

a. Equipment

48. “Telecommunications equipment” and “customer premises equipment” are established terms whose definitions are fixed by the Act and long usage, and thus do not require further interpretation in this proceeding. Section 3 of the Act defines “telecommunications equipment” as “equipment, other than customer premises equipment, used by a carrier to provide telecommunications services, and includes software integral to such equipment (including upgrades).”¹⁰⁴ It defines “customer premises equipment” (CPE) as “equipment employed on the premises of a person (other than a carrier) to originate, route, or terminate telecommunications.”¹⁰⁵ The Access Board guidelines repeat the definitions of both terms used by the Act.¹⁰⁶

49. Section 255 does not set out separate accessibility requirements for telecommunications equipment and CPE. Rather, it requires manufacturers to make both telecommunications equipment and CPE accessible to individuals with disabilities. We tentatively conclude that these terms encompass all equipment used in the provision of telecommunications service, whether collocated with a user (*i.e.*, CPE)¹⁰⁷ or found elsewhere in a telecommunications system (*i.e.*, telecommunications equipment). We tentatively conclude that Section 255 does not distinguish between the two categories, but applies to both categories the same requirement of *functional* accessibility. In short, to the extent end users must interact with equipment to use telecommunications services, Section 255 applies.¹⁰⁸ We seek comment on this view.

50. The *Notice of Inquiry* sought comment on possible differences in treatment between telecommunications equipment and CPE. Several commenters cite difficulties drawing meaningful distinctions for accessibility purposes, citing the link between Section 255

¹⁰⁴ 47 U.S.C. § 153(45).

¹⁰⁵ 47 U.S.C. § 153(14).

¹⁰⁶ See 36 C.F.R. § 1193.3.

¹⁰⁷ CPE may also include wireless handsets. See *Petition for Declaratory Ruling That GTE Airfone, GTE Railfone, and GTE Mobilnet Are Not Subject to the Telephone Operator Consumer Services Improvement Act of 1990*, Declaratory Ruling, 8 FCC Rcd 6171, 6174 (para. 16) (Com. Car. Bur. 1993) (finding that the definition of “premises” includes “locations” such as airplanes, trains, and rental cars, despite the fact that they are mobile), *recon. pending*.

¹⁰⁸ Of course, as a practical matter the remoteness of telecommunications equipment will generally mean less extensive interaction with end users (if any), and therefore correspondingly less need for accessibility features.

(accessibility) and Section 251(a)(2) (interconnection must not impede accessibility).¹⁰⁹ But NCD cautions that, because networks typically have a longer life cycle than CPE, the economic aspect of “readily achievable” will vary between the two sectors.¹¹⁰ Pacific notes a trend toward more integrated CPE products and warns of the danger that Commission incentives might lead to a separate “second tier” of specialized accessible products, and instead encourages approaches that ensure a menu of choices for persons with disabilities.¹¹¹

51. We agree with TIA that Congress intended generally equivalent treatment of both telecommunications equipment and CPE.¹¹² We also recognize the practical difficulties presented when inaccessibility may be due to multiple elements of a telecommunications system, as commenters illustrate, and we believe that resolving such situations will generally depend on the particular circumstances of individual cases. However, we seek comment on possible approaches to resolving such situations.

52. The *Notice of Inquiry* also sought comment on the treatment of equipment that can be used both in connection with telecommunications services and otherwise (multi-use equipment). Comments range from urging us to require accessibility for all functions of a product with any telecommunications capabilities,¹¹³ to requiring accessibility only with respect to those telecommunications-specific functions.¹¹⁴ The Access Board takes the position that “only the functions directly related to a product’s operation as telecommunications equipment or [CPE] are covered by the guidelines.”¹¹⁵

¹⁰⁹ CCD Comments at 6; Inclusive Comments at 2 (modern telecommunications consist of features and functionalities provided inseparably by combinations of network equipment, network services, and CPE); Trace Comments at 2 (unpaginated) (in some cases service providers supply software for CPE user interfaces); UCPA Comments at 5.

¹¹⁰ NCD Comments at 8-9.

¹¹¹ Pacific Comments at 10.

¹¹² See TIA Comments at 4.

¹¹³ Arkenstone Comments at 5; CAN Comments at 2-3; MATP Comments at 2; Trace Comments at 8 (unpaginated).

¹¹⁴ AFB Comments at 7; Inclusive Comments at 3; ITI Comments at 9; Mulvany Comments at 2-3 (unpaginated); NCD Comments at 8.

¹¹⁵ *Access Board Order*, 63 Fed. Reg. at 5612.

