. On a humid day or in a humid environment there is already a lot of moisture in the air and therefore the evaporative process is either less efficient or does not take place and therefore the internal body temperature continues to rise. In sum, you can not provide a cooling effect by simply increasing the amount of humid air flowing over the body of a dog or any other animal. Pulling already moist and humid air over the body does not and will not allow for the evaporation of perspiration and therefore will not provide a cooling of the body. The result is that when temperatures rise above 85 degrees, humidity levels must be controlled in order to attain a heat index value that will assure the health, safety and welfare of dogs confined in kennels. The heat

index values referred to earlier, and attached hereto as Exhibit B, all evidence that value should be set at a heat index of 85 (85 HI).

Finally the Department with the assistance of Canine Health Board member Dr. Karen Overall found - and along with Department veterinarians reviewed - a dog study that established "survivability" levels for confined dogs. The study, which is attached hereto as Exhibit C, sets forth evidence that beagle dogs can not survive for more than six hours at maximum heat index values of between 100-106 degrees Fahrenheit. The study goes further, to conclude the relative humidity values in the study should be reduced by twenty percent (20%) to assure safety. The final-form regulation therefore allows a 4 hour window (consistent with Federal Animal Welfare regulations standards) for kennel owners to reduce the humidity levels in their kennels to attain the required heat index value of 85 (85 HI). However, during that 4 hour window, the heat index value must never go above 90 (90 HI), which is the maximum heat index value to ensure survivability and safety, the latter requiring the recommended 20% reduction in humidity levels from the study's maximum values of 95-98 HI, and consideration of the TACC Weather Safety Scale.

In conclusion, the Department's research and discussions support the humidity levels established in the final-form regulation. The humidity levels are necessary and proper for the health, safety and welfare of dogs confined to kennels. The range or humidity levels established for kennels when the temperature is 85 degrees Fahrenheit or below is within normal animal husbandry practices and is set at the least stringent levels suggested. Humidity levels and the time period of exposure established in the final-form regulations for heat indexes above 85 degrees Fahrenheit are supported by scientific research performed on animals with more efficient cooling mechanisms than dogs or are based on scientific research specifically done on dogs. Finally, the engineers and architects consulted believe the requirements established by the final-form regulation are attainable and the Department has set forth the cost estimates in the regulatory analysis form that accompanies the final-form regulation.

2. a. b. c. and d. First the Department appreciates the information and cost data related to the types of ammonia level measuring devices on the market and will utilize that data in researching tools to be utilized by the Department and to establish a cost estimate in the final-form regulatory analysis document. Second, the Department, partially in response to this comment, consulted with engineers and architects related to the ammonia levels established by the proposed regulation and with regard to the ability to measure ammonia levels. In addition, the Department consulted with veterinarians and animal scientists, Dr. Mikesell and Dr. Kephart, and did its own research with regard to commonly accepted levels of ammonia in animal operations such as swine operations. The engineers and architects all believed that if kennels were properly ventilated and achieved the air circulation values established in the regulations, then ammonia levels should not be a problem in the kennel. The Act, however, requires the Department to establish the proper ammonia levels for dogs housed in kennels. Discussions with veterinarians and research done by veterinarians on the Canine Health Board affirm that ammonia levels of 20 part per million or higher will cause respiratory and eye irritation and problems in animals. The veterinarians suggested the levels be set at some point below 20 parts per million and the consensus was that a level of 15 parts per million would both account for proper animal health and welfare and would be measurable. Ammonia levels are measured in the swine industry and can be accurately measured at

levels of 15 parts per million. The Department's research also indicated that ammonia is a heavy gas and therefore should be measured near the floor of the kennel. That Act establishes parameters that do not allow dogs in kennels to be housed in any primary enclosure that is more than 48 inches high for dogs under twelve weeks of age or more than 30 inches high for dogs over twelve weeks of age. Therefore, the Department believes ammonia measurements should be taken at the height of the dogs.

3. The Department appreciates the comment. The Department has amended the requirements for kennels to report ventilation system failures in the final-form regulation. Kennel owners must report and immediately take actions to fix such failures. In addition, mechanical system failures should be rare and should be the exception and not the norm. If failures become significant or are not rare, then the Department will revisit the regulation and require a specific type of backup ventilation system.

4. This comment is consistent with the comments and direction the Department has received from other engineers and architects it consulted in drafting this document and the final-form regulation. The Department has therefore removed the provision related to particulate matter from the final-form regulation.

5. The Department finds this comment to be consistent with other comments submitted by Scott Learned of Learned Design and Dr. Ken Kephart of the Pennsylvania State University. Therefore, as more fully detailed in the Department's answer to Dr. Mikesell's first comment –set forth above – the Department made various changes to the ventilation requirements of the final-form regulation, including changing the measurement tool to cubic feet per minute per dog.

