Initial Draft Industry Offer on IFE Accessibility

with Advocates' Responses
September 14, 2016

This draft is offered as a starting point regarding inflight entertainment (IFE) in the ongoing DOT ACCESS Committee. As of the distribution date of September 12, 2016 positions remain under review by carriers and content providers and should be considered preliminary.[1]

The draft consists of two sections: a draft core offer and potential alternative means of compliance (at Attachment A). Carriers look forward to presenting the rationale for their offer as suggested by the facilitator and the Department.

A. Definitions

1) "New Aircraft" are aircraft that will operate to/from or within the United States ordered on or after three years after the effective date of a final rule or delivered on or after seven years after the effective date of a final rule.

Advocates' response: Based on information provided by the industry, IFES are chosen for installation near the end of a new aircraft's assembly cycle. In addition, based on information provided by the industry, all new IFE systems being installed since 2015 are MPEG 4 systems, which support the display of closed captions and the integration of audio descriptions. Given that the equipment has been available, there is no need to unduly delay IFE on "new aircraft." Accordingly, the advocates propose to shorten the above timeframe to match what is proposed in A7, which is six months/ordered and one years/delivered.

2) "Existing Aircraft" are aircraft that will operate to/from or within the United States ordered before three years after the effective date of a final rule or delivered before seven years after the effective date of a final rule.

Advocates' response: Based on our response to A1 and A7, we propose shortening the timeframe to six months/ordered and one year/delivered.

3) "Inflight Entertainment Systems" (or "IFES") are systems installed onboard aircraft to deliver television, audio, and/or movie content to commercial airline passengers.

Advocates' response: We propose adding "or made available on" after "installed onboard" so that it reads "...systems installed onboard or made available on aircraft...".

[1] In particular, non-U.S. regulations, including those regarding content, as well as the complexity and expected disproportionate cost of enhancing accessibility create unique challenges for non-U.S. carriers; ACCESS Committee members representing those interests therefore continue to review this draft and have not agreed to or disagreed with it as of the distribution date. IFE Content providers are also in the process of completing their review.

4) "Seatback Inflight Entertainment Systems" (or "Seatback IFES") are systems installed onboard aircraft to deliver television, audio, and/or movie content to commercial airline passengers that display the visual element of such content on screens installed in aircraft seats.

Advocates' response: Agreed.

5) "Overhead IFES" are systems installed onboard aircraft to deliver television, audio, and/or movie content to commercial airline passengers that are characterized by publicly visible, retractable or fixed monitors where the display is shared by multiple passengers.

Advocates' response: Agreed.

6) "Wireless IFES" are systems in which IFE Content, stored locally on an aircraft server, is sent to a passenger-owned portable electronic device ("PED").

Advocates' response: Remove "passenger-owned" as "Wireless IFES" does not distinguish between passenger-owned PEDs from other PEDs such as those provided by aircraft operators. (See Proposal A in Attachment A).

7) "New Seatback IFES" are Seatback IFES ordered on or after two years after the effective date of a final rule or delivered on or after three years after the effective date of a final rule.

Advocates' response: Based on information provided by the industry, all new seatback IFES being installed on aircraft since 2015 are MPEG 4 systems, which are capable of being upgraded through software to support closed captions and integrate audio descriptions. Given that the IFES systems are currently capable of supporting captioning and audio descriptions, we propose that this timeline be shortened to six months/ordered and one year/delivered.

8) "Existing Seatback IFES" are Seatback IFES ordered before two years after the effective date of a final rule or delivered before three years after the effective date of a final rule.

Advocates' response: As stated in A7 above, we propose a timeline of six months/ordered and one year/delivered.

9) "New Standard Seatback IFES" are Seatback IFES that are capable of delivering subtitles including captions in bitmap format and multiple soundtrack selection including audio descriptions.

Advocates' response: We agree with the general premise but propose that captions not be limited to bitmap format, and that the sentence be rewritten as follows: "New Standard Seatback IFES" are Seatback IFES that are capable of delivering captions and audio descriptions.

Additional proposal from advocates (yet to be addressed by industry from previous ask): The advocates propose that New Standard Seatback IFES be capable of providing support for caption-customization features, as established by current FCC 12-9, §79-103, which are set forth in Annex 1. The ability to adjust caption size, color, contrast, and other features is essential to ensure that the captions are visible (such as when the background renders some captions difficult to see) and accessible (such as when a passenger is deaf and has limited vision). The advocates further propose that airlines ensure any provided media comply with quality regulations established by current FCC 14-12 (accuracy, completeness, synchronicity, and proper placement), as set forth in Annex 2.

10) "Inaccessible Legacy Systems" are IFE Systems that do not meet the standards of "New Standard Seatback IFES."

