

er written comments on the resulting regulation that are received prior to adoption.

AVAILABILITY OF FINAL STATEMENT OF REASONS

If the Board adopts the proposed amendments to Regulation 1703, the Board will prepare a final statement of reasons, which will be made available for inspection at 450 N Street, Sacramento, California, and available on the Board’s Website at [www.boe.ca.gov](http://www.boe.ca.gov).

**TITLE 20. CALIFORNIA ENERGY COMMISSION**

Computers, Computer Monitors, and Signage Displays Appliance Efficiency Rulemaking

California Energy Commission  
Docket No. 16-AAER-02  
September 9, 2016

The California Energy Commission (Commission) proposes to modify existing appliance efficiency regulations to add requirements for computers and computer monitors, clarify that signage displays are subject to the previously adopted television standards, and add an exemption to the battery charger systems standards clarifying that battery charger systems that are contained completely within a larger product and that provide power for data storage or for continuity for volatile cache or memory systems, help maintain system memory, and are not capable of powering full operation when AC mains power is removed are not required to comply with the regulations.

NOTICE THAT A PUBLIC HEARING IS SCHEDULED

The date set for the adoption of regulations at a public hearing is as follows:

Commission Business Meeting  
**November 9, 2016**  
10:00 a.m. (Pacific Time)  
California Energy Commission  
1516 9th Street  
Sacramento, CA 95814  
Rosenfeld Hearing Room  
(Wheelchair accessible)

Audio for the adoption hearing will be broadcast over the internet. Details regarding the Commission’s webcast can be found at [www.energy.ca.gov/webcast](http://www.energy.ca.gov/webcast).

If you have a disability and require assistance to participate in these hearings, please contact Poneh Jones at (916) 654-4425 at least 5 days in advance.

ORAL AND WRITTEN STATEMENTS

Interested persons may present oral and written statements, arguments, or contentions regarding the proposed regulations at the hearing, or may submit written comments to the Commission for consideration on or prior to October 24, 2016. The Commission appreciates receiving written comments at the earliest possible date.

Additionally, the Commission will also hold a Lead Commissioner Meeting on October 10, 2016, at 10:00 a.m. in the Rosenfeld Hearing Room to receive oral comments on the rulemaking.

Please submit comments to the Commission using the Commission’s e-commenting feature by going to the Commission’s 2016 Appliance Efficiency Rulemaking webpage <http://www.energy.ca.gov/appliances/2016-AAER-02/rulemaking/> and click on the “Submit e-comment” link. A full name, e-mail address, comment title, and either a comment or an attached document (.doc, .docx, or .pdf format) is mandatory. After a challenge-response test used by the system to ensure that responses are generated by a human user and not a computer, click on the “Agree & Submit Your Comment” button to submit the comment to the Commission’s Docket Unit.

Please note that written comments, attachments, and associated contact information included within the written comments and attachments, (e.g., your address, phone, email, etc.) become part of the viewable public record.

You are encouraged to use the electronic filing system, described above, to submit comments. If you are unable to submit electronically, a paper copy of your comments may be sent to:

Docket Unit  
California Energy Commission  
Docket No. 16-AAER-02  
1516 9th Street, MS-4  
Sacramento, CA 95814  
Telephone: 916-654-5076  
Or e-mail them to: [Docket@energy.ca.gov](mailto:Docket@energy.ca.gov).

PUBLIC ADVISER

The Commission’s Public Adviser’s Office is available to assist any person who wishes to participate in this proceeding. For assistance from the Public Adviser’s Office, please call (916) 654-4489 or toll-free in California at (800) 822-6228 or contact [publicadviser@energy.ca.gov](mailto:publicadviser@energy.ca.gov).

STATUTORY AUTHORITY AND REFERENCE —  
Government Code Section 11346.5(a)(2) and  
1 California Code of Regulations 14

Authority: Sections 25213 and 25218(e), and 25402(c), Public Resources Code.

Reference: Sections 25216(d) and 25402(c), Public Resources Code.

INFORMATIVE DIGEST/POLICY STATEMENT  
OVERVIEW — Government Code Section  
11346.5(a)(3)

Existing law requires the Commission to reduce the inefficient consumption of energy and water by prescribing efficiency standards and other cost-effective measures for appliances that require a significant amount of energy and water to operate on a statewide basis. Such standards must be technologically feasible and attainable and must not result in any added total cost to the consumer over the designed life of the appliance.

