#	Topic	Comment	Response
1	General	We are pleased that given the small size of our industry, ENERGY STAR® is putting together a different approach through its recognition system. We think that through our business model we have an extraordinary improvement story to tell and we welcome any ENERGY STAR® program that allows us to continue to optimize in this way.	EPA appreciates the comment and the support for its proposal.
2	Save on APD Scope Considerations	Please note that the scope of this document is, "Products that meet the definition of Game Console." Game software is therefore not in scope. Accordingly, any requirement for games is not appropriate for this document. The EPA proposal is directed to game consoles. It is inappropriate for a hardware-directed energy efficiency standard to dictate the design of third party software. Besides, game publishers are well motivated to keep their customers happy by working with console makers to ensure that APD occurs in an elegant manner. The desire to protect the publisher's brand reputation is a far more powerful motivation to get this right than any downstream obligations which may flow from an ENERGY STAR program.	In consult with stakeholders, EPA has learned that the primary limitation of checkpoint-based save and resume lies with Pause mode, which can currently be used as an alternative mechanism for save and resume (by leaving the console on in Pause mode). Pausing the game will no longer work as an alternative save as APD will power down the console after a set period of time. However based on research by ESA on a sample of games, we are confident that current save/resume practice as well as the best-practice guidelines will ensure that most games will adopt checkpoint-based save and resume where appropriate and this issue will be marginal and will not impact the effectiveness of APD. EPA & DOE have therefore removed Save on APD from the Test Method and Performance Requirements, since a user should not lose their place in the game with auto-save options embedded in game software.
3	Save on APD Natural Incentive	For most competitive games -- live games, shooters, karaoke or dance games for example, inactivity on the part of the player will often result in losing the game. There is a natural incentive in this case for the user to manually save prior to inactivity. A gamer who is concerned about preserving important progress is unlikely to risk losing it from a power outage or other mishap by leaving the console unattended for an extended period of time. Far more likely, the gamer would save the game, or advance to the next checkpoint, and then shut down the console. In all likelihood, that process would be accomplished in far less time than leaving the console paused for an hour. Most action games require constant engagement or the player will be eliminated within minutes. For online multiplayer games, pausing the game typically ejects the player from the server, terminating that player's game session immediately. Because the game session will typically expire long before APD occurs, there will be nothing to save.	In consult with stakeholders, EPA has learned that the primary limitation of checkpoint-based save and resume lies with Pause mode, which can currently be used as an alternative mechanism for save and resume (by leaving the console on in Pause mode). Pausing the game will no longer work as an alternative save as APD will power down the console after a set period of time. However based on research by ESA on a sample of games, we are confident that current save/resume practice as well as the best-practice guidelines will ensure that most games will adopt checkpoint-based save and resume where appropriate and this issue will be marginal and will not impact the effectiveness of APD. EPA & DOE have therefore removed Save on APD from the Test Method and Performance Requirements, since a user should not lose their place in the game with auto-save options embedded in game software.

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		As we understand it, the EPA's rationale for suggesting "save on APD" is to guard against consumers disabling APD after becoming frustrated that they have lost a significant amount of unsaved game progress. We don't think this outcome will be the typical result. It assumes, for example, that consumers will respond by disabling APD. But it is at least as probable, if not more so, that they would simply remember to save their game next time. Another problem with this hypothetical is that it assumes consumers stand to lose significant progress where APD occurs while a game is paused.	
	Save on APD Auto-Save Considerations	The primary limitation of checkpoint-based save and resume lies with Pause mode, which can currently be used as an alternative mechanism for save and resume (by leaving the console on in Pause mode). This workaround will no longer work if APD kicks in while the game is in Pause. However based on research by ESA on a sample of games, we are confident that current save/resume practice as well as the best-practice guidelines mentioned above will ensure that most games will adopt checkpoint-based save and resume where appropriate and this issue will be marginal and will not impact the effectiveness of APD.	
		Most games automatically save periodically in accordance with theme and user experience.	
		Almost every game includes auto-save functionality	
		Many games contain a notice upon loading that the game will auto-save	
		Given the apparent frequency with which auto-save occurs, at least within the sample ESA evaluated, it appears players would lose little, if any, meaningful progress under the pause-APD scenario.	
		It is not appropriate or necessary to arbitrarily support game save in all cases of inactivity for these games. Additionally, although the hardware could potentially provide such support, it would be up to the game publishers to provide the games that are compatible with the algorithm. When and where users can save their place in a game is often integral to the user experience of the game.	
		We are open to an alternative auto-save and resume mechanism based on game software-initiated saves at game-appropriate checkpoints instead of hardware-initiated saves, providing that industry can demonstrate that this mechanism will be broadly adopted by virtually all game publishers, and will provide an excellent user experience so that very few users disable it.	