Advocates' response: Agreed.

11) "IFE Content" means television shows and full-length movies.

Advocates' response: We propose the following revised language: "IFE Content" means all video content provided on aircrafts including but not limited to television shows and movies, including any and all versions that have been edited specifically for use in IFE systems on aircraft.

B. IFES Hardware

1) For all New Aircraft, all installed Seatback IFES and all Wireless IFES will meet the standards described in "New Standard Seatback IFES".

Advocates' response: Agree, with revision to the timeline pursuant to our comments for A1 and A7. Additionally, please review our clarifying remarks in A9.

2) For all Existing Aircraft equipped, as of three years after the effective date of a final rule, with Existing Seatback IFES that meet neither the definition of "New Standard Seatback IFES" nor of any Seatback IFES deemed to be equally or more accessible by the Department, aircraft operators must replace Existing Seatback IFES with New Standard Seatback IFES, or with any other Seatback IFES the Department deems equally or more accessible, only whenever the air carrier or another party otherwise installs new Seatback IFES in Existing Aircraft after three years after the effective date of a final rule.

Advocates' response: Revise the two instances of "three years" to "six months," and add the following sentence: For all Existing Aircrafts that do not have IFES that meet the definition of "New Standard Seatback IFES," aircraft operators are to provide PEDs capable of supporting captions and audio description to passengers with disabilities who require such access. The PEDs that are provided are to contain IFE Content comparable to the IFE Content provided on the Seatback IFES.

3) Exclusions:

a) For cabin modification projects beginning before three years after the effective date of a final rule, nothing shall prevent the installation on a New Aircraft or an Existing Aircraft of any Existing Seatback IFES or components thereof, or acquisition of additional IFES or parts of such existing IFES sufficient to ensure commonality among systems within a carrier's fleet.

Advocates' response: Opposed to this exclusion on the grounds that any modification projects should utilize New Standard Seatback IFE whenever possible. Literature on aircraft constantly inform passengers that specific fleets are being upgraded in terms of WiFi capability, and an upgrade of IFES parallels that effort.
Further, we would like to understand the rationale behind avoiding the mixing of IFE systems within a fleet. It does not seem unreasonable to expect that in a fleet of (for example) 737s, airlines would want to upgrade all of the seats or seatback IFES on one or more of those 737s even though not **all** of the seats in the entire fleet have been, or will be, upgraded.

b) Nothing shall prevent the installation or use on a New Aircraft or an Existing Aircraft of any existing aircraft passenger seats in a carrier's inventory as of three years after the effective date of a final rule that are equipped with existing Seatback IFES display units.

Advocates' response:
As written, the industry's proposal could make it possible for airlines to install seatback IFES that do not meet DoT accessibility requirements into aircraft that could remain in use for many years beyond the effective date of the rule. Opposed to this exclusion on the grounds that any modification projects should utilize New Standard Seatback IFE whenever possible. Literature on aircraft constantly inform passengers that specific fleets are being upgraded in terms of wifi capability, and an upgrade of IFES parallels that effort.
In the event that the DOT disagrees with advocates' proposal, we ask that the DOT require the airlines to provide accessible PEDs that contain comparable and accessible IFE content to passengers that require such access (see Appendix A, Proposals A-D). In addition, the three years should be revised to six months.

c) Nothing shall prevent an air carrier from purchasing or using an existing IFES or any existing IFES components installed before three years after the effective date of a final rule, regardless of the original or any subsequent purchaser.

Advocates' response:
Opposed to this exclusion on the grounds that any modification projects should utilize New Standard Seatback IFE whenever possible. Literature on aircraft constantly inform passengers that specific fleets are being upgraded in terms of WiFi capability, and an upgrade of IFES parallels that effort.
In the event that the DOT disagrees with advocates' proposal, we ask that the DOT require the airlines to provide accessible PEDs that contain comparable and accessible IFE content to passengers that require such access (see Appendix A, Proposals A-D).

d) Nothing requires that an air carrier must procure, install, provide or otherwise use an IFES onboard any aircraft in order to meet DOT requirements.

Advocates' response: This sentence needs a qualifier, and we propose a second sentence to qualify it as follows: However, should an air carrier procure, install, provide or otherwise use an IFES onboard any aircraft, then DOT requires that the air carrier ensures passengers with disabilities have access to the IFES either directly or through the provision of PEDs.

e) Nothing requires that an air carrier must maintain in use, in whole or in part, any Existing Seatback IFES, any Overhead IFES, any New Seatback IFES, or any of their components.