Existing law also requires the Commission, in determining cost-effectiveness, to consider the value of the water or energy saved, the effect on product efficacy for the consumer, and the life-cycle cost to the consumer of complying with the standard. The Commission also must consider other relevant factors including, but not limited to, the effect on housing costs, the total statewide costs and benefits of the standard over the lifetime of the standard, the economic effect on California businesses, and alternative approaches and the associated costs.

The Appliance Efficiency Regulations (Title 20, Sections 1601–1609 of the California Code of Regulations) contain definitions, test procedures, labeling requirements, and efficiency standards for state- and federally-regulated appliances. Appliance manufacturers are required to certify to the Commission that their products meet all applicable state and federal regulations pertaining to efficiency before their products can be included in the Commission’s database of approved appliances to be sold or offered for sale within California. Appliance energy efficiency is identified as a key to achieving the greenhouse gas (GHG) emission reduction goals of Assembly Bill 32 (Nuñez, Chapter 488, Statutes of 2006) (AB 32), as well as the recommendations contained in the California Air Resources Board’s Climate Change Scoping Plan.

Energy efficiency regulations are also identified as key components in reducing electrical energy consumption in the Commission’s 2013 Integrated Energy Policy Report (IEPR) and the California Public Utilities Commission’s (CPUC) 2011 update to its Energy Efficiency Strategic Plan. Finally, Governor Brown identified reduced energy consumption through efficiency

standards as a key strategy for achieving his 2030 GHG reduction goals.

The proposed regulations would expand the scope of the appliance efficiency regulations to include computers and computer monitors. The proposed regulations would also establish appliance efficiency standards for computers and for computer monitors and define what types of appliances fall under the standards and what types do not. The proposed regulations would also establish test methods for computers and computer monitors for the purpose of having a consistent and systematic approach for determining that computers and computer monitors being sold in California meet the applicable standard. The proposed regulations would also exempt small volume manufacturers that meet certain criteria and are listed in the Commission’s Appliance Efficiency Database from compliance with most of the regulatory requirements, but would require them to ensure applicable products comply with power management setting requirements. Lastly, the proposed regulations would require manufacturers to list computers and computer monitors sold in California in the Commission’s Appliance Efficiency Database.

Existing regulations establish appliance efficiency standards for televisions. These regulations would clarify that the television standards apply to signage displays. The proposed regulations would also define “professional signage display” to differentiate it from signage display and clarify that those appliances are not subject to the television standards.

Existing regulations establish appliance efficiency standards for battery charger systems. These regulations would exempt certain battery charger systems that are contained completely within a larger product and that provide power for data storage or for continuity for volatile cache or memory systems, help maintain system memory, and are not capable of powering full operation when AC mains power is removed. There is no test procedure for these products, and thus, no ability to demonstrate compliance with the battery charger systems standards. These products were not intended to be included in the original battery charger systems rule-making.

There are currently no existing comparable federal regulations or statutes for computers, computer monitors, or signage displays. There are comparable federal regulations and statutes applicable to battery charger systems that will take effect June 13, 2018. These standards will preempt California’s standards at that time, so there would be no overlap in applicability between the Commission’s battery charger systems regulations and those of the United States Department of Energy (DOE). DOE has authority to adopt these requirements under the Energy Policy and Conservation Act (EPCA) 42 USC 6295 et seq. There is not a substantial differ-

ence from these proposed regulations and DOE's battery charger systems regulations.

The proposed regulations are not inconsistent or incompatible with existing state regulations. No other state regulations deal with appliance efficiency standards. No standards for computers or computer monitors previously existed. Specifically adding the term "signage displays" to the television regulations clarifies that the scope of that original rulemaking was intended to include signage displays. Adding a certain type of battery charger system to the exemption list for those standards clarifies that those types of systems were not intended to come under the scope of that rulemaking. These changes harmonize the regulations with the original intent of the previous rulemakings.

The broad objectives of this rulemaking are to increase energy efficiency savings in the state by establishing energy efficiency standards for computers and computer monitors, appliances that are prevalent in the state and for which cost-effective standards can be established.

In California, computers and computer monitors use an estimated 5,610 gigawatt hours of electricity and account for 1.7–2.9 percent of electricity consumption in the residential sector and 7 percent of electricity consumption in the commercial sector, concentrated in offices and educational facilities. More than 25.2 million computer monitors are installed in residential and commercial settings in California. Statewide, computer monitors consume about 1527 gigawatt hours (GWh) of electricity per year. Computer monitors contribute to a peak demand of almost 206 megawatts (MW).