53. As with telecommunications services,¹¹⁶ we propose that Section 255 apply to multi-use equipment only to the extent the equipment serves a telecommunications function. The Commission, for example, regulates varied uses of the spectrum that do not involve the offering of telecommunications for a fee directly to the public. A number of the services whose technical parameters are regulated by the Commission thus do not appear to fall within the scope of Section 255, and consequently neither does the equipment associated with those services. We seek comment on this proposal, and in particular on practical aspects of its application. What, for example, is the obligation of a manufacturer who produces equipment apparently intended for a non-telecommunications application, but that finds use in connection with a telecommunications service subject to Section 255?¹¹⁷

54. Several commenters question the extent to which software products are subject to the requirements of Section 255.¹¹⁸ The Access Board position is that:¹¹⁹

The guidelines do not differentiate between hardware, firmware or software implementations of a product's functions or features, nor do they differentiate between functions and features built into the product and those that may be provided from a remote server over the network. The functions are covered by these guidelines whether the functions are provided by software, hardware, or firmware.

¹¹⁶ See *supra* para. 46.

¹¹⁷ For example, unlicensed devices regulated under Part 15 of the Commission's Rules may be used as part of a telecommunications service, as where a wireless local area network is interconnected with the public switched network and offered to subscribers for a fee. See Amendment of the Commission's Rules to Provide for Unlicensed NII/SUPERNet Operations in the 5 GHz Frequency Range, ET Docket No. 96-102, Report and Order, 12 FCC Rcd 1576 (1997).

¹¹⁸ Several commenters note that CPE is increasingly dependent on software, and that convergence is blurring historical lines between network functions and telecommunications appliances. See, e.g., Mulvany Comments at 2-3 (unpaginated); AFB Reply Comments at 10; MATP-TAP Reply Comments at 2; Netscape Reply Comments at 10; Trace Reply Comments at 8-9; UCPA Reply Comments at 8; WID Reply Comments at 5. Only Microsoft asserts that Congress intended to exempt all software from the scope of CPE covered by Section 255. Microsoft Comments at 10-11. Others maintain instead that software should be subject to accessibility requirements to the extent it provides telecommunications functions. See, e.g., Ericsson Comments at 7-8; AFB Reply Comments at 10-11; ASDC Reply Comments at 1-2; CEMA Reply Comments at 2, 4; ITI Reply Comments at 2 n.2; MATP-TAP Comments at 2-3; NAD Reply Comments at 19; Netscape Reply Comments at 10-11; Trace Reply Comments at 8; UCPA Reply Comments at 7-8; WID Reply Comments at 5.

¹¹⁹ Access Board Order, 63 Fed. Reg. at 5613.

55. We note that the definition of telecommunications equipment includes “software integral to such equipment (including upgrades).”¹²⁰ Given our view that the focus of Section 255 should be on functionality, we tentatively view software as simply one method of controlling telecommunications functions. For example, placing a telephone call originally involved announcing the desired party or telephone number to an operator, who manually connected the calling and called lines; this was followed by a system where the user manipulated an electromechanical dial to control remote electromechanical switches that connected the call; now for most calls the user uses an electronic keypad to control electronic switches that rely on stored-memory programs (*i.e.*, software) to operate; and many users also have available speed-dialing or voice-dialing features that rely on software programs located in either CPE or network equipment. There is no *functional* difference between these various methods of placing a call, and we do not believe that Congress intended to distinguish between them in Section 255. We therefore propose to treat software integral to telecommunications equipment the same as equipment or telecommunications services, and seek comment on this proposal.

56. On the other hand, we note that the statutory definition of CPE does not include a corresponding explicit reference to software.¹²¹ Where a CPE manufacturer markets products that include software, we tentatively conclude that there is no reason to treat the bundled software differently from any other component of the equipment.¹²² The manufacturer is responsible for the functional accessibility of the product as offered, to the extent it serves a telecommunications function. To the extent the software detracts from or otherwise reduces the accessibility of the product, the manufacturer would be required to alter the software to cure the accessibility problem, to the extent such alteration is readily achievable. However, where software to be used with CPE is marketed separately from the CPE, we believe that the software itself would not be subject to Section 255, and that it could not even be considered to fall within the statutory definition of CPE. Further, we believe that software manufacturers would not be directly subject to Section 255 for software bundled with other manufacturers’ CPE. We seek comment on these issues, and in particular on the practical aspects of applying this distinction.

¹²⁰ Section 3(45) of the Communications Act, 47 U.S.C. § 153(45).

¹²¹ Section 3(14) of the Communications Act, 47 U.S.C. § 3(14).

¹²² For example, we tentatively conclude that the requirement that CPE products be accessible must be construed as extending to the accessibility of components such as controls, displays, and so forth, even though Section 255 does not expressly list the types of components that it reaches. Otherwise, Section 255 would be meaningless.

b. Manufacturer

57. The Act does not define “manufacturer of telecommunications equipment or customer premises equipment.” The *Notice of Inquiry* sought comment regarding how the Commission should apply the accessibility requirement to equipment manufacturers, given such considerations as different accommodations for different disabilities, different protocols and standards for equipment distributed in foreign markets, multiple-source development and manufacture of products, and licensing for manufacture and distribution.¹²³

58. There is broad agreement that all equipment marketed in the United States, regardless of national origin, should have uniform accessibility requirements.¹²⁴ Further, the Access Board guidelines do not distinguish between foreign and domestic manufacturers.¹²⁵ We therefore tentatively conclude that Section 255 should be construed to apply to all manufacturers offering equipment for use in the United States, regardless of their location or national affiliation. Exempting foreign manufacturers, in our tentative view, would create an uneven playing field, to the potential disadvantage of American manufacturers, and would deny the American public the full protection Section 255 offers. We are aware that some foreign manufacturers may be beyond the effective range of some of the enforcement tools available to us, but their imported products certainly are not.¹²⁶ We seek comment on this proposal.

