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ITU/WHO WORKSHOP ON SAFE LISTENING IN VIDEO GAMING AND ESPORTS

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July 5, 2024

(Captioner standing by)

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(Captioner standing by)

>> Good morning, Sarah. Gent from ITU. Just a quick check if you can hear us
If you can go down a line so we can also see

If you can just skip some lines

Go to the bottom of the page, yes, great. Yes, now we see the text. Thank you very much.

(Captioner standing by)

>> SIMAO CAMPOS: Good morning, you all. Thank you for being back here with us for Day 2 of the workshop. Adds described yesterday and shown on the program on the screen and the web, no changes from yesterday. We're starting now to continue to review the document, and we proceed until 12:30 approximately, and we do have a coffee break, more or less at 10:45. And then in the afternoon, we're going to have continuation of the discussions in the scope of the Question 28 for the draft. That's starting at 2:30, and there it will be chaired by Masahito who is Rapporteur for Question 28. Now back to Shelly to do the display of the document and continue the discussions. I'll just stop the share.

>> SHELLY CHADHA: Thank you, Simao. Welcome back and thank you for the audio comments and active engagement yesterday. Let's hope that we can continue on the same line today and hope to advance very well during this day.

So, we were yesterday, we left at 9.3.3, dynamic range compression. What we will do is we will complete the entire -- all of the clauses. But before we move to appendices, welcome back to some of the points that we highlighted as okay, we will reopen these tomorrow. We have noted those and welcome back to them before we wind up by the -- before the end of the day.

So dynamic range compression, and we left it yesterday with the discussion with Brian being particular about the evidence behind the utility and also comments from Mark and Richard about its potential utility versus danger.

So, I want to hear if there are any further interventions or if the proposal would be -- so what would be the best proposal or the best way to deal with 9.3.3? Would you prefer that this be completely deleted, or modified? Brian?

>> BRIAN SCHMIDT: I think it might make sense to have it be deleted, but I think it puts now a work item maybe on us to maybe have a complementary document as we get more data into the user behavioral effects of some of these different things as to create a public document that can start to make these

best practices available. I don't know if it's, again, a supplementary document or something like that, but I don't think it's yet ready to go into the specification itself.

>> SHELLY CHADHA: Point taken. Is there any objection to leaving this feature out, deleting 9.3.3 completely? Okay. Sara.

>> SARA RUBINELLI: Yes, again can, I understand the comments so far but I'm just saying from a point of view of covering all potential behavior, I think then this would be important. Maybe it's not specific enough, but this is a point that it depends very much how comprehensive the document has to be.

>> SHELLY CHADHA: Thank you, Sara. Peter?

>> PETER MULAS: Thanks, Shelly. I'm sorry I missed this part of the discussion. I had a personal thing to attend to today so I left the meeting early last night. Apologies for missing this discussion. I don't want to reopen it because it sounds like there has will be been a number of comments. I wanted to quickly cover the rationale, which has been probably discussed. If we think about the reasons that gameplay may increase the volume, it's going to be because they can't hear the soft sounds. This implementation was I guess motivated by might node that uses dynamic range compression, and I understand that dynamic range compression can increase the loudness and I guess the question is developers of the game, audio experts in the room and on the call, there are ways to manage the risk or ensure that the average loudness isn't unsafely increased or maybe incooperating the dynamic range test to work in conjunction or ensuring that the volumes are kept low when the features is activated, or perhaps some sort of warning.

So as it's a non-mandatory feature, and as it's I guess a useful opportunity or idea for a game developer to use, is there a risk to leaving it in there with perhaps some sort of development that it should have provision to ensure that levels aren't increased to an unsafe level. Does that make sense?

>> SHELLY CHADHA: Yeah. Thanks, Peter. Comments from Brian, Richard, Mark? Would you like to speak to that?

I see that Richard and Mark are potentially not in the -- yeah, Richard is there. Okay. Go ahead, Richard.

>> RICHARD GLOVER: Yes, I'm here. I'd say removing that clause completely. I don't think it's helping this particular standard. The final arbitrarier is the energy being delivered to the ear. It doesn't matter how compressed or wide the dynamic range is. So I'm not sure of the point of it. I think it's misleading.

>> SHELLY CHADHA: Thanks, Richard. My question, also, to you Peter and to others is, since there is a feature proposed for dynamic range setup, maybe what we put based on Brian's suggestion, also, is that the role of dynamic range compression and night mode should be studied further. Is that something that we should -- that's what I gathered from Brian's comment, that this is something which needs to really be assessed and studied and documented.

Would it be safe to include it in that way? Any objections to that?

>> Can you clarify if you're saying putting text or something like this may be useful but it should be studied?

>> SHELLY CHADHA: So, I would say that we remove 9.3.3. Under 9.3.2 where we have said and spoken about calibrating a dynamic range compression mechanism which can be used to limit loud sounds throughout gameplay. And here we say this aspect is for further study. We have the potential to reintroduce it in a next iteration of this standard if we feel that there is at that point enough information available.

>> BRIAN SCHMIDT: Yeah. I agree with that approach. In fact, I think we almost could make a similar approach for most of the features in this section.

>> SHELLY CHADHA: The reason why we are considering deleting it is while all of the features here are really just examples of what they could do. Right. They're not prescriptive. These are some options that you can implement.

The reason why we consider that this is potentially not suitable right now is because of the contention from Richard and also Mark yesterday that this could be potentially dangerous. It could actually increase the sound koas rather than be protective. So that is the rationale for really removing it. If we think any of the other features could actually be detrimental for safe listening, then of course, we must reconsider them; otherwise, this is not really a prescriptive list and it's really a list of features for them to consider including. Make sense?

>> BRIAN SCHMIDT: Makes sense but I add that by having it listed as a feature, I think there is an implication that we as a body think it's something that a developer should do. Because, in fact, we say that they should until the text here when we may not be sure whether or not for a particular application that would be an appropriate thing to do.

>> SHELLY CHADHA: But that's why we say for everything else that it should be based on the game, and indeed we think that those would be helpful and that's why we are listing these features here. They would not be listed if they would not

helpful. These are already features which have already been implemented in various games.

>> SHELLY CHADHA: Any objections to this? I see none so we will move on. Then the next feature is about tinnitus sounds. Sounds refer to a sound effect that provide a simulation of tinnitus in response to a particular gameplay event, such as when a player is overwhelmed or enemy during a fight or directly exposed to an explosion or flashbang.

Should such effects exist within the particular game, an option should be provided to remove such sounds when first running the game. Once selected, the setting should be maintained unless the player on thes to change the setting in the audio game of the menu. The player opts to change the setting in the audio game of the menu. To better assess whether this feature is suitable, the gameplayer could be asked if they have trouble with tinnitus, ringing or buzzing in the ears that is made worse by certain in-game audio sounds.

Any comments? This has been discussed quite a bit earlier.

Yeah, Brian?

>> BRIAN SCHMIDT: Does anybody else have comments first? I think this is a marvelous feature. I think it should be in games where it's appropriate. I think this is an accessibility feature and not safe-hearing feature, in that its goal is to make the game less painful or more enjoyable for somebody who has tinnitus, but in and of itself it does not prevent hearing damage. And so I'm not sure it belongs in the specification.

>> SHELLY CHADHA: And we've had the same discussion in previous times and agreed to keep it even though it is not so much about -- this one is not so much about preventing damage can as in making life easier for those who already have hearing damage. And also potentially have the possibility to increase it, and we agreed to keep it. So is there a particular reason why you would want to reopen that discussion, Brian?

>> BRIAN SCHMIDT: Just more thinking about it. It's not something that I will die can on. I will surrender for this one.

>> SHELLY CHADHA: Thank you. The next is also -- well that is both safe-listening and accessibility feature which is about subtitles, so that is feature now 5, which is video gameplay software should enable subtileses bedefault which can pass I will at a time gameplay at lower volumes. It should help others and that is a benefit. Any comments from anybody? Okay.

Feature now -- feature 6 is about equalization presets.

The video gameplay should include adjustage equalization presets which apply filters to reduce the mid and high frequency range. Reducing this particular frequency range can reduce harshness, spikes in intensity and ear fatigue. Any comments?

No requests for the floor so moving on to feature 8. Now, feature 8 is not really a feature but something that we have discussed previously and we have readded this. This is smart listening mode. You may recall that in earlier versions of this standard, we discussed having a safe-listening mode or safer-listening mode or smart-listening mode which should include a set of features. At that time that was like a prescriptive that these are the features according to the type of game that we should include. Now, we agreed to change it all to be up to the game developers to implement as they see fit.

However, we would like to reintroduce this -- the concept of a smart-listening mode preset, again, not being prescriptive. Simply to say in a similar way of modern game menus manage graphic's quality, the video game should combine and enable by default all relevant safe-listening features available within the software title under one easy-to-enable settings preset. Which is to say that if a game has the option of tinnitus sound reduction and/or removal, equalization presets, et cetera, et cetera, it should enable all of these with simply the user turning on the smart-listening mode. Thereby making it easier for them to use this particular set of features.

The smart-listening preset should be aimed at reducing the total sound usage a gameplayer will receive during a gameplay session while minimally affecting gameplay experience.

I would also like to explain the reason and rationale why we have this -- why we reintroduce the smart-listening preset. I would like to request Peter to speak to that. Peter?

>> PETER MULAS: Can you hear me? Mainly the reason for the reintroduction of this feature is because we've conducted a joint survey with the American Speech Hearing and Language Association and as well as the University of W, the results are specifically embargoed, so I won't go into any details, but part of the survey was asking the participants from U.S. the Brazil and Japan with more than 500 respondents from each region, we asked about their opinions of the features that we proposed in the draft standard, one of them being the smart listening mode preset, and the two highest responses were the smart listening mode preset and sound category control management. So because of the resounding support for the

features from the game players themselves from the three regions around the world, which are quite representative of some of the bigger game marks in the world, we thought it would potentially a good idea to feature in the draft as a way to approach enabling features as it simplifies the process, removes any sort of complication for the end user, and it just promotes smart listening as a whole in the menu itself.

>> SHELLY CHADHA: So, again, this is not a prescriptive mandatory aspect of the standard; however, it is something that we feel could be beneficial to package various safe-listening features under a smart listening mode or whatever way, you know, that the developers may wish to call it. That's entirely up to them.

But this is our discussion based on the evidence that Peter spoke about. Any concerns? Any thoughts, suggestions? Brian?

>> BRIAN SCHMIDT: I think this is good to put this back in. I think the name of it is challenging. I know we talked about safe or safer, but the idea of a one-button to kind of do it I think is a smart thing.