Advocates' response: This sentence needs a qualifier, and we propose a second sentence to qualify it as follows: However, should an air carrier maintain in use any form of IFES, then DOT requires that the air carrier ensures passengers with disabilities have access to the IFES either directly or through the provision of PEDs.

f) Inaccessible Legacy Systems (e.g. analog, Overhead IFES) will not be required to upgrade to New Standard IFES, or to any other type of IFES deemed equally or more accessible by the Department, except as provided in B2, above.

Advocates' response: This sentence needs a qualifier, and we propose a second sentence to qualify it as follows: However, air carriers that have inaccessible Legacy Systems are required to provide accessible PEDs that contain comparable and accessible IFE content to passengers that require such access (see Appendix A, Proposals A-D).

g) If a carrier has received or inducted a New Aircraft or an Existing Aircraft with a "first of type" cabin equipment configuration that includes a Seatback IFES before three years after the effective date of a final rule, the remaining aircraft to be equipped with the same configuration shall constitute a single cabin modification project and shall be defined as Existing Aircraft. Their IFES shall be defined as Existing Seatback IFES, for these purposes.

Advocates' response: This will be clarified subject to the discussion on the 9/13/16 teleconference call since it currently reads as if the remaining aircraft in a particular class would not have to be upgraded. Pending clarification, we propose revising three years to six months. In addition, add the following sentence: Such Existing Aircraft in a single cabin modification project that have inaccessible IFES are nevertheless required to provide accessible PEDs that contain comparable and accessible IFE content to passengers that require such access (see Appendix A, Proposals A-D).

4) Carriers may, when necessitated by damage, inoperability, data capacity deficiency or similar reasons, replace Existing IFES servers or any other components of Existing

IFES, including screens, without being required to replace that aircraft's IFES or any of its components with New Standard Seatback IFES or any successor types. Any such replacement must be consistent with 14 CFR Part 382.71(b), which requires that, "you must ensure that any replacement or refurbishing of the aircraft cabin or its elements does not reduce the accessibility of that element to a level below that specified in this Part."

Advocates' response: Agreed, but the advocates would like this to be specified in a more explicit manner, so that it is clear that air carriers are required to replace existing IFES servers or IFES components with IFES servers or IFES components that provide accessibility that is comparable to, but not less than, the servers or components being repaired or replaced. In addition, advocates ask for the following additional sentence: Any aircraft that has replaced or refurbished IFES that remain inaccessible are required to provide accessible PEDs that contain comparable and accessible IFE content to passengers that require such access (see Appendix A, Proposals A-D).

C. IFES Software (Timed Text Captions and Caption Customization)

Background

As of September 9, 2016, industry understands from a major IFE service provider that there is no available software upgrade that might be able to upgrade Existing IFES utilizing MPEG-1/2 video compression to deliver timed text captions and caption customization. Based on experience with these IFES and providers, the airline industry expects that any such modification that could be developed would be a significant software upgrade. In addition, not all inflight entertainment systems would be capable of presenting these types of captions, even with a significant software upgrade.

Because, to industry's knowledge, there is no available software upgrade, and IFE industry experts were unsure of whether there would be an associated certification requirement even if an upgrade were available, industry is unable to make an offer regarding timed text and caption customization at this time. Industry looks forward to any additional information IFE providers or others might bring forth to the IFE Working Group.

Advocates' response: The advocates understand that it might not be currently feasible or even possible to upgrade MPEG 1 and MPEG 2 systems to conform to the proposed accessibility regulations. In the event that such upgrades are not possible, advocates propose that airlines be required to provide PEDs (see Appendix A, Proposals A-D). Note that this understanding does not extend to MPEG 4 systems, which can be upgraded through software.

D. Accessible IFES User Interface – Phase II

Background

Industry has studied and appreciates the advocates' paper explaining general areas of concern about accessible user interfaces. Immediately after the August ACCESS plenary meeting, the airline industry asked the convener for specific information from

advocates about performance standards and possible specific modes of interface that might enhance accessibility of user interfaces, and explained that information about commercially available products or services permitted under relevant regulation(s) for use on U.S. air carriers would be especially valuable. The industry acknowledges the importance of user interface compatibility in achieving the goals of accessible IFE.

Pending further definition of this goal, information about products or services that might meet this goal, and the efforts of the inflight communications group, industry cannot make an offer at this time but looks forward to further discussion and definition.

Advocates' response: Richard has now delivered the advocates' documentation on accessible GUIs for the airlines and industry representatives to review.

E. Television and Movie IFE Content

Background

Air carriers are only "licensees" of content provided by the entertainment industry and distributed either directly by the content rights owner or through non-airline intermediaries. Their relationships with third-party providers are governed by contracts of various scope and duration. As the purpose of air travel is to transport passengers safely from one location to another, the entertainment component is not a necessity but is offered as a pastime of which many passengers avail themselves. There is now also a trend toward preloaded, user-selected entertainment and entertainment that is streamed and viewed on personal devices. In addition, because the IFE market represents only a very small segment of the broader filmed-entertainment market and is often secondary, it is, and should be, dependent upon the assets created in the original market – theatrical or broadcast.

