1	State of Arkansas	As Engrossed: H2/18/15	
2	90th General Assembly	A Bill	
3	Regular Session, 2015		HOUSE BILL 1003
4			
5	By: Representative S. Mee	ks	
6			
7		For An Act To Be Entitled	
8	AN ACT 7	TO CREATE THE ARKANSAS NIGHTTIME ENVIRO	ONMENT
9	PROTECTI	ION ACT; AND FOR OTHER PURPOSES.	
10			
11		~	
12		Subtitle	
13	TH	E ARKANSAS NIGHTTIME ENVIRONMENT	
14	PR	OTECTION ACT.	
15			
16			
17	BE IT ENACTED BY THE	E GENERAL ASSEMBLY OF THE STATE OF ARKA	ANSAS:
18			
19	SECTION 1. DO		
20		ssembly finds that:	
21		Energy is wasted when methods of illur	<u>nination are used</u>
22	excessively and inef	-	
23	<u>(</u> <u></u>		
24		ey and adds unnecessary pollutants to o	our environment from
25	the energy generation		
26		In addition, light pollution has been	
27	-	uman and animal circadian rhythm and st	
28 20	increases in certair	ressed melatonin production, depressed	immune systems, and
29 30	<u>Increases in certain</u> (E		$(2)(\Lambda)$ of this
31	<u> </u>	e American Medical Association in June	
32		ng the reduction of light pollution and	
33		ient and shielded lighting;	<u>i giure enrough ene</u>
34		addition, light pollution disrupts not	cturnal animal
35		ilts in diminished health and survival	
36	and plant population		



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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 lamp, off

1	a reflector, or through a refractor 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	incandescent lamps, light-emitting diodes, liquid crystal displays, or a
7	flipper matrix and any sign that creates an image using an array of picture
8	elements or pixels;
9	(3) "Excessive cost" means the cost to meet the requirement
10	under this subchapter that is at least one hundred twenty-five percent (125%)
11	more expensive than a nonconforming fixture;
12	(4) "Footcandle" means a unit of illuminance equivalent to the
13	illumination produced by a source of one (1) candle at a distance of one foot
14	(1') and equal to one (1) lumen incident per square foot;
15	(5) "Fixture" means a complete lighting unit, including without
16	limitation a lamp or lamps together with the parts designed to distribute the
17	light, to position and protect the lamps, and to connect the lamps to the
18	power supply;
19	(6) "Fully shielded" means a fixture that does not allow direct
20	light emissions, either directly from the lamp or indirectly by reflection or
21	refraction from any part of the lighting unit, above a horizontal plane
22	running through the lowest point on the fixture where light is emitted;
23	(7) "Glare" means the sensation produced by illuminance within
24	the visual field that is sufficiently greater than the luminance to which the
25	
	eyes are adapted to cause annoyance, discomfort, or loss of visual
26	<u>eyes are adapted to cause annoyance, discomfort, or loss of visual</u> performance and visibility;
26	performance and visibility;
26 27	<u>performance and visibility;</u> (8) "Illuminance" means the level of light measured on an
26 27 28	<i>performance and visibility;</i> (8) "Illuminance" means the level of light measured on an intercepting surface;
26 27 28 29	<pre>performance and visibility;</pre>
26 27 28 29 30	<pre>performance and visibility;</pre>
26 27 28 29 30 31	<pre>performance and visibility;</pre>
26 27 28 29 30 31 32	<pre>performance and visibility;</pre>
26 27 28 29 30 31 32 33	<pre>performance and visibility;</pre>