Available technologies and design methods can improve the energy consumption of computers cost-effectively without a decrease in the product's functionality and performance, and some energy savings might be obtained through low-cost software improvements that use existing hardware more efficiently. Energy consumption of computer monitors is directly related to the brightness of the screen. As the brightness of the display increases, it consumes more energy. User-controlled and automatic dimming techniques have the potential to decrease energy consumption by decreasing screen brightness. Automatic brightness control scales screen brightness to ambient lighting conditions, dimming the screen in low light conditions. Similar to automatic brightness control, global dimming controls light output based on image content; the backlight is turned down for dark scenes and turned up for bright or white images. Even without automatic control, screen brightness can be manually controlled on most computer monitors using buttons on the display or a software menu. The proposed regulations take advantage of these opportunities for ensuring energy efficiency gains in computer monitors.

The specific benefits anticipated by the proposed regulations include achieving energy efficiency gains with regard to computers and computer monitors. Overall, these regulations help protect public health and safety and the environment by saving approximately 1,636 gigawatt-hours per year from the computer standards, calculated using the Energy Star dataset as a baseline, resulting in greenhouse gas emission reductions of 0.513 million metric tons of carbon dioxide equivalent per year and saving consumers about \$262 million, using the Energy Star dataset as a baseline, in electricity bills after the stock turnover. Regulating computer monitors will save about 696 gigawatt hours per year statewide, will result in greenhouse gas emission reductions of 0.218 million metric tons of carbon dioxide, and will save about \$111 million after existing stock is replaced. These regulations combined will benefit businesses and consumers by reducing electricity bills by \$373 million per year.

The specific benefits from adding the term signage displays to the television standards is clarity in the scope of the regulations. The specific benefit from exempting a certain type of battery charger system from the standards is clarity to the regulations that those types of systems were not intended to fall within the scope of the regulations and are not required to comply.

#### DOCUMENTS INCORPORATED BY REFERENCE — 1 California Code of Regulations Section 20(c)(3)

The Commission proposes to incorporate the 15 documents listed below by reference. Pursuant to California Code of Regulations, title 1, section 20, all of these documents are available for review at the Commission, and are also available directly from the publishing entities. All available contact information, including internet addresses, physical addresses, and phone numbers for these entities has been provided where possible. Five of the listed documents are available for download from the Commission's website for this proceeding. The other ten documents, however, are copyrighted and copies cannot be provided directly by the Commission without violating the documents' terms of use. The documents titled *Advanced Configuration and Power Interface Specification Version 5.0 (Dec. 2011)* and *Errata A (Nov. 2013)* are available for free from the Unified Extensible Firmware Interface Forum's website, listed below. Documents from the Institute of Electrical and Electronics Engineers (IEEE) and the International Electrotechnical Commission (IEC) are available electronically from these entities for a charge ranging from approximately \$130 to \$815 per document.

In this rulemaking, the affected public consists of manufacturers of computers and computer monitors

and test laboratories that are hired by these entities to conduct the required testing. Manufacturers of computers would only need to purchase those documents that apply to computers and manufacturers of computer monitors would similarly only have to purchase the documents related to computer monitors. Additionally, many of these companies likely already have the required documents, and if not, these documents would only need to be purchased once no matter how many models the manufacturers would be testing and certifying to the Commission's database. Therefore, the Commission has determined that the cost to obtain these documents is nominal for the entities that are subject to these regulations. Because all of the documents will be available for viewing at the Commission, copies of seven of the documents may be obtained for free, and the fee for obtaining copies of the remainder is a nominal one-time expense that can be easily absorbed by the entities being regulated, the Commission concludes that these documents are reasonably available to the affected public in conformance with California Code of Regulations, title 1, section 20(c).