1) No later than three years after the effective date of a final rule air carriers will pass through IFE Content that is captioned at its source, or is captioned by an intermediary distributor or IFE Content supplier, except as provided in 3 and 4 below.

Advocates' response: Caption data are created for nearly all first-run theatrical releases from MPAA members, which make up the bulk of new IFE movies shown to passengers. Therefore, since there are workflows in place for creating caption data for MPAA releases **today**, advocates insist that, except as provided in 3 below, all IFE Content be captioned effective as of the date of the final rule. The advocates further propose that this rule be applied to all edited and non-edited versions of the same movie shown onboard any aircraft. Regarding television programs, the advocates propose that airlines be required to pass through all existing caption data that is carried with any captioned television programming purchased or licensed for IFE. This would apply to both cached and live TV content. Throughout history, all forms of video content have become 100% captioned when mandated. Television shows and movies shown on television were not fully captioned until mandated by the Telecommunications Act of 1996. Television shows and movies re-broadcast on the Internet after a television showing were not fully captioned until mandated by the 21st Century Communication and Video Accessibility Act of 2010. First-run movies on the Internet were not fully captioned until mandated by a court pursuant to the Americans with Disabilities Act in

the 2012 *NAD v. Netflix* case. In January 2016, Gogo agreed to caption all of its video content shown on planes by June 30, 2017. Advocates ask for the same mandate from the DOT that all airlines can only show captioned content, and this will translate to all video content providers ensuring their videos are 100% captioned.

2) No later than three years after the effective date of a final rule air carriers will pass through IFE Content that is audio described at its source, which remains under the control of and is permissibly licensed by the licensor of the IFE entertainment, or is audio described by an intermediary distributor or IFE Content supplier.

Advocates' response: Based on the information discovered throughout the reg neg process, audio descriptions are created for many, but not all first-run theatrical releases from MPAA members, which makes up the bulk of new IFE movies shown to passengers. Therefore, since there are workflows in place for creating audio descriptions for MPAA releases **today**, the advocates propose that this timeline be shortened to be effective immediately as of the date of final rule. The advocates further propose that this rule be applied to all edited and non-edited versions of the same movie shown onboard any aircraft. Regarding television programs, the advocates propose that airlines be required to pass through all existing audio descriptions that are carried with any captioned television programming purchased or licensed for IFE. This would apply to both cached and live TV content.

3) IFE content that is not both (a) in the English language, and (b) produced and distributed in the United States need not be provided with closed captions or audio description.

Advocates' response: Revised as follows: IFE Content that is not both (a) in the English language and (b) produced and distributed in the United States must pass through any existing closed captioning or audio description, if any, and if none are available, must pass through any subtitles that accompany the content.

4) Air carriers must provide the public with information regarding the accessibility of the carrier's IFES, if any, for each aircraft type that they operate. This information will be made available on the carrier's U.S. website; via telephone/TTY reservations systems, if any; and in any printed materials provided in flight concerning IFE.

Advocates' response: The advocates further propose that any materials regarding the accessibility of the carrier's IFE also be provided in materials distributed over the Internet, including but not limited to e-mail messages and apps.

Note: Industry has made it clear that advocates' ask that 100 percent of IFE content be accessible is not feasible. As any regulation that would require a specific share of content to be captioned in the English language might be effectively a rule on national origin, industry urges the convener and DOT to review whether any such requirement would be inconsistent with international trade obligations.

Advocates' response: The advocates propose 100% content accessibility for domestic flights and to distinguish international content on international flights.

5) **Additional proposal from advocates (yet to be addressed by industry from previous ask):**

Regardless of the form of IFES, the IFE System must provide search mechanisms that make it possible for passengers to search IFE libraries or offerings to identify which video content is closed captioned and/or audio described.

6) **Additional proposal from advocates: (yet to be addressed by industry from previous ask):**
All materials advertising, promoting or listing the presence of IFE must clearly identify video content that is closed captioned and/or audio described.

7) **Additional proposal from advocates:** Phase-in schedule for legacy content:

(Rationale: This is similar to what Gogo has agreed to and is already adhering to.)

For content that is already installed and available for in-flight viewing as of the date of the final rule:

- Phase 1 - By 6 months after the final rule is published in the Federal Register, at least 1/4 of existing content without closed captions or audio descriptions will be replaced with content with closed captions and audio descriptions.
- Phase 2 - By 12 months after the final rule is published in the Federal Register, at least 1/2 of existing content without closed captions or audio descriptions will be replaced with content with closed captions and audio descriptions.
- Phase 3 - By 18 months after the final rule is published in the Federal Register, 100% of existing content without closed captions or audio descriptions will be replaced with content with closed captions and audio descriptions.