>> SHELLY CHADHA: Anybody else? Melita.

>> MELITA: Smart listening with safer versus safe, was there a long discussion of why it was smart listening? I'm fine either way and just curious.

>> SHELLY CHADHA: We earlier had safe or safer. But we cannot say it is safe because there is nothing which is absolutely safe, right. And so the idea came that it's safer than, well not having anything. So we had safer. And then there was a proposal for naming it a smart listening mode from Carolina and everybody felt, yes, that is a smarter way to kind of package it than to say safer because potentially it's also that people would like to be smart, young people, versus being safer. That was the rationale.

However, we can also mention here specifically that the name is just an indicative name. I'm sure that game developers have much more innovative ways to package their features than WHO can come up with in focus groups and so on and see what speaks to people more.

>> BRIAN SCHMIDT: That's a great point. My concern is just that the word smart is so generic as for a smart listening mode could be one that detects the users pinna automatically or automatically changes their music play list based upon their preference. It's so generic I don't know people would associate it with hearing protection or hearing safety.

>> SHELLY CHADHA: Peter?

>> PETER MULAS: A question to Brian and others in the

room with the video game knowledge. Would it be more appropriate to say feature 7 and discuss it as a listening mode preset, or I've talked to other developers that called it a object block or feature block, and then we could talk about smart listening mode perhaps in an appendix or somewhere elsewhere the evidence can be referenced. So I guess in short, is it better to just change that smart listening aspect and just call it a preset or a mode or a feature block? Would that make more sense for a game developer looking to implement this in their software?

>> BRIAN SCHMIDT: I think that might be a good idea. Again, you know, I don't think smart listen something a terrible word. I just worry about the lack of semantic information that's carried with the word. Yeah. I think Peter, that's probably a good idea.

>> SIMAO CAMPOS: Simao speaking. Maybe one idea would be to add a definition of what is smart listening. Because definitions are there for the purpose of the document. We would say that in this document, smart listening means, and then a description. Maybe you don't need to have a whole new appendix on it and just make a definition in the 3.2 clause about that. That's maybe another way of handling it. Thank you.

>> SHELLY CHADHA: Yeah. We can add a definition, and I added this line. Is it clear? The phrase smart listening mode is an indicative and not prescriptive. Is that enough to say that you can rename it?

>> Or in the second paragraph, instead of saying the smart listening preset. Can you just say a smart listening preset.

>> SHELLY CHADHA: Easier. Peter let's put a definition which we can come back to in this meeting if possible.

>> PETER MULAS: Definition for smart listening mode?

>> SHELLY CHADHA: Yeah, under the definitions. Okay. Thank you. All right. Any further comments on this? Can we move to 9.4? Please.

>> BRIAN SCHMIDT: Before we do can we go back to the beginning of 9.3. I think what is missed and I know it was discuss, I would like to see a greater emphasis that software developers should really consider listening as its most -- or safe listening experiences as its most applicable to their title. You know, in fact, maybe the emphasis shoulder be that the list below is by no means exhaustive, or I know we have parenthetically or additional ones. As a couple of examples, I was talking to a developer of a first-person shooter game and they mentioned that one of the ways that they make it less

beneficial for a game to turn the volume up too loud to hear footsteps is they had a version of their game where the footsteps literally rolled off in a distance so they never became zero, so they always were barely audible, and that encouraged people to play the games very loud to hear those footsteps, but this the revision of the game, partly because of discussions that they were aware of this group, they changed their behavior such that the footsteps decrease in volume with distance to a certain level, and then abruptly go to zero to remove the incentive to turn the game up really loud.

I think that's an example of the kind of thinking that we would really like to have game developers do as they're considering those documents, so rather than the focus being on 9.3.1 and 9.3.2 and 9.3.3, your goal as a developer should be to carefully consider how audio is presented in your game to the player and are there things that you can do to make the listening experience safer and make it less likely for your particular player to engage in unsafe listening behaviors? So I think that's the overall message that I would like to see in 9.3 as opposed to a parenthetical or additional feature. So it's kind of flipping the emphasis if that makes sense.

>> SHELLY CHADHA: Thank you, Brian. We'll come back to that but let's first hear from Karl. Karl, did you want to say something about the smart listening or in general.

>> KARL: If you hold it there, I just wanted to doublecheck, the one for subtitles, did we make any changes? I don't think we did, but just to confirm that? Just a bit further up. That's fine. That's all it was. Thank you.

>> SHELLY CHADHA: Yeah. Right. So, coming back to Brian's point, what we currently say in 9.3 at the introduction part of it is that the video game should include default safe listening features within the game with the intent to reduce the overall sound exposure and risk of hearing damage among game players. The document acknowledges the diverse range of soundtracks, gameplay styles, and listening requirements of video gameplay software titles. As such, developers are encouraged to consider the utilization of features -- can we say, some of which are listed below. Some of which are listed below. Just a moment. Some of which are listed below. And include some or all of the following or additional ones as application. We can just say some of which are listed below and close there. Then a note to say the list is not exhaustive but includes examples of features implemented in game titles currently. Would that be more? Because of course we want people and already you made our day by saying that somebody has changed the way they designed the game simply because we have

been discussing these things.

But think about it while we take Sara's comment. Sara? We don't hear you.

>> SARA RUBINELLI: One comment. When you read, the list is not exhaustive. These are just some examples, for me it reduces the importance of the recommendation. I would say, yeah -- I mean the list is important to knowledge but not everything is included here. But these are not just some examples. These are important aspects to identify but it's not exclusive because there may be others. Just to make it a bit stronger.

>> SHELLY CHADHA: Okay. I get your point also. So, if we delete the note and say the document acknowledges the diverse range of soundtrack, listening style and requirements of video gameplay software tileses. As such, developers are encouraged to consider the utilization -- rather than utilization we'll say implementation of, it's not that they utilize what is existing, but implementation of safe listening features, some of which are listed below, or some important examples are listed below.

>> SARA RUBINELLI: I don't think they're examples. Some of them, some of which are listed below because they're not all examples.

>> SHELLY CHADHA: Yeah. Okay.

>> SARA RUBINELLI: But again, I'm just saying to make it stronger.

>> SHELLY CHADHA: How does that sound or read to you Brian as a game designer and to you, Sara, the way it currently stands?

>> BRIAN SCHMIDT: I totally get the point that it's easy to maybe add text in here that de-emphasizes the ones listed there and that's not my intention, obviously. Do I think that a game developer should consider their specific game and how features within your game can affect a players listening health. I think that's the point I'm trying to make. That seems to be something we want developers to do, and whether or not we list that as something that we should do here.

>> SHELLY CHADHA: Yes, but we've already said that we acknowledge the diverse range of soundtracks, gameplay styles, listening requirements and that developers are encouraged. So I think overall to me the sentence seems very respectful of game developers and not saying to do this really. But I'm happy to make it more respectful, but give us some option to consider, Brian.

>> BRIAN SCHMIDT: I think the wording here is

sufficient. Again, I don't mind being a little more suggestive to developers, but I'm okay with the language here. I think if we do a white paper or something as we talked about before when we have some more empirical data on user behavior, that that's also a place where we could put some stronger language for developers to consider individual things that they can do unique to their title. Again, like footstep, for example.

>> SHELLY CHADHA: What we would like to do from WHO's side as a follow-up, just listening to what you've said, is to put together a paper like you said, or even a white paper or academic publication looking at what are the different kinds of features that have been implemented. We have some of those listed here, of course, but there are probably many more and there could be more that come up, hopefully. So also to highlight them in a way which is non prescriptive, but by simply sharing them on our websites and so on as examples of safe listening features that have been implemented. So maybe that could also be a way to encourage this kind of innovation to be able to showcase it. Thank you. I'll make a point of that. All right. Let's move then. Are we okay to move to 9.4?

9.4 is headphone safety mode, you may recall we discussed headphone safety mode in the context of the device, the console and so on. Now this is about the software titles. Again, this is something which we had discussed at length in previous meetings. Based on input, et cetera, we revised this so that video game play software titles should provide a default headphone safety mode where the audio output for VGD for headphones is also intended for use with a speaker.

The default headphone safety mode shall be implemented when the video game play software title is capable of detecting, so understanding that it may not always be capable of detecting, that users are moving from free field to headphones on the same audio output. Again, we had the similar discussion last time. An automatic volume reduction of at least 3dB occurs. This is not required when the VGD on which the video gameplay software title is released provides an equivalent features. This is not a mandatory feature and intended only where the game can actually detect that and the corresponding device which it is to be played is not implementing this feature. I don't see any requests from the floor but I will leave it on the screen because I see that people are still reading it and trying to digest it.

Moving on then to clause 10 about textual health warnings. So the importance of health communication, et cetera, is in the next clouds. This clause is put together

after feedback from all of you. Of course, this is not new and also last time like this, that all of the text warnings have been grouped together in this. So these are warnings through user guides and other written information, that's 10.1. Safe listening feature information, which will be in the VGD or the video game, so both of these are included in this.

So 10.1 is about the user guide and written information. VGDs and video game software shall provide sufficient text-based information to game players in user guides or related electronic resources and websites.

The information should go beyond a minimum set of instructions and aim to change behavior. It should include: A simple statement confirming that loud sounds can be a source of unsafe listening due to potential volume levels and duration of gameplay.

A list of common auditory symptoms that can occur when unsafe listening has occurred, including tinnitus and loss of hearing sensitivity; simple instructions to incorporate safe listening no gameplay, including references to more information as well as any onboard features they can use.

Such information should avoid technical or complex terminology or references that are not easy to understand for a layperson.

And then we have some examples in appendix 4. Any comment or concern about this? Again, the text is unchanged from the previous iteration which was discussed in April, but we are happy to receive further feedback, of course.

Okay, Sara, please, go ahead.

>> SARA RUBINELLI: Just a comment. I find this very well written because if I think about health literacy, which is the major point here to make people understand this, it goes by saying the what, so the symptom and then what to do. Because always when we study this sampling, it always is clear that they want to know what we can do. This is a very important thing. I find also the fact to avoid technicality is important, but to say to instruct on what they can do. This has to be very clear. Yeah. Very good.

>> SHELLY CHADHA: Thank you, Sara thank you. That's helpful. 10.2 is safe listening feature information, so to ensure the effective user safe listening feature, VGDs or video gameplay software titles shall include information pertaining to the purpose and/or rationale of safe listening features available within their systems.

So this is, again, important that the features within the device should not be hidden somewhere and not really be elaborated on, so in all of these, there should be information

available regarding the features which are there in the VGD or software and how they can be used and how they can be accessed.

So, again, we have some examples in appendix 4. I don't see any concerns there, so I will move on to clause 11.