¹²³ See *Notice of Inquiry*, 11 FCC Rcd at 19157 (paras. 11-12).

¹²⁴ AFB Comments at 7; Arkenstone Comments at 5; CAN Comments at 4; CCD Comments at 6; Ericsson Comments at 9-10; Lucent Comments at 7-10; MATP Comments at 2; Microsoft Comments at 13; Motorola Comments at 8; Mulvany Comments at 3 (unpaginated); NAD Comments at 25-26; NCD Comments at 9; Nortel Comments at 7 (urging the Commission to coordinate accessibility requirements with other countries, to the extent possible); SHHH Comments at 6 (accessibility requirements established in the United States could lead to harmonization of international requirements); TIA Comments at 4-5; Trace Comments at 9-10 (unpaginated); UCPA Comments at 6; Waldron Comments at 8, 11; ACB Reply Comments at 5; COR Reply Comments at 7-8; Gallaudet Reply Comments at 4; MATP-TAP Comments at 15; Netscape Reply Comments at 17-18 (because CPE markets are increasingly international, U.S. accessibility requirements will both protect Americans with disabilities and promote universal design abroad, enhancing the competitiveness of American industry). See also CAN Comments at 4 (nationality-based exemptions would give manufacturers an “easy out” not to make their products accessible); Microsoft Comments at 12-13; Motorola Comments at 8 (exempting foreign manufacturers would make U.S. products less competitive).

¹²⁵ See 36 C.F.R. § 1193.3.

¹²⁶ We note that all equipment marketed or sold in the United States must meet all applicable technical and operational requirements. See Part 2 of the Commission’s Rules, Subpart K — Importation of Devices Capable of Causing Harmful Interference, Sections 2.1201-2.1207. 47 C.F.R. §§ 2.1201-2.1207. See also *infra* paras. 172-174.

59. Regarding the question of how Section 255 should apply to manufacturers involved in the production of multiple-source equipment, commenters take two basic positions. Some support looking only to the company that either assembles the final product or offers it for sale.¹²⁷ Others favor assigning responsibility to all firms involved, down to the component level.¹²⁸ Those commenters who expressly comment on the reseller issue say both manufacturers and resellers should be responsible for accessibility.¹²⁹ Beyond these positions, several commenters advocate leaving to private contract the apportionment of responsibility among designers, developers, fabricators, and marketers.¹³⁰ The Access Board guidelines define a “manufacturer” as an entity “that sells to the public or to vendors that sell to the public; a final assembler.”¹³¹ The Access Board explains that “[t]his would generally be the final assembler of separate subcomponents; that is, the entity whose brand name appears on the product.”¹³²

60. Equipment commonly consists of components manufactured by several different and possibly unrelated companies. We tentatively believe the “final assembler” approach favored by the Access Board has several advantages. Section 255 perhaps could be interpreted to apply to all component manufacturers, but doing so would certainly increase the complexity of overseeing compliance, and could well be counterproductive by diffusing compliance responsibility too widely. In our view, to some extent at least, every assembler has control over the components it uses. We would expect that clearly fixing responsibility for product accessibility at the final assembly stage would give these manufacturers the greatest incentive to specify accessible components from their suppliers, and to negotiate private arrangements for allocating the costs of compliance. We therefore propose to adopt a definition of “manufacturer” based upon the Access Board guidelines, and we seek comment on this proposal.

¹²⁷ Ericsson Comments at 10; Lucent Comments at 9-10; Microsoft Comments at 13; Nortel Comments at 5.

¹²⁸ AFB Comments at 7; CEMA Comments at 17; MATP Comments at 2; NVRC Comments at 2; Pacific Comments at 13; Trace Comments at 10 (unpaginated); Waldron Comments at 8; Trace Reply Comments at 6-8.

¹²⁹ AFB Comments at 7; CAN Comments at 5; CCD Comments at 7; MATP Comments at 2; NCD Comments at 10; Trace Comments at 10-11 (unpaginated); UCPA Comments at 6; Waldron Comments at 8; ASDC Reply Comments at 2.

¹³⁰ AFB Comments at 7; CAN Comments at 5; Lucent Comments at 9-10; Trace Comments at 10-11 (unpaginated).

¹³¹ 36 C.F.R. § 1193.3.

