

1 State of Arkansas
2 91st General Assembly
3 Regular Session, 2017
4

As Engrossed: H3/20/17

A Bill

HOUSE BILL 1771

5 By: Representative S. Meeks
6

For An Act To Be Entitled

8 AN ACT TO CREATE THE ARKANSAS NIGHTTIME ENVIRONMENT
9 PROTECTION ACT; AND FOR OTHER PURPOSES.
10

Subtitle

11 TO CREATE THE ARKANSAS NIGHTTIME
12 ENVIRONMENT PROTECTION ACT.
13

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17 BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF ARKANSAS:
18

19 SECTION 1. DO NOT CODIFY. Findings.

20 The General Assembly finds that:

21 (1)(A) Energy is wasted when methods of illumination are used
22 excessively and inefficiently.

23 (B) This wasteful use of energy is not a cost-effective
24 use of taxpayer money and adds unnecessary pollutants to our environment from
25 the energy generation;

26 (2)(A) In addition, light pollution has been implicated in
27 disruption of the human and animal circadian rhythm and strongly suspected as
28 an etiology of suppressed melatonin production, depressed immune systems, and
29 increases in certain cancer rates.

30 (B) The findings set out in subdivision (2)(A) of this
31 section prompted the American Medical Association in June 2009 to adopt a
32 resolution advocating the reduction of light pollution and glare through the
33 use of energy efficient and shielded lighting;

34 (3) In addition, light pollution disrupts nocturnal animal
35 activity, which results in diminished health and survival of various animal
36 and plant populations;



1 (4) In addition, light pollution reduces the ability for
 2 Arkansans to enjoy recreational or educational astronomical observations of
 3 the starry night sky;

4 (5) In addition, light pollution reduces the ability for
 5 Arkansas scientists to conduct scientific research of the cosmos;

6 (6) In addition, inefficient luminaries may cast unwanted light
 7 outside the intended target area, creating light trespass; and

8 (7) Therefore, it is in the public interest to reduce light
 9 pollution to protect the nighttime environment and create awareness.

10
 11 SECTION 2. Arkansas Code Title 8, Chapter 14, is amended to read as
 12 follows:

13 8-14-101. Title.

14 This chapter shall be known and may be cited as the "~~Shielded Outdoor~~
 15 ~~Lighting Act~~" "Arkansas Nighttime Environment Protection Act".

16
 17 8-14-102. Purpose.

18 ~~The purpose of this chapter is to conserve energy and preserve the~~
 19 ~~environment through the regulation of outdoor lighting fixtures~~ The purpose
 20 of this chapter is to regulate outdoor night lighting fixtures to promote
 21 safety, conserve energy, save tax dollars, and preserve the state's natural
 22 nighttime environment for astronomy and the health and welfare of our
 23 citizens and our wildlife.

24
 25 8-14-103. Definitions.

26 As used in this chapter:

27 ~~(1) "Outdoor lighting fixture" means an automatically~~
 28 ~~controlled, outdoor artificial illuminating device, whether permanent or~~
 29 ~~portable, used for illumination or advertisement, including searchlights,~~
 30 ~~spotlights, and floodlights, whether for architectural lighting, parking lot~~
 31 ~~lighting, landscape lighting, billboards, or street lighting; and~~

32 ~~(2) "Shielded" means a fixture that is covered in a manner that~~
 33 ~~light rays emitted by the fixture, either directly from the lamp or~~
 34 ~~indirectly from the fixture, are projected below a horizontal plane running~~
 35 ~~through the lowest point on the fixture where light is emitted.~~

36 (1) "Direct light" means light emitted directly from a *light*

1 source, off a reflector, or through a refractor or lens of a fixture;

2 (2)(A) "Electronic message center" means a self-luminous sign
3 that emits or projects any kind of light, color, or message that is computer-
4 or electronically generated.