Now, Clause 11 is about the WHO audio headphone output characteristics register. Accurate dosimetry readings require an understanding of the technical characteristics of the transducer responsible for delivering the sound to the game player. The accuracy of dosimetry may be limited in situations where the technical characteristics of the headphone or earphone is unknown to the VGD. Therefore, it would be advantageous for manufacturers of headphones and earphones to provide appropriate technical information to add to a decentralized register so that manufacturers of VGDs can utilize this information to calibrate their dosimetry mechanism. The process thereby technical information is required and how it can be received registered, stored, and made available is a topic for further study.

So this is not really a requirement of the standard; however, this is an important aspect to consider. We have discussed this with colleagues within ITU and WHO, and what we think is it is bigger than simply this discussion so it needs really to be part of the whole discussion on headphone safety Masahito, maybe you can comment further on how that can happen.

>> Masahito Kawamori: I think we agreed this part, maybe we can leave it here as part of this standard or recommendation, but we should work on a separate work item that would address these issues expressed in this section. So, for registration as well as sensitivity as well as information, like Metadata between devices and so on will be discussed in a separate work item and draft recommendation. So I think it would be good to have some contributions to create such a work item. Thank you.

>> SHELLY CHADHA: There is also a comment from Mr. Yamazaki from Sony that says headphones on the market that features such as optimization exhibit nonlinear characteristics and output characteristics vary therefore due to the nonlinearity. Therefore we believe it's not practical to calculate the dose from the output of nonregistered characteristics.

>> SHELLY CHADHA: I think this speaks to the point which Masahito said that this is a larger topic than what can be addressed within the framework of this particular standard, and it is relevant of course, not just to this standard but as to H.870 and potentially to other aspects of headphone safety, and therefore should be addressed in a separate discussion.

Richard?

>> RICHARD GLOVER: I was just going to support what has just been said. This is an extremely complex area and we can easily fool ourselves and fool all users of headphones if we get this wrong. So, yes, what Masahito said and making this a separate work item and get into grips with all of the issues involved is a very important area to consider.

>> SHELLY CHADHA: Masahito, how can that work item be initiated and where would it be housed?

>> Masahito Kawamori: Maybe we could create a draft maybe from this workshop which will be proposed in the next working group meeting this afternoon and we will create one, if that's okay.

>> SHELLY CHADHA: Would it sit with this study group or with another study group, study group 5 or something?

>> Masahito Kawamori: Well, we can start in this group and then send a liaison letter or something to help, to get some help. Brian wants to have the floor.

>> BRIAN SCHMIDT: Per Yamasaki's comment, would you like me to modify the diagram, which I think is a little oversimplified right now to add in a potential nonlinear component, or should we add a footnote to the diagram specifying that that might be the case? I think it needs one or the other.

>> SHELLY CHADHA: I think adding a footnote is potentially better than making the diagram somehow more complicated. Right now it's very clear.

>> BRIAN SCHMIDT: Okay.

>> RICHARD GLOVER: The key issues in the diagram, in the footnote is yes there is nonlinear characteristics like compression which may go on in the headset, but as any modification to frequency response somehow has to be captured, and could be done in Metadata or something but it's complex.

>> SHELLY CHADHA: Feel free to make a proposal for that footnote Richard, if you wish. Karl?

>> KARL: I'm wondering whether we need this section in here now. If we add this note to the, this footnote, then I don't think we need this section. I think we could remove it. It's not really giving too much information. It's just saying that it's for further study, which we've already highlighted the issues that can happen, so I think we're just duplicating information and saying it's for further study. I'm not sure how useful that is. Because we don't know whether this is going to be implemented. Thank you.

>> SHELLY CHADHA: Any comments on that? Masahito?

>> Masahito Kawamori: Yeah. If this is going to be

another work item, then maybe we can keep the heading or something. I don't know the title of this clause, WHO headphone output characteristics register it seven is right or wrong at this moment. We don't know. Because we might do something else as well. So in that sense, maybe we can -- it's an option to delete it. If we want to keep it, maybe we can make it more general, not this specific characteristic register. Mark?

>> MARK LAUREYNS: I would suggest if you make the footnote anyway on the nonlinear characteristics of headphones, maybe in that footnote you could also say it might be advisable to create a WHO/ITU headphone or something like this and leave it in the footnote. Because as a title it feels very strong for something that doesn't exist, to be honest. But I think if there is commitment to start working on that item from this group, I think that's already a very positive attitude. And then it's kind of interesting if you make footnote, add a little extra to it because it looks like something could be developed. Now it gets so much attention, people read it, and at the end oh, yeah but it doesn't exist, it's kind of a bummer at the end.

>> SHELLY CHADHA: Yeah. Point well taken. So we put it in the footnote and maybe also in the appendix where we're talking about dosimetry, and create a work item based on that.

>> Michael: If you want to add a footnote I think it should include both nonlinear and linear manipulation of the transfer function or signal processing.

>> SHELLY CHADHA: Will you prepare that footnote Brian? Or should we do it? You will add linear and nonlinear? Perfect. Thank you so much.

So we make a note of that and hopefully we can review it later today. Thank you.

We move on then to clause 12, so what was earlier clause 12, features of live sports events is now changed based on our previous conversation into an appendix, so that's in the appendix, and this clause as it existed, has been removed.

So clause 12 is now guidance on ancillary concerns. In addition to the direct effect of the transducer and the playing device connected to the VGD, there are several points that we need to be taken into account when VGD is deemed safe. ITU-T-P-360 has some information in this regard. When a headphone or earphone is connected, there may be an acute noise, clicks, and pops, due transience undesirable noise in the system. Certain devices when connected or paired together, give can off a confirmation sound to indicate that the devices are successfully paired. In such a case, the sound level of

the confirmation sound may need to be in the safe range. Such sounds cannot be measured by a dosimeter on VGD. Effort is made to accommodate between certain transducers namely from loud speakers to earphones and headphones which may unintentionally cause an increase in volume under certain circumstances, see clauses 8.4 and 9.4.

So this is similar to what is in H.870. Any feedback on this clause?

>> Masahito Kawamori: Can we go back to the previous session? Clause 11. Did we agree to delete it? Or okay. Go back to clause 11. I'm sorry. Yeah. Your microphone.

>> SHELLY CHADHA: So, yes, made a note here and we can delete it right away, actually.

>> Masahito Kawamori: What about Brian's proposal, is it a note for the diagram or here.

>> BRIAN SCHMIDT: I believe it's a note for the diagram.

>> Masahito Kawamori: Okay. Thank you.

>> SHELLY CHADHA: So actually what is currently clause 12 will become clause 11 then.

>> Masahito Kawamori: All right. Thank you.

>> SHELLY CHADHA: All right. So we are at the end of the reading of this particular standard, and we would like to go back to some of the points that we left as open yesterday and we said we would come back to it tomorrow. Is that fine? Would you like to have a coffee break now? We still have 15 minutes for the official time. We better stick to the official time for captioners? Right?

>> SIMAO CAMPOS: The captioner is booked from 9:30 to 12:30 so if you decide to break, question make it shart shorter or longer or whatever. We could come back at 11:00 if you want.

>> SHELLY CHADHA: Could we come back in 20 minutes and maybe have a longer lunch break because I think Simao also needs to -- (Laughing).

>> SIMAO CAMPOS: Okay. We will be back at.

>> SHELLY CHADHA: 10:50.

>> SIMAO CAMPOS: 10:50 Geneva time, in about 20 minutes.

>> SIMAO CAMPOS: Okay.

>> SHELLY CHADHA: Okay for everybody? Thank you. See you in 20 minutes.

(break).

>> SHELLY CHADHA: Okay. Are we ready to restart? (Laughing). I need to put on my teacher voice. (Laughing).

Where did Simao go now? Carolina, time for champagne in

the evening. Let's get back to work now. You're from Spain so any time of the day goes. Okay. Can we get restarted? Masahito, calling Masahito. Carolina, please tap Masahito that we are restarting.

Welcome back, everybody. Everybody online also I hope is back. Let's get started with what was left from pending yesterday. We go right to the top of the document and we'll start with all of the points that were outstanding and we left for potentially for commenting on them today. One was under definitions, 3.2.2A, B, C. Definitions of casual gameplay, regular gameplay and esports gameplay. So now these definitions or these terms have not really been used within the text of the document, and therefore as discussed yesterday and as a matter of point of procedure, they should not feature in the definition.

Our suggestion would be that we refer to these and what they mean in the background of the introduction right at the start, but not include them in the definition. Would that be mine? Melita?

>> MELITA: When you say include in the introduction, all of these? Or just mention -- how would we do that?

>> SHELLY CHADHA: We would not include them as definitions. We will mention them. Sergi?

>> SERGI MESONERO: Yeah, if it's like this standard applies to casual, regular and esports players, then it's fine.

>> SHELLY CHADHA: Yes. Yeah. Okay. So, we will prepare a sentence and maybe we can even discuss that before we close that. Peter, will you prepare that sentence and we can go back to it later.

All right. Moving on to, right, we have added to the list of definitions, smart listening mode, a video game software user interface option, typically found in sound or audio settings menus. When enabled, it activates all safe listening features within a specific video game software title. This was base on Simao to include a definition of safe listening mode in this document., yes?

>> MELITA: Does it always activate all? Do we want it to activate all? Or do we say when available it activates safe listening features?

>> SHELLY CHADHA: I think it's fine because potentially there are some features that are already mandatory and activated, but this is about the software features which are game dependent or title dependent. I will leave it on the screen so people can read through it and consider it and give their feedback if any. Karl?

>> KARL: Can we just go to the section of that smart

listening mode just to read through that again. Thank you.

>> SHELLY CHADHA: 9.3.6, in a similar way the how motion denied ems game manage graphics quality, the voido game should combine and enable by default, all relevant safe listening features available within that software title under one easy to enable settings preset. A smart listening preset should be aimed at reducing a the total sound dosage a game player will receive during a gameplay session, while minimally affecting the gameplay experience.

Peter, can I ask you to please copy the definition as it is added to 3.2.0 and just for the sake of deliberation, paste it here below 9.3.6 so that we can look at them side by side. Thank you, Peter. You can see it right below so that we can read both the things together.

>> MELITA: Based on that, all should stay in there.

>> SHELLY CHADHA: I think because in the definition here we have not specified within the software titles, so that's why I think it's okay not to have all there. Brian?

>> BRIAN SCHMIDT: I think I would remove "all" from 9.3.6, it's conceivable it could, in fact, there could be incompatible safe listening features.

