Topic	Subtopic	Stakeholder Comment	EPA Response
General		A stakeholder noted that the Version 8.0 specification will cause most products currently qualified to not be able to meet the requirements. As a result, they requested the relaxation of the proposed approach. Another stakeholder offered support for the approach to energy saving features.	With Version 8.0, EPA seeks to ensure that ABC and other energy savings features persist across the majority of preset picture settings. As such, given EPA's proposed approach in the Final Draft, where products that qualify with ABC enabled by default must meet luminance thresholds, EPA recognizes that a subset of products may no longer qualify for ENERGY STAR. As ENERGY STAR qualified TVs represent a significant share of the televisions market (initial estimates indicate 70% in 2016), this revision will ensure the ENERGY STAR is associated with the more efficient products today.
Home Theater Displays		A stakeholder supported the inclusion of Home Theater Displays (HTDs) in the Version 8.0 specification and recommended that EPA study the power requirements of these models for Version 9.0 to determine if there is a need to set separate requirements.	EPA will monitor the market to determine if an opportunity exists to differentiate HTDs and TVs based on their associated energy consumption in a future revision.
Persistence of Energy Saving Features	Language Encouraging Users to Disable	Three stakeholders supported prohibiting language encouraging users to switch to a picture setting without energy saving features or to disable an energy saving feature. Two of these stakeholders noted that while the DOE test method discourages manufacturers from providing a prompt to disable an energy saving feature during initial set-up, it does not test how the TV behaves after initial set-up. This could allow for suggestive language or prompts to encourage the disabling of energy saving features. The other stakeholder requested that EPA require retesting with the more consumptive features enabled to obtain qualification, if those features are encouraged.	In response to stakeholder concerns that users would be prompted to select settings where energy savings features are disabled, EPA proposes additional language in Section 3.2.5) iv.) to guard against users being encouraged to select non-default Preset Picture settings for general viewing. EPA's intent is to allow consumer choice while encouraging the setting under which the TV qualifies for the ENERGY STAR.
Persistence of Energy Saving Features	Preset Picture Setting Alerts	Two stakeholders supported EPA's proposal in Section 3.2.5 to require energy saving features to default back to an enabled state.	EPA has retained this requirement in the Final Draft.
Persistence of Energy Saving Features	Adjustment of Picture Parameters	Two stakeholders supported EPA's proposal in Section 3.2.6 to prevent manual adjustment to TV picture parameters from affecting energy saving features.	EPA has retained this requirement in the Final Draft.
Persistence of Energy Saving Features	Special Function Alerts	One stakeholder supported EPA's proposal in Section 3.2.7 to require alerts whenever special functions disable energy saving features.	EPA has retained this requirement in the Final Draft.
Requiring Energy Saving Features that Offer Comparable Savings		Two stakeholders supported EPA's proposal to prohibit TVs from being certified with energy saving features enabled if the resulting savings from testing with the IEC test clip are not comparable to those realized during a typical viewing experience, along with the option for EPA to review testing results to determine if the savings are comparable. However, one of these stakeholders recommended that EPA require that the content used during testing for 'typical content' be submitted to EPA for review so EPA can review to ensure it is representative. Two stakeholders stated that this proposed approach will not work because the IEC test clip is the only standardized methodology for manufacturers to determine what a 'typical viewing experience' would be and using other content would have results that vary widely. One of these stakeholders recommended that EPA offer suggestions to revise the IEC test clip, if EPA believes it is inadequate. Another stakeholder noted that this proposal will cause uncertainty which may eliminate manufacturer's incentives to seek new, innovative methods to reduce energy consumption because they must perform all R&D, testing, and have a final design before submitting a request to EPA for approval. They noted that this would cause manufacturers to not invest in new energy saving solutions in the case that EPA would not approve certification if EPA believes the savings are not comparable.	EPA encourages manufacturers to share data, when available, to help improve understanding of how emerging energy savings features perform. EPA understands that some manufacturers may have an interest in continuing to certify products with features such as motion detection dimming. Since the release of Draft 2, EPA has some indication that the implementation of motion detection dimming has improved in 2017 models. EPA encourages manufacturers to share additional data to help improve understanding of such energy savings features across different content. As with ABC, where its energy savings potential has been demonstrated and widely accepted by stakeholders, once energy savings of this feature is well understood, EPA will be in a better position to encourage its use.