6. The Department discussed these issues with Dr. Mikesell and Dr. Kephart, as well as, with Department and Canine Health Board veterinarians. In response to those discussions, section 28a.2(9) of the proposed regulations, which related to conditions in dogs that were signs of illness and stress has been modified in the final-form regulation (see Section 28a.2(h) of the final-form regulation). The number and type of conditions in dogs that may denote poor ventilation has been reduced and are consistent with the suggestions of the experts consulted, including Dr. Mikesell. In addition, the signs of stress or illness trigger an investigation of the ventilation, air circulation, humidity levels, heat index values, ammonia and carbon monoxide levels in the area or room of the kennel where those signs exist. If the investigation reveals problems in those areas, then proper enforcement action may be taken by the Department. The mere existence of the signs of stress or illness does not in and of constitute a violation of these regulations. The type of conditions in dogs and the illnesses or signs of stress listed are all associated with conditions that veterinarians have asserted can result from poor ventilation, air circulation, humidity, heat stress or ammonia or carbon monoxide levels that are not within the ranges established by the regulations. For instance, respiratory distress can be associated with humidity and temperature levels or ammonia levels that are too high, as well as, insufficient air circulation or auxiliary ventilation. Section 28a.2(h)(2) sets forth all the signs associated with heat distress or heat stroke, which again denotes insufficient air circulation, auxiliary ventilation and/or humidity level controls in that part of the kennel facility. Matted, puffy, red or crusted eyes and listlessness can be associated with

high ammonia or high carbon monoxide levels. Fungal and skin disease can denote improper humidity control in the kennel facility.

7. What was subsection 28a.2(10) of the proposed regulation, has been eliminated from the final-form regulation.

Comment:

In summary, it seems that the regulation authors included all possible approaches to measure air quality without regard to regulatory cost, complexity, accuracy or practicality. The requirements in sections 7, 8, 9, and 10 are simply redundant and, in some cases, overly intricate methods of establishing that kennel air quality is acceptable. Sections 1-3 could easily stand alone to establish acceptable air quality in dog kennels. Please review the suggested changes and give thoughtful consideration to eliminating the requirements in sections 7, 8, 9, and 10. I would be happy to answer any questions at 814-865-2987 or rem9@psu.edu.

RESPONSE

The sections set forth in the comment above have been either eliminated from or significantly amended in the final-form regulation. In addition, the final-form regulation no longer measures air exchanges per hour, but instead, based partially on the suggestions of Dr. Mikesell among others, measures air circulation in CMF per dog. As set forth previously, in general, paragraph (8) of section 28a.2 the proposed regulations has been deleted or its provisions extensively modified in the final-form regulation. Air changes have been replaced by cubic feet per minute (CFM) per dog and standards and measuring tools for the CFM per dog standard are quite specific and have been set forth in subsection (f) (1) through (6) of section 28a.2 of the final form regulation. Specific, standards related to circulation of the air, minimum fresh air rates and filtration have been established by subsection (f)(3)-(6) of the final-form regulation. The provisions of subsection (b) of the final-form regulation now entails information the Department requires of the kennel owner, including certification of the system by a professional engineer. The information requested is directly related to and provides verification of compliance with the ventilation and air circulation standards established by the final-form regulation.

As set forth previously, the final-form regulation requires written certification under the signature and seal of a professional engineer verifying the engineer has inspected the ventilation system and that it meets all of the requirements of the regulations, including auxiliary ventilation and humidity standards. This change was made in response to comments that the ventilation standards were too subjective, too burdensome to continually assure compliance, could result in different readings depending on the equipment utilized or the place in the kennel the readings were taken and were too expensive to monitor. The certification is a one time cost, that according to the engineers consulted, is part of the price quoted for a project. The engineers would already certify a system to comply with applicable regulations and code requirements. Therefore, the change allows for an objective standard, does not increase the cost of the regulation and in fact decreases equipment, monitoring and training costs and allows for a professional third party, trained in to make such evaluations to assure the system installed or retrofitted to the kennel meets the requirements of the regulations.

Because of the restructuring of that section, all of the provisions of section 28a.2(8)(iii) have been deleted from the final-form regulation. In addition, the provisions of section 28a.2(i) requiring 100% fresh air has been deleted from the final-form regulation. This was done after consultations with an engineer and architects that design kennel buildings revealed that a 100% fresh air exchange rate in Pennsylvania would make it too expensive to heat or cool the kennel housing facility, would not allow for recapture of heated or cooled air and would not allow for proper humidity control in the kennel housing facility.