1	candela;
2	(13) "Partially shielded" means a fixture that is constructed so
3	that the bottom edge of the shield is below the plane of the center line of
4	the lamp, reducing light above the horizontal to less than twenty percent
5	(20%) of the light emitted from any part of the lighting unit;
6	(14) "Permanent outdoor fixture" means a fixture or system of
7	fixtures that is outdoors and intended to be used or is used for thirty (30)
8	days or longer; and
9	(15) "Public funds" means bond revenues or money appropriated or
10	allocated by the General Assembly or money raised through taxes or fees and
11	county and municipal funds.
12	
13	8-14-104. Shielding — Prohibitions — Exemptions Regulations for
14	outdoor illumination.
15	(a) After January 1, 2006:
16	(1)(A) No public funds shall be used to install an outdoor
17	lighting fixture unless it is shielded.
18	(B) Subdivision (a)(1)(A) of this section shall not apply
19	to any municipality or county if the governing body of the municipality or
20	county determines by ordinance or to a municipally owned utility if the
21	municipal employee responsible for procurement determines that the cost of
22	acquiring a shielded outdoor lighting fixture will be prohibitive after
23	comparing:
24	(i) The cost of the fixtures; and
25	(ii) The projected energy cost of the operation of
26	the fixtures;
27	(2) The Arkansas Department of Environmental Quality shall
28	promulgate regulations prohibiting any person or entity from knowingly
29	placing or disposing of the bulb or tube portion of an electric lighting
30	device containing hazardous levels of mercury in a landfill after January 1,
31	2008, if:
32	(A) The device contains more than two-tenths milligram per
33	liter (0.2 mg/l) of leachable mercury as measured by the Toxicity
34	Characteristic Leaching Procedure as set out in EPA test Method 1311; and
35	(B) Adequate facilities exist for the public to properly
36	dispose of the device described in subdivision (a)(2)(A) of this section; and

1	(3)(A) Each electric public utility shall offer a shielded
2	lighting service option.
3	(B) Not later than January 1, 2006, each electric public
4	utility shall file an application with the Arkansas Public Service Commission
5	to establish a schedule of rates and charges for the provision of a shielded
6	lighting service option to the utility's customers.
7	(C) The commission shall require each electric public
8	utility to inform its customers of the availability of the shielded lighting
9	service.
10	(b) This chapter does not apply to acquisitions of:
11	(1) Incandescent outdoor lighting fixtures of one hundred fifty
12	watts (150W) or less or other light sources of seventy watts (70W) or less;
13	(2) Outdoor lighting fixtures on advertisement signs on
14	interstate or federal primary highways;
15	(3)(A) Outdoor lighting fixtures existing and legally installed
16	before August 12, 2005.
17	(B) However, if an existing outdoor lighting fixture
18	exempted from this chapter under subdivision (b)(3)(A) of this section needs
19	to be replaced, the acquisition of the replacement outdoor lighting fixture
20	shall be subject to the provisions of this chapter;
21	(4) Navigational lighting systems at airports or other lighting
22	necessary for aircraft safety; and
23	(5) Outdoor lighting fixtures that are necessary for worker
24	safety at farms, ranches, dairies, or feedlots or industrial, mining, or oil
25	and gas facilities.
26	(c) This chapter does not apply to outdoor lighting fixtures
27	maintained or installed by:
28	(1) A public school district;
29	(2) A correctional facility;
30	(3) A juvenile detention facility;
31	(4) An adult detention facility;
32	(5) A mental health facility; or
33	(6) A state-supported institution of higher education.
34	(a) An agency, public corporation, county, or municipal subdivision of
35	this state shall not use public funds to operate, maintain, install, or cause
36	to be installed a new or replacement permanent outdoor fixture unless the