Attachment A

WiFi or Local Wireless Streaming Access

Background

The DOT and advocates for passengers with disabilities have suggested a carrier-provided PED program, likely with preloaded accessible entertainment content, as an alternative to the advocates' request that carriers retrofit existing IFES under certain conditions and by specific dates. Carriers understand the spirit of the idea that carriers should seek an alternative form of in-flight entertainment for passengers scheduled to travel on aircraft with Inaccessible Legacy IFE after a date in the future, at least if they offer such IFE free of charge. Discussions with carriers and public information suggests that wireless solutions are today or will soon be installed on most U.S. carrier aircraft that would likely be in scope,[2] specifically those with installed IFES that lack bitmap captioning capability.

Draft Proposal

Definitions

Advocates' response: Unless otherwise noted, please see questions and comments in Section A, Definitions.

1) "New Aircraft" are aircraft that will operate to/from or within the United States ordered on or after three years after the effective date of a final rule or delivered on or after seven years after the effective date of a final rule.

2) "Existing Aircraft" are aircraft that will operate to/from or within the United States ordered before three years after the effective date of a final rule or delivered before seven years after the effective date of a final rule.

3) "Inflight Entertainment Systems" (or "IFES") are systems installed onboard aircraft to deliver television, audio, and/or movie content to commercial airline passengers.

4) "Seatback Inflight Entertainment Systems" (or "Seatback IFES") are systems installed onboard aircraft to deliver television, audio, and/or movie content to commercial airline passengers that display the visual element of such content on screens installed in aircraft seats.

5) "Overhead IFES" are systems characterized by publicly visible, retractable or fixed monitors where the display is shared by multiple passengers.

[2] Characteristics of the large number of non-U.S. carriers that serve the U.S. market require additional investigation.

6) "Wireless IFES" are systems in which IFE Content, stored locally on an aircraft server, is sent to a passenger-owned portable electronic device ("PED").

Advocates' response: Is this limited only to cached content on an aircraft, or is it meant to also include content transmitted from the ground or satellites to aircraft?

7) "New Seatback IFES" are Seatback IFES ordered on or after three years after the effective date of a final rule or delivered on or after seven years after the effective date of a final rule.

8) "Existing Seatback IFES" are Seatback IFES ordered before two years after the effective date of a final rule or delivered before three years after the effective date of a final rule.

9) "New Standard Seatback IFES" are Seatback IFES that are capable of delivering subtitles including captions in bitmap format and multiple soundtrack selection including audio descriptions.

10) "Inaccessible Legacy Systems" are IFE Systems that do not meet the standards of "New Standard Seatback IFES" or of any other type of IFES that the Department deems equally or more accessible.

11) "IFE Content" means television shows and full-length movies.

Advocates' response: The advocates propose that this definition be expanded to include all edited and non-edited versions of movies purchased for IFE.

12) "PED" means portable electronic device.

Proposal

A. On flights scheduled to operate after ten years after the effective date of a final rule to, from or within the United States that offer IFE on Inaccessible Legacy Systems, air carriers will offer qualified individuals with a disability (hearing and/or visual impairment only) access to entertainment and information through passenger-owned PEDs, ordinarily using WiFi.[3] This undertaking applies only when the qualified individual with a disability (hearing and/or visual) is booked and reserved on a carrier/class of service/aircraft scheduled to offer television or movie entertainment through Inaccessible Legacy System IFES.

Advocates' response: Opposed to this section. In response, advocates propose that on all airlines where the IFES is inaccessible, the airline must provide accessible PEDs that contain comparable and accessible content for passengers who require such access. To be clear, the distinction between the two positions is that the primary PED alternatives need to be **airline-provided PEDs**. Moreover, the industry is proposing that passengers

[3] Known restrictions on entertainment content that cannot be overcome mean that content available (commonly through WiFi) will not replicate television, movie and audio content generally available onboard the passenger's flight.

bring their own PEDs to access Wireless IFE. What the industry fails to respond to is the premise that some airlines with Legacy IFES or inaccessible Seatback IFES may not have WiFi access, which renders useless PEDs that depend on WiFi for IFE access. Instead, advocates urges the DOT to mandate all air carriers to provide PEDs that contain comparable and accessible IFE Content during flights on which the IFES is inaccessible. Passengers should be required to request these PEDs ahead of time (see Proposal E, below), and airlines must provide these PEDs at no extra cost. Note that an airline-provided PED program need not preclude airlines from also offering a passenger-provided PED program as current proposed by the airlines above, so long as the passenger-provided program is not the primary method of delivering accessible IFE.