**ADOBE SYSTEMS INCORPORATED**

*Adobe RGB (1998) Color Image Encoding Version 2005-05 (May 2005).*

Copies available from:  
Adobe Systems Incorporated  
Corporate Headquarters  
345 Park Avenue  
San Jose, CA 95110-2704  
(408) 536-6000  
<http://www.adobe.com>

**ECOVA**

*Generalized Test Protocol for Calculating the Energy Efficiency of Internal Ac-Dc and Dc-Dc Power Supplies Revision 6.7 (March 1, 2014)*

Copies available from:  
Plug Load Solutions by Ecova  
[www.plugloadsolutions.com](http://www.plugloadsolutions.com)  
Phone: (971) 201-4180

**INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)**

*IEEE 802.3az-2010. IEEE Standard for Information technology— Local and metropolitan area networks — Specific requirements — Part 3: CSMA/CD Access Method and Physical Layer Specifications Amendment 5: Media Access Control Parameters, Physical Layers, and Management Parameters for Energy-Efficient Ethernet*

*IEEE 802.3-2015. IEEE Standard for Ethernet*

*IEEE 802.11-2012. IEEE Standard for Wireless LANs*

Copies available from:  
IEEE (TechStreet)  
Publications Office  
10662 Los Vaqueros Circle  
P.O. Box 3014  
Los Alamitos, CA 90720-1264  
<http://www.techstreet.com/ieee>  
<http://standards.ieee.org>

**INTERNATIONAL ELECTROTECHNICAL COMMISSION (IEC)**

*IEC 60297-3-101:2004. Mechanical structures for electronic equipment — Dimensions of mechanical structures of the 482.6 mm (19 in) series — Part 3-101: Subracks and associated plug-in units*

*IEC 61966 2-1:1999. Multimedia systems and equipment — Colour measurement and management. Part 2-1: Colour management — Default RGB colour space — sRGB*

*IEC 62087: 2011. Methods of measurement for the power consumption of audio, video and related equipment*

*IEC 62301:2011. Household electrical appliances — Measurement of standby power*

*IEC 62623:2012. Desktop and notebook computers — Measurement of energy consumption*

Copies available from:  
International Electrotechnical Commission  
3, Rue de Varembe  
P.O. Box 131 CH — 1211 Geneva 20  
Switzerland  
<http://www.iec.ch>

Phone: +41 22 919 02 11

Fax: +41 22 919 03 00

**UNIFIED EXTENSIBLE FIRMWARE INTERFACE FORUM**

*Advanced Configuration and Power Interface Specification Revision 5.0 (December 6, 2011)*

*Advanced Configuration and Power Interface Specification Revision 5.0 Errata A (November 13, 2013).*

Copies available from:  
UEFI Forum Administration  
3855 SW 153rd Drive  
Beaverton, OR 97003 USA  
<http://www.uefi.org>  
Phone: +1 503-619-0864  
Fax: +1 503-644-6708

**UNITED STATES DEPARTMENT OF ENERGY**

*International Efficiency Marking Protocol for External Power Supplies Version 3.0 (September 2013).*

Copies available from:  
 US DOE  
 1000 Independence Ave. SW  
 Washington DC 20585  
 202-586-5000  
[www.energy.gov](http://www.energy.gov)

UNITED STATES ENVIRONMENTAL  
 PROTECTION AGENCY — ENERGY STAR

*ENERGY STAR Program Requirements for Computers*, subparts *Eligibility Criteria Version 6.1 (Rev. March-2016)* and *Final Test Method (Rev. March-2016)*.

*ENERGY STAR Program Requirements for Displays*, subpart *Final Test Method (Rev. Sep-2015)*.

Copies available from:  
 US Environmental Protection Agency  
 Climate Protection Partnership  
 ENERGY STAR Programs Hotline & Distribution  
 (MS-6202J)  
 1200 Pennsylvania Ave NW  
 Washington, DC 20460  
[www.energystar.gov](http://www.energystar.gov)

LOCAL MANDATE DETERMINATION —  
 Government Code Section 11346.5(a)(5)

The proposed regulations will not impose a mandate on local agencies or school districts.

HOUSING COSTS — Government Code Section  
 11346.5(a)(12)

The proposed regulations would not have a significant effect on housing costs.

FISCAL IMPACTS — Government Code  
 Section 11346.5(a)(6)

Cost or Savings to Any State Agencies. No public agency would necessarily incur costs or savings in reasonable compliance with these regulations. Any costs or savings to these entities would be as a result of the regulations' effect on the cost of purchasing appliances affected by these regulations and the energy savings that result from operating appliances affected by these regulations. The proposed regulations are estimated to increase the purchase cost of computers and computer monitors that a government entity needs. These incremental costs to purchases would most likely arise in fiscal year July 1, 2018–June 30, 2019 and the subsequent

five years. The incremental costs of the computers and computer monitors are more than offset by the resulting energy savings in the form of reduced utility bills. The payback is estimated to be over two years, easily offsetting the incremental cost. This fact is reflected in attachment B where the annual net impact shows savings for every year analyzed. The savings increase after the first year as incremental costs are already paid for and savings continue to be reaped. The incremental cost is estimated to be \$5 per computer monitor, \$9.55 for Tier 1 and \$14.00 for Tier 2 per desktop computer, \$1.00 per notebook, and \$13 per small-scale server or workstation computers with annual electricity savings of \$4.43 per computer monitor, \$4.86 for Tier 1 and \$7.86 for Tier 2 per desktop computer, \$0.58 per notebook, \$3.84 per small-scale server, and \$5.98 per workstation computer. These incremental costs are not targeted specifically at state or local governments, but rather more broadly at what can generally be offered for sale to any entity in California.