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1	following conditions are met:
2	(1) The permanent outdoor fixture is a fully shielded fixture
3	when the initial rated lumens of the lamp of the permanent outdoor fixture is
4	greater than one thousand eight hundred lumens (1,800 lm);
5	(2) The permanent outdoor fixture's maximum illuminance does not
6	exceed what is adequate for that purpose under guidelines recommended for
7	that purpose by the Illuminating Engineering Society of North America, as the
8	guidelines existed on January 1, 2013, or the minimum illuminance
9	recommendation for that purpose by the United States Department of
10	Transportation, as the recommendation existed on January 1, 2013;
11	(3) For roadway lighting unassociated with intersections of two
12	(2) or more streets or highways, a determination is made by the Director of
13	the Arkansas State Highway and Transportation Department or his or her
14	designee or a body having jurisdiction or its designee that the purpose of
15	the lighting installation or replacement cannot be achieved by reduction of
16	the speed limit, installation of reflectorized roadway markers, lines,
17	warnings, or informational signs, or other passive means; and
18	(4) Full consideration has been given to the use of public funds
19	for the goals of eliminating glare, light pollution, and light trespass,
20	reducing energy use, and preserving the natural night environment.
21	(b)(1) Illuminated roadway signage installed or replaced after the
22	effective date of this subchapter shall be illuminated from within or from
23	above the roadway signage, except when illumination of the roadway signage
24	from within or above is not possible, or would create excessive cost or
25	maintenance issues.
26	(2) If roadway signage is illuminated with external fixtures:
27	(A) The external fixtures shall be directed and designed
28	so that a majority of the light falls upon the sign's surface;
29	(B) The lamp shall not be visible from the roadway; and
30	(C) The external fixtures do not create glare, light
31	trespass, or excessive amounts of light pollution.
32	(c)(1) Commercial and advertising roadway signage and devices,
33	including billboards and electronic message centers, installed or replaced
34	after the effective date of this subchapter that are within one-half (1/2)
35	mile of and visible from a highway system:
36	(A) Shall not prevent the driver of a vehicle from having

1	a clear and unobstructed view of official signs and approaching or merging
2	<u>traffic;</u>
3	(B) Shall not:
4	(i) Contain, incorporate, or use an interactive
5	component or medium;
6	(ii) Interact with drivers or interface with cell
7	phones or another electronic device; or
8	<u>(iii) Incorporate, use, or emit a sound or noise or</u>
9	an electronic signal or emit smoke, scent, or odor.
10	(2) If a commercial and advertising roadway sign or device is
11	illuminated with an external fixture:
12	(A) The external fixture shall be directed and designed so
13	that a majority of the light falls upon the advertisement surface;
14	(B) The lamp shall not be visible from the roadway; and
15	(C) The external fixtures does not create glare, light
16	trespass, or excessive amounts of light pollution.
17	(3) If a commercial and advertising roadway sign or device is an
18	<u>electronic message center:</u>
19	(A) The commercial and advertising roadway sign or device
20	<u>shall:</u>
21	(i) Be equipped with a sensor or other device that
22	automatically determines the ambient light conditions and is programmed to
23	automatically dim appropriately;
24	(ii) Not be of an intensity or brilliance that may
25	cause glare or impair the vision of a driver of a motor vehicle, or
26	otherwise interfere with a driver's operation of a motor vehicle;
27	<u>(iii) Not contain flashing, scrolling or traveling</u>
28	messages, or intermittent or full motion video;
29	(iv) Not change intensity or expose its message for
30	<u>less than four (4) seconds; and</u>
31	(v) Not exceed three-tenths (0.3) footcandle over
32	the ambient light as measured with a footcandle or illuminance meter that can
33	measure to one one-hundredth of a footcandle.
34	(4) A measurement required under this subsection shall:
35	(A) Not be made within thirty (30) minutes after sunset or
36	<u>thirty (30) minutes before sunrise;</u>