5 (B) "Electronic message center" includes displays using
6 lamps, light-emitting diodes, liquid crystal displays, or a flipper matrix
7 and any sign that creates an image using an array of picture elements or
8 pixels;

9 (3) "Excessive cost" means:

10 (A) The cost to meet a requirement under this chapter or
11 the cost of additional wiring, controls, power requirements, poles,
12 materials, and commissioning, designing, and maintenance needed to meet a
13 requirement under this chapter that is at least one hundred twenty-five
14 percent (125%) more expensive than a nonconforming fixture; or

15 (B) In the case of a tariff on a streetlight, the tariff
16 for the streetlight for a conforming fixture is more expensive than the
17 tariff for a nonconforming fixture;

18 (4) "Fixture" means a complete lighting unit, including without
19 limitation a light source together with the parts designed to distribute the
20 light, to position and protect the light source, and to connect the light
21 source to the power supply;

22 (5) "Fully shielded" means a fixture that does not allow light
23 emissions, either directly from a light source or indirectly by reflection or
24 refraction from any part of the lighting unit, above a horizontal plane
25 running through the lowest point on the fixture where light is emitted;

26 (6) "Glare" means the sensation produced by luminances within
27 the visual field that is sufficiently greater than the luminance to which the
28 eyes are adapted to cause annoyance, discomfort, or loss of visual
29 performance and visibility;

30 (7) "Illuminance" means the level of light measured on an
31 intercepting surface;

32 (8) "Lamp" means the component of a fixture that produces light;

33 (9) "Light pollution" means general sky glow caused by the
34 scattering of artificial light in the atmosphere;

35 (10) "Light trespass" means excessive or unreasonable light
36 emitted by a fixture that shines beyond the boundaries of the property on

1 which the fixture is located;

2 (11) "Lumen" means a unit of luminous flux emitted within a unit
3 solid angle by a point source with a uniform luminous intensity of one (1)
4 candela;

5 (12) "Lux" means the International System of Units unit of
6 illuminance and is equal to one (1) lumen per square meter;

7 (13) "Partially shielded" means a fixture that is constructed so
8 that the bottom edge of the shield is below the plane of the center line of
9 the lamp, reducing light above the horizontal to less than twenty percent
10 (20%) of the light emitted from any part of the lighting unit;

11 (14) "Permanent outdoor fixture" means a fixture or system of
12 fixtures that is outdoors and intended to be used or is used for thirty (30)
13 days or longer; and

14 (15) "Public funds" means bond revenues or money appropriated or
15 allocated by the General Assembly or money raised through taxes or fees and
16 county and municipal funds.

17
18 8-14-104. Shielding—Prohibitions—Exemptions Regulations for
19 outdoor illumination.

20 ~~(a) After January 1, 2006:~~

21 ~~(1)(A) No public funds shall be used to install an outdoor~~
22 ~~lighting fixture unless it is shielded.~~

23 ~~(B) Subdivision (a)(1)(A) of this section shall not apply~~
24 ~~to any municipality or county if the governing body of the municipality or~~
25 ~~county determines by ordinance or to a municipally owned utility if the~~
26 ~~municipal employee responsible for procurement determines that the cost of~~
27 ~~acquiring a shielded outdoor lighting fixture will be prohibitive after~~
28 ~~comparing:~~

29 ~~(i) The cost of the fixtures; and~~

30 ~~(ii) The projected energy cost of the operation of~~
31 ~~the fixtures;~~

32 ~~(2) The Arkansas Department of Environmental Quality shall~~
33 ~~promulgate regulations prohibiting any person or entity from knowingly~~
34 ~~placing or disposing of the bulb or tube portion of an electric lighting~~
35 ~~device containing hazardous levels of mercury in a landfill after January 1,~~
36 ~~2008, if:~~

1 ~~(A) The device contains more than two tenths milligram per~~
2 ~~liter (0.2 mg/l) of leachable mercury as measured by the Toxicity~~
3 ~~Characteristic Leaching Procedure as set out in EPA test Method 1311; and~~

4 ~~(B) Adequate facilities exist for the public to properly~~
5 ~~dispose of the device described in subdivision (a)(2)(A) of this section; and~~

6 ~~(3)(A) Each electric public utility shall offer a shielded~~
7 ~~lighting service option.~~

8 ~~(B) Not later than January 1, 2006, each electric public~~
9 ~~utility shall file an application with the Arkansas Public Service Commission~~
10 ~~to establish a schedule of rates and charges for the provision of a shielded~~
11 ~~lighting service option to the utility's customers.~~

12 ~~(C) The commission shall require each electric public~~
13 ~~utility to inform its customers of the availability of the shielded lighting~~
14 ~~service.~~