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4		Propose an auto-save and resume mechanism based on game software initiated saves at game-appropriate checkpoints instead of hardware-initiated saves. Don't require saving and resuming at the exact location in the game at the time of APD. We believe that this approach provides the following benefits: • It is consistent with current behavior of most games: checkpoint save and resume functionality is already implemented in most games where appropriate. The implementation of appropriate save and resume functionality in games will be further encouraged by best practice APD guidelines from console manufacturers to game publishers. • It leaves game publishers in control of game behavior and user experience. • It does not require a "suspend to disk" mechanism which would be complex to implement for limited additional benefits and may have unintended consequences such as increased hardware requirements.	In consult with stakeholders, EPA has learned that the primary limitation of checkpoint-based save and resume lies with Pause mode, which can currently be used as an alternative mechanism for save and resume (by leaving the console on in Pause mode). Pausing the game will no longer work as an alternative save as APD will power down the console after a set period of time. However based on research by ESA on a sample of games, we are confident that current save/resume practice as well as the best-practice guidelines will ensure that most games will adopt checkpoint-based save and resume where appropriate and this issue will be marginal and will not impact the effectiveness of APD. EPA & DOE have therefore removed Save on APD from the Test Method and Performance Requirements, since a user should not lose their place in the game with auto-save options embedded in game software.
		The time in between auto-saves varies not only by game, but by the approach to the game. In some games there are big worlds to explore, but only "achievements" trigger an auto-save.	
		In some games, due to the nature of the game play, saves are much less important (e.g., party games).	
		In other games, players may choose not to save for strategic reasons. For instance, the player may have progressed in the game, but in an inefficient way in which his or her character has lost "health" or ammunition or failed to acquire a needed item. As a result, the player is in a comparatively weaker place than he or she was at the previous save point.	
		This clause (127-131), which calls for a resume to the same mode the console was in previously, will encourage the user to disable the APD. Here is why: The APD is by definition intended to shut down the console when the user has chosen to do something other than the activity she was engaging in prior to the APD event. The save-on-APD is only useful in the specific case which the user wants to resume the mode, title or application she was previously in after powering on the console at a later time. A console-user might allow the APD to turn off a console for two reasons we can envision; either she is called away to another activity and forgets to turn the console off, or she loses interest in the game, movie or other activity and simply stops engaging. When the user returns, she might want to play the same game, play a different game, watch streaming media or engage in another console-based function. If, upon returning, she is always forced by the APD-resume to return to the same function, title or an application she was using previously, she may respond by disabling the APD.	

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5	Save on APD Notification of APD	We support providing notification of an imminent auto-power down event through an application programmable interface (API) or other means to the game. With that API, depending on the context of the game, the developer has many options to optimize the user experience. To arbitrarily insert a save point where neither the gamer nor the developer intended is likely to result in a sub-optimal experience and might encourage the user to disable the APD.	EPA supports the notification of imminent APD. Imminent APD functionality will not be required for recognition in the Test Method or Performance Requirements, EPA believes the best approach is to allow manufacturers to implements notices as they see fit for the best user experience.
6	Save on APD Encouraging Inefficient Behavior	The "save on APD" mandate would have a perverse effect of motivating consumers to be less careful about turning off their consoles before leaving for an extended time.	Based on research by ESA on a sample of games, we are confident that current save/resume practice as well as the best-practice guidelines will ensure that most games will adopt checkpoint-based save and resume where appropriate and this issue will be marginal and will not impact the effectiveness of APD. EPA & DOE have therefore removed Save on APD from the Test Method and Performance Requirements.
7	Maintenance	Placing time limits on automatic downloads and maintenance is not appropriate. As game firmware and software becomes increasingly sophisticated, file sizes become larger, and the proposed limits may quickly become inadequate. We think a better approach is to omit putting tight limits on the duration of automatic system maintenance and downloads and instead emphasize that the console will reenter standby after it completes these automatic tasks.	EPA and DOE have language in 3.1.1.iv which explains that there is no limit on time but that immediately after downloads and maintenance the console must power down.
8	Maintenance	From time to time, console makers may give the user the option of manually updating the software, and this is a perfectly valid way of handling updates. For this reason, the standard should not restrict console makers by suggesting that updates occur only upon automatic wake from sleep mode to perform system maintenance.	EPA and DOE agree. However, there is no language precluding manual updates. Restrictions only fall under automatic updates in section 3.1.1.iv.

