White Paper

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The Facts Behind The Lighting Backstop

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While the future of efficiency standards for light bulbs is yet to be determined, ICF is making moves to predict and respond to these changes.

Executive Summary

There has been significant discussion about the future of light bulbs with regards to federal efficiency standards. This paper looks at the current status of the U.S. Department of Energy (DOE) rulemaking process for general service light bulbs—specifically, the status of the DOE Backstop Requirement establishing a 45 lumens per watt (lm/W) efficiency standard for general service light bulbs effective January 1, 2020. The impact of the Backstop Requirement: LED bulbs become the de-facto standard, significantly impacting energy savings opportunities from utility-sponsored residential lighting programs.

The industry is at a pivotal moment between regulations implemented earlier this decade and speculation about what will occur at the beginning of the next decade. Understandably, there is confusion that is exacerbated by conflicting opinions. While this is a complicated subject, there are many facts available that help explain where the rulemaking process is currently and potential timelines for its conclusion.

The Energy Independence & Security Act of 2007 (EISA) established the minimum efficiency standard for light bulbs in the market today.

EISA included the potential for a Backstop Requirement stating that if DOE failed to complete a rulemaking on light bulbs by January 1, 2017, a new efficiency standard of 45 lm/W would be effective January 1, 2020. DOE did not complete a rulemaking by the deadline, which has created two opposing positions:

1. **Backstop Triggered—**The Backstop was triggered and light bulbs will have a minimum efficiency of 45 lm/W beginning January 1, 2020, thus eliminating halogen bulbs from the market. Why? Because EISA contains a Backstop Requirement and the date passed.
2. **Backstop not Triggered—**The efficiency standard of bulbs on January 1, 2020 will continue to be the current standard in the market until otherwise changed by DOE. Why? Because DOE is proceeding with the rulemaking process for light bulbs. The outcome of that rulemaking process will be announced in the months ahead, determining any new efficiency standard for light bulbs with an accompanying effective date. Further, for the Backstop to become law, DOE must publish instructions to provide a transition plan, timeline, and any other requirements needed to implement the new standard. This has not yet occurred.

The future of efficiency standards for light bulbs is yet to be determined. DOE is proceeding with the rulemaking process for efficiency standards, but has not made a public statement that the Backstop has in fact been triggered. DOE is the governing body that will make the determination on light bulb standards, and until it makes an announcement that provides clear direction, the future remains unclear. Either of these outcomes is possible. However, there are guiding documents that exist and activities that have occurred that should be taken into consideration to have a comprehensive understanding of the Backstop and the potential outcomes.

Guideposts for Lighting Standards

The following three items, discussed in more detail below, are critical to understanding the process that DOE must undertake to establish efficiency standards for lighting.

- **EISA—**Public law signed December 19, 2007 by President Bush that aims to move the United States toward greater energy independence and security. EISA *Section 321. Efficient Light Bulbs*[1] provided the guiding document for lighting efficiency standards.
- **NEMA-DOE Lawsuit and Settlement Agreement—**The National Electrical Manufacturers Association (NEMA) filed a lawsuit against DOE in March 2017, seeking clarity around light bulb efficiency standards. A Settlement Agreement was signed between DOE and NEMA in July 2017. It provides a compromise by which DOE agreed to conduct three activities, including a review of the minimum efficiency standards for halogens and LEDs, individually.
- **Halogen Rulemaking—**In August 2017, DOE initiated the first of the three Settlement Agreement items, indicating that activity is proceeding with the halogen rulemaking process for DOE to make a determination on whether the efficiency standard for halogen bulbs will change.

[1] Energy Independence and Security Act, Section 321, 110th Cong. (2007).

ICF has been continually tracking the progress of the DOE rulemaking process for the past several years. The information presented in this paper has been collected through ongoing communication with lighting manufacturers and retailers as well as internal review of publicly available documents. The DOE rulemaking process is expected to continue into early 2019 and ICF will periodically provide updates to this document as new information becomes available.

This paper first explores the facts around the Backstop Requirement and DOE rulemaking activities, closely examining EISA and the Settlement Agreement. After providing the facts, ICF projections for the future of lighting are provided. In addition to ongoing activities related to the DOE rulemaking process is the issue of California preempting the assumed federal 45 lm/W standard beginning in 2018. We provide information on the California preemption in Appendix A.