¹³² *Access Board Order*, 63 Fed. Reg. at 5613.

61. We also tentatively conclude that the term “manufacturer” would not generally include post-manufacturing distribution entities such as wholesalers and retailers. However, where the manufacturing and distributing entities are affiliated, or where the distributing entities provide customer support services commonly offered by manufacturers of equipment subject to Section 255,¹³³ it may be desirable either to treat the distributor as a “manufacturer” or to assign to the final assembler responsibility for the distributor’s accessibility efforts. We seek comment on the types of arrangements between manufacturers and distributors that could present these situations, including private brand arrangements, and on effective ways of dealing with them.

4. “Network Features, Functions, or Capabilities”

62. As noted previously,¹³⁴ Section 251(a)(2) of the Act requires that a telecommunications carrier not install network features, functions, or capabilities that do not comply with the guidelines and standards established pursuant to Section 255.¹³⁵ The Act does not expressly define “network features, functions, and capabilities,” but it does provide examples as part of its definition of “network element”:¹³⁶

[Network element] includes features, functions, and capabilities that are provided by means of [a facility or equipment used in the provision of a telecommunications service], including subscriber numbers, databases, signaling systems, and information sufficient for billing and collection or used in the transmission, routing, or other provision of a telecommunications service.

63. We recently explored this area from the standpoint of interconnection in some detail in the *Local Competition First Report and Order*.¹³⁷ We therefore tentatively conclude that the phrase “network features, functions, or capabilities” does not require further

¹³³ See *infra* paras. 75, 165.

¹³⁴ See *supra* para. 8.

¹³⁵ 47 U.S.C. § 251(a)(2).

¹³⁶ 47 U.S.C. § 153(29).

¹³⁷ See Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, CC Docket No. 96-98, First Report and Order, 11 FCC Rcd 15499, 16144-45, 16150 (paras. 1328-30, 1342) (1996), *aff'd in part and vacated in part sub nom.* Iowa Utilities Board v. FCC, 109 F3d 418 (8th Cir. 1996), *amended on reh'g on other grounds*, 120 F3d 753 (8th Cir. 1997), *petition for cert.granted sub nom.* AT&T Corp. v. Iowa Utilities Bd., 118 S.Ct. 879 (1998).

interpretation in this proceeding. As a general proposition, we view Section 251(a)(2) as a straightforward extension of the notion that a telecommunications transmission should be virtually transparent in terms of its interaction with customer supplied information. In the context of Section 255, that is, the telecommunications network should facilitate — not thwart — the employment of accessibility features by end users.¹³⁸ Of course, the goal of transparency is not unqualified. For example, the bandwidth of any given service offering is limited, and accessibility enhancements that depend on information that requires more bandwidth than the selected telecommunications channel provides will likely be unreliable.

64. The *Notice of Inquiry* sought comment on the relationship between carriers' duty under Section 251(a)(2) and equipment manufacturers' and service providers' duty under Section 255.¹³⁹ CCD urges us to emphasize the link between Section 251(a)(2) and Section 255 and broadly define network features, functions, and capabilities as "installed services."¹⁴⁰ Pacific believes the extent of the Section 251(a)(2) requirements will depend on guidelines and standards established under Section 255; it notes that its proposals to require "documents of conformity" and "customer accessibility impact reports" to demonstrate compliance with universal design principles would ensure that accessibility issues are considered.¹⁴¹ NAD states that access to a particular telecommunications service includes not only the service, but the manner in which an internal facility or piece of equipment may affect access to the service.¹⁴² The *Access Board Order* does not address this definition, which pertains to telecommunications service offerings rather than equipment.

65. On the basis of these limited comments, we tentatively conclude that Section 251(a)(2) governs carriers' *configuration* of their network capabilities. It does not make them guarantors of service providers' decisions regarding how to assemble services from network capabilities, and it does not impose requirements regarding accessibility characteristics of the underlying components.¹⁴³

¹³⁸ See *infra* para. 74 regarding the pass-through of accessibility information by telecommunications equipment and CPE.

¹³⁹ See *Notice of Inquiry*, 11 FCC Rcd at 19157 (para. 10).

¹⁴⁰ CCD Comments at 15.

¹⁴¹ Pacific Comments at 12.

¹⁴² NAD Comments at 30.

¹⁴³ To the extent network processes involve functional interaction with consumers, they would be subject to either Section 255(b) (in the case of equipment) or Section 255(c) (in the case of service). See *supra* para. 49 and note 108.

66. It may be that rules and policies for this complex area will have to be developed on an *ad hoc* basis as we gain experience resolving actual problems that arise under Section 255. However, we invite further comment on the general views presented here, on specific situations that might bring Section 251(a)(2) into play, and on recommended approaches to address likely problems. We also seek comment regarding the relationship between the enforcement procedures established by Section 252 for interconnection agreements and the Commission's exclusive enforcement authority under Section 255. Additionally, how should responsibility for any guidelines or standards for accessibility and compatibility of equipment or services to be adopted in this proceeding be apportioned between (1) the underlying manufacturer or provider of a network element; and (2) the carrier that incorporates that element into its network to provide a feature, function, or capability?