With regard to the cost to the Commission to implement, the regulations do not apply until 2019 and would not have any potential for fiscal impact until then. Once the regulations are in effect, the Commission is not expected to incur any additional enforcement or compliance costs as enforcement of appliance efficiency standards is self-funded through fines levied against entities that violate the standards, pursuant to Public Resources Code section 25402.11. Additionally, the Commission expects to be able to shift currently available resources to enforcement of these regulations, obviating the need to acquire any additional resources.

The clarification regarding signage displays is not expected to have any effect, as it just clarifies existing law. The exemption added to the battery charger systems standards is not expected to result in any costs or savings to state agencies.

Cost to Local Agencies or School Districts Requiring Reimbursement. As discussed above, no public agency would necessarily incur any cost or savings in reasonable compliance with these regulations. As generally applicable requirements, the proposed regulations will not impose on local agencies or school districts any costs for which Government Code sections 17500–17630 require reimbursement.

Other Nondiscretionary Cost or Savings Imposed Upon Local Agencies. As generally applicable requirements, the proposed regulations will not result in any other nondiscretionary cost or savings to local agencies.

Cost or Savings in Federal Funding to the State. The proposed regulations will not result in any cost or savings in federal funding to the state.

**INITIAL DETERMINATION RE SIGNIFICANT  
STATEWIDE ADVERSE ECONOMIC IMPACT  
DIRECTLY AFFECTING BUSINESS, INCLUDING  
ABILITY TO COMPETE — Government Code  
Sections 11346.3(a), 11346.5(a)(7),  
and 11346.5(a)(8)**

The Commission has determined that the proposed regulations will not have a significant, statewide adverse economic impact directly affecting business, including the ability of California businesses to compete with businesses in other states. This determination is based upon evidence in the record, including the Standardized Regulatory Impact Assessment (SRIA) conducted for this proceeding.

**STATEMENT OF THE RESULTS OF THE  
STANDARDIZED REGULATORY IMPACT  
ASSESSMENT — Government Code  
Section 11346.5(a)(10)**

Model results show that, relative to a baseline, the Commission’s proposed standards would increase gross state product (GSP) by 0.014% in 2030 and create slightly more than 12,000 jobs from 2018–2030. The proposal is also expected to result in modest increases in household income of 0.016% to 0.044%. Lower-income households that spend a higher proportion of their income on electricity are expected to benefit slightly more than other household groups.

Creation Or Elimination Of Jobs Within California. The proposed efficiency standards are expected to have a moderate positive impact on overall job creation. Approximately 5,500 additional jobs are expected to be created relative to the baseline in 2030. The cumulative change over the analysis period, 2018– 2030, is expected to be slightly greater than 12,000 jobs created.

The proposal is not expected to result in the elimination of jobs in the economy. Expenditure shifting by households may result in some short term employment adjustments, although the aggregate effect, as measured by the model, is positive across sectors. Employment *growth* in the electricity sector may be slighter lower than in the baseline due to lower electricity demand.

Creation Of New Businesses Or Elimination Of Existing Businesses Within California. In addition to the direct net benefits that energy efficiency standards have for California businesses, the proposal also improves overall business activity in the state. The net savings are redistributed as a general stimulus throughout the economy. The results suggest that the policy will have very modest positive impact on aggregate business creation.

Lower electricity expenditures resulting from the efficiency standards are expected to have a modest adverse impact on the electricity sector. Sectoral results

confirm this, showing a less than 2% reduction in electric power sector output in 2030, relative to the baseline. This result would be expected with any large-scale energy efficiency policy affecting the electric power sector. The slower growth in the electric power sector is partially muted by an overall increase in economic activity resulting from the policy; however, the net sectoral impact is still slightly negative. Nonetheless, there is no expectation that this would eliminate businesses in California.