EISA Defines Efficiency Standards and the Backstop

EISA established minimum efficiency standards (Table 1) for "General Service Lamps" (GSL). The standards became effective between 2012 and 2014, and are still in effect today. At the time, GSL was defined as incandescent, CFL, and LED medium screw base lamps, or bulbs. Exempt from the efficiency standards were 22 bulb types, including reflectors, 3-way, bug lights, and many decorative bulbs. The result of this first phase of EISA was that traditional incandescent bulbs were no longer compliant and replaced by halogen bulbs, which met the new minimum efficiency standards of being about 28% more efficient than traditional incandescent bulbs. These "EISA-compliant halogen bulbs" look and operate the same as traditional incandescent bulbs and were widely adopted by customers. The most recent 2017 market share data from NEMA, based on manufacturer shipments to retailers, shows that EISA-compliant halogen and incandescent bulbs account for nearly 60% of the lamps sold in the residential market.

TABLE 1 – MINIMUM EFFICIENCY STANDARDS ESTABLISHED BY EISA

Rated Lumen Range	Typical Lamp Wattage*	Maximum Rated Wattage**	Minimum Rated Lifetime	Effective Date
1490-2600	100	72	1,000 hours	1/1/2012
1050-1489	75	53	1,000 hours	1/1/2013
750-1049	60	43	1,000 hours	1/1/2014
310-749	40	29	1,000 hours	1/1/2014

*Typical Lamp Wattage refers to rated wattage of traditional incandescent bulbs.
**Maximum Rated Wattage is the new standard set by the first phase of EISA.

EISA further required DOE to conduct a rulemaking process to determine if the efficiency standard should be increased beyond those levels. EISA defined many rulemaking requirements and prescribed a timeline. The rulemaking was to be initiated by January 1, 2014. If DOE made a determination to amend the standards, a final rule was to be published no later than January 1, 2017. EISA required that any rule would have an effective date no sooner than three years after the publication date. DOE initiated the rulemaking process as prescribed, but it was not completed by January 1, 2017, and no publication has occurred to date.

Backstop Requirement

In general, backstop requirements were included in EISA to provide additional regulations that are to occur if specific circumstances exist. A backstop requirement is only executed if DOE formally implements a specific backstop by following the process of law, which requires publication of a final rule in the *Federal Register*. The Backstop Requirement from EISA that has high awareness is that related to the 45 lm/W standard. Specifically, in the event that DOE did not complete the prescribed rulemaking process by January 1, 2017, EISA included a Backstop Requirement that prohibits the sale of any GSL that does not meet a minimum efficiency standard of 45 lm/W, effective beginning January 1, 2020 (following the three-year requirement between the release of a rule and its effective date). This is the source of a key point of confusion: was the Backstop Requirement automatically triggered when DOE did not release a new efficiency standard by January 1, 2017?

While DOE may still decide to enact the Backstop Requirement, there are two factors that do not allow the Backstop Requirement in EISA to be automatically effective on January 1, 2020:

1. In order for the Backstop or any item to become law, DOE must first issue a final rule to codify the statutory backstop by publishing in the *Federal Register*. This action, which has not yet been taken, will provide a transition plan, timeline, etc. to allow stakeholders to clearly understand and implement the law.
2. DOE restarted lighting standard rulemaking activities after January 1, 2017, as a result of the NEMA lawsuit and Settlement Agreement. This provides a new source of information (as described in the following section) to reference for current DOE activity pertaining to light bulb standards.

One fact is clear: DOE is the governing body that will determine whether the Backstop will go into effect or whether other lighting efficiency standards will be published in the *Federal Register*.

DOE-NEMA Lawsuit and Settlement Agreement

While DOE did not release a public statement about a change in the efficiency standard or the Backstop in 2017, three significant activities occurred in 2017.

New GSL Rules—On January 19, 2017, DOE published two final GSL rules in the *Federal Register*, revising the definition of bulbs to expand the scope to include previously exempt bulb types, such as reflectors and candelabra base bulbs. The publication of the expanded scope was a motivating factor for the subsequent NEMA lawsuit. The effective date of these new rules is January 1, 2020. This is significant because it redefines what bulb types are subject to federal efficiency standards, which means the newly defined bulb types will be subject to efficiency standards. The efficiency standards in place on January 1, 2020 will apply to bulb types as redefined by those definitions. This is regardless of whether the current efficiency standards are maintained, new standards promulgated as a result of the Backstop Requirement, or other published efficiency standards become effective.