1	(B) Be taken from or as close as is practically possible
2	to directly in front of or perpendicular from the center point of the face of
3	the sign from a height of five feet (5') or approximately the same height as
4	<u>a driver's eye level;</u>
5	(C) Be taken from or as close as is practically possible
6	to a distance from the sign in feet according to the formula: square root of
7	the area of the commercial and advertising roadway sign or device in square
8	feet times one hundred (100);
9	(D) Be taken with the sign displaying a solid white image
10	or if monochrome a solid image of the sign's color; and
11	(E) Be taken with the sign on and compared to the ambient
12	light with the sign off.
13	(5) Under this subsection, a sign is considered visible from the
14	highway system if it or light emitting from it is plainly visible to a driver
15	of a vehicle who is proceeding in a legally designated direction and
16	traveling at the posted speed limit.
17	(d)(1) An electric utility shall not operate, maintain, install, or
18	cause to be installed a fixture for new or replacement residential or
19	commercial security lighting unless the following conditions are met:
20	(A) The fixture is a fully shielded or partially shielded
21	fixture when the initial rated lumens of the lamp of the fixture is greater
22	than one thousand eight hundred lumens (1,800 lm); and
23	(B) The fixture is designed to maximize energy
24	conservation and to minimize light pollution, glare, and light trespass.
25	(2) If a property owner purchases a fixture that does not
26	conform to the requirements of subdivision (c)(l) of this section from a
27	third party, the electric utility, at the electric utility's discretion, may
28	install, operate, and service the fixture.
29	(e)(1) After taking into account all costs, including long-term costs,
30	associated with the operation and maintenance of a given fixture, the
31	Arkansas Public Service Commission shall ensure that the rate schedule for
32	public, residential, and commercial security and street lighting published by
33	an electric utility for fixtures that are better shielded, use lower wattage,
34	and require less maintenance, are properly reflective of the long-term cost
35	savings of using the fixtures.
36	(f)(1) It is unlawful for a person or entity to commit light trespass.

1	(2) A complaint of light trespass against a person or entity
2	shall be accepted only from the owner of the property or an agent of the
3	property owner upon whose property the light trespass is occurring.
4	(3) As used in this section, "light trespass" means that:
5	(A) The initial rated lumens of a lamp is greater than one
6	thousand eight hundred lumens (1,800 lm); and
7	(B) Either:
8	(i) The lamp is directly visible from the property
9	owned by the complainant; or
10	(ii) The light from the lamp falling onto the
11	property owned by the complainant is greater than fifty footcandles (50 fc)
12	over the ambient light as measured with a footcandle or illuminance meter
13	that can measure to one one-hundredth footcandle (0.01 fc).
14	(4) Before making a finding of light trespass an authority:
15	(A) May take into account the lawful purpose and history
16	of the lamp; and
17	(B) Shall work with the parties, if possible, to find
18	mutually agreeable voluntary mitigation.
19	(g) A new mercury vapor lamp shall not be installed in the state by a
20	government agency, public entity, or utility.
21	(h) The Arkansas Department of Environmental Quality shall promulgate
22	regulations prohibiting any person or entity from knowingly placing or
23	disposing of the bulb or tube portion of an electric lighting device
24	containing hazardous levels of mercury in a landfill after January 1, 2008,
25	<u>if:</u>
26	(1) The electric lighting device contains more than two-tenths
27	milligram per liter (0.2 mg/l) of leachable mercury as measured by the
28	toxicity characteristic leaching procedure set out in Method 1311 of the
29	United States Environmental Protection Agency; and
30	(2) Adequate facilities exist for the public to properly dispose
31	of the electric lighting device described in subdivision (h)(l) of this
32	section.
33	(i) Any entity that installs new or replacement street or outdoor
34	lighting on behalf of an agency, public corporation, county, or municipal
35	subdivision of this state or that will become the responsibility of an
36	agency, public corporation, county, or municipal subdivision of this state