>> SHELLY CHADHA: Any comment or concern? We will add that back to the definition. It's the same, we haven't changed anything. I'm just deleting it from here. Let's just accept that deletion so that it's not shown as deletion. Okay. So that was one additional item added today.

Let's move down. The text for the block diagram will be proposed, as discussed by Brian, that's an outstanding item left as of now. All right.

Now, we left -- we did not complete our discussion yesterday about analogue VGDs, so the provisions outlined do not apply to hearing aid equipment and other specialized devices for assistive listening was clear. And then analogue VGD such as location-based entertainment or arcade games. This exemption is subject to reassessment as technology progresses. Are there still concerns about this text staying in there? Does anybody want to propose an alternate, or have a proposal with how to deal with it.

>> So the term analogue is a bit confusing here. When I read it I replace it with the word, stand alone. I don't know if that would be more appropriate. I haven't really thought about if there are video game devices that should be covered by it that are not standalone, by that would be my initial reaction.

Replacing the word, analogue, with a more suitable word because they're in fact all useful even though they're arcade

games. I'm thinking standalone video game device, but that may not be suitable. There may be common cases I haven't thought of.

>> BRIAN SCHMIDT: I think perhaps something like video game devices in location-based entertainment locations or something like that. Yeah. Location-based entertainment is kind of a term of art that refers to arcades, and also refers to amusement parks, virtual reality experiences where you don't do it at home, you go to a big room and everybody else is wearing VR headsets, and you hopefully don't bump into each other. I think the idea is we want to exempt location-based entertainment.

>> DORTE HAMMERSHOI: Can I ask for clarification. Why do they need to be exempted or why do we want to exempt them? Because there suspect a personal account associated with the user, or what is the reason for exempting them?

>> SHELLY CHADHA: Because it is not personal. Dosimetry is not going to be useful in these games since it is going to be used by multiple people.

>> DORTE HAMMERSHOI: But it would still be useful to have a display for the session that the user is participating in. From the device from session to session it won't make sense to sort of accumulate it.

>> SHELLY CHADHA: Uh-huh. Peter?

>> PETER MULAS: I think the original point was about arcade games, which and Brian can correct any because he's the expert, typically allows a speaker or free-field expectation, unless there is some sort of arcade game out there, Brian, that you can connect a set of headphones to these days which might be possible but I think it's beyond the scope because of the nature of the free-field sound presentation of a arcade game device.

>> BRIAN SCHMIDT: Yeah, Pete, that's my recollection as well. There are things that may, virtual reality locations is one that was mentioned. We could say specifically location-based entertainment with free-field speakers or something like that.

>> SHELLY CHADHA: Mark?

>> MARK LAUREYNS: I want to echo I think that is good that it is et ited because I was surprised the systems are not safe so they need to be safe, but the way the standard is made wouldn't work for this system like this, but I'm happy with the fact that free fields has been added so now I think it has been narrowed to a very specific application. Thank you.

>> SHELLY CHADHA: So location-based entertainment with free-field speakers such as arcade games. I removed the

parentheses and put that specifically because that's what we're referring to, right. Yeah. Okay. Does this serve us?

>> BRIAN SCHMIDT: I think so. It depends how broad they want this to be, if there were a Disney ride that had people putting on headphones, do we think this spec should be used for something like a Disney ride where people wear headphones?

>> SHELLY CHADHA: Would it qualify as a video game?

>> BRIAN SCHMIDT: I don't know. We've never been able to figure out what a video game is. I'm thinking you go to the star cruiser millennium falcon experience and you're temporarily after standing in line in the sun, you are now piling into the millennium falcon and put on headphones and have some augmented reality experience that, for --

>> For the most part not interactive.

>> BRIAN SCHMIDT: Very interactive. Shooting bad guys and maybe competing against Jaba the hut.

>> SHELLY CHADHA: But we said AR and VR is for further study, didn't we? Considerations for virtual reality and immersive experiences are for future study.

>> BRIAN SCHMIDT: Maybe it's a screen-based thing. Trying to figure out if we're really targeting somebody sitting at home with headphones playing video games, which is kind of the core thing. Then the question is how far outside of the bounds do we want the spec to apply. We don't want it to apply to arcade games with free speakers where the ambient noise is just huge anyway, but then are there location-based entertainment situations where we would want this spec to come into play. Or is that just a whole category of experiences that we just don't want to cover at this point. I can envision, again, location-based entertainment experiences that have headphones and aren't necessarily AR but aren't a sit-at-home scenario.

>> SHELLY CHADHA: Karl and Michael.

>> KARL: I don't think the text with free field is hebful because that's out of scope anyway. So from what Brian just said, are we targeting the location-based entertainment with headphones, are we saying that those are not within the scope? And should be studied later. I'm not clear about what we're trying to --

>> SHELLY CHADHA: We're trying to exclude arcade games.

>> KARL: All arcade games?

>> SHELLY CHADHA: Like Brian said, the initial thinking behind this or the target of the standard is really the person who is playing the game on either a individual or competitive setup, but it's a personal exposure and not really thinking

about Disney World with an immersive experience. We haven't really considered that, and potentially that requires some different kind of thinking even.

>> KARL: Okay n. that case we should say that, location-based entertainment and then remove with free-field speakers because I don't think that's -- that's just confusing because that has nlt been mentioned before.

>> SHELLY CHADHA: Right. But let's hear from Michael and then Dorte.

>> MICHAEL: I agree with Karl here that the term free field in this paragraph is confusing because what we're dealing with is location-based entertainment, and there is no good way of tracking user exposure when you are in that scenario with location-based entertainment. The nature of it is that people go in for a session, maybe half an hour, maybe an hour. In a theme park, then it's several hours of exposure during a day, and it's a very infrequent event.

So I think by taking out free field and excluding location-based makes the most sense to me. There is no provision for measuring correct user exposure anyway. If you want to target Disney theme parks or theme parks, I think you need a theme park standard where dosimetry is accumulated across all rides during a visit to a park. It's a different scope than this standard, I think.

>> SHELLY CHADHA: Thanks, Michael.

>> DORTE HAMMERSHOI: Is there a definition of location-based entertainment in another framework? Because it sounds like a concept that is used in the industry so maybe we can make a reference to a standard that defines what a location-based entertainment means.

>> SHELLY CHADHA: We can look for or make that definition for the purpose of this particular standard. Potentially I think it should be in the definitions.

>> BRIAN SCHMIDT: Yeah. I looked up a couple examples. A couple examples RDE refers to gaming or other immersive experiences outside the home often in physical spaces like amusement mark or escape room. Entertainment that occurs in a physical environment beyond the confines.one's hope. It tends to be not sitting at home experience, it's a go out somewhere else experience. I agree with Michael, not that safe hearing and location-based entertainment is not important, it's just not what our spec is designed to cover.

>> SHELLY CHADHA: Absolutely. If you could pop the definitions in the chat or email, and the source, then we can add them. Karl?

>> KARL: Yeah, so with that in mind, the note

underneath, I'm not sure that makes much sense. About emerging technologies and usage patterns. I think that was there whether we had both points. Or copy of 870.

>> SHELLY CHADHA: It was also in consideration of the fact that now Airpods would potentially be used as Airpods or other let's say wireless earphones, would be used, could be used, and it's something which is happening even as we speak, as assistive technology for amplification, and in the U.S. there is the OCC aspect. But still that would still fall under the realm of this kind of standard. So that's why we kept it as has been allowed due to evolving technologies but it can be reassessed in the future as technology progresses. It was really, I think Peter explained it yesterday as well, or mentioned it yesterday as well that that was really in consideration of these technologies, emerging technologies.

Mark?

>> MARK LAUREYNS: I just have a question about hearing aid equipment. Why don't you just say hearing aids and other specialized devices for assistive listening, because hearing aid equipment looks like an accessory to a hearing aid or something and I don't think there is a definition anywhere for that.

>> SHELLY CHADHA: Points well taken, Mark. Any comments about the note other than what Karl said?

>> The note is applicable to both then from what you were saying.

>> SHELLY CHADHA: Yes, we changed it yesterday. Yes. Agree. Peter?

>> PETER MULAS: Just a quick follow-up for Mark's comment, H.870 describes hearing aid equipment and other devices for assistive listening, so that's exactly where this sentence came from.

>> SHELLY CHADHA: But the note currently as Karl points out applies to the second bullet and not to the first. Do we need to retain it, change it.

>> PETER MULAS: I was talking just to Mark's comment about hearing aids.

>> SHELLY CHADHA: Yes, that's fine. But I'm talking about the note. Okay. There doesn't seem to be any resolution about the note. Do we need the note? Is it serving a purpose?

>> DORTE HAMMERSHOI: We need either to change the note back to these exemptions or plural or singular -- and if we have both exemption, I think we have to change it back to what it was before we started editing.

>> SHELLY CHADHA: Can we remove the first part of the note and simply say the listed exemptions are subject as

technology progresses.

>> DORTE HAMMERSHOI: Yeah. Yes.

>> SHELLY CHADHA: Is that okay? Any objections to that? Can we retain hearing aids and hearing aid equipment given that is how it is mentioned, hearing aid equipment is mentioned and defined in H.870.

>> MARK LAUREYNS: Yeah, sure, fine with me. Yep.

>> SHELLY CHADHA: Okay. Good. Any further comments on this?

>> MARK LAUREYNS: To say from language perspective, hearing aids, comma, other specialized equipment, and other specialized devices. The end is a little strange.

>> SHELLY CHADHA: Thank you, Mark. All right. I don't see any further comments on this, so we will move on s.

Right. One item we discussed yesterday was about miewltsing. The video game software shall include independent sound category volume controls allowing the tbaim player to adjust levels and selectively mute different sounds within the game. This could be, for example, under the game audio menu options. Sound category volume controls of this nature can provide efficient ways to reduce or mute the overall volume level within the game, and specific sounds that they feel are not required based on their gameplay style, and then we have some examples of these sound categories.

Two points we left open was about muting, and or or. And then also a comment about the accessibility about the audio controls for which we have a new proposal, which we will discuss. First, let's talk about controlling the sound of the different categories versus simply muting it. Sergi, would you like to take the floor?

>> SERGI MESONERO: Yes. I hope I'm able to explain myself better than yesterday. For some categories of games, having volume controls is either not practical or it's difficult to implement. We have to understand that games are made in the context of big multinational companies but as well in studios that maybe sometimes be only one person.

Some of these games, of course we do not have the same amount of resources to implement all types of feature, and/or maybe more artistically oriented games that have a particular way or the developer thinks there is a particular way of mixing the sound is important to understand the game.