15 ~~(b) This chapter does not apply to acquisitions of:~~

16 ~~(1) Incandescent outdoor lighting fixtures of one hundred fifty~~
17 ~~watts (150W) or less or other light sources of seventy watts (70W) or less;~~

18 ~~(2) Outdoor lighting fixtures on advertisement signs on~~
19 ~~interstate or federal primary highways;~~

20 ~~(3)(A) Outdoor lighting fixtures existing and legally installed~~
21 ~~before August 12, 2005.~~

22 ~~(B) However, if an existing outdoor lighting fixture~~
23 ~~exempted from this chapter under subdivision (b)(3)(A) of this section needs~~
24 ~~to be replaced, the acquisition of the replacement outdoor lighting fixture~~
25 ~~shall be subject to the provisions of this chapter;~~

26 ~~(4) Navigational lighting systems at airports or other lighting~~
27 ~~necessary for aircraft safety; and~~

28 ~~(5) Outdoor lighting fixtures that are necessary for worker~~
29 ~~safety at farms, ranches, dairies, or feedlots or industrial, mining, or oil~~
30 ~~and gas facilities.~~

31 ~~(c) This chapter does not apply to outdoor lighting fixtures~~
32 ~~maintained or installed by:~~

33 ~~(1) A public school district;~~

34 ~~(2) A correctional facility;~~

35 ~~(3) A juvenile detention facility;~~

36 ~~(4) An adult detention facility;~~

1 ~~(5) A mental health facility; or~~

2 ~~(6) A state supported institution of higher education.~~

3 (a) A state agency, public corporation, county, or municipality shall
4 not use public funds to operate, maintain, install, or cause to be installed
5 a new or replacement permanent outdoor fixture unless the following
6 conditions are met:

7 (1) The permanent outdoor fixture is a fully shielded fixture
8 when the initial rated lumens of the lamp of the permanent outdoor fixture is
9 greater than one thousand eight hundred lumens (1,800 lm);

10 (2) The illuminance of a surface does not exceed what is
11 adequate for that purpose under guidelines recommended for that purpose by
12 the Illuminating Engineering Society of North America, as the guidelines
13 existed on January 1, 2017, or the minimum illuminance recommendation for
14 that purpose by the United States Department of Transportation, as the
15 recommendation existed on January 1, 2017; and

16 (3) Consideration has been given to the use of public funds for
17 the goals of eliminating glare, light pollution, and light trespass, reducing
18 energy use, and preserving the natural night environment.

19 (b) Illuminated roadway signage installed or replaced after the
20 effective date of this chapter shall be illuminated from within or from above
21 the roadway signage, except when illumination of the roadway signage from
22 within or above is not possible, or would create excessive cost or
23 maintenance issues.

24 (c)(1) An electric utility shall not operate, maintain, install, or
25 cause to be installed a fixture for new or replacement residential or
26 commercial security lighting unless the following conditions are met:

27 (A) The fixture is a fully shielded or partially shielded
28 fixture when the initial rated lumens of the lamp of the fixture is greater
29 than one thousand eight hundred lumens (1,800 lm); and

30 (B) The fixture is designed to maximize energy
31 conservation and to minimize light pollution, glare, and light trespass.

32 (2) If a property owner purchases a fixture that does not
33 conform to the requirements of subdivision (c)(1) of this section from a
34 third party, the electric utility, at the electric utility's discretion, may
35 install, operate, and service the fixture.

36 (d)(1) After taking into account all costs, including long-term costs,

1 associated with the operation and maintenance of a given fixture, the
2 Arkansas Public Service Commission shall ensure that the rate schedule for
3 public, residential, and *commercial outdoor*, security and street lighting
4 published by an electric utility for fixtures that are better shielded, use
5 lower wattage, and require less maintenance, are properly reflective of the
6 long-term cost of the fixtures and the energy consumption of the fixtures
7 over the life of the fixtures.

8 (e) A new mercury vapor lamp shall not be installed in the state by a
9 state agency, public corporation, county, municipality, public entity, or
10 utility.