Additionally, the advocates propose that this PED program be put into place no later than one year after the rule's effective date. Nearly all iOS, Android and Windows small-screen devices (including smartphones and tablet computers) come with accessibility support built into these operating systems. This accessibility support provides the ability to display closed captions and play audio descriptions, but these OSes also provide assistive technology (such as screen readers and screen magnifiers) to interact with accessibly designed IFE GUIs. Since these and other accessibility-related technologies exist today and are in wide use by users with disabilities, there is no technology-based reason to enact this proposal ten years from the date of the final rule. IFE-application developers that create IFE GUIs for operating systems other than those named above can use existing assistive-technology solutions as models for their interfaces, eliminating the need to invent completely new, accessible systems.

B. The carrier-provided access will be free of charge for all carrier/class of service/aircraft combinations for which the Inaccessible Legacy System IFE is provided free of charge. For passengers booked and reserved on a carrier/class of service/aircraft combination for which there is ordinarily a charge for IFE offered through Inaccessible Legacy Systems, a charge is permitted not to exceed the charge for IFE access through the Inaccessible Legacy System.

Advocates' response: Agreed, subject to the stipulations in Proposal A, above.

C. The carrier's obligation to enable access (ordinarily by WiFi) for the qualified individual with a disability (hearing and/or visual) is limited to the duration of time in flight during which Inaccessible Legacy Systems Overhead IFES and/or Seatback IFES is generally available.

Advocates' response: Agreed, subject to the stipulations in Proposal A, above.

D. The exact duration and timing of availability of access via passenger-owned PEDs may vary from the duration of availability of Seatback IFES or Overhead IFES and from the duration of the flight itself.[4]

Advocates' response: Agreed, subject to the stipulations in Proposal A, above.

[4] Regulations require large PEDs to be stored and not in use during take-off and landing. Seatback IFE availability may be limited for a number of regulatory and technical reasons. Those periods or limitation may or may not overlap.

E. Access will be guaranteed only if pre-reserved with the carrier or its service provider at the time of booking and reserving the flight, or no later than 48-hours before the scheduled departure of the first flight in the itinerary. For reservations made within 48 hours, carriers will make best efforts to accommodate requests.

Advocates' response: Clarification is needed to understand the industry's definition of pre-reserved. For example, if a passenger has a profile that identifies a need for accessible IFE, then the passenger should have a default for pre-reserving such access rather than requiring the passenger to pre-reserve for every flight.

F. Qualified individuals with a disability (hearing and/or visual) who chose to seek access on passenger-owned PEDs (commonly via WiFi) as described above shall complete and submit a brief questionnaire online with the carrier or a service provider. Carriers may require supporting documentation under the oversight of the Department of Transportation.

Advocates' response: The advocates request the rationale for asking passengers to submit a questionnaire that determines whether they are qualified for accessible PEDs. Such a questionnaire poses privacy concerns as well as potential judgment calls by airlines about who is "disabled enough" to qualify for assistance. Moreover, requiring that passengers complete a questionnaire to receive an accommodation for a disability has a chilling effect on rights granted under the Code of Federal Regulations stating as follows.

> "14 C.F.R. 382.27(a) - "Except as provided in paragraph (b) of this section and §§ 382.133(c)(4) and (5) and 382.133 (d)(5) and (6), as a carrier you must not require a passenger with a disability to provide advance notice in order to obtain services or accommodations required by this Part."

G. This commitment does not apply when the carrier/class of service/aircraft on which the passenger is booked and reserved does not offer IFE Content. It does not apply when the IFES on the aircraft on which the qualified individual with a disability is scheduled to travel meets standards defined as New Seatback IFES.

Advocates' response: Agreed, subject to the stipulations in Proposal A, above.

H. Any air carrier may also propose an alternative means of compliance with these requirements to ensure access to IFE no less than the level and at no more than the price, if any, of IFE provided in the class of service/aircraft in which the qualified individual with a disability is booked and reserved.

Advocates' response: Agreed, subject to the stipulations in Proposal A, above.

I. This commitment applies exclusively to IFE Content, as defined in this document.

Advocates' response: Agreed.

Annex 1

Current FCC Requirements for Caption Customization Capacity: Relevant Portions

47 C.F.R. § 79.103 Closed caption decoder requirements for apparatus.

[Note that Annex 1 contains language extracted from FCC regulations that cover television programming only. The DoT regulations would need to mirror and extend these same customization standards to cover closed captions for movies as well. Similar quality regulations would need to be developed for audio descriptions.]