VI. PROFESSOR OF ANIMAL SCIENCE, COLLEGE OF AGRICULTURAL SCIENCES, DEPARTMENT OF DAIRY AND ANIMAL SCIENCE, THE PENNSYLVANIA STATE UNIVERSITY

Submitted by: Kenneth B. Kephart
Professor of Animal Science
Department of Dairy and Animal Science
The Pennsylvania State University

Background:

I appreciate your efforts to develop specific guidelines for ventilation and lighting. In the past, these two components of the dog law were a source of frustration for both commercial kennel operators as well as dog wardens because of the difficulty in interpreting the rules. Certain elements of the proposed standards make good sense, while other sections, I believe, require significant revision. My comments are listed below.

Comments: Section 28a.2 Ventilation

1. Rule: "When the ambient air temperature is 85 degrees Fahrenheit or higher, a form of mechanical ventilation capable of reducing air temperature shall be utilized to reduce air temperature where dogs are present."

Comment: Keeping air temperature at or below 85 degrees F is not necessary for maintaining the health and productivity of the dogs. In this country we house millions of farm animals (dairy cattle, swine, and poultry) throughout the summer months in temperatures that often exceed 85 degrees F, yet they are both healthy and productive. We do this by providing adequate ventilation rate for the facility and appropriate air movement at pen level. In the case of canine housing, if a commercial kennel operator chooses to provide air conditioning to lower the temperature, that is certainly acceptable, but not necessary. Also, I am assuming that "ambient" refers to the air temperature inside the living space for the animals. Ambient usually refers to outdoor temperature or the temperature of the surroundings. That should be clarified.

RESPONSE

Ambient does refer to the air temperature inside the kennel housing facility. The final-form regulation talks about temperature inside the kennel housing facility. With regard to temperatures exceeding 85 degrees Fahrenheit, the final-form regulation does not require air conditioning to cool the kennel facility temperature back down to 85

degrees Fahrenheit, although it is not prohibited and is certainly acceptable. The research of the Department and consultation with veterinarians and engineers and architects that build and design kennel buildings and account for normal animal husbandry practices as they relate to dogs shows that dogs do not dissipate heat in the same manner or as effectively as the other animals mentioned in the comment. In addition, as set forth more fully in this response, the Department, with the assistance of Dr. Karen Overall, found a study relating to the survivability of dogs at various temperatures and humidity levels – i.e. heat index values. The study clearly illustrates that dogs can not survive for more than six hours at certain heat index values. That study and heat index values associated with other animals, including swine, cattle, poultry and humans were also researched and form the basis of the Department's final-form regulation, which requires humidity levels to be adjusted to maintain heat index values that will not be detrimental to the health and welfare of dogs housed in commercial kennels. The research also evidences that merely blowing high temperature and high humidity air at a faster rate over the dogs is not effective and will not assure their survivability let alone their health and welfare. A more detailed response is set forth below.

With no temperature control, but with the overall duty to protect the health and welfare of dogs and the specific duty to regulate humidity, the Department sought to ascertain the proper humidity levels and auxiliary ventilations standards that would assure the health, safety and welfare of dogs confined to kennels when temperatures rise above 85 degrees Fahrenheit. Kennel owners and others have asserted in their comments that their kennel buildings can be made to "feel cooler" through the use of additional air circulation/ventilation or the mere increase of fan speed and the amount of air being pulled through the kennel building. However, science does not support such a comment or conclusion.

The Department, with the assistance of veterinarians and research provided by Dr. Overall of the Canine Health Board, reviewed heat index values for cattle, swine, poultry and humans. Those values show that all of those animals are in a danger zone once temperatures rise above 85 degrees Fahrenheit, if there is no correlated reduction in humidity levels. The reason for this is supported by the physiology of cooling. Humans, cattle, equine and swine cool internal body temperatures by perspiring, which is the most efficient cooling mechanism. Dogs cool their internal body temperatures mostly through panting, with a minimum amount of cooling provided by perspiring through the pads on their feet. However, perspiring or panting in and of itself does not result in the cooling of the body. In order for the cooling effect to occur the perspiration or moisture on the tongue of the dog has to be evaporated. On a humid day or in a humid environment there is already a lot of moisture in the air and therefore the evaporative process is either less efficient or does not take place and therefore the internal body temperature continues to rise. In sum, you can not provide a cooling effect by simply increasing the amount of humid air flowing over the body of a dog or any other animal. Pulling already moist and humid air over the body does not and will not allow for the evaporation of perspiration and therefore will not provide a cooling of the body. The result is that when temperatures rise above 85 degrees, humidity levels must be controlled in order to attain a heat index value that will assure the health, safety and welfare of dogs confined in kennels. The heat index values referred to earlier, and attached hereto as Exhibit B, all evidence that value should be set at a heat index of 85 (85 HI).