11 (f) The Arkansas Department of Environmental Quality shall promulgate
12 regulations prohibiting any person or entity from knowingly placing or
13 disposing of the bulb or tube portion of an electric lighting device
14 containing hazardous levels of mercury in a landfill after January 1, 2008,
15 if:

16 (1) The electric lighting device contains more than two-tenths
17 milligram per liter (0.2 mg/l) of leachable mercury as measured by the
18 toxicity characteristic leaching procedure set out in Method 1311 of the
19 United States Environmental Protection Agency; and

20 (2) Adequate facilities exist for the public to properly dispose
21 of the electric lighting device described in subdivision (f)(1) of this
22 section.

23 (g) Any entity that installs new or replacement street or outdoor
24 lighting on behalf of a state agency, public corporation, county, or
25 municipality or that will become the responsibility of a state agency, public
26 corporation, county, or municipality shall comply with subsection (a) of this
27 section.

28
29 8-14-105. Penalties Exemptions.

30 ~~Violations of this chapter are punishable by:~~

31 ~~(1) A warning for a first offense; and~~

32 ~~(2) A fine of twenty five dollars (\$25.00) minus the replacement~~
33 ~~cost for each offending outdoor lighting fixture for a second or subsequent~~
34 ~~offense or for an offense that continues for thirty (30) calendar days from~~
35 ~~the date of the warning.~~

36 (a) Section 8-14-104 does not apply if:

1 (1) A federal law, rule, or regulation preempts § 8-14-104;

2 (2) Fire, police, rescue, correctional, or medical personnel
3 need outdoor lighting for temporary emergencies not to exceed thirty (30)
4 days in duration unless a waiver is granted by the Director of the Arkansas
5 Department of Emergency Management;

6 (3) The outdoor lighting fixture is necessary for worker safety
7 and is used on a temporary basis for nighttime work, including without
8 limitation work performed on:

9 (A) Projects or improvements relating to the construction,
10 reconstruction, improvement, or maintenance of a street, highway, building,
11 structure, or facility; and

12 (B) Farms, ranches, dairies, and feedlots and in
13 industrial, drilling, mining, or oil and gas facilities;

14 (4) The lighting is part of a navigational lighting system for
15 an airport or on a navigable waterway or provides other lighting necessary
16 for aircraft or watercraft safety;

17 (5)(A) In a situation in which there are special lighting
18 requirements, such as sports facilities, or historic decorative
19 considerations, monuments, decorative lighting on bridges over navigable
20 waterways, or the lighting of the United States flag under the Federal Flag
21 Code, 4 U.S.C. §§ 4-10.

22 (B) However, lighting exempted under subdivision (a)(5)(A)
23 of this section shall be selected and installed to shield the lamp or lamps
24 from direct view to the greatest extent possible and to minimize upward
25 lighting and light trespass;

26 (6)(A) The lighting is for a public or private state correction
27 facility, a detention facility, or a mental health facility.

28 (B) For lighting exempted under subdivision (a)(6)(A) of
29 this section, § 8-14-104 shall serve only as a guideline;

30 (7)(A) The outdoor fixture existed and was legally installed
31 before the effective date of this act.

32 (B)(i)(a) If a outdoor fixture exempted under subdivision
33 (a)(7)(A) of this section is to be replaced, the outdoor fixture shall be
34 brought into compliance with § 8-14-104, unless the governing body determines
35 that excessive cost, excessive structural modifications, or safety concerns
36 prevent compliance.

1 (b) As used in subdivision (a)(7)(A)(ii)(a) of
2 this section, "governing body" means an agency director, an elected official,
3 or a body responsible for the fixture.

4 (ii)(a) If a governing body makes a determination
5 under subdivision (7)(B)(i) or subdivision (7)(B)(ii) of this section, the
6 governing body shall submit an annual report to the Arkansas Pollution
7 Control and Ecology Commission, outlining the current status of exempted
8 fixtures and the efforts or plans that have been made to bring the exempted
9 fixtures into compliance.

10 (b) The commission shall determine the time
11 and manner for submission of the annual report required under subdivision
12 (a)(7)(B)(iii)(a) of this section.

13 (c) If the commission determines that a state
14 agency, public corporation, county, municipality, public or charter school,
15 or college or university has brought into compliance with § 8-14-104 all
16 fixtures that can be brought into compliance, the commission shall no longer
17 require the agency, public corporation, county, municipality, public or
18 charter school, or college or university to submit the annual report.

19 (C)(i) From time to time, at the discretion and in the manner
20 determined by the commission, the commission shall compile the reports
21 required under subdivision (7)(B) of this section into one (1) comprehensive
22 report.