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Automatic Brightness Control (ABC) Requirements		A number of comments on Draft 2 related to the implementation of ABC. Some stakeholders asked that EPA require that TVs choosing to certify with ABC enabled maintain it in all picture settings. They noted that some manufacturers had already demonstrated the ability to implement ABC across all picture settings and that manufacturers have not provided data that support disabling energy saving features (e.g., ABC) in certain preset picture settings. One stakeholder noted that a correct implementation of ABC should already accommodate bright-room situations, and thus a separate brighter mode should not be necessary. However, two of these stakeholders noted that energy saving features may need to be disabled when true HDR content is being played (if it reverts back after the content is no longer being viewed) and when the retail picture setting is selected. These stakeholders noted that manufacturers could encourage users to switch to preset picture settings that don't have energy saving features enabled by default through the name of picture settings (e.g., "Best Picture" or "Preferred") and by encouraging language in the user manual or after initial start-up. Conversely, another stakeholder asserted that manufacturers would lose the ability to provide differentiation in picture settings if ABC were enabled in each picture setting, citing that TV manufacturers' decisions reflect their experience, expertise, and consumer feedback regarding present picture settings. Another stakeholder commented that manufacturers need at least two preset picture settings which can provide the brightest picture: 1. Vivid allows the brightest picture that the TV can support to demonstrate the model's performance, and 2. HDR upscaling, which provides HDR-like picture experiences to the user. Two stakeholders noted that EPA is already ensuring that ABC is being used properly because users are already being notified whether energy saving features are enabled in each picture setting in the user manual or through alerts.	EPA considered these competing comments and has retained the Draft 2 requirement that TVs certifying with ABC enabled maintain it in all but one setting if they have up to four settings and in all but two settings if they have more than four settings. EPA notes that certification with ABC is optional, and the Agency has not prescribed how to implement ABC in each setting, only that it be maintained in the setting. In follow-up to the Draft 2, EPA analyzed two popular TV models on the market to determine how ABC is most currently being implemented across some manufacturers and found that significant variability exists that may not allow for a direct comparison. EPA found that 1) there is typically at least one preset picture setting where ABC is not enabled by default (EPA learned that often the Vivid Preset Picture Setting lacks ABC and that certain instances exist when it is used in store demos in lieu of the Retail picture mode) and 2) HDR upscaling may be a separate picture setting or it could be a separate feature that may be enabled in a certain picture setting. This finding reinforces EPA's proposal requiring that TVs certifying with ABC enabled maintain it in all but one setting if they have up to four settings and in all but two settings if they have more than four settings.
ABC Requirements	Meeting	One stakeholder requested that EPA hold a conference call if the Agency receives additional input from the manufacturers regarding ABC.	In response to a stakeholder request, on June 23, 2017, EPA hosted a public webinar for all stakeholder participation to discuss the proposed requirements to ensure persistence of ABC in TVs.