Competitive Advantages Or Disadvantages For Businesses Currently Doing Business Within California. The regulation would apply to all businesses manufacturing the regulated products inside and outside of the state, and selling computers and monitors to California customers. It is therefore not anticipated that the regulation will have an adverse effect on the competitiveness of California businesses. In fact, the BEAR model results suggest that the macroeconomic stimulus effect from the proposal will induce a modest increase in the state’s aggregate export volume.

Increase Or Decrease Of Investment In California. The economic assessment predicts a modest increase in investment as a result of the proposed regulation. This result is consistent with the expected increase in economic activity resulting from the large electricity savings. Investment impact decreases over time as the incremental net savings from the proposed standards level off. This is different than GSP and employment, which grows over time relative to the baseline, due to economy-wide multiplier effects.

Incentives For Innovation In Products, Materials, Or Processes. The proposed efficiency standards are by design meant to promote innovation for the regulated product categories. While a number of technically feasible compliance options are currently available, the standards are also likely to incentivize manufacturers to consider other lower cost options for delivering energy efficiency benefits.

Due to the state’s large market share of regulated products, there is the possibility that the Commission’s proposed standards would compel manufacturers to incorporate the higher efficiency technologies into similar products sold outside of the state. It is also possible that the state’s proposal could serve as a template for federal computer efficiency standards.

Benefits Of The Regulations. The Commission’s computer and computer monitor efficiency proposal is expected to provide substantial energy savings to California consumers. Net direct savings to individuals and businesses in the state are expected to be approximately \$3.5 billion cumulatively from 2018 to 2030, or \$350 million per year once the product stock has fully turned over.

The macroeconomic impact results show that, relative to the baseline, economic growth, employment, enterprise output, and investment all increase due to the electricity savings associated with the proposed efficiency standards. Employment and enterprise output increase at a slightly faster rate than GSP due to the fact that expenditure shifting occurs from relatively low employment electricity sectors to higher employment service sectors. All macroeconomic effects are modest, relative to the size of the California economy, which is consistent with the magnitude of the stimulus generated by the standards. The proposed standards are also expected to modestly reduce greenhouse gas and criteria air pollutant emissions in the electric power sector.

The proposed computer standards will help protect the health and welfare of California residents and the state's environment by saving about 1,636 gigawatt-hours per year calculated using the Energy Start dataset as a baseline, resulting in greenhouse gas emission reductions of 0.513 million metric tons of carbon dioxide equivalent per year and will save consumers about \$262 million in electricity bills after the stock turnover. Regulating computer monitors will save about 696 gigawatt-hours per year statewide, will result in greenhouse gas emission reductions of 0.218 million metric ton of carbon dioxide equivalent, and will save about \$111 million after existing stock is replaced.

#### Summary Of Comments Submitted By Department of Finance And Responses To Those Comments.

Comment #1: The required discussion of the baseline is incomplete without specifying how many units will be sold that would meet the efficiency standards even without the proposed regulations.

Response: The average energy savings presented in Chapter 2 of the SRIA account for the fact that a number of computers are naturally complying with the proposed standards and therefore do not contribute to the energy savings. However, the Commission agrees that this is not clearly stated in the SRIA and has revised Chapter 2 to explain the calculations more clearly. The Commission also adjusted the total direct compliance costs in the final staff report to account for already-compliant products. This adjustment is not reflected in the SRIA, as it is within the range of alternatives analysis. More details can be found in the final staff report that is expected to be published in September and will be available on the Commission's website.

Comment #2: The discussion of impacts must include how users might respond to changes in their computer equipment, and how the regulation will be enforced. The analysis must specify whether the enforcement costs of verifying if manufacturers and retailers are implementing the new regulation are included, and if not included, must include a discussion of such costs.

Response: The Commission diligently reviewed many studies but couldn't find any information to determine conclusively how a user would respond to changes in computer equipment. Currently, we are working with the California Plug-Load Research Center at the University of California at Irvine, where they are conducting research studies on the user's behavior with regard to a computer's energy-saving settings. The Commission revised its SRIA in Chapter 3 to clarify assumptions made regarding user behavior.

The Commission has reviewed a few studies on compliance with efficiency standards, but these studies do not provide conclusive information about the compliance rate once the regulations are in effect. The Commission revised Chapter 3 of its SRIA to clarify that the energy-savings numbers assume 100 percent compliance.

The Commission is not expected to incur any additional enforcement or compliance costs, as enforcement of appliance efficiency standards is self-funded through fines levied against entities that violate the standards. The Commission revised its SRIA in Chapter 5 to clarify this point.