So those games tend not to be very loud, for not allowing smaller games with or artistic-oriented games the option of just muting the sound channels, and forcing a volume, we may find the situation where games with enough budget and lots of explosions are considered that they are safe for listening,

while these other games that are in many cases called zen games or quiet games are not compliant, where potentially they are actually in reality offer much less risk.

So, my suggestion would be to flexiblize the option and to allow besides giving the option of implementing volume controls, also the possibility of muting channels. I think it's true there may be cases where, I don't know, developers by I don't think it's the case of evil developers that want to just game the system. It's that wide it is spread. In general terms, developers want the players to have the best experience possible for their players. In the case of smaller games or artistic games, you see how they make an effort to include the music or mute the sounds or mute the other sounds, et cetera, et cetera, but do nothing to implement volume controls because for them it may not be feasible.

>> SHELLY CHADHA: I see you raise two concerns. One is the implication of this feature by small developers who may not have, let's say the bandwidth or resources to actually implement this feature other than to give a mute option. Is that correct?

Okay. That was one. The second is which we discussed earlier in previous conversations, which is that the developer may not want due to the artistic expression and so on, they would not want to give certain controls to the user.

And it was in consideration that have points which was raised by Brian earlier that we said that while it's a mandatory feature, sound volume controls, which controls they are we did for the describe or list it, but only have given examples of these. The second part has already been discussed so let's not reopen that. Let's go to the first part which is implementation by small developers.

>> BRIAN SCHMIDT: Do address that point, Sergi, I don't think it's a burden on a developer to implement these features. In fact, even for very small developers, developers typically use, especially small one, pre-existing game engine, most popular ones being union teerks reel, game maker, OD3 and so on or and/or they use commercial game audio tools such as one called Fmod studio, Wise by audio kinetic, and I'll put a link in the chat of we do a survey of what people are using, down to the Minecraft audio engine, every single engine has the ability to categorize sound specifically so you can easily do category volumes, so I don't think with the exception of a de minimis amount of work required for a slider UI instead of a checkbox UI, I don't think it's a burden on the developers to implement volumes as opposed to mutes. I didn't raise it yesterday because I wanted to doublecheck first, but I don't think that's

a valid issue. Good point. Thank you for standing up for the developer.

>> SHELLY CHADHA: Mark and Sergi.

>> MARK LAUREYNS: I think maybe we can follow the logic we're also following in IEC. When a game is intended to have a soft level anyway, as you were just saying, Sergi, I think the logic is in IEC that if a device can't have reach of a level or in this case 75 dBA they could be exempt from the requirement because it's unhairntly safe because they couldn't reach that level at the moment. My only question is for the hardware that seems to be Ferrell okay to doublecheck that. For a gamer such, how would you know the game title is developed. It can't reach a certain level when you play over a device. That's my only concern about that. Just questioning that option. I think it's kind of difficult to implement on a title and easier for a hardware device.

>> SHELLY CHADHA: Thank you, Mark. Sergi?

>> SERGI MESONERO: Yeah, I mean probably -- okay, I'm not a expert on game development and audio in particular experiences that many smaller games do not implement volume controls, but they do implement muting channels. Then I defer to the bigger knowledge here of Brian and the rest.

>> SHELLY CHADHA: We will maintain as yesterday and selectively mute different audio options. A point was raised by Carrie yesterday about the accessibility of these options. She proposed, after a request when she was requested by us to propose some text based on available standards, and she sent us some text which was revised by Simao and myself to as which we feel could be put as a note here to say universal design principles should be taken into account when designing sound category volume channel controls so that adjustments for comfort are quick to perform.

And this, the references were also provided by her which we will add to the bibliography if this is accepted.

>> I might remove for comfort because I don't think it adds anything. Adjustments are quick to perform.

>> SHELLY CHADHA: Any other comment or concern?

>> MASAHITO: Can I? Is this about physical design or design including accessibility?

>> SHELLY CHADHA: It's about access of the sound category volume controls.

>> MASAHITO: Hardware?

>> SHELLY CHADHA: In the game title. That is the feature we're referring to.

>> MASAHITO: I see. The user interface.

>> SHELLY CHADHA: Yes.

>> MASAHITO: Okay.

>> SHELLY CHADHA: I don't see any comments or concerns so we will --

>> MASAHITO: Just to clarify, so the volume in here, the volume channel controls, the controls mean sort of a API or interface, user interface, a type of software.

>> SHELLY CHADHA: It refers to the feature which we've been talking about, 9.2, sound kalt gree controls. These are independent sound category controls whereby the user can control, reduce, or mute, redouse and mute different sounds, such as chat selectively. What this note refers to is that those controls should be -- access to those controls should be in line with universal design principles.

>> MASAHITO: The reason why I'm asking is because controls seems to be a function. It sounds like a function. It's software function implemented to control volume. But bh you talk about design, then it's not a function, it's user interface, physical existence.

>> SHELLY CHADHA: But this note refers to the user interface.

>> MASAHITO: Yes, so that means that controls, the word controls, is ambiguous between the physical existence versus a function.

>> SHELLY CHADHA: But the controls refers to the feature that we are talking about, Masahito. That is the feature we have been discussing.

>> MASAHITO: The features are okay. Features are functions, right. The features are characteristics, it's abstract. But user design is a physical existence that can you see. If you want to add the note, designing or physical design or user interface of the controls should follow the universal design principle or something like that because otherwise you get because people are reading this and controls are interpreted as functions.

>> SHELLY CHADHA: What would you propose.

>> MASAHITO: As I said, the user interface of the volume controls.

>> SHELLY CHADHA: Volume sound category controls.

>> MASAHITO: Should follow -- I'm sorry, let me rephrase. In designing the user interface, in designing the user interface for the sound category volume controls, universal design blah, blah, blah. Yea.

>> SHELLY CHADHA: Should be taken into account.

>> MASAHITO: Yes. The rest is the same.

>> SHELLY CHADHA: Okay. So adjustments are quick to perform.

>> MASAHITO: Everything else is okay. Otherwise controls are ambiguous toward function or feature versus user interface.

>> SHELLY CHADHA: Mark and then Dorte.

>> MARK LAUREYNS: Yes, I'm not against the fact that you can adjust the overall volume, but then there is a conflict with the title and this topic because in the title, we only talk about sound category volume controls, and then all much a sudden you talk about the master volume. All of a sudden you add maflter volume in the title or second point which is very imparticle. I think it would be sound category and master volume controls, and then it's fine.

>> SHELLY CHADHA: Thank you. Mark. Dorte.

>> DORTE HAMMERSHOI: I'm not sure it's to make it so specific in the user interface title of the gameplay. I think many still perform to have analogue volume control, they are fast, they know where they sit, and they can see them physically, so when you apply universal design principles, there is in fact the chance that if again the user population might perform to have physical controls rather than software faders or things like that. And I think we should be careful not to contain creativity of future designers and opportunity to use these for analogue control for any of these if they should so desire.

>> SHELLY CHADHA: Thank you, Dorte. This feature is specifically for the software. It relates not to the device but to the title, the game which is being played, and every game has a different of course sound profile with different types of sound effects, and this is not to take away the analogue control, but this is the option to control the volume within a particular game of different sound category, the chat, or dialogue, you can selectively reduce voice chat level while you can still hear the game at the same level or reduce the music level. So it is really this feature is for software, so it is not to tabling away from the analogue controls. Mark.

>> MARK LAUREYNS: I agree. It's to enchurnlg r courage soft waiver title with designers, to create safe listening software game title. I think that's what you want to do. When you create the title, you don't know what the options are in the hardware at that moment, so I think it's two things apart. And by the moment it's implemented, you still have the freedom, not to use this and use the button and logical control you have. I think it's important to be specific. It's fine with this. It's encouraging developers to think about safe listening.

>> SHELLY CHADHA: Thank you, Mark. Any further

comments about this? Thank you, Brian, for putting the definitions of location-based entertainment. We will look at them and then put them in. All right. 9.2. Any further comments before we close this?

I see none so we will move on. I think we did discuss dynamic range compression, so that is okay. We don't have any other outstanding features to reopen or rediscuss as of now. Peter?

>> PETER MULAS: I have inserted reference to the different types of game play in the introduction and scope. I would be game for some feedback to improve it.

>> SHELLY CHADHA: Thank you, Peter. Let's look at it quickly. I want to say that I need to leave, sadly, at 11:45 and then come back at lunch. So at 11:45, I will hand it over to Peter to take everybody through the appendices, and then welcome back in the afternoon to the rest of the Rapporteur meeting discussion.

The text added here is video game play often falls into three main categories, cash all game players that are more sporadically on multipurpose, computer, or mobile devices, regular game players that consistently play games on video game play devices as main source of entertainment and, three, esports game players that participate in structured speetsz league, tournaments, or circuits at either amateur or professional levels which will involve additional exposure to video games due to competition and training activities.

So this is in the introduction.

And then in the scope you added text that says the guidelines are to ensure auditory health and prevent hearing damage from variety of game player types including casual, regular, and esports game players.

Feedback to Peter? And to WHO? You just pasted it again, Peter. Or did I do that by mistake?

>> PETER MULAS: Looks like you've got an upload failed.

>> SHELLY CHADHA: Mark, you have the floor.

>> MARK LAUREYNS: Suggesting you replace exposure to video games to exposure to video gameplay.

>> SHELLY CHADHA: Okay. Any other comments? Any concerns? Sergi?

>> SERGI MESONERO: Yes, highlighting again that it does not read like the industry uses those concept, and then the standard aim that the industry may find it a bit jarring, maybe think that not enough thought is devoted on this topic. The use of casual versus regular. From the point of view of how the industry uses those, regular is not a concept either. But casual players do not necessarily engage sporadically. If they

engage with a particular type of game. Using them in a particular way. It's not time -- it's not objective either. Like regular game players consistently play as a main source of entertainment, that's not a concept and does not separate those from other types of players. It looks like a very clumsy effort to try to understand the industry.

>> SHELLY CHADHA: Thank you Sergi. Tatiana and then Karl.

>> TATIANA: Would a solution would be a generic scrimtion along the lines of video game players may play for different periods of time and this standard is aimed at all video game players or something generic?

>> SHELLY CHADHA: Thank you. Can you give that a try below this Peter or Karl.

>> KARL: I think that's a good idea. I don't think we need to individually specify all of these different type of game players. It's a bit clumsy. I think we can just do it, if at all, in one sentence like just mentioned.

>> SHELLY CHADHA: In the phrase part of the sentence which is included in the scope. Would that be okay to retain or maintain or how do you see that?

>> Something along the lines of a variety of video game player times such as casual, competitive, and other types or something like this.