Luminance Requirements		Several stakeholders supported EPA's luminance requirements of 125 cd/m^2 at 3 lux, intended to prevent TVs with ABC from being too dim and unsatisfactory for users, who will switch to a different picture setting or end up disabling ABC. Two stakeholders suggested that EPA replace this absolute requirement with a ratio, such that that the luminance in the 3 lux illuminance condition be a fixed fraction of the luminance in the brightest selectable picture setting. One noted that the absolute luminance may vary significantly from unit-to-unit, unlike a ratio, which would result in significant testing burden because the manufacturer would need to test each unit. One stakeholder recommended 30% for all models, while another recommended the ratio for models with peak brightness less than 200 cd/m^2. In addition, one stakeholder stated that the sample size used in EPA's subjective testing of preferences was too small and EPA should draw on technical resources beyond the recommendations of the ISF to determine an appropriate requirement.	EPA thanks stakeholders for their feedback. EPA is proposing to retain the requirement that TVs that qualify with ABC enabled by default must meet at minimum 125 cd/m2 at 3 lux in order to ensure that TVs do not ship too dim. EPA is basing its proposal on data from the following sources: Imaging Science Foundation (ISF) data from over 15 years of calibrating TVs in homes for dark room viewing, which points to 150 cd/m2 as the optimal screen brightness for dark environments; EPA's additional testing of screen brightness in different TVs with a limited number of subjects to see firsthand how viewers may demonstrate different preferences, as a supplement to ISF's findings; and the Japanese study "Survey of actual viewing conditions at home and appropriate luminance of LCD-TV screens," published by the Society for Information Display in 2008, that considered TV luminance preferences as a function of room illuminance, TV type, subject age, and video content characteristics. The study showed that most viewers preferred a screen brightness of 150-200 cd/m2. EPA is proposing 125 cd/m2 to allow for some flexibility in user preferences, without varying too much from ISF's findings. EPA has evaluated all comments and accompanying data and found that the data provided was not comparable to the industry accepted ISF field research reflecting consumer preferences, or to additional data sources consulted, and thus did not justify a lowering in the screen brightness.

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High Dynamic Range (HDR) Upscaling		Three stakeholders support EPA's proposal to test the power use of the HDR upscaling feature and publish it on the Qualified Product List (QPL) in order to appropriately address this feature in a Version 9.0 specification, given predictions that market share of TVs with this feature is expected to increase significantly. One of these stakeholders requested that EPA explicitly note in the specification the plan to publish this data on the QPL.	EPA has retained this requirement in the specification. On EPA's forthcoming QPX, which certification bodies will use to report to EPA for product certification, EPA will include a requirement to report the power consumption associated with HDR upscaling, which will be featured on the QPL.
Ultra High Resolution (UHD) Adder		A stakeholder recommended that EPA monitor the market and reduce the on-mode power allowance for ultra-high definition (UHD) TVs, given data that has been produced from several studies showing that the power use of these TVs has been reduced significantly in a Version 9.0 specification. Another stakeholder maintained that reducing the UHD adder in the Version 8.0 specification was necessary because leaving a generous UHD adder will give preference to UHD technology, which occurs in larger, more expensive, and more energy consumptive models. They requested that if EPA is unable to address the adder in Version 8.0, then they consider doing so in the Version 9.0 specification revision once the qualification impacts of Version 8.0 are understood.	With Version 8.0, EPA is not proposing to address the power consumption of UHD models. Rather, the intent of this specification revision is to ensure the persistence of ABC and other energy savings features. EPA will continue to monitor the market and plans to revisit the power consumption limits for both HD and UHD TVs with the next specification revision.
Software Updates		Several stakeholders supported language that would address software updates and their potential impact on TV energy use and to require retesting if there is an impact on power consumption. They noted that this is an important requirement to prevent software updates from increasing energy use when the TV is in the home, thereby negating the user's energy savings that was indicated by the ENERGY STAR logo. One stakeholder noted that EPA's current guidance to certification bodies does not address this and requested that EPA explicitly state this requirement within the specification.	In response to stakeholder concerns that software updates at initial set up may impact a TV's energy consumption, such that it would no longer meet the power consumption requirements, EPA is requiring that TVs demonstrate that they meet these requirements after updates have completed. All TVs/HTDs shall continue to meet the On Mode and Standby-Active, Low Mode requirements following the installation of software updates as demonstrated per testing in Section 4.5.2 of this specification
Timeline		Several stakeholders supported EPA's timeline for finalizing the Version 8.0 specification in order to impact products entering the market in 2018. These stakeholders noted that if the timeline should be extended, then EPA should address active mode power, such as the reduction of the UHD allowance in Version 8.0, instead of waiting for Version 9.0.	As noted above, EPA intends to address the power consumption of TVs in the next specification revision, instead focusing on the persistence of ABC and other energy savings features in this Version 8.0 specification. EPA believes that in addressing the persistence of these features, TVs that will certify to Version 8.0 will deliver energy efficiency gains while also providing users with quality viewing experiences.