23 (ii) The commission shall:

24 (a) File the comprehensive report required
25 under subdivision (7)(C)(i) of this section with the cochairs of the
26 Legislative Council; and

27 (b) Make each comprehensive report required
28 under subdivision (7)(C)(i) of this section available to the general public
29 in a manner determined by the commission.

30 (b) Upon petition to the commission, in the manner and method
31 established by the commission, the commission may waive any provision of this
32 chapter on a case-by-case basis if consideration has been given to reduce
33 light pollution, save taxpayer dollars, and to protect the nighttime
34 environment.

35 (c)(1) A waiver under subsection (b) of this section may be appealed
36 to the commission by a citizen of the city or county where the waiver was

1 applied.

2 (2) The commission shall then hold a public hearing to hear all
3 sides, before making a final determination.

4
5 8-14-106. Enforcement.

6 ~~This chapter may be enforced by a town, city, or county of this state~~
7 ~~by seeking injunctive relief in a court of competent jurisdiction.~~

8 This chapter shall be enforced by:

9 (1) The governing body of a political subdivision of the state
10 within its jurisdiction;

11 (2) A local or state code enforcement agency within the
12 jurisdiction of the governing body of a political subdivision of the state;
13 and

14 (3)(A) The Arkansas Department of Environmental Quality within
15 its jurisdiction.

16 (B) If appropriate, the Arkansas Department of
17 Environmental Quality may refer any cases to a local or state code
18 enforcement agency or to a governing body of a political subdivision of the
19 state.

20
21 8-14-107. ~~Provisions supplemental~~ Violations.

22 ~~The provisions of this chapter are cumulative and supplemental and~~
23 ~~shall not apply within a town, city, or county of this state that by~~
24 ~~ordinance has adopted provisions restricting light pollution that are equal~~
25 ~~to or more stringent than the provisions of this chapter.~~

26 (a) A person that violates this chapter is subject to:

27 (1) For a first offense, a warning;

28 (2) For a subsequent offense or an offense that continues for
29 thirty (30) days after the date of the warning, a fine of twenty-five dollars
30 (\$25.00); and

31 (3) For an offense continuing for more than sixty (60) days
32 after the date of the warning, a fine of twenty-five dollars (\$25.00) for
33 each offending fixture for each calendar month the violation continues.

34 (b) Money raised by fines assessed under subsection (a) of this
35 section shall be deposited into the general fund of the agency, public
36 corporation, county, municipality assessing the fine.

1
2 8-14-108. Illuminated roadway signage – Electronic messaging centers.

3 (a) If roadway signage is illuminated with external fixtures:

4 (1) The external fixtures shall be directed and designed
5 so that a majority of the light falls upon the roadway sign's surface; and

6 (2) The external fixtures do not create glare, light
7 trespass, or excessive amounts of light pollution.

8 (b)(1) Commercial and advertising roadway signage and devices,
9 including billboards and electronic message centers, installed or replaced
10 after the effective date of this chapter that are within one-half (1/2) mile
11 of and visible from a highway system shall not prevent the driver of a
12 vehicle from having a clear and unobstructed view of official signs and
13 approaching or merging traffic.

14 (2) If a commercial and advertising roadway sign or device is
15 illuminated with an external fixture:

16 (A) The external fixture shall be directed and designed so
17 that a majority of the light falls upon the advertisement surface; and

18 (B) The external fixture does not create glare, light
19 trespass, or excessive amounts of light pollution.

20 (3) If a commercial and advertising roadway sign or device is an
21 electronic message center:

22 (A) The commercial and advertising roadway sign or device
23 shall:

24 (i) Be equipped with a sensor or other device that
25 automatically determines the ambient light conditions and is programmed to
26 automatically dim appropriately;

27 (ii) Not be of an intensity or brilliance that may
28 cause glare or impair the vision of a driver of a motor vehicle, or
29 otherwise interfere with a driver's operation of a motor vehicle;

30 (iii) Not change intensity or expose its message for
31 less than four (4) seconds; and

32 (iv) Not exceed three lux (3 lx) over the ambient
33 light as measured with an illuminance meter.

34 (4) A measurement required under this subsection shall:

35 (A) Not be made within thirty (30) minutes after sunset or
36 thirty (30) minutes before sunrise;