Comment #3: There may also be particular impacts on certain groups. Older individuals are more likely to use desktop computers (which have larger cost increases under the proposed regulations), as do low-income households who prioritize cost over convenience in computer usage. While the lifetime energy savings for desktops and monitors more than compensate for the increased up-front costs, the up-front costs may present a burden for low-income and elderly households. The exemption of small manufacturers from the regulation could give them an advantage versus larger manufacturers. These impacts should be discussed to the extent possible.

Response: The Commission acknowledges that the proposed regulations will likely affect the purchase price of regulated computers and computer monitors, including those in lower price range. The Commission staff conducted research to analyze the effect of the regulation on specified groups, which is included in chapter 3 of the SRIA. The Commission did not find information to suggest how older or low-income individuals make purchase decisions differently than other groups. All consumers ultimately benefit from the proposed regulations and the market is expected to naturally adjust to offer low cost products catered to the aforementioned groups. Furthermore, the estimated incremental cost is based on today's cost and by the time the regulations take effect, the costs are expected to be lower.

With regard to small manufacturers, the proposed efficiency regulations present both an advantage and a disadvantage. On the one hand, small manufacturers are

(partially) exempt from the standards. On the other hand, small manufacturers are unable to achieve economies of scale compared to the larger manufacturers. Moreover, small manufacturers usually target a different group of customers than larger manufacturers by offering highly customized computers, and therefore, small manufacturers are not in direct competition with larger manufacturers. Finally, the exemption for small manufacturers only applies up to a specified number of units. If the manufacturer makes more than that number of units, those units must comply with the efficiency standards.

The analysis did not change significantly due to Department of Finance’s comments. To help clarify the calculations for the average energy savings, an example was added comparing absolute energy savings to the energy savings when adjusted for the products that are compliant with the proposed standards without the regulations. A discussion was also added indicating that the analysis assumes that users do not change the power management setting on regulated products and that actual energy savings may be different if users change the default power management settings.

It was also clarified that the compliance rate was assumed to be 100 percent for the purpose of this economic analysis, whereas other appliance regulations typically have a 60 to 90 percent compliance rate. And the discussion regarding cost to the Commission to enforce these new standards was clarified to explain that costs would be negligible as current resources used to enforce other appliances are expected to be shifted to enforcement of these standards.

**COST IMPACTS ON REPRESENTATIVE PERSON OR BUSINESS — Government Code Section 11346.5(a)(9)**

A representative business would incur approximately \$600 in costs per basic model associated with ensuring each of their products complies with these regulations. These costs would include testing their product to ensure it meets the applicable standard and certifying in our database the performance characteristics of their product. No cost impacts are expected from the signage displays clarification or the battery charger systems exemption.

**BUSINESS REPORT — Government Code Sections 11346.5(a)(11) and 11346.3(d)**

The proposed regulations impose new data reporting requirements on manufacturers for computers and computer monitors. The cost of certification has recently been reduced through improvements to the certification

process and new streamlined database. An estimated \$1,000 per year per manufacturer is expected for data reporting purposes. This equates to 2 staff–days from each manufacturer at a cost of \$500 per staff–day. The cost is expected to be annual as computer manufacturers and computer monitor manufacturers typically redesign their products each year, thereby triggering the need for data submittal. Signage displays are already required to be certified to existing standards previously adopted by the Commission. No new reports would be required from the battery charger exemption change.

It is necessary for the health, safety, or welfare of the people of the state that these regulations apply to businesses. As discussed above, improving energy efficiency of appliances sold in California is an important state goal with public health and safety and environmental benefits.

**SMALL BUSINESS IMPACTS —1 California Code of Regulations Section 4(a) and (b)**

The Commission has determined that these regulations will affect small business. These regulations would affect businesses, including those independently owned and operated and not dominant in their field of operation, involved in manufacturing computers and computer monitors, as well as businesses involved in retail and wholesale trade. While some of the affected small businesses will be exempted from the bulk of the new regulations through the small volume manufacturer exemption, they would still be subject to power management requirements for applicable products. Thus, small businesses would be legally required to comply with the regulations.

Additionally, small businesses would derive a benefit from the enforcement of these regulations. Small businesses, like other businesses that use computers and computer monitors, are expected to benefit from the anticipated electricity savings resulting from the efficiency standards. Like other business enterprises, small businesses will also incur an additional cost when purchasing products covered under the standards. The net effect is expected to be an overall savings in electricity spending.