#	Topic	Comment	Response
9	Sleep Mode	Sleep Mode is most commonly and specifically defined as "one of several software and hardware configurations" applicable to computer platforms in the Advanced Configuration and Power Interface (ACPI) Specification. The document states: "The interfaces and concepts defined within this specification are suitable to all classes of computers including (but not limited to) desktop, mobile, workstation, and server machines." As noted, the term is applied commonly to computers, not game consoles, and in most cases is associated with memory functions accomplished by conventional computer operating systems and hardware configurations. To reduce the confusion, we prefer the use of the term "standby, networked standby, and off-mode." These terms have been defined by international laws and standards, and have already been applied to consoles. Note: We have made this comment on previous ENERGY STAR® drafts.	EPA and DOE agree and have removed Sleep mode from the Test Method and Performance Requirements. It has been replaced with Standby mode.
10	Idle Mode Rejection	Game Consoles do not have an "Idle Mode." This term borrows the definition from the ENERGY STAR® Program requirements for Computers. While this definition may be appropriate for computers, there is no parallel function for game consoles.	DOE agrees with the comment. To avoid confusion, DOE has modified the title of section 6.4 from "Idle Mode" to "Navigation" in the Draft 3 Test Method. Draft 3 also replaces the term "idle" with "lack of user input".
11	Idle Mode Probable Consumer Misconceptions	The inclusion of this term as a separate mode or state in this new document could lead to assumptions that it would be possible to reduce Game Console power consumption when in "idle" mode by using technologies utilized by the PC industry for desktop computers. However, unlike computers, tasks associated with a Game Console in any mode require constant and ongoing active processing, seeking data from storage, memory, cache, etc. In the case of Xbox 360, the power consumed while Gaming, either with or without direct user input, is essentially the same. In other words, the power required to render the game, provide an active input menu, or stream media is not dependent on user input as the idle definition implies. This is integral to the functionality of the game console and should not be viewed as a separate state. In view of this, it is important that any definitions or limits based on the assumption that idle exists as a valid, separate, measurable mode be removed from further consideration in this proposal.	DOE agrees with the comment. To avoid confusion, DOE has modified the title of section 6.4 from "Idle Mode" to "Navigation" in the Draft 3 Test Method. Draft 3 also replaces the term "idle" with "lack of user input".

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12	External Power Supply Efficiency Requirements	There is no reason we are aware of that external power supply efficiency requirements should not be the same as internal power supply efficiency requirements. Also, we note that these requirements appear identical to those applicable to commodity computer power supplies. Game consoles do not present the same electrical load as computers. The Xbox 360 power supply is custom-designed for peak efficiency at actual load. To require high efficiency at other loading points adds cost without adding energy savings.	Requirements for external and internal power supply have been adjusted accordingly.
13	Motion and Position Sensing Input	This description is needlessly technical and does not accurately describe any input device currently on the market that we are aware of. The intent of this wording appears to be based on the assumption that motion and position-sensing output accessories, and only those accessories, would add to or otherwise affect the load in a unique way. The specific nature of this wording would exclude other accessories which add to the loading in a similar way but do not provide motion or position-sensing input. We suggest the wording be made more general or be deleted altogether.	EPA and DOE have removed the requirement that the game console must be tested with these devices plugged in to the console.
14	APD & Accessory Charging	We proposes the following APD requirement: Consoles that support accessories that require more than 2 hours to charge (twice the default APD timer) must be capable of one of the following behaviors: 1. Be able to charge these accessories in low-power modes after APD 2. Delay APD until these accessories are fully charged. This will minimize the risk that APD interference with accessory charging encourages users to deactivate it. Add accessory charging behavior, to ensure that accessory charging, such as controller charging, does not interfere with APD and does not cause users to disable APD in order to ensure their controllers are adequately charged.	EPA appreciates the comments on accessories charging behavior. Since the majority of controllers have the ability to charge to near full capacity during a 1 hour time period prior to APD, and since the console can charge accessories while games/media are actively being played, these requirements will not be included in this iteration of the test method and performance requirements.
15	APD	It appears the first sentence of this clause (127-131) is not worded correctly.	EPA and DOE have removed the questioned lines "On resume, a Game Console shall return to the previous mode the console was in prior to sleep unless there was an interruption in power to the console during sleep."
16	APD General	The key success factor with APD is to have it enabled by default in all key modes, and for users not to disable it. A recent study found that 80 percent of desktop computers in US homes do not have sleep/hibernate enabled, despite the fact that all or most manufacturers have been shipping computers with power management setting enabled by default for many years. This suggests many users disable power management on their PCs, probably largely due to user experience issues.	EPA appreciates the comment and information to assist in framing the forthcoming draft.