>> PETER MULAS: In defense of my clumsiness, I was trying to account for -- I think there was two ways to include it, so we could definitely delete it from the introduction. It's more about setting a scene at first passage. We could remove that. That was just an attempt to add background and context for the reader. I think Sergi mentioned he would be okay if it was a single sentence as per the scope. It might be more appropriate, especially based on Karl's reinforcement that in a single sentence, and Tatiana, I'm sorry, that a variety of video game player types, and the casual, regular and esports came from I think the first or second workshop when we were discussing the definitions. We wanted to highlight people that play on the phone with or without sound with an app or different types of mobile devices casual, and people playing games on consoles and PC systems much more regularly, and then you've got the professionals. So that seemed to be the result of our initial discussions about how to classify game play. More than happy to take some input. I think if we just have casual and esports, you are missing that sort of group of people that are still playing quite regularly for own personal leisure and entertainment that would not want to be called casual, but I could be wrong on that.

>> MASAHITO: Tatiana and then Sergi.

>> TATIAN: Maybe for who play video games for leisure or competitive purposes.

>> SERGI MESONERO: Many people competitively for leisure. They do not play professionally, they just play to spend time doing a social activity. I would not -- I'm not against listing a couple or three concept it's if the people think a general idea that the standard is aimed at all types of game players. Defining them is much trickier, but I'm okay with hey, it is either casual players, competitive players, we could say a well, I don't know, for example, traditional players or hard-core gamers is another concept. Defining them might be a big tricky here. Sports players, the thing is that no one place esports. People play games. We can say a competitive players, okay or people participating in esports competitions if you want, if you are really into mentioning esports.

>> MASAHITO: Melita.

>> MELITA: I go back to what you said previously. Can we scroll up to see the last sentence. Or Peter, yeah, can we scroll up to see the last sentence. These guidelines.

>> PETER MULAS: I'm sorry, we're still seeing shelly's screen and looking at the same document and I can't see movements or adjustments. I might just share my screen.

>> MASAHITO: That's okay. I will stop sharing here. Go ahead, Peter.

>> PETER MULAS: Hopefully you can now see it. Coming live from Sidney.

>> MASAHITO: Yep, we can see it. Make it a little bigger, Peter. Okay. Thank you.

>> MELITA: The last sentence, a variety of video game players, or we could say including casual, competitive, and all other game players. In the industry, casual and competitive game certificate used and I think for the scope of this that works, and then just saying all other or something to that effect. I think the sentence that you said, Sergi, was a good sentence.

>> PETER MULAS: I'm sorry, could you repeat that?

>> MELITA: The sentence at the bottom under scope. The guidelines are designed for a variety of video game players including casual, competitive, and all other game players or maybe the last part is not the nicest way or eloquent, but casual, competitive, and everybody else.

>> Everything in between.

>> MELITA: I would take esports out and all other game players or something like that, video game players.

>> MASAHITO: Okay. Mark.

>> MARK LAUREYNS: I have an issue of removing esports because at first I thought Sergi really was allergic to the word esports in the standard anyway, but I'm happy he said at the end that he was very happy that we could include it at some point because you have it in the title, and I think esports players want to see it at some point coming back in in the standard. And I understand that it could be casual. I think it's also maybe the frequency of play that you should also highlight in this because what is casual, infrequent or frequently playing or whatever. So I would have something like this.

I think it has to also apply to esports game players and be fair that you don't leave that completely out.

>> PETER MULAS: Follow-up, this is a challenge with industry terminology and lilt chur terminology. In the research, esports players is a thing, it exists. It may not be a industry appropriate title, but it's also part of the scientific literature that we also have to use to formulate guidelines in the WHO approach.

>> MARK LAUREYNS: 100% agree.

>> PETER MULAS: That's a challenge that we may continually disagree on Sergi, but that's where that idea comes from. There is a esports player, and can you go research that and there is established literature on that type of player.

>> MASAHITO: Tatiana and then Karl.

>> TATIANA: A suggestion may be to go away from some the categorization and make it more general, also what mark said in terms of frequency. Something more generic along those lines maybe works is something like this standard is aimed at all video game players regardless of time spent or context within which video games are being played.

>> MASAHITO: Peter, what do you think?

>> PETER MULAS: I'm trying to multitask. Bear with me, guys. Time spent playing, category of video game?

>> TATIANA: Regardless of time spent or context within which video games are being played. I defer to you because you're the native speaker, but something with time and context.

>> PETER MULAS: How is that. The guidelines are to prevept -- video games are being played across a wide spectrum of video game play scenarios and equipment.

>> MARK LAUREYNS: Only thing I'm missing now is the esports players because they don't feel involved nows but maybe in the beginning. If you could say all types of video game and esports players, regardless of the time spent.

>> KARL: We already have esports in the paragraph

before. My suggestion is to have for all types of video game players and remove regardless of time spent or context in which games are being played. All types of video game players. I'm not sure why we need to specify all. Across a widespread video game play. That seems to -- we can't exclude anyone then if search included.

>> MASAHITO: That's good. Sara.

>> SARA RUBINELLI: Yes, I would also take away this because also regardless, it's not really true. Because time play and modality does play a role. Saying all type of video game players.

>> PETER MULAS: I'm sorry. You're breaking up a little bit. I don't know if that was the case for everyone else.

>> SARA RUBINELLI: No, I say that I would also -- I would also take this away because it does matter. I mean there is a difference whether how much they play and how. It's fine for all types, but if you say regardless of, it's like if everything is the same, it's not really correct.

>> MARK LAUREYNS: Then you agree with what's here because regardless is out now.

>> SARA RUBINELLI: I would say for all types of video game players.

>> MARK LAUREYNS: I just saw Peter looking confused. Since it's out, I think it's going to be okay. Is that okay?

>> PETER MULAS: I'm sorry, I'm not looking confused, I'm looking like a tired man. Bear with me. I'm sorry, guys. Follow-up question is the first mention in the introduction. Does it have value -- I think it's good to describe to the reader that there are different types of video game players, but whether we can agree on the categorization of scientific industry basis and industry basis or too challenging or needs more investigation.

>> MELITA: Is there a citation for casual and regular or just something that we decided.

>> PETER MULAS: Something discussed in previous and prior workshops.

>> MELITA: I don't think that -- I don't know who use this is categorization from a definition perspective. I wouldn't feel comfortable leaving this in there. Like I said, I think to make it for global health policy and industry, casual and esports is used, casual and competitive is used, but I don't think disabling like this says we've made a definition that I don't think anyone has referenced or would reference that this is actually true. I would not feel comfortable putting that in there.

>> PETER MULAS: That's fair. Mark.

>> MARK LAUREYNS: Since you have that sentence in the scope and since we heard some echos that people felt that it feels many terms, clumsy, not professional, whatever, if it's not adding and enhancing the quality of the standard, I think it's better to remove it and just stick to the sentence which is under scope.

>> PETER MULAS: It's gone.

>> I was just going to say to delete it. Thank you. (Karl).

>> MASAHITO: Okay. Good. Yeah. This is actually -- actually this is just introduction and not part of the whole normative part of the recommendation, so just to make this recommendation more understandable. So if it makes it more confusing, then it defeats the purpose of having the introduction in a sense.

Anyway, Melita you just mentioned you have a list of vocabulary or words or definitions from somewhere.

>> MELITA: There are several citations that define esports, so certainly we can pull that in here. I'm going back and reading through the introduction and we do not define or in someone is reading this, we don't mention what esports is. I don't think there is a single sentence. Or maybe if I skipped over it.

>> PETER MULAS: 3.2.2.

>> MELITA: Got it, under definitions.

>> SERGI MESONERO: The definition of esports is amazing but we can lif with, that but wanted to highlight that ISO international standards office, there is currently an international standards project on esports terminology that will be expected to be published in 2027. (Laughing). I don't think it's -- you know, it will be in time for this. (Laughing). But just for you to know for your information. The drafting group was created last month or something like this. Publication is, yeah, for 2027. (Laughing).

>> PETER MULAS: Just in time for our version 3. (Laughing).

>> SERGI MESONERO: Hopefully.

>> MASAHITO: ISO has a specific, you know, timeline. Yeah. (Laughing). Anyway, so Peter, shall we.

>> PETER MULAS: Let's have a look at the appendices if that's okay. Bear with me, I have like 8 shoes to fill trying to take over Shelly. Be kind, please. We start with the appendix section. A lot of this closely -- the initial attempt at tidying this up for the workshop was to copy what was said in H.807 and then advice from ITU was ooze easy just to reference instead of recopy. There is some duplication with

H.870. Appendix 1 is a status report. This appendix does not form an integral part of this recommendation. You'll see that noted in all of the appendixes because I think there is a difference between Annex and appendix and Simao correct me if I'm wrong on that. Appendices will not form a part of a recommendation and Annex will. Is that correct?

>> MASAHITO: Correct.

>> PETER MULAS: Don't worry too much by that sentence, but it's to provide the reader extra context and information. Very happy to read this if that's what the group wants?

WHO estimates that currently over 1.5 billion people worldwide experience some degree of hearing loss, nearly 30% which is disabling hearing loss, and estimated that the current demographic tends by 2050 there could be 2.5 billion people with hearing loss globally. The need to prevent the causes of hearing loss. One of the main avoidable causes of hearing loss is termed as noise-induced hearing loss, exposure to sound energy -- personal audio devices exposure toe sound for video game play activities. WHO estimates that more than 1 billion people 12 to 35 years of age are at risk to hearing loss due to unsafe practices, an issue of imminent public health concern, especially even now hearing loss poses annual gloibal cost of USD, 980 billion, responding to request of Member States in the world health assembly resolution --

>> MASAHITO: Peter.

>> KARL: Do you want comments as you go along or finish with the sections.

>> PETER MULAS: Please give the comments, Karl. I'm sorry, I couldn't see the hand raised.

>> KAR L.yeah, I'm not online.

>> PETER MULAS: Of course.

>> KARL: Do you reference a source of this information in the current -- in the first paragraph where we talk about the numbers?

>> PETER MULAS: A lot of this was written in the same way as H.870 and source in big og fee and world report on hearing.

>> KARL: Intention to reference that in the paragraph.

>> PETER MULAS: There are for ways to do that, as I understand. You can do a direct reference like we have here or just place it in the bibliography.

>> MASAHITO: Yeah, in the bibliography may be more appropriate. We can just say WHO report, blah, blah and write in the bibliography.

>> PETER MULAS: As I understand it because this is not a formative part of the standard, it doesn't have to be

specific about the reference. Is that correct?

>> MASAHITO: Yes. And I think the information itself came from WHO and they published the report on their website as well, so.