Small businesses are not expected to be affected by the signage display clarification, as it reflects existing law. Small businesses may benefit from the battery charger systems exemption, as manufacturers of the particular products exempted would not be required to comply with the battery charger systems requirements.

**ALTERNATIVE STATEMENT — Government Code Section 11346.5(a)(13)**

The Commission must determine that no reasonable alternative considered by the agency, or that has other-

wise been identified and brought to the attention of the agency, would be more effective in carrying out the purpose for which the action is proposed, would be as effective and less burdensome to affected private persons than the proposed action, or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provision of law.

CONTACT PERSON — Government Code  
Section 11346.5(a)(14)

Inquiries concerning the proposed regulations should be directed to Harinder Singh at [Harinder.Singh@energy.ca.gov](mailto:Harinder.Singh@energy.ca.gov) or (916) 654-4091 for computer monitors, signage displays, and battery chargers, and to Soheila Pasha at [Soheila.Pasha@energy.ca.gov](mailto:Soheila.Pasha@energy.ca.gov) or (916) 657-1002 for computers. The designated backup contact person is Kenneth Rider, who can be reached at [Ken.Rider@energy.ca.gov](mailto:Ken.Rider@energy.ca.gov) or (916) 654-5006.

COPIES OF THE INITIAL STATEMENT OF  
REASONS AND EXPRESS TERMS — Government  
Code Section 11346.5(a)(16)

The Commission has prepared an initial statement of reasons for the proposed regulations, has available all the information upon which this proposal is based, and has available the express terms of the proposed action. To obtain a copy of any of this information, please visit the Commission's website at <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=16-AAER-02> or contact Angelica Romo-Ramos at [Angelica.Romo@energy.ca.gov](mailto:Angelica.Romo@energy.ca.gov) or (916) 654-4147. Additionally, all of the documents incorporated by reference are available for viewing at the Commission at 1516 Ninth Street, Sacramento, California 95814.

AVAILABILITY OF SUBSTANTIAL CHANGES  
TO ORIGINAL PROPOSAL FOR AT LEAST 15  
DAYS PRIOR TO AGENCY  
ADOPTION/REPEAL/AMENDMENT OF  
RESULTING REGULATIONS — Government Code  
Section 11346.5(a)(18)

Participants should be aware that any of the proposed regulations could be substantively changed as a result of public comment, staff recommendation, or recommendations from Commissioners. Moreover, changes to the proposed regulations not indicated in the express terms could be considered if they improve the clarity or effectiveness of the regulations. If the Commission considers changes to the proposed regulations pursuant

to Government Code section 11346.8, a full copy of the text will be available for review at least 15 days prior to the date on which the Commission adopts or amends the resulting regulations.

COPY OF THE FINAL STATEMENT OF  
REASONS — Government Code  
Section 11346.5(a)(19)

At the conclusion of the rulemaking, persons may obtain a copy of the final statement of reasons once it has been prepared by visiting the Commission's website at: <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=16-AAER-02> or by contacting Angelica Romo-Ramos at [Angelica.Romo@energy.ca.gov](mailto:Angelica.Romo@energy.ca.gov) or (916) 654-4147.

INTERNET ACCESS — Government Code Sections  
11346.4(a)(6) and 11346.5(a)(20)

The Commission maintains a website in order to facilitate public access to documents prepared and considered as part of this rulemaking proceeding. Documents prepared by the Commission for this rulemaking, including this Notice of Proposed Action, the Express Terms, the Initial Statement of Reasons, the Economic and Fiscal Impact Statements, and the Standardized Regulatory Impact Assessment, as well as many other documents in the rulemaking file, have been posted at: <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=16-AAER-02>.

NEWS MEDIA INQUIRIES

News media inquiries should be directed to Media and Public Communications Office at (916) 654-4989, or by e-mail at [mediaoffice@energy.ca.gov](mailto:mediaoffice@energy.ca.gov).

**GENERAL PUBLIC INTEREST**

**CALIFORNIA BUREAU OF REAL  
ESTATE**

NOTICE OF MODIFIED TEXT FOR CRITERIA  
FOR REHABILITATION — SECS.2911 AND 2912  
ORIGINAL PUBLICATION ON  
OCTOBER 30, 2015

NOTICE IS HEREBY GIVEN

The Commissioner ("Commissioner") of the Bureau of Real Estate ("CalBRE") proposes to amend Sections