DOE has not made a public statement verifying whether or not the Backstop Requirement has been triggered. However, it is important to note that DOE did include language in both new GSL rules published in the *Federal Register* on January 19, 2017 explicitly stating that the publication of those new GSL rules only constitute a decision on what lamps are included in the definition. Both new GSL rules state that "This final rule does not determine whether DOE should impose or amend standards for any category of lamps, such as GSILs (General Service Incandescent Lamp) or GSLs."[2]

There have been statements made in public forums claiming that DOE has confirmed that the Backstop has been triggered. However, this statement in the GSL rules is a public-facing comment DOE has made directly referencing efficiency standards of bulbs.

NEMA-DOE Lawsuit—On March 16, 2017, NEMA filed a lawsuit against DOE in the U.S. Court of Appeals for the Fourth Circuit. This was a call to action for DOE to address the confusion around the Backstop Requirement and create clarity for light bulb standards, as well as GSL definitions.

Settlement Agreement—A Settlement Agreement was signed between DOE and NEMA on July 7, 2017 to dismiss the lawsuit. This agreement provides insight into activities around light bulb efficiency standards. As a result, DOE agreed to take action on three items, as detailed below; an estimated timeline was also included.

[2] Office of Energy Efficiency and Renewable Energy, Department of Energy, "Energy Conservation Program: Energy Conservation Standards for General Service Lamps; Rule," 82 Federal Register 7276 (19 January 2017), pp. 7277.

EXHIBIT A - EXCERPT FROM THE *FEDERAL REGISTER* OF THE NODA

This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

DEPARTMENT OF ENERGY

Energy Efficiency and Renewable Energy Office

10 CFR Part 430

[EERE–2017–BT–NOA–0052]

Energy Conservation Program: General Service Incandescent Lamps and Other Incandescent Lamps Request for Data

AGENCY: Office of Energy Efficiency and Renewable Energy, Department of Energy.

ACTION: Notification of data availability (NODA); request for information (RFI).

SUMMARY: The U.S. Department of Energy (DOE) seeks annual domestic sales and shipment data for general service incandescent lamps (GSILs) and other incandescent lamps. DOE intends to use this sales data from stakeholders to inform its decision on whether to amend standards for GSILs.

Item 1: Incandescent Lamp Standards and GSL Definition

DOE agreed to issue a Notice of Data Availability (NODA) for halogen lamps to assist in determining whether standards for the technology should be amended. This step continues the rulemaking process DOE had begun for halogen lamps prior to January 1, 2014, and as directed by EISA. DOE issued the NODA on August 15, 2017, announcing it would collect data from stakeholders through October 16, 2017. Exhibit A[3] is an excerpt from the *Federal Register* issuing the NODA. Note the text indicating that this is part of a rulemaking activity and will be used to inform the decision on whether to amend standards for incandescent lamps.

There are three governing factors that must be satisfied in order for DOE to change an efficiency standard for any technology. All three of these conditions must be met. Standards must be:

1. Economically justified (i.e., minimal impact to retail price);
2. Technologically feasible (i.e., can the product be made?); and
3. Save a significant amount of energy.

It will take DOE time to analyze the data and conclude the rulemaking process, but lighting manufacturers have consistently stated that the halogen lamp technology cannot be modified to a higher efficiency level while meeting all three of these conditions.

The NODA will definitively result in DOE reviewing efficiency standards for halogen bulbs. The Settlement Agreement stated that the NODA may also result in DOE reassessing the GSL definition. The new GSL rules released in January 2017 expanded the definition to include reflectors and many decorative lamps. If the GSL rules are reassessed, it is possible that these bulb types may once again be exempt from federal efficiency standards.

Item 2: Vibration Service and Rough Service Lamps

Bulb types that were exempt from EISA were required to be monitored to ensure that sales did not exceed forecasts by 100% or more, which would indicate the bulb was being used as a "loophole" item, meaning that customers were purchasing a particular specialty bulb to avoid the impact from efficiency standards placed on incandescent bulbs. Through sales data provided by industry, two bulb types were found to have excessive sales: vibration service and rough service.