#	Topic	Comment	Response
17	APD Setup Conditions	When users first power on their console after purchase, they are guided through an initial setup sequence that allows them to set the key parameters required for console operation such as network settings. All or most consoles currently include the option to disable APD in this initial setup sequence. We are concerned that users may disable APD without understanding the energy consequences of doing so. Current implementations (PS3's "Special circumstances", Wii's WiiConnect24) lead many users to make choices without fully understanding their energy consequences. We believe it is important for the broad adoption of APD that this option is not presented to users during setup. Users should still be able to disable APD through the System Settings or equivalent menu after setup, but should not be prompted to do so during the setup sequence. Add setup language guidelines - to ensure that users are not encouraged explicitly or implicitly to disable APD and are made aware of the energy consequences of doing so.	EPA and DOE agree and have included language within the Performance Requirements (3.1.1.i - 3.1.1.ii) addressing setup language.
18	APD Roll out to Legacy Consoles	Given the large stock of legacy console in homes today, we recommend ENERGY STAR requires manufacturers to roll-out the APD functionality to their legacy consoles by software update, so that all consoles in use can benefit from this functionality.	EPA anticipates making EPA recognition available for game consoles sold after December 31, 2010. thought criteria doc said 2011- and I would go with manufactured not sold. How is sold tracked? For these reasons, legacy game consoles will not be included in the program.
19	Disabling of APD	The ability for the user to disable APD in targeted and narrow circumstances can limit the need to fully disable APD. We recommend that ENERGY STAR requires the following behavior regarding the disabling of APD: 1. Selective disabling of APD The user shall have the option to disable APD for all modes and for Active Game Play mode only. Consoles shall present the option of disabling APD for Active Game mode only first so as to encourage users to leave APD enabled for other modes. 2. Temporary disabling of APD In limited circumstances users may be prompted to cancel the APD timer temporarily to allow certain types of games or media content to run without user input e.g. simulation games which run without user input for periods longer than 1 hour. Upon starting such games or media content the user will be prompted to temporarily suspend auto-power down if required. Auto power down will be re-enabled when the console is next powered on. Differentiate APD timers for media play and other modes to minimize the risk of inconveniencing the user by triggering APD in the middle of a movie or show. Add selective APD disabling, to allow users to only disable APD in some modes and not others, to minimize energy impacts of disabling APD. Add temporary APD disabling, to allow users to disable APD for exceptional circumstances without resulting in permanent APD disablement.	EPA agrees. Changes have been made to include selective disabling and temporary disabling of APD. DOE notes that the APD test approaches included in the test method will not be affected by these proposals.

#	Topic	Comment	Response
20	Modal Limits	We recommend that ENERGY STAR establish a two-tiered specification: the first tier is less stringent and go into effect relatively soon, enabling short-term savings while requiring only modest design changes by manufacturers. The second tier is more stringent and is intended to set a clear target for future designs. It provides manufacturers with sufficient time to implement the necessary changes into new designs and their supply chains.	EPA intends to launch this recognition program in 2012 and will consider next steps for the program, in discussion with stakeholders, once the program is underway.
21	APD in Game Play or Media Play	EPA's Draft 2 proposes that "A Game Console in Game Play, or Media Play need not automatically power down". We understand EPA's concern about not impacting user experience during Game Play or Media Play. However it is critical to ensure that a console left idle during Game Play or Media Play does auto-power down after the required time. We assume EPA's intent is to cover these situations through Game Play Idle and Media Play Idle, however we find the current wording confusing and recommend its clarification. We believe that the wording in our attached proposal avoids this issue by defining APD requirements on the basis of user inactivity.	DOE has modified the Game Play APD test to include a scenario without pausing the game. If a tested game title is not capable of pause, APD will still be tested with the user ceasing all input.
22	Game Play Test Procedure	While we do not advocate for limits on active gaming energy use in order not to interfere with console performance in gaming mode, we believe it is important to be able to measure and report average power use of video consoles in gaming mode. This will help inform users of the power draw of their console in active gaming mode, it will support labeling programs such as FTC's Energy Guide, and will encourage manufacturers to reduce active gaming power use voluntarily.	At this time, DOE believes an active game play test would not be sufficiently repeatable nor would it yield results that are appropriate for comparison between devices or over time as different games draw different amounts of power. Due to these variations, any power measurement would not necessarily be representative of typical use.
23	Game Play Test Procedure	In conclusion, we strongly recommends that EPA adopts a Test and Report requirement for Game Play and considers our proposed test method to enable this requirement.	See response to comment #22
24	Media Function	ESA does not support "media function" power limits. Video game consoles are designed, first and foremost, for playing games. Consoles employ advanced CPUs and dedicated graphics processors in support of this chief game play purpose. It is not possible to significantly vary power consumption based upon function. Therefore, media function power limits may force console makers to add separate, lower power circuitry to meet reduced power level requirements.	Media is a large draw on game consoles and will continue as consoles add more connected functionality. Since, EPA is looking to recognize consoles, and not gaming, it is necessary to include media functions in this program.