(a) Effective January 1, 2014, all digital apparatus designed to receive or play back video programming transmitted simultaneously with sound, if such apparatus is manufactured in the United States or imported for use in the United States and uses a picture screen of any size must be equipped with built-in closed caption decoder circuitry or capability designed to display closed-captioned video programming pursuant to the provisions of this section, if technically feasible, except that apparatus that use a picture screen less than 13 inches in size must comply with the provisions of this section only if doing so is achievable as defined in this section.

(c) Specific technical capabilities. All apparatus subject to this section shall implement the following captioning functionality:

(1) Presentation. All apparatus shall implement captioning such that the caption text may be displayed within one or separate caption windows and supporting the following modes: text that appears all at once (pop-on), text that scrolls up as new text appears (roll-up), and text where each new letter or word is displayed as it arrives (paint-on).

(2) Character color. All apparatus shall implement captioning such that characters may be displayed in the 64 colors defined in CEA-708 and such that users are provided with the ability to override the authored color for characters and select from a palette of at least 8 colors including: white, black, red, [Not yet agreed], blue, [Agreed], [Tentatively agreed pending clarification], and cyan.

(3) Character opacity. All apparatus shall implement captioning such that users are provided with the ability to vary the opacity of captioned text and select between opaque and semi-transparent opacities.

(4) Character size. All apparatus shall implement captioning such that users are provided with the ability to vary the size of captioned text and shall provide a range of such sizes from 50% of the default character size to 200% of the default character size.

(5) Fonts. All apparatus shall implement captioning such that fonts are available to implement the eight fonts required by CEA-708 and § 79.102(k). Users must be provided with the ability to assign the fonts included on their apparatus as the default font for each of the eight styles contained in § 79.102(k).

(6) Caption background color and opacity. All apparatus shall implement captioning such that the caption background may be displayed in the 64 colors defined in CEA-708 and such that users are provided with the ability to override the authored color for the caption background and select from a palette of at least 8 colors including: white, black, red, [Not yet agreed], blue, [Agreed], [Tentatively agreed pending clarification], and cyan. All apparatus shall implement captioning such that users are provided with the ability to vary the opacity of the caption background and select between opaque, semi-transparent, and transparent background opacities.

(7) Character edge attributes. All apparatus shall implement captioning such that character edge attributes may be displayed and users are provided the ability to select character edge attributes including: no edge attribute, raised edges, depressed edges, uniform edges, and drop shadowed edges.

(8) Caption window color. All apparatus shall implement captioning such that the caption window color may be displayed in the 64 colors defined in CEA-708 and such that users are provided with the ability to override the authored color for the caption window and select from a palette of at least 8 colors including: white, black, red, [Not yet agreed], blue, [Agreed], [Tentatively agreed pending clarification], and cyan. All apparatus shall implement captioning such that users are provided with the ability to vary the opacity of the caption window and select between opaque, semi-transparent, and transparent background opacities.

(9) Language. All apparatus must implement the ability to select between caption tracks in additional languages when such tracks are present and provide the ability for the user to select simplified or reduced captions when such captions are available and identify such a caption track as “easy reader.”

(10) Preview and setting retention. All apparatus must provide the ability for the user to preview default and user selection of the caption features required by this section, and must retain such settings as the default caption configuration until changed by the user.

(11) Safe Harbor. Apparatus which implement Society of Motion Picture and Television Engineers Timed Text format (SMPTE TT 2052-1:2010 incorporated by reference, see § 79.100) with respect to the functionality in paragraphs (c)(1) through (10) of this section shall be deemed in compliance with paragraph (c) of this section.

Annex 2
Current FCC Requirements for Caption Quality: Relevant Portions

From FCC 14-12, Closed Captioning Quality Report and Order, February 24, 2014

Note that Annex 2 contains language extracted from FCC regulations that cover television programming only. The DoT regulations would need to mirror and extend these same quality standards to cover closed captions for movies as well. Similar quality regulations would need to be developed for audio descriptions.

Regarding the definition of caption quality:

Accuracy, Synchronicity, Completeness and Placement

" *** the overarching goal is to ensure that the captioning . . . fully and effectively conveys the content of such programming for people who are deaf and hard of hearing to the same extent that the audio track conveys this content to people who are able to hear. To achieve this goal, we amend our rules, as described below, to require that captions (1) accurately reflect what is in the program's audio track by matching the dialogue, music, and sounds, and identify the speakers; (2) are delivered synchronously with the corresponding dialogue and other sounds at a speed that can be read by viewers; (3) are complete for the entire program; and (4) do not obscure important on-screen information and are not obscured by other information on the screen. ***

As explained below, for purposes of assessing compliance with respect to each of these components, we will consider the type of programming at issue, *i.e.,* pre-recorded, live, or near live programming, and thereby take into account, among other things, the time available to review and edit captions on the particular type of programming prior to its distribution and display to viewers."