While most people in the efficiency industry are familiar with the "EISA Backstop," many do not realize that EISA included multiple backstops, including Backstop Requirements specific to exempt bulb types that exceeded sales thresholds. If those exempt bulb sales exceeded the allowed rates, DOE was required to issue standards for the affected bulb types. If DOE failed to issue standards, the related backstop was to go into effect. Stakeholders, which included efficiency advocates and lighting manufacturers, agreed that vibration service and rough service bulbs met the conditions for standards to be put into place. When DOE failed to put a standard in place, stakeholders agreed that the related Backstop Requirements should have been implemented.

[3] Chalk, Steve n. United States Government. Energy Efficiency and Renewable Energy. 2017-08-15 Energy Conservation Program: General Service Incandescent Lamps and Other Incandescent Lamps Request for Data; Notification of data availability

EXHIBIT B – EXCERPT FROM THE *FEDERAL REGISTER* OF THE VIBRATION SERVICE AND ROUGH SERVICE LAMP FINAL RULE

This section of the FEDERAL REGISTER contains regulatory documents having general applicability and legal effect, most of which are keyed to and codified in the Code of Federal Regulations, which is published under 50 titles pursuant to 44 U.S.C. 1510.

The Code of Federal Regulations is sold by the Superintendent of Documents.

DEPARTMENT OF ENERGY

10 CFR Part 430

[EERE–2017–BT–STD–0057]

Energy Conservation Program: Energy Conservation Standards for Rough Service Lamps and Vibration Service Lamps

AGENCY: Office of Energy Efficiency and Renewable Energy, Department of Energy.

ACTION: Final rule.

SUMMARY: The U.S. Department of Energy (DOE) is publishing this final rule in order to codify in the Code of Federal Regulations certain backstop requirements for rough service lamps and vibration service lamps that Congress prescribed in the Energy Policy and Conservation Act. These backstop requirements apply as a result of the subject lamps exceeding sales thresholds specified in the statute. In particular, this rule applies a statutorily-established 40-watt maximum energy use and packaging limitation to rough service lamps and vibration service lamps.

However, the Backstop Requirements were not enacted when the date passed. As part of the Settlement Agreement, DOE agreed to issue a final rule enacting those statutory backstops, prohibiting those lamps from exceeding 40W and limiting sales to single-packs only (no multi-packs).

DOE published the Final Rule for standards on vibration service and rough service lamps in the *Federal Register* on December 26, 2017, and it became effective January 25, 2018. Exhibit B[4] is an excerpt from the *Federal Register* containing this final rule. This activity has no material impact on residential utility programs, but it demonstrates the necessary activity DOE must take for a Backstop Requirement to move from EISA legislation to implementation. Even though there was agreement on the need to implement these specific Backstop Requirements, they were not law and therefore not legally enforceable until DOE published the Final Rule in the *Federal Register*.

Item 3: LED Efficiency Standards (and CFL Standards…Maybe)

DOE will evaluate minimum efficiency standards for LED bulbs, whereby DOE will issue a supplemental notice of proposed rulemaking (SNOPR) regarding amendment or adoption of standards for LED bulbs. During this activity, the Settlement Agreement states that DOE may also consider and review standards for CFLs. Adopting a higher efficiency standard for LEDs will help ensure that LEDs in the marketplace will perform at a higher level of efficiency. This also demonstrates that DOE's rulemaking activity is reviewing efficiency standards by bulb type (halogen due to the NODA, LED and possibly CFLs due to the SNOPR), and not as an overall "light bulb" category. This activity is estimated to begin in May 2018, and we will continue to closely monitor this activity.

Future: Final Rule(s) on Efficiency Standards for Light Bulbs

In the sections above we have provided a factual explanation. The Settlement Agreement between DOE and NEMA provides evidence that the 45 lm/W Backstop has not been enacted. While DOE has not made a public statement about whether or not the Backstop itself has been "triggered," it is taking action toward addressing the items in the Settlement Agreement. Two of the three Settlement Agreement items identify activities DOE will take to review efficiency standards by technology (halogen, LED, and possibly CFL). The halogen activity was initiated in August 2017, and this may also include a review of the GSL definition. The vibration service and rough service backstop activity was executed December 2017 by DOE publishing the Final Rule in the *Federal Register.* The LED (and possibly CFL) rulemaking activity is estimated to begin May 2018. In the following section, we present ICF's projections on the matter.