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1	shall comply with subsection (a) of this section.
2	(j) Navigation lights on towers built after the effective date of this
3	act shall use only red lights after dark.
4	
5	8-14-105. Penalties Exemptions.
6	Violations of this chapter are punishable by:
7	(1) A warning for a first offense; and
8	(2) A fine of twenty-five dollars (\$25.00) minus the replacement
9	cost for each offending outdoor lighting fixture for a second or subsequent
10	offense or for an offense that continues for thirty (30) calendar days from
11	the date of the warning.
12	(a) Section 8-14-104 does not apply if:
13	(1) A federal law, rule, or regulation preempts § 8-14-104;
14	(2) Fire, police, rescue, correctional, or medical personnel
15	need outdoor lighting for temporary emergencies not to exceed thirty (30)
16	days in duration unless a waiver is granted by the Director of the Arkansas
17	State Highway and Transportation Department;
18	(3) The outdoor lighting fixture is necessary for worker safety
19	and is used on a temporary basis for nighttime work, including without
20	limitation work performed on:
21	(A) Projects or improvements relating to the construction,
22	reconstruction, improvement, or maintenance of a street, highway, building,
23	structure, or facility; and
24	(B) Farms, ranches, dairies, and feedlots and in
25	industrial, drilling, mining, or oil and gas facilities;
26	(4) The lighting is part of a navigational lighting system for
27	an airport or on a navigable waterway or provides other lighting necessary
28	for aircraft or watercraft safety;
29	(5)(A) In a situation in which there are special lighting
30	requirements, such as sports facilities, or historic decorative
31	considerations, monuments, or the lighting of the United States flag under
32	the Federal Flag Code, 4 U.S.C. §§ 4-10.
33	(B) However, lighting exempted under subdivision (a)(5)(A)
34	of this section shall be selected and installed to shield the lamp or lamps
35	from direct view to the greatest extent possible and to minimize upward
36	lighting and light trespass;

1	(6)(A) The lighting is for:
2	(i) A public or private state correction facility, a
3	detention facility, or a mental health facility; or
4	(ii) A municipality, public or charter school,
5	college or university installed before the effective date of this subchapter.
6	(B) For lighting exempted under subdivision (6)(A) of this
7	section, § 8-14-104 shall serve only as a guideline and shall not be binding;
8	(7)(A) It has been determined that a reasonable safety, security
9	or excessive cost, or structural modification interest exists regarding
10	becoming compliant with this chapter.
11	(B)(i) However, if a governing body determines that
12	resources are available, lighting exempted under subdivision (7)(A) of this
13	section shall be brought into compliance with § 8-14-104.
14	(ii) If a fixture exempted under subdivision (7)(A)
15	of this section is to be replaced, the fixture shall be brought into
16	compliance with § 8-14-104, unless the governing body determines that
17	excessive cost or safety concerns prevent compliance.
18	(iii)(a) If a governing body makes a determination
19	under subdivision (7)(B)(i) or (7)(B)(ii) of this section, the governing body
20	shall submit an annual report to the Arkansas Pollution Control and Ecology
21	Commission, outlining the current status of exempted fixtures and the efforts
22	or plans that have been made to bring the exempted fixtures into compliance.
23	(b) The commission shall determine the time
24	and manner for submission of the annual report required under subdivision
25	<u>(7)(B)(iii)(a) of this section.</u>
26	(c) If the commission determines that a
27	municipality, public or charter school, or college or university has brought
28	into compliance with § 8-14-104 all fixtures that can be brought into
29	compliance, the commission shall no longer require the municipality, public
30	or charter school, or college or university to submit the annual report.
31	(C)(i) The agency director, an elected official, or a body
32	responsible for the fixture may waive the provisions of subdivision (a)(7) of
33	this section if:
34	(a) A request for a waiver has been made and
35	reviewed; and
36	(b) The agency director, an elected official,