B. Nature of Statutory Requirements

1. Introduction

67. Other essential terms used in Section 255 did not originate in the Communications Act, so we cannot rely on interpretations developed under the Act. Instead, these terms have their roots in the ADA¹⁴⁴ and other disability law, and have been interpreted through years of experience at other agencies. Thus, for the following terms in particular, we take special note of the expertise and recommendations of the Access Board. It is our tentative view, however, that we are bound to interpret Section 255 in light of the broader purposes of the 1996 Act and of the Communications Act itself.

2. "Disability"

68. Section 255(a)(1) of the Act provides that "[t]he term 'disability' has the meaning given to it by section 3(2)(A) of the [ADA]."¹⁴⁵ The ADA defines "disability" as:¹⁴⁶

- A physical or mental impairment that substantially limits one or more of the major life activities of an individual;
- A record of such an impairment; or

¹⁴⁴ Section 255 expressly defines "disability" and "readily achievable" by reference to the ADA. 47 U.S.C. § 255(a).

¹⁴⁵ Section 255(a)(1) of the Communications Act, 47 U.S.C. § 255(a)(1).

¹⁴⁶ 42 U.S.C. § 12102(a)(2).

- Being regarded as having such an impairment.

69. The *Notice of Inquiry* sought comment on the application of this definition in the context of access to telecommunications services and equipment. Most of the comments on this issue address whether the second and third prongs of the ADA definition are relevant in the telecommunications context.¹⁴⁷ The Access Board does not expressly define “disability,” but states that its “guidelines are required to principally address the access needs of individuals with disabilities affecting hearing, vision, movement, manipulation, speech, and interpretation of information.”¹⁴⁸

70. We propose to follow what we consider to be the mandate of Section 255 by using without modification or enhancement the ADA definition of “disability,” as set out above.¹⁴⁹ However, in order to provide guidance for equipment manufacturers and service providers seeking to increase accessibility of their offerings, we also propose to use the Access Board’s list of categories of common disabilities that should be considered in analyzing equipment and service offerings under Section 255.¹⁵⁰ In so doing, we must note that we do not view the list as either exhaustive or final. To the extent commenters responding to the *Notice of Inquiry* have argued for a more limited definition of “disability” than the plain language of the statute requires, we tentatively conclude that their concerns about possible incremental burdens of compliance are more properly considered in the context of whether the accommodation is “readily achievable.” We seek comment on these proposals, and invite suggestions for additional ways of making the definition of “disability” useful to industry and consumers.

¹⁴⁷ See, e.g., CCD Comments at 7-9; Lucent Comments at 10-11; Microsoft Comments at 17-18; Motorola Comments at 24; Pacific Comments at 14-15; UCPA Comments at 7-9; ACB Reply Comments at 6; Trace Reply Comments at 5-6. See also Waldron Comments at 9; ACB Reply Comments at 6.

¹⁴⁸ *Access Board Order*, 63 Fed. Reg. at 5608. By way of example, hearing and vision disabilities may impede use of traditional voice telephone service, the latter by obstructing dialing and the use of visually displayed information. Examples of mental impairments include inability to interact with short-delay, automated answering services, and reading disabilities that affect use of visual displays.

¹⁴⁹ It should be noted, however, that we are not proposing to require a showing of disability as a requirement for the filing of a complaint under Section 255. See *infra* para. 148.

¹⁵⁰ See *supra* para. 69 and note 148. In evaluating the accessibility of their offerings, firms will also find the Board’s accessibility guidelines especially useful, since they relate particular disabilities to particular equipment functions. See *infra* para. 74.

3. “Accessible to and Usable by”

71. Section 255 requires that equipment and telecommunications services be “accessible to and usable by individuals with disabilities, if readily achievable.”¹⁵¹ The *Notice of Inquiry* noted that these terms are taken from the ADA context, in which *accessibility* refers to the capability to physically approach a resource or program and *usability* refers to interaction with the resource or program, and that the terms present interpretive difficulties in the telecommunications context.¹⁵²

72. The Access Board guidelines define “usable” as meaning that “individuals with disabilities have access to the full functionality and documentation for the product, including instructions, product information (including accessible feature information), documentation, and technical support functionally equivalent to that provided to individuals without disabilities,”¹⁵³ and the guidelines define “accessible” as compliance with Sections 1193.31 through 1193.43 of the rules.¹⁵⁴

73. We propose to adopt the Access Board’s definition of usability as part of our definition of “accessible to and usable by.”¹⁵⁵ It is our view that Section 255 does not establish separate requirements for accessibility and usability, but looks toward elimination of all impediments to the *functional* use of telecommunications services and equipment by individuals with disabilities. Thus, we tentatively conclude that there is no reason to distinguish the two terms for purposes of Section 255, and propose to use the term “accessibility” in the broad sense to refer to the ability of persons with disabilities to actually *use* the equipment or service by virtue of its inherent capabilities and functions.