[4] Simmons, Daniel R. United States Government. Energy Efficiency and Renewable Energy. 2017-12-26 Energy Conservation Program: Energy Conservation Standards for Rough Service Lamps and Vibration Service Lamps; Final Rule. Washington, D.C: 2018.

ICF Projections

Given the level of analyses involved in a federal government rulemaking process, we expect it will take about a year to complete the items identified in the Settlement Agreement. Once analyses are complete, DOE will publish final rules in the *Federal Register* on the efficiency standards of halogen and LED bulbs (and possibly CFLs), pending findings from the rulemaking process. DOE may also revise the GSL definition through the halogen NODA activity. It is very unlikely that DOE would not follow through with the Settlement Agreement as this could spur additional legal challenges. Table 2 provides an estimated timeline and ICF's opinion on a likely outcome.

TABLE 2 – ICF'S PROJECTIONS BASED ON THE SETTLEMENT AGREEMENT

Item	**DOE Activity** Facts, per the Settlement Agreement	**Projected Result** ICF Opinion	Timing	Effective Date of Final Rule
1	Issue NODA for halogen bulbs	Given the 3 conditions, the efficiency standard for halogens will likely not change.	Start: 8/15/17 (firm) End: 1st half of 2019* (estimate)	1st half 2022*** (estimate)
	May review the definition of a General Service Lamp	If reviewed, previously exempt items added with the January 2017 revision may once again be exempt (reflector, decorative).		
2	Execute Backstop for Vibration Service & Rough Service Bulbs	Restrict sales to 40W maximum, single-pack only. This is firm and not ICF opinion, as it has been published in the *Federal Register*.	12/26/17 (firm/ complete)	1/25/18 (firm/ complete)
3	Issue SNOPR for LED bulbs, and maybe CFLs	Expect new minimum efficiency standards for LEDs. Possibly establish new efficiency standards for CFLs.	Start: May 2018** End: 1st half of 2019* (estimates)	1st half 2022*** (estimate)

Assumptions for Timing and Effective Dates:

Note: Dates that are firm have been published and confirmed by DOE in the *Federal Register*.

* Based on an understanding of the rulemaking process and the amount of data to be collected and analyzed.

** Based on language in the Settlement Agreement.

*** Based on the EISA requirement that a final rule cannot be enacted sooner than three years after the date the rule is released.

ENERGY STAR® included comments on future efficiency standards for bulbs in a published document about lighting programs, titled "Remaining Opportunities for Residential Energy Efficiency Programs: Lighting."[5] In a table comparing savings estimates to the EISA baseline, it states that the 2020 baseline is "TBD (45 lm w/ backstop + lumen-based efficacy targets for LED & CFL)".

An additional statement included in this document: "DOE is in the process of reviewing general service lamp standards after a request for data. Data could result in a reassessment of assumptions and determinations made in the general service lamp (GSL) definition rule…EISA specifies the effective date of any revision would not take effect until three years after finalization."

[5] ENERGY STAR, "Remaining Opportunities for Residential Energy Efficiency Programs: Lighting."

Efficiency Standards in the Lighting Market Beyond January 1, 2020

There have been many opinions and public announcements offered as statements of fact about the certainty of the Backstop Requirement going into effect January 1, 2020. However, given the status of the DOE rulemaking process and its timeline for completion early 2019, any statement about the status of the Backstop Requirement should only be considered as an opinion.

It is very possible, and ICF believes it is likely, that there will be a market for halogen bulbs beyond January 1, 2020. This assessment is based on several known facts, including:

- **Lack of Clarity from DOE—**DOE has not made a definitive public statement about plans for efficiency standards or implementation of the Backstop Requirement. Therefore, we must rely on the rulemaking process, which will continue over the next several months, and await formal communication from DOE.
- **Settlement Agreement Signed—**DOE and NEMA signed the Settlement Agreement as resolution to the lawsuit NEMA filed against DOE, through which DOE agreed to request data to assist in determining whether the efficiency standards for halogen incandescent bulbs should be amended. It is very unlikely that DOE would not follow through with the Settlement Agreement as this could spur additional legal challenges.
- **NODA Underway—**DOE publicly demonstrated that it is continuing with the rulemaking process for halogen incandescent bulbs by issuing the NODA on August 15, 2017. This is related to the first item in the Settlement Agreement.
- **Vibration Service and Rough Service Backstop Requirements Enacted—**DOE further demonstrated it is continuing with activities prescribed in the Settlement Agreement on December 26, 2017 when it issued a Final Rule to enact standards for vibration service and rough service lamps. This is related to the second item in the Settlement Agreement.
- **Three Governing Principles—**In order for DOE to change the efficiency standard for any product, three governing principles must be met; the change must be: **1)** economically justified, **2)** technologically feasible, and **3)** save a significant amount of energy. Halogen incandescent bulbs cannot meet all of these conditions.
- **Additional Step Required—**The Backstop Requirement cannot be enacted without DOE taking an additional step through a publication in the *Federal Register* to prescribe how and when a standard will be implemented. Details are required to explain how a standard will be executed so stakeholders can follow and understand how to legally comply with the requirements. This is demonstrated by the Backstop Requirements for vibration service and rough service bulbs. It was clear those bulb types met the conditions for their specific Backstop Requirements and all stakeholders were in agreement. However, those Backstop Requirements were not implemented until the Settlement Agreement was signed and DOE subsequently published the Final Rule in the *Federal Register* in December 2017.

From a federal standard perspective, there are a variety of scenarios that would determine the types of bulbs sold. Table 3 outlines three possible scenarios. The GSL definition to be used is another variable for each of these scenarios. The new GSL rules remove reflectors and many decorative bulbs from exemption. However, if DOE reevaluates the GSL definition as a result of the halogen rulemaking process, it may remove those bulb types from the definition. Each scenario may apply to the Aline bulbs currently affected or extend to apply to reflectors and many decorative bulbs as well.

TABLE 3 - POSSIBLE SCENARIOS FOR EFFICIENCY STANDARDS FOR BULBS

Scenarios	Legislated Standards	Timing
A	Backstop Requirement enacted, requiring 45 lm/W.	Announce: Unknown Effective: 1/1/20
B	DOE issues new standard as a result of the active rulemaking process; a new standard would likely eliminate halogens since they are not capable of becoming more efficient.	Release: 1st half 2019 Effective: 1st half 2022
C	DOE determines halogen standards will not change; current standards remain in effect.	Announce: 1st half 2019 Effective: N/A, No change

Halogens Available Beyond 2020 and Impact on Lighting Programs

Market share of energy efficient and non-efficient bulbs is an important consideration when planning for utility lighting programs. If halogens remain an option for consumers, market share will be the primary influencing factor for program design. Based on recent manufacturer shipment data, following are key findings about market share and trends for light bulbs:

- National market share for LEDs continues to experience a slow but steady growth rate,
- At the same time, national market share for CFLs continues to experience a decline,
- LED market share is strongest within the Aline bulb type at 36% (traditional 40W, 60W, 75W, and 100W bulbs),
- LED market share across all bulb types is even less than 36%,
- A primary driver for LED growth over the past 3 years is attributable to the decline of CFL market share, and
- The balance between efficient (LED and CFL) and inefficient (halogen and incandescent) bulbs has been relatively stable since 2015, with minimal overall growth of efficient bulbs and minimal overall decline of inefficient bulbs.

Without a change in efficiency standards, LEDs are expected to maintain this steady growth rate, with the continued support of utility programs. Sales data from retailers and manufacturers shows that stores with utility programs sell a much higher share of ENERGY STAR® certified LEDs than stores without utility programs. Utility programs play a critical role in LED market transformation and without those programs, LED growth will undoubtedly slow.

There is still tremendous opportunity for savings generated from residential lighting programs. Looking into the coming years, ICF believes it is likely that market share for inefficient bulbs will still be above 50% by 2020, and above 30% by 2025. As LEDs capture more market share, programs should consider shifting more toward specialty LEDs, which have had low market adoption. Traditional Aline LEDs can continue to be sold to first-time LED customers through retail outlets like independent hardware and dollar stores, which sell to customers in the hard-to-reach and lower income demographics.

About ICF

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Appendix A - California Efficiency Standards

The EISA Backstop Requirement includes a State Preemption clause for the states of California and Nevada, allowing the states to implement a federal standard (if established) or the Backstop Requirement on or after January 1, 2018. In the absence of DOE taking either action on federal efficiency standards, a unique situation for the state of California has been created. (Nevada has not indicated it will proceed with preemption.)

