

(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.

(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.

(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.

(5) Rule: "The means of ventilation employed shall ensure that carbon monoxide shall be maintained below detectable levels."

Comment: Many of these kennels will use direct fired, non-vented LP gas heaters. These heaters are appropriate when combined with an effective ventilation system. However, there may be trace amounts of carbon monoxide produced, and because the heaters are non-vented, these trace amounts may be detectable if the instrumentation is sufficiently sensitive. I would suggest that you delete the first sentence of this rule, and leave the remaining wording intact.

(6) Rule: "In the event of a mechanical system malfunction the kennel must have windows, doors, skylights, or other openings in the structure shall be operable to maintain ventilation."

Comment: This rule is appropriate.

(7) Rule: "The means of ventilation employed shall ensure that particulate matter from dander, hair, food, bodily fluids, and other sources in a primary enclosure shall be below 10 milligrams per meter cubed."

Comment: This rule is requires clarification. Are you referring to aerial particulate matter? If so, that needs to be clearly stated. Also, there is no reference as to how these aerial dust concentrations should be measured. A value of 10 mg/m³ is not unreasonable, but it is a relatively low concentration and I am concerned that the dust concentrations could be measured incorrectly. Also, if the low relative humidity values required in rule 3 stand, the resulting dry air could contribute to higher the dust concentrations in the facility.

(8) Rule: Air changes.

Comment: Most of what is included in this rule will contribute to confusion for both the operator and the persons responsible for measuring and enforcing air changes. In my comments (dated February 12, 2007) on the Dog Law revisions, I had suggested developing a table that would provide ventilation requirements for various body weights of dogs:

***Recommended ventilation rates for dogs, cfm/animal
(Example)***

<i>Body Wt, lb</i>	<i>Cold Weather</i>	<i>Warm Weather</i>	<i>Hot Weather</i>
<i>5-10</i>	<i>4</i>	<i>8</i>	<i>15</i>
<i>11-25</i>	<i>5</i>	<i>20</i>	<i>30</i>
<i>26-50</i>	<i>6</i>	<i>30</i>	<i>50</i>
<i>51-100</i>	<i>8</i>	<i>35</i>	<i>75</i>
<i>> 100</i>	<i>10</i>	<i>50</i>	<i>100</i>

Using a table as proposed above ensures that the animals will be comfortable under both cold and hot weather conditions. In addition, by using these ventilation rates as the standard, much of the other criteria that you list (relatively humidity, aerial dust concentrations, ammonia concentrations) will automatically fall within appropriate parameters, eliminating the need for additional measurement and enforcement. Using guidelines for temperature and ventilation rates would, in my view, be sufficient to ensure that the animals within the facility have fresh air at all times.

(9) Rule: "Dogs shall not exhibit conditions or signs of illness or stress association with poor ventilation, these include:"

Comment: It is clearly important that the operator diligently observe the dogs at least daily for the signs that are listed in this rule. What is not clear is how the persons responsible for enforcement can determine that the presence of these signs of is an indicator of poor ventilation. In reality, making that determination requires expertise, possibly diagnostic laboratory work-ups, and veterinary assistance.

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

Comment: With exception of moisture condensation on surfaces, nothing in this rule can be objectively interpreted or enforced.

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

Comment: This rule is confusing. Does it mean that any mechanical ventilation system must provide a means of filtration, or only when the system recirculates air? If it refers only to recirculation systems, I would support the use of filtration.

Section 28a.3 Lighting

(1) Rule: Natural light.

Comment: I support the guidelines in this rule.

(2) Rule: Artificial light.

(i) "Artificial light, indoor daytime lighting shall provide full spectrum lighting between 50-80 foot candles at standing shoulder level of the dogs for daytime lighting."

Comment: First, will everyone understand what is meant by "full spectrum lighting?" For example, the spectrum provided by incandescent lighting will differ from that of fluorescent lighting. Are either of lighting systems these "full spectrum?" Will someone measure the light wavelengths in these facilities? Second, according the Penn State's Office of Physical Plant classrooms are required to have 50 foot candles. Do dogs really need more light than this? If we provide less than 50 foot candles for the dogs, how will their health or welfare be affected?

(ii) "Night time artificial light shall be 1-5 foot candles at standing shoulder level of the dogs of lighting"

Comment: If we provide less than 1-5 foot candles, how will the dogs' health or welfare be affected?

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(iii) "Artificial light provided shall approximately coincide with the natural diurnal cycle."

Comment: What is the purpose of this rule? Would there be a problem for the dogs if the operator chose to provide approximately 12 hours of light year round?

Section 28a.4 Flooring

I have just one general comment regarding the flooring already approved in the Dog Law [3 P.S. Section 207(i)(3)]. As I understand, that rule forbids the use of vinyl-coated wire. I believe there are vinyl or plastic coated products that can be used with dogs that would actually provide a cleaner, more comfortable environment than either slats or sold surfaces.

Thank you for this opportunity. I hope you will feel free to contact me if you have questions.

Respectfully,



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