¹⁵¹ 47 U.S.C. §§ 255(b), 255(c).

¹⁵² *Notice of Inquiry*, 11 FCC Rcd at 19161 (para. 21).

¹⁵³ 36 C.F.R. § 1193.3. The Access Board states that the definition of “usable” is included “to convey the important point that products which have been designed to be accessible are usable only if an individual has adequate information on how to operate the product.” *Access Board Order*, 63 Fed. Reg. at 5616.

¹⁵⁴ Section 1193.33 describes information, documentation, and training measures; Section 1193.37 specifies pass-through of information required for access; Section 1193.39 bars net reductions in accessibility; Section 1193.41 describes accessible input, control, and mechanical functions; and Section 1193.43 describes accessible output, display, and control functions. 36 C.F.R. §§ 1193.33, 1193.37, 1193.39, 1193.41, 1193.43.

¹⁵⁵ Whether we consider “usability” as a component of “accessibility” or as a separate requirement is ultimately an academic issue, as it does not affect our tentative conclusion about what Section 255 requires. Our “unified” approach merely renders it unnecessary to distinguish between “accessibility” features and “usability” features.

74. The Access Board has defined equipment accessibility as including the following functions:

- Input, control, and mechanical functions—¹⁵⁶
 - Operable without vision
 - Operable with low vision and limited or no hearing
 - Operable with little or no color perception
 - Operable without hearing
 - Operable with limited manual dexterity
 - Operable with limited reach or strength
 - Operable without time-dependent controls
 - Operable without speech
 - Operable with limited cognitive skills

- Output, display, and control functions—¹⁵⁷
 - Availability of visual information
 - Availability of visual information for low vision users
 - Access to moving text
 - Availability of auditory information
 - Availability of auditory information for people who are hard of hearing
 - Prevention of visually-induced seizures
 - Availability of auditory cutoff
 - Non-interference with hearing technologies
 - Hearing aid coupling

In addition, Section 1193.37 of the Access Board's rules calls for pass-through of "cross-manufacturer, non-proprietary, industry-standard codes, translation protocols, formats or other information necessary to provide telecommunications in an accessible format."¹⁵⁸

75. We believe the Board's definition of accessibility and the related appendix materials provide an appropriate basis for evaluating accessibility obligations under Section 255, and we propose to adopt them as part of the definition of "accessible to and usable by."

¹⁵⁶ 36 C.F.R. § 1193.41.

¹⁵⁷ 36 C.F.R. § 1193.43.

¹⁵⁸ 36 C.F.R. § 1193.37.

We also propose that such an evaluation include not only use of the equipment itself,¹⁵⁹ but also support services (such as consumer information and documentation) akin to what is provided to consumers generally to help them use equipment.¹⁶⁰ We seek comment on this proposal. We also seek specific comment on how we might apply the Access Board's mandate that CPE "pass through" accessibility information.

76. We tentatively conclude that these lists can also guide an evaluation of telecommunications service accessibility. Does the service itself have characteristics that render accessibility difficult? For example, do cuing and control signals (*e.g.*, dial tones, busy signals, intercepts) accommodate the needs of users with disabilities? And does the provider offer essential support services (*e.g.*, service ordering, billing, repair service) that meet the needs of customers with disabilities? For example, does the provider of essential support services provide direct TTY access to customer service and help desk lines? Are tutorial videos provided with captioning and video description? If explanatory materials are provided via the Internet, are the materials in an accessible format? We seek comment on these and other criteria that would constitute service accessibility.

77. The *Notice of Inquiry* stated that physical access to telecommunications equipment and services is a legitimate concern, but suggested that Section 255 reaches only aspects of accessibility under the direct control of manufacturers and service providers. The *Notice of Inquiry* sought comment on the view expressed by the Commission that the physical approachability of such offerings¹⁶¹ is properly governed by regulations the Department of Justice adopted to implement the ADA, and is the responsibility of those who provide public accommodations, not the manufacturers of the equipment.¹⁶²

78. Several commenters agree that providers are not responsible for physical aspects of accessibility except where they have direct control over siting.¹⁶³ MATP argues that the obligation to provide accessible equipment should extend to "how that equipment is deployed." MATP would require that the installation allow use of access features; *e.g.*, a

¹⁵⁹ See *supra* paras. 73-74.

¹⁶⁰ See *supra* para. 72.

¹⁶¹ For example, the mounting of pay telephones at heights accessible by persons in wheelchairs, or the number of TTYs in a bank of pay telephones.

¹⁶² *Notice of Inquiry*, 11 FCC Rcd at 19161 (para. 21).