Finally the Department with the assistance of Canine Health Board member Dr. Karen Overall found - and along with Department veterinarians reviewed - a dog study

that established "survivability" levels for confined dogs. The study, which is attached hereto as Exhibit C, sets forth evidence that beagle dogs can not survive for more than six hours at maximum heat index values of between 100-106 degrees Fahrenheit. The study goes further, to conclude the relative humidity values in the study should be reduced by twenty percent (20%) to assure safety. The final-form regulation therefore allows a 4 hour window (consistent with Federal Animal Welfare regulations standards) for kennel owners to reduce the humidity levels in their kennels to attain the required heat index value of 85 (85 HI). However, during that 4 hour window, the heat index value must never go above 90 (90 HI), which is the maximum heat index value to ensure survivability and safety, the latter requiring the recommended 20% reduction in humidity levels from the study's maximum values of 95-98 HI, and consideration of the TACC Weather Safety Scale.

In conclusion, the Department's research and discussions support the humidity levels established in the final-form regulation. The humidity levels are necessary and proper for the health, safety and welfare of dogs confined to kennels. The range or humidity levels established for kennels when the temperature is 85 degrees Fahrenheit or below is within normal animal husbandry practices and is set at the least stringent levels suggested. Humidity levels and the time period of exposure established in the final-form regulations for heat indexes above 85 degrees Fahrenheit are supported by scientific research performed on animals with more efficient cooling mechanisms than dogs or are based on scientific research specifically done on dogs. Finally, the engineers and architects consulted believe the requirements established by the final-form regulation are attainable and the Department has set forth the cost estimates in the regulatory analysis form that accompanies the final-form regulation.

2. Rule: "When the temperature is 50-75 degrees Fahrenheit the relative humidity shall be in the range of 40-60%."

Comment: A relative humidity range of 40-60% is appropriate when temperatures range from 50-75 degrees. It is possible under conditions of low outdoor temperatures that operators may be tempted to reduce ventilation rate in an effort to save on energy costs associated with heating the facility. Under those conditions, the body heat of the animals may be sufficient to keep the facility within the appropriate temperature range, but relative humidity could approach 80-90%. The high relative humidity, in this case, would not be a concern for animal health, but under these conditions of low ventilation rate, there may be high concentrations of pathogens, aerosols, dust, and endotoxins that could be unhealthy for both animals and people.

RESPONSE

In further research regarding the humidity levels established by the Department in the final-form regulation the Department consulted with engineers and architects that design and build dog kennels, had discussions with veterinarians - including Department and Canine Health Board veterinarians - and with animal scientists, such as Dr. Kephart and Dr. Mikesell at the Pennsylvania State University. As a result of those discussions the Department determined that common animal husbandry practices would allow for a humidity range of thirty to seventy percent (30%-70%), when temperatures are at 85

degrees Fahrenheit or below. This range encompasses normal animal husbandry practices and establishes proper levels to control for disease and assure the health, safety and welfare of dogs confined in kennels. Many of these experts in fact suggested an even narrower range of humidity levels that would have capped out at sixty percent (60%) humidity. The Department, however, chose to utilize the minimum standards suggested by a majority of the experts consulted. The final-form regulation standards are consistent with Dr. Kephart's comment.

3. Rule: "When the temperature is above 75 degrees Fahrenheit the relative humidity shall be 1-50%."

Comment: A relative humidity range of 1-50% is not appropriate when temperatures are above 75 degrees. During times of high temperature and humidity, it is very difficult to maintain relative humidity levels below 50% even with air conditioning and/or dehumidification. As stated above, high relative humidity is not independently problematic. Admittedly, high relative humidity can contribute to animal discomfort, particularly when ventilation rate or air movement is low. But with a well functioning ventilation system, animal comfort can be maintained during times of high relative humidity. Note that there are different methods for measuring relative humidity. The recommended method should be specified.

RESPONSE

The Department greatly appreciates the expertise and experience of Dr. Kephart. However, in this case, based on the Department's research, the survivability study supplied by Dr. Karen Overall, heat index values for animals including swine, cattle, poultry and humans and discussions with veterinarians from the Canine Health Board and the Department, we do not agree with the conclusion that high relative humidity, combined with high temperature do not negatively impact the health and welfare of dogs. Nor do we agree, based on the research set forth above that such issues can be addressed merely by increasing the amount or velocity of air circulation. Furthermore, our consultations with engineers contradicts the statement that humidity levels can not be lowered during times of high temperatures, even with air conditioning. This may be true if only tunnel ventilation is being utilized. However, based on the research and information received and more specifically set forth in answers to the Independent Regulatory Review Commission and Dr. Kephart's first comment, tunnel ventilation is not effective and should not be utilized in times of high heat and high humidity if it can not assure a humidity level and appropriate heat index value.

4. Rule: "Ammonia levels shall be less than 10 ppm."

Comment: We generally consider 25 ppm as a safe maximum for livestock facilities. However, the animal density in those facilities is much higher than that of commercial kennels, therefore, I would regard 10 ppm as an appropriate value for this application.