>> KARL: Yeah, I think it would be useful for the reader to be able to link this information with the source of the information in the document. The second point was we mention in the second paragraph about people between 12 and 35 years of age, and note that we removed that text in the main part of the document and I'm wondering why this is -- this is different. Is it intentional to keep this age group here? Or does that need to be removed?

>> PETER MULAS: You have to remind me as to where it was removed in the earlier part of the document.

>> KARL: I can't remember. In the introduction or something. We definitely had that age group and it was removed. But it might have been talking about -- I'm not sure if it was talking about the risk of hearing. I think it was just talking about --

>> PETER MULAS: This specific age range is the focus of the make listening safe initiative which is again part of the explanation of this part of the appendix.

>> KARL: Why did we remove it in the main part of the document then? Just to be consistent, I think.

>> PETER MULAS: So you're suggesting to remove it or reinsert it?

>> KARL: Maybe to see why we removed it in the first place. Can we track back, or is that gone thousand?

>> PETER MULAS: We've started with a clean version as of this workshop, but I see Mark has a hand raised.

>> MARK LAUREYNS: Just want to say the amount of the issue. Of course, you can't remove the H if you're going to use the 1 billion people because it refers to the group anyway, so or you have it all in or you have it all out. Since this is also the start of -- it's also in the other standard, H.870, I don't see why we can't leave it as is in this one.

>> PETER MULAS: It's a good question. I'm happy to try to track back if I can to see what was removed in the earlier iterations, Karl.

>> KARL: I think it's in my copies. I'll have a look and come back to it later.

>> PETER MULAS: Wonderful. Any other questions or comments or interventions?

So respond to being the request of the Member States, taking off from here, in the world health asem whree resolution, WHA70.13, WHO is work being with the other

stakeholders to mitigate the risk of hearing loss due to unsafe listening by raising awareness and promoting safe listening behavior, making this range requires that users of video game play device and related game play audio accessories should be able to access the devices that include safe listening feature, so obviously this is similar to the text from H.870 but been adapted to the topic.

To this end, WHO completed a background paper reviewing approaches for safe listening from video game playing can he vices from esports activities including a systematic scope and review citation, international game player survey and stakeholders interviews and these are found in the paper which is available at Link and some other related background documents on make listening safe initiative.

>> MASAHITO: Okay.

>> KARL: Hi, I found where we deleted it. If you go into the introduction, first line.

>> PETER MULAS: There it is.

>> KARL: If we delete there, I think we should delete in the appendix.

>> PETER MULAS: This is a Shelly question because she made the edit. Very happy to follow up with her when she returns from the break.

>> MARK LAUREYNS: Since it's already 1 million for people between 12 and 35 and you say it's over 1 billion, I think there is nothing incorrect in this one and I understand that they want to signal that in fact for game play you shouldn't limit gameplay to people up to 35 years because they might be some people like me in a slightly older age group that may do some game play at some point, so I think they just wanted to move away from the age limitation which is in this case maybe also relevant for game play standards. Why not leave it in. It's correct. It's not incorrect at all. And it's at least 1 billion, so what would be the issue?

>> PETER MULAS: That's an excellent deduction as to the logic behind doing that. If there is more than a billion already between ages 12 to 35, there is going to be more than a billion outside of that range as well.

Karl, you probably have a comment about why don't we make it consistent?

>> KARL: Yes, that's right, that was my comment, just make it the same.

>> MARK LAUREYNS: Then also replace the number by the one used.

>> PETER MULAS: Could you repeat that.

>> MARK LAUREYNS: The number one, it's 1 billion, and

then in the introduction you write one with a word, so do it exactly the same. Yep. So everything is identical.

>> DORTE HAMMERSHOI: Can you scroll up again. I think the first sentence that we estimate currently all 1.5 billion to experience some degree of hearing loss. Okay. This is not the population at risk. I'm sorry.

>> PETER MULAS: Thank you, Dorte. All right. One last look. Is that okay? I think your silence is okay. We'll move to appendix number 2. This is again copied from H.870 or adapted. Dose estimation functionality for implementation in a video gameplay device. We begin the section, again, with the appendix does not form an integral part of the recommendation. The considerations that are found in H.le 70 appendix 2 apply with the understanding that references to personal audio systems or personal audio devices should be read as video gameplay device, VGD. In essence what that means is if you look at H.870 there is no reference to video gameplay device, we want to use the concepts with regard to dose estimation, and in this document, in the same way but just replace or adapt. Mark?

>> MARK LAUREYNS: If you say that it's personal audio systems, and personal audio device, then it should also be video gameplay devices.

>> PETER MULAS: As simple as adding an S? Is that what you mean?

>> MARK LAUREYNS: That's all I mean.

>> PETER MULAS: Fantastic. (Laughing). No complaints or concerns. Great.

How are we for time? Breaking at quarter past?

>> MASAHITO: Yeah, Shelly wants to do that, but the official time ends at 12:30. So if we can -- if you want to finish, I think we can go until 30. I mean 15 more minutes.

>> PETER MULAS: Okay. Let's see how we go.

>> MASAHITO: Okay.

>> PETER MULAS: The following differences apply. So 2.1, volume limiting and messaging considerations. This section was added because there was a slight difference in the way that the messaging should be considered. Even though there is obviously parallels between a personal audio system and video game device and we want to apply the messaging, and slightly different consideration. You imagine someone playing a video game is interactively involved, focused on playing a game. Someone listening to a song is less distracted I guess by the actual device. We need a different sort of messaging and there are a few sults differences.

If the combined device is capable of recording dosimetry,

at the vice compliant to the standard shall provide the user a suitable method for volume limiting, this refers to a feature which provides a message rel tif to a predetermined reference exposure, sound alliance limit, and when this message is unacknowledged, the device or system shall automatically reduce the volume of the device to achieve a sound level at the drum reference point, or new drum reference point and field correction no greater than 80 or 75 decibels and should be set as default option and user should have option of turning this feature off if they do not wish to use the setting. Mark.

>> MARK LAUREYNS: If something is not mandatory, why do we use the term, shall? Shouldn't it be a should?

>> PETER MULAS: You're saying because in text is in a appendix opposed to the standard, we should change to should.

>> MARK LAUREYNS: Yes and you also use other terminology which is more advisable and whatever, so I think we should be consistent because if you read it, a text like this and see a shall, it's normally mandatory which is kind of strange in this text. But I don't know what the others feel.

>> BRIAN SCHMIDT: Quick comment. I'm sorry for jumping in. I believe it is a requirement that the volume shall be reduced if the user refuses to take action. It looks like the text is in accordance with the specification.

>> PETER MULAS: I think this is a reference to the mandatory aspect as per 8.3 and 8.3. That part is mandatory, it's a shall, let's talk about and elaborate on some of the concepts here.

>> MARK LAUREYNS: Then it's fine. Remove the comment and leave the shall as it is. Peelt Pete when this is implemented, a volume limiting message shall be provided when the user reaches 100% of the weekly alliance. The user shall be given a message that will allow them the option to continue listening in case they do not wish the device volume to reduce. The default action will be to reduce the volume to achieve the pre-determined sound level, referencing the mandatory aspect, 8.3.1, if possible the user should be given the option to customize the level, the level at which they would like the device to limit their volume according to their preference. Brian.

>> BRIAN SCHMIDT: Yeah, a question on why this is being duplicated when it is in the above section? I mean it seems like it would be a better documentation practice to not duplicate information in multiple places which risks incompatible information.

>> PETER MULAS: Good point. Is it word for word? I must doublecheck that. I think the original concept had a

slight wording difference. I'm sorry. I guess an alternate. I guess the point is there is no extra value to this additional duplicate information.

>> BRIAN SCHMIDT: That is my question. It could be that d determined in H.870 and there was a good reason to have it, but I'm wondering why we're duplicating some of this information.

>> PETER MULAS: Okay, so if okay with the group I'm happy to add a deletion here.

>> BRIAN SCHMIDT: Or a comment maybe consider deleting.

>> I think just delete it.

>> BRIAN SCHMIDT: Okay. Karl says just to delete it.

>> PETER MULAS: What I'll do is I'll find a compromise in the break, which is quickly approaching. I'll doublecheck just in case we're doing anything terrible to the standard by deleting it, but it does seem to be a duplication of information up until a point. It might be better to remove for simplicity. Let me doublecheck that. Again, I'll take the comment, I'll doublecheck, and after the break we can determine as to whether it does need to go or if there is a really good reason to keep it there.

Moving along,.

>> BRIAN SCHMIDT: Brian if you go up a little bit, rather than delete the whole thing, I would say maybe even -- I get the importance of the bit that's changed there because the section is on the differences between 870 and this spec but maybe just limit to those differences and just delete the rest of it.

>> PETER MULAS: I'm sorry, could you elaborate.

>> BRIAN SCHMIDT: I would say maybe start deleting this applies to a feature which provide, and go all the way down. But leave the bit that talks about the difference between the 870 spec, which is the already edited text above that.

>> PETER MULAS: As per 8.2.1, the video game device shall provide messages -- Brian, you still have a hand raised? Old hand?

>> BRIAN SCHMIDT: Old hand.

>> PETER MULAS: The video game device shall provide messages about time spent comes and/or prescription when sound alliance will be exceeded. Providing these earlier warnings to the game player allows them the chance to change behaviors before reaching 100% calculated sound dosage, and/or consider what other listening activities they have participated in that week to gauge whether they may already be at their weekly limit. So, again, there is one of the subtleties where video game player may need the additional earlier warning as opposed

to someone listening to music because we don't want the messaging arriving at an inappropriate time. When you listen to auto sound, doesn't really matter if you get a warning saying you're at 99% or 98%, whereas when you play a game, the 100% might be mid video game ee event or game play event and you don't want it then. So that's why this is just to consider earlier warnings as it might be essential. One of the many things heard from stakeholders is you cannot break immersion. And that's why we included this passage.

And elaborate willing on it, preserving immersion is important to the game play experience early warnings and access to general sound allowance allows players to be informed about sound dose without disrupting game play. I think I made that point clearly now. Any questions or comments? None. Thank you.

Then to finish off this appendix, we have a few visual examples. Basically a guide for developers to consider. Again, nonmandatory and just something to inspire or give an indication of. So we have an example or screenshot, a mock-up of a gameplay device with a dosimetry information section indicating daily usage, combined total rolling average and as well as indication of status for video gameplay from the device is currently safe. There is a little warning there saying please be aware that this only measures your listening when playing on this system only and does not include other listening activities. So we want to give that information to the end user as well.

The second visual display is dosimetry information to unreceive or not okay status. This one has you need ra press a button. You need to drop to a safe listen or maybe not, take the risk and enter the danger zone, you press this particular button and that's an example here.