¹⁶³ AT&T Comments at 10-11 & n.15; Microsoft Comments at 28; NCD Comments at 18; Omnipoint Comments at 8-9; Trace Comments at 13.

cellular phone manufacturer should require that service providers offer each of its models within a category needed to provide a full complement of access features.¹⁶⁴ Mulvany likewise suggests that manufacturers communicate installation requirements for optimizing accessibility.¹⁶⁵

79. We continue to believe, as we stated in the *Notice of Inquiry*, that Section 255 reaches only those aspects of accessibility to telecommunications over which equipment manufacturers and service providers subject to our authority have direct control, such as the design of equipment or the manner in which a telecommunications service is delivered to users.¹⁶⁶ Thus, in the example noted above,¹⁶⁷ manufacturers of pay telephones have no control over the height at which their instruments are mounted.¹⁶⁸ In contrast, pay telephones that are inaccessible to persons with disabilities because, *e.g.*, they interfere with hearing aids, or because the visual display itself presents accessibility obstacles to persons with visual disabilities, would present an issue of equipment inaccessibility under Section 255. We seek comment on these views.

80. Similarly, if a person with a disability is able to use CPE such as a screen-reading terminal, but finds that a telecommunications service is not usable because the terminal cannot generate a screen display from the data provided through the service, this would also present an issue of inaccessibility, but the cause of the inaccessibility might be the service, or the equipment, or both. We also seek comment on what accessibility obstacles are encountered by persons with disabilities that are attributable to telecommunications service or equipment characteristics. To the extent that service accessibility is determined by network equipment, including integral software, how should the Commission distinguish between accessibility obstacles attributable to network equipment, and those attributable to service providers?

¹⁶⁴ MATP Comments at 4.

¹⁶⁵ Mulvany Comments at 4 (unpaginated).

¹⁶⁶ See *Notice of Inquiry*, 11 FCC Rcd at 19161 (para. 21). Product accessibility is readily achievable for a manufacturer only to the extent the manufacturer has control over the product.

¹⁶⁷ See *supra* note 161.

¹⁶⁸ Of course, in the unusual case of a design that precluded installation at an accessible height, there might well be an issue of whether the manufacturer is in compliance with Section 255.

4. "Compatible with"

a. "Peripheral Devices or Specialized CPE"

81. Where accessibility is not readily achievable, Section 255(d) requires that telecommunications offerings be compatible with "existing peripheral devices or specialized [CPE] commonly used by individuals with disabilities to achieve access, if readily achievable."¹⁶⁹ The *Notice of Inquiry* asked commenters to address the definitions of "existing peripheral devices" and "specialized CPE," and to provide examples.¹⁷⁰

82. Several commenters provide such examples.¹⁷¹ The Access Board defines "peripheral devices" as "[d]evices employed in connection with telecommunications equipment or customer premises equipment to translate, enhance, or otherwise transform telecommunications into a form accessible to individuals with disabilities."¹⁷² It defines specialized CPE as "[e]quipment, employed on the premises of a person (other than a carrier) to originate, route, or terminate telecommunications, which is commonly used by individuals with disabilities to achieve access."¹⁷³

83. The Board further explains its definitions as follows:¹⁷⁴

[T]he term peripheral devices commonly refers to audio amplifiers, ring signal lights, some TTYs, refreshable Braille translators, text-to-speech synthesizers and similar devices. These devices must be connected to a

¹⁶⁹ 47 U.S.C. § 255(d).

¹⁷⁰ *Notice of Inquiry*, 11 FCC Rcd at 19162 (para. 25).

¹⁷¹ For example, NAD lists as examples of specialized CPE currently in use, TTYs, flashing light signalers, volume controls, caption decoders, tactile vibrating devices, artificial larynxes, and FM or infrared assistive listening devices. NAD characterizes as peripheral devices computer software, hardware, modems, and keyboards. NAD states that some of the devices used to access telecommunications are typically telecommunications-related, while others are not thought of in this sense. NAD Comments at 31. ASDC submits that specialized CPE used by deaf and hard of hearing people includes listening systems such as FM devices, volume controls, caption decoders, TTYs, and flashing lights to indicate sound, for example, the ringing of a phone. ASDC Reply Comments at 4.

¹⁷² 36 C.F.R. § 1193.3.

¹⁷³ *Id.*

¹⁷⁴ *Access Board Order*, 63 Fed. Reg. at 5613, 5616.

telephone or other customer premises equipment to enable an individual with a disability to originate, route, or terminate telecommunications. Peripheral devices cannot perform these functions on their own.

[Specialized CPE] should be considered a subset of [CPE], and . . . manufacturers of specialized [CPE] should make their products accessible to all individuals with disabilities, including the disability represented by their target market, where readily achievable.

84. We seek comment on these definitions, but tentatively conclude that it is not necessary to distinguish between peripheral devices and specialized CPE. We tentatively conclude that the reference in Section 255(d) to equipment and devices “commonly used . . . to achieve access” identifies products with a specific telecommunications functionality. Thus, for example, equipment used in direct conjunction with CPE, such as amplifiers for persons with hearing disabilities, or screen readers for persons with visual disabilities, would be considered either peripheral devices or specialized CPE. In contrast, devices such as hearing aids, which have a broad application outside the telecommunications context, may be used in conjunction with peripheral equipment or specialized CPE, but are not themselves considered specialized CPE or peripheral devices under the 1996 Act. We seek comment on this issue.