1	or a body responsible for the fixture that reviewed the waiver request
2	determines that a waiver is necessary for the lighting application.
3	(D)(i) From time to time, at the discretion and in the
4	manner determined by the commission, the Commission shall compile the reports
5	required under subdivision (7)(B) of this section into one (1) comprehensive
6	report.
7	(ii) The Commission shall:
8	(a) File the comprehensive report required
9	under subdivision (7)(D)(i) of this section with the cochairs of the
10	Legislative Council; and
11	(b) Make each comprehensive report required
12	under subdivision (7)(D)(i) of this section available to the general public
13	in a manner determined by the commission.
14	(E) The waiver under subdivision (a)(7)(C) of this section
15	may be appealed by a citizen of the state to the agency director, an elected
16	official, or a body responsible for the fixture that reviewed the waiver
17	request; and
18	(8)(A) The outdoor lighting fixture existed and was legally
19	installed before the effective date of this act.
20	(B) However, when an existing lighting fixture becomes
21	unrepairable, a replacement is subject to § 8-14-104.
22	(b) Upon petition to the Arkansas Pollution Control and Ecology
23	Commission, in the manner and method established by the commission, the
24	commission may waive any provision of this chapter on a case-by-case basis if
25	consideration has been given to reduce light pollution, save taxpayer
26	dollars, and to protect the nighttime environment.
27	
28	8-14-106. Enforcement.
29	This chapter may be enforced by a town, city, or county of this state
30	by seeking injunctive relief in a court of competent jurisdiction.
31	This chapter shall be enforced by:
32	(1) The governing body of a political subdivision of the state
33	within its jurisdiction;
34	(2) A local or state code enforcement agency within the
35	governing body's jurisdiction;
36	(3) The Arkansas State Highway and Transportation Department

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1	over highways, streets, and right-of-way lighting and all signage for and
2	along streets and highways; and
3	(4)(A) The Arkansas Department of Environmental Quality within
4	its jurisdiction.
5	(B) If appropriate, the Arkansas Department of
6	Environmental Quality may refer any cases to a local or state code
7	enforcement agency or to a local governing body.
8	(b) In making a determination of light trespass, the code enforcement
9	agency having jurisdiction in the area shall consider the following factors:
10	(1) The extent to which a fixture may further a lawful purpose;
11	(2) The severity of the effect under various circumstances, of
12	the fixture upon the property of other persons;
13	(3) The general character and use of properties; and
14	(4) Acceptable mitigation measures.
15	(c) The code enforcement agency having jurisdiction in the area shall
16	pursue a case of light trespass only if a complaint has been made by the
17	property owner or a designee of the property owner upon whose property the
18	light is trespassing.
19	(d) Upon a finding of light trespass, the code enforcement agency
20	having jurisdiction in the area, if possible and to the extent the code
21	enforcement agency having jurisdiction in the area deems practical, shall
22	work with both parties to voluntarily mitigate the issue.
23	
24	8-14-107. Provisions supplemental Violations.
25	The provisions of this chapter are cumulative and supplemental and
26	shall not apply within a town, city, or county of this state that by
27	ordinance has adopted provisions restricting light pollution that are equal
28	to or more stringent than the provisions of this chapter.
29	(a) A person or entity that violates this chapter is subject to:
30	(1) For a first offense, a warning;
31	(2) For a second offense or an offense that continues for thirty
32	(30) days after the date of the warning, a fine of twenty-five dollars
33	(\$25.00) minus the replacement cost for each offending fixture assessed; and
34	(3) For an offense continuing for more than sixty (60) days
35	after the date of the warning, a fine of twenty-five dollars (\$25.00) for
36	each offending fixture for each calendar month the violation continues.

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1	(b) Money raised by fines assessed under subsection (a) of this
2	section shall be deposited into the general fund of the agency assessing the
3	fine to offset the cost of enforcement.
4	
5	8-14-108. Chapter cumulative and supplemental.
6	This chapter is cumulative and supplemental and shall not apply within
7	a county or municipality that, by ordinance or resolution, has adopted
8	provisions restricting light pollution that are equal to or more stringent
9	than the provisions of this chapter.
10	
11	SECTION 3. DO NOT CODIFY. <u>Reports.</u>
12	Each electric utility shall submit a review of its outdoor lighting fee
13	schedule to the Arkansas Public Service Commission at least one (1) time
14	every three (3) years during the first ten-year period after this effective
15	<u>date of this act.</u>
16	
17	SECTION 4. EFFECTIVE DATE. This act becomes effective on October 1,
18	2015.
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20	/s/S. Meeks
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