California Efficiency Standard

The California Energy Commission proceeded with adopting new efficiency standards through Title 20, which includes a provision impacting bulbs sold for residential customers effective January 1, 2018. The new standards address general service lamps (incandescent or halogen), general purpose LEDs, and small-diameter directional lamps that are most often used in commercial applications. Table 4 provides an overview of these standards.

TABLE 4 – CALIFORNIA TITLE 20 EFFICIENCY REQUIREMENTS FOR BULBS

Standard	Bulbs Impacted	Effective Date	Efficacy	Minimum Rated Life
General Service Lamp	Medium screw base omnidirectional general service incandescent, LED and CFL lamps .	1/1/18	45 lm/W	1,000 hours
General Service LED, Tier 1	Nearly all screw-base LEDs used in a residential application; CRI and other performance metrics are also included.	1/1/18	68 lm/W	10,000 hours
General Service LED, Tier 1	Nearly all screw-base LEDs used in a residential application; CRI and other performance metrics are also included.	7/1/19	80 lm/W	10,000 hours
Small-Diameter Directional Lamp	All light source technologies for small-diameter directional lamps; excludes LEDs covered by the state-regulated LED standard.	1/1/18	80 lm/W - OR - 70 lm/W and a compliance score (Efficacy + CRI) of at least 165	25,000 hours

Title 20 also contains some requirements for LEDs that go beyond efficiency and address the performance of the bulb, such as requirements for the Color Rendering Index (CRI) metric. Consumers can expect to pay a higher price at retail for LEDs that meet Title 20 requirements due to these additional requirements.

The effective date of January 1, 2018 is based on the date the product is manufactured. Products that do not meet the new standard can still be sold in California, as long as it was manufactured prior to January 1, 2018. Any product manufactured after January 1, 2018 must meet the new standard.

In ICF's discussions with retailer and manufacturers, it appears that the general transition plan will occur in the form of resets of store shelves, whereby retailers develop a schedule for stores to remove ineligible bulbs and replace them with bulbs that meet the new standard. While some eligible products are available on retail shelves now, most retailers will undergo this type of a more formal reset, likely being completed across the California market in the second quarter of 2018.

All bulbs eligible to be sold in the state of California that are manufactured after January 1, 2018 must be listed in the Modernized Appliance Efficiency Database System (MAEDBS). Manufacturers must go through a listing process, and the database allows the general public to see an up-to-date list of certified bulbs.

California Standards and NEMA

In 2017, NEMA filed a lawsuit against the state of California over Title 20, raising concern with the fact that DOE had not made a statement to confirm whether or not the Backstop Requirement was in effect. If DOE does not implement the Backstop Requirement on January 1, 2020 and implements a different efficiency standard, there may be confusion with how to proceed in the California market when it implemented its own efficiency standards in 2018. EISA's State Preemption clause gives California the authority to implement a federal efficiency standard (Backstop or otherwise) beginning January 1, 2018. However, the Title 20 standard was implemented prior to clarity being provided on the federal standard expected in 2020.

A federal judge in the state of California ruled in January 2018 that California could proceed with Title 20 efficiency standards for bulbs. According to the California Energy Commission, "California opted to permit the standard to take effect two years ahead of the nation, ensuring consumers start saving energy and money earlier."[6] This statement has the underlying assumption that the Backstop is in effect. However, there is not clarity over whether the Backstop will be implemented or DOE will issue a different efficiency standard. DOE has not announced that the Backstop has been implemented, providing the catalyst for the confusion, and the Settlement Agreement between DOE and NEMA was the catalyst for the lawsuit against the state of California.

The California market is expected to see the implementation of its new standard during the first half of 2018, but until there is clarification on the federal efficiency standard, it is unknown what the future will hold for the state. If DOE enacts the federal Backstop Requirement, it would create some alignment with California's Title 20 efficiency standard. However, if DOE issues a different federal standard for incandescent halogen incandescent bulbs or clarifies that it is not instituting the Backstop Requirement, the federal standard should preempt California's Title 20 standard, resulting in more changes in the state.

[6] Amber P Beck, State of California, California Energy Commission, The New Year Brings Better Quality Lighting Choices to California, (Sacramento, CA, 2017).