Accuracy

"In order to be accurate, captions must match the spoken words in the dialogue, in their original language (English or Spanish), to the fullest extent possible and include full lyrics when provided on the audio track. Specifically, *** closed captions need to contain all words in the order spoken, without paraphrasing or substituting words for proper names and places, contain proper spelling (including appropriate homophones, such as 'their,' not 'there'), and provide, as needed to understand the program, appropriate punctuation and capitalization to reflect natural linguistic breaks and the flow of the dialogue, the proper tense, and the accurate representation of numbers (including currency figures with appropriate symbols or words). Accurate captions

do not rewrite dialogue, or use synonyms to replace actual dialogue because this fails to capture the program's content and nuances. To this end, where necessary to understand a program's content, accurate captions also convey the manner and tone of the speaker's voice. Similarly, where slang or grammatical errors are intentionally used in a program's dialogue, accuracy dictates that captions mirror such slang and errors, so that viewers can fully understand the speaker's intent and message. Although we recognize that utterances (*e.g.,* 'um') and false starts may not be as critical to a program's content, accuracy also requires that these be captioned if needed for the viewer to understand the program.

In order to be accurate, captions must also provide nonverbal information that is not observable, such as who is speaking, the existence of music (even when there are no lyrics to be captioned), sound effects, and audience reaction, to the greatest extent possible, given the nature of the program. If there is more than one speaker, the proper placement of captions dictates that each speaker be identified, through caption identification or caption placement, so that viewers can understand who is speaking at any given time. When a speaker is not on the screen, identification of that individual in the caption text must also be provided if viewers not using captions are able, from the program's audio content, to discern the speaker's identity. Finally, in order to be considered accurate, captions must also be legible, with appropriate spacing between words to allow for readability."

Synchronicity

"In order to be synchronous, captions must coincide with their corresponding spoken words and sounds to the greatest extent possible, given the type of the programming. This means that captions should begin to appear at the time that the corresponding speech or sounds begin and end approximately when the speech or sounds end. In addition, synchronicity requires that captions be displayed on the screen at a speed that can be read by viewers. The requirement for synchronous captions is consistent with the Commission's prior statement, in the *1997 Closed Captioning Report and Order*, that "captions not synchronized with the video portion of the program. . . deny accessibility to persons with hearing disabilities. . ." Similarly, in the *Closed Captioning Reconsideration Order*, the Commission directed that whenever rebroadcast programming is edited, captions be reformatted if necessary to ensure that they are properly synchronized with the edited programming. We agree with commenters that when captions are not synchronized with the program's audio track, it is difficult, and sometimes impossible, to follow the content of the program."

Program Completeness

"In order for a program's captions to be complete, captions must run from the beginning to the end of the program, to the fullest extent possible. This standard is consistent with the *1997 Closed Captioning Report and Order*, in which the Commission required 'all video programming providers, regardless of distribution technology, to ensure that programming with closed

captions is delivered to viewers in a complete manner.' The Commission explained that when captions end before the end of the programming, this 'den[ies] accessibility to persons with hearing disabilities even when captioning seems to be available.' To address this problem, the Commission went on to adopt the pass-through rule, requiring VPDs to deliver all programming received from an origination source containing closed captioning to television households with the original closed captioning data intact. Notwithstanding these requirements, Petitioners and several commenters to this proceeding raise concerns about captions that drop off in the middle or just prior to the end of programming. We now affirm that in order for new video programming to be considered 'fully accessible' to viewers and for captions on pre-rule programming to maximize accessibility, a program's captions must be complete for the entirety of the program."

Placement

"Some commenters raise concerns about the placement of captions and more specifically, the tendency of some captions to obscure important textual information, moving action, or characters' faces. Consumers do not have the technical capability to relocate captions on their screens when captions cause these obstructions. Consistent with the goal of ensuring that programming is fully accessible to those who rely on captions to the same extent that it is available to other viewers through a program's audio stream, captions should not block other important visual content on the screen including, but not limited to, character faces, featured text (*e.g.*, weather or other news updates, graphics and credits), and other information that is essential to understanding a program's content when the closed captioning feature is activated. Although we understand that it is technically possible for viewers to turn off the closed caption function when it blocks other material, requiring viewers who rely on captions to do this would deny them access to the same information that other viewers receive in the audio track.

Appropriate caption placement also dictates that the caption font be sized appropriately for legibility and that captions be adequately positioned so they do not run off the edge of the video screen. Each of these features is basic to providing individuals who are deaf and hard of hearing "with the same opportunity to share in the benefits provided by television programming that is available to others" as required by section 713 of the Act, and as confirmed by the Commission in the *1997 Closed Captioning Report and Order."*