Finally, this is a warning message that could be shown at a different point during the game. I'm sorry, upon exceeding 100%, so just a different version of that. So as the person is playing a game, they've exceeded calculated sound dosage, and this is an example of the warning there.

This san alternative idea where you've got the load screen of a video gameplay device and one concept that we see a developer using is some sort of icon to just illustrate to the game player that this is your current calculated sound dosage. So in the top corner, a ear icon with 75%, akin to I guess a battery display. So something like that could be a noninclusive way that a person can access immediately calculated sound dosage and get more elaborate informing. Again, another mocken up to demonstrate a way of providing the

information to a game player.

I'll pause briefly. Wonderful. And then we'll go to 2.2. Uncertainties refer to 7.2, mimicking what happened in H.870 and uncertainties with the dose estimates is contained in that section. Brian and Mark Brian prien go ahead, Mark.

>> MARK LAUREYNS: I just wanted to ask if it's already in the text, do we repeat it here then? What is the added value?

>> PETER MULAS: Good enough for H.870, good enough for this draft standard.

>> MARK LAUREYNS: Just wondering why repeating it, it's already in clause 7.2, right?

>> PETER MULAS: Okay. Do you have a similar sent am, Brian?

>> BRIAN SCHMIDT: I was curious, is it referring to refer to clause H.870 in the spec.

>> PETER MULAS: No, actually in this spec we added 7.2, so I'll just quickly pick up there. We do have a section in here that does lean heavily on H.870 but there is an explanation of what to do if the dose -- if there is any concerns about accuracy of dose estimation.

>> BRIAN SCHMIDT: So is it there in the appendix just simply to match the architecture of the 870 spec?

>> PETER MULAS: Correct.

>> BRIAN SCHMIDT: I agree with Mark then, seems.

>> PETER MULAS: Okay, so might be a good time to pause and let you guys get something to eat. Stretch your legs. Caffinate. Brian?

>> BRIAN SCHMIDT: What time is it for you Peter?

>> PETER MULAS: Only 8:30, it's okay.

>> You did great, Peter. Looking at that. Thank you.

>> KARL: Thank you for all of your support on this document as well. As we got just a couple of minutes left, in this section here, to be honest, we're still -- we haven't really looked at the appendix in too much detail so we're going to be coming back on this after this meeting, but just having a look through now, if you scroll the screen further down, yeah this bit. Just up again. Here. I know these are examples but I find it slightly difficult to imagine that these sort of questions are going to come up. Has anyone in your household mentioned their volume is too loud? Take time to check your hearing. Maybe that. But yeah. I think we're going to need to look at this in a bit more detail.

>> PETER MULAS: They're just examples.

>> KARL: I know, but they need to be realistic. I think has anyone in your household mentioned that the volume is too

loud. If I saw that on a screen, I would be a bit surprised. But you know, this is not my area. There are other people going to be looking at this. Just a comment really. Thank you.

>> PETER MULAS: Appreciate it, Karl. Thank you.

>> PETER MULAS: All right. Are we okay to break? Masahito, Simao?

>> MASAHITO: Yeah, Simao is not here. Just me. Okay. So you're okay now, Peter? So hello Peter?

>> PETER MULAS: It's 12:30.

>> MASAHITO: You want to continue this discussion in the afternoon as well?

>> PETER MULAS: We're very close to the end.

>> MASAHITO: Maybe if it's okay, maybe just 5 more minutes.

>> PETER MULAS: Proceed?

>> MASAHITO: Yeah.

>> PETER MULAS: Especially if we get extra -- an extra response after this workshop from Sony. Okay.

>> MASAHITO: I have to ask the captioner if she can allow us 5 more minutes. Is that okay?

>> PETER MULAS: Maybe she's already gone. Yes, fine. Thank you, Sarah. I thank you for your help and support today. Appendix number 3, these are examples of safe listening warnings. This is something that we expect to see in video gameplay software titles. On a we give examples and mock-ups that we can develop and look at and consider for the development of their own game title. So the comply and software game title shall include a warning during the first part of the game, shall include the following information, a warning to the game player, a potential risk to hearing from loud sounds, exposure, provide examples of potential systems to be -- symptoms to be aware of that indicates unsafe listening is occurring. This is again a mock-up here. Then example of safe listening warning during game play and inconvenient moment afer round of game play, after completing a level, after losing a life, when pausing a game, et cetera, message shall be displayed and the game players have been exposed to two hours of sound dosage and recommend that the game player takes a short break. This is the second aspect with regard to clause 9 with the warning, so we want to see at the load and some other point during the game for the developer, so pops up on a pause.

Safe listening warning, safe listening warning upon xilting, for warnings placed upon game exist, a final message shall be displaced helping the game player to check hearing status with simple messaging, and this is I guess what you just

raised, are your ears ring, does your hearing seem muffled after the game play session, has anyone in the house mention the volume was too loud, take time to check your hearing once in a while. The end of game play warning shall display for a reasonable amount of time to allow the game layer sufficient time to read the displayed content and could include a call to action to confirm understanding, for example, I've seen this message. And then there is another example of this at the exit screen, so this is a mock-up.

Then we'll move to what was formerly the appendix 3. So this previously existed as an explanation of LKFS, loudness weighted full scale, equivalent loudness weighted full scale, LUFS, we integrated all of the relevant information into the title dependent 9.3.1, I believe, and so this has now become a bit of a redundant Section and we don't really need to explore this concept. This has H a little more weight when this was a mandatory feature in one of the previous iterations. We added detail about what these were in the definitions. This didn't seem to be needed so now it's deleted.

Then the next appendix, examples of textual information provided to the user, again, not a formal -- not inlt ò part of the recommendation. Textual information provided with the video game play devices and activities which include expose can be sources of unsafe listening -- tinnitus and loss of hearing sensitivity being some of the most common symptoms a video game player will experience, simple instructions to incorporate safe listening to video dpaimplay, including references to more information as well as any onboard features they can use, avoid technical or complex terminology or references that are not easy to understand for a layperson, we just have an example of insufficient text-based warning, an example found in a actual user menu which is probably not providing enough, and here is another example that's overly technical, so sort of referencing actual standards, and the and terminology is probably too technical for a layperson and then we have a mockup with better and softer languages and useful tips for the game player. Not mandatory aspects but something to inspire or motivate or context to a video gameplay developer. Mark?

>> MARK LAUREYNS: To be consistor enter with the rest of the particulate, when you mention symptoms it may be good to add not experiencing symptoms doesn't mean that your hearing is not in danger or whatever. I think it's already earlier in the text, and I think Dorte referred to that, so I think we should also add it here so we are not missing that appointment.

>> PETER MULAS: I'll make a comment and during the break I'll just copy the text exactly.

>> MARK LAUREYNS: Thank you.

>> MASAHITO: Dorte.

>> DORTE HAMMERSHOI: This was actually just before I thought we were going to a break and we had the discussion about the -- there was some text saying if you had your hearing tested recently and the same applied -- the hearing test that we have today cannot reveal any of the early changes, so just as you know, we might not have any symptoms, the fact that you have your hearing tested is not a guarantee for anything.

I thought we were going to go for a break so I didn't say anything. But then since we worked further on.

>> PETER MULAS: We plowed through but still have a few outstanding items, I don't think we'll quite get there.

>> DORTE HAMMERSHOI: It was in the appendix just before going for the break. We had something on the screen saying something about if you go back, try to go back.

>> PETER MULAS: One of the mock-ups?

>> DORTE HAMMERSHOI: Here. Time to check your hearing once in a while. This is it sort of indicating if you have your hearing checked and you don't have abnormal audio gram, typically the only thing you test, then you're safe. We know for sure you're not safe just because you have a normal audiogram, these don't have the synaptic and neurological changes, they don't materialize until many, many, many years later.

>> PETER MULAS: So is it not worth promoting hearing tests to a broader audience because there is a risk that an actual damage will not show up?

>> DORTE HAMMERSHOI: I think it's wise to encourage consultation, but the test itself shouldn't sort of be oversold.

>> PETER MULAS: Mark?

>> MARK LAUREYNS: First of all to avoid long discussions on this one, I encourage to delete, has anyone in your household mentioned something? It sounds bizarre, to be honest. It doesn't feel very professional. I strongly recommend that. Maybe the other one is maybe I understand Dorte, so I think your hearing check doesn't make sure that things are fine. On the other hand, Dorte, I think it would be good to encourage people to have hearing checked, definitely active game players, how would you suggest to change that or what to do, because it's kind of strange we can't encourage people to have hearing checked, right.

>> DORTE HAMMERSHOI: But it's not to check itself. It's a consultation. Talking to a individual that knows about hearing and audiological capacity. And then they will as part

of that consultation, they will of course check the hearing.

>> MARK LAUREYNS: Okay. I understand what you mean.

>> PETER MULAS: Okay. So just a few quick comments and we might have to wrap it up.

>> MELITA: I agree the language is different and I agree a call to action. Not a consultation. I don't think people would understand that. It may noted be exactly take time to check your hearing once in a while, which that is just terrible language. But I think it's great to have a call to action here. Have you had your hearing checked recently? Something along those lines. That's even worse, but I think having a call to action, whether it's you don't hear -- you can still have a normal audiogram or not, I think it's important to have a call to action to just say, go get your hearing checked.

>> PETER MULAS: I think this is probably a great time to just pause, and we'll probably restart from here just because Shelly's input and advice and infinite experience on the subject will be really important.

But just to round up a few things. We tried to capitalize on the most common auditory symptom, again, in my experience, tinnitus being one and fullness or loss of sensitivity being another. That's reflected in the systematic review. The other one is spending 12 years as clinical you ad ol jif, one of the most common reasons someone comes to a first hearing test is because a significant other has said your TV is too loud. That's part of the reasoning behind some of these comments. It may not be something that a game player is aware of but someone else in the family or household said hey, that's way too loud. That could be a motivating factor to consider that maybe there is a hearing issue.

But, let's pause there if that's okay, then we'll resume when Shelly is it around.

>> MASAHITO: Okay. Mark, do you want to say something?

>> MARK LAUREYNS: No. I'm going to lower my hand.

>> MASAHITO: Okay. Okay. Thank you very much. We'll continue until the afternoon. At 2:30.

>> PETER MULAS: Thank you all.

>> MASAHITO: 2:30. Thank you, captioner. We'll continue and reconvene at 2:30. Thank you, Peter. What happened? What is it? Anyway, so that's it for the morning session. Please enjoy your lunch and let's meet at 2:30. Thank you.

(session completed at 5:42 a.m. CST).

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