85. For example, it is our tentative view that, if a telecommunications product can be used by a person with a hearing aid¹⁷⁵ without any need to employ a peripheral device or specialized CPE, then the product has complied with the *accessibility* requirements of Section 255. If the product is usable by a person using a hearing aid only through the application of a peripheral device or CPE, then the product meets the *compatibility* criteria of Section 255. We believe this view is consistent with the plain language of Section 255, and does not conflict with the FDA’s requirements regarding hearing aids.

86. In the case of telecommunications equipment, we note that the 1996 Act definition of compatibility constitutes a significant departure from the sense in which Section 710 of the Communications Act, the Hearing Aid Compatibility Act of 1988 (HAC Act),¹⁷⁶ uses the same term. Section 710 is limited in scope to telephones — it does not consider how to accommodate the needs of persons with disabilities with respect to other CPE, network equipment, or the range of telecommunications services. Section 710 also explicitly requires *internal* compatibility (*i.e.*, within the handset) to establish compliance with its compatibility

¹⁷⁵ The Food and Drug Administration (FDA) has jurisdiction over hearing aids.

¹⁷⁶ 47 U.S.C. § 610.

requirement.¹⁷⁷ And Section 710 specifies absolute requirements; unlike Section 255, it is not qualified by considerations of what is “readily achievable.” The Commission adopted Section 68.4 of its Rules,¹⁷⁸ specifying telecoil technical characteristics, to implement Section 710.

b. “Commonly Used”

87. The *Notice of Inquiry* also asked for comment on criteria for determining when equipment subject to Section 255 is “commonly used.”¹⁷⁹

88. Arkenstone asserts that the limited sales of braille displays (fewer than 1,000 per year) are not inconsistent with their common use for persons with blindness, since they are the only option for persons both deaf and blind.¹⁸⁰ Waldron surveys existing peripherals, and suggests that the definition of “commonly used” should be somewhat closed, to give industry reasonable confidence that they know what is required, while allowing sufficient choice to address the majority of needs within the community of persons with disabilities.¹⁸¹ Trace references an overview of commonly used peripherals on Internet sites it maintains.¹⁸²

89. Rather than focus on a definition of “commonly used,” which involves existing devices, NCD recommends that the Commission concern itself with “basic design measures that equipment manufacturers and service providers can employ that will facilitate access and seamless use of both current and future access peripherals and specialized CPE.” NCD maintains that principles of open architecture or design, also pertinent to interconnectivity and other provisions of Act, offer a principal means for ensuring compatibility.¹⁸³ Inclusive calls for a census to determine commonly used specialized CPE, which manufacturers and service providers could use to develop compatibility standards.¹⁸⁴

¹⁷⁷ Section 710(b)(1) of the Communications Act, 47 U.S.C. § 610(b)(1).

¹⁷⁸ 47 C.F.R. § 68.4.

¹⁷⁹ *Notice of Inquiry*, 11 FCC Rcd at 19162 (para. 25).

¹⁸⁰ Arkenstone Comments at 9.

¹⁸¹ Waldron Comments at 15-16.

¹⁸² Trace Comments at 15-16 (unpaginated).

¹⁸³ NCD Comments at 22-23.

¹⁸⁴ Inclusive Comments at 8.

90. In light of the specific definitions set out in the Access Board guidelines,¹⁸⁵ we seek further comment with regard to when devices and CPE should be considered “commonly used,” as described in the statute. For example, we solicit comment on whether we should establish a rebuttable presumption that a device is commonly used where a State has incorporated the device into its statewide equipment distribution programs for persons with disabilities. We also seek comment regarding whether and to what extent the cost of CPE or peripheral devices should be considered in determining whether the CPE or peripheral device may be deemed to be commonly used by persons with disabilities. Our tentative view is that the CPE or peripheral device must be affordable and widely available in order to be considered “commonly used” by persons with disabilities. We seek comment on this tentative view. We also note that in addition to informing industry of its obligation with respect to compatibility, a listing of such “commonly used” components could be a valuable source of information to apprise persons with disabilities of the available technologies; we seek comment regarding whether and how a listing could be maintained.¹⁸⁶

c. Compatibility

91. Several commenters note that ensuring compatibility requires coordination among, *e.g.*, manufacturers of specialized CPE, network equipment and CPE manufacturers, and service providers.¹⁸⁷ The Access Board lists five criteria for determining compatibility, subject to applicability:¹⁸⁸

- External access to all information and control mechanisms;
- Connection point for external audio processing devices;
- Compatibility of controls with prosthetics;
- TTY connectability; and
- TTY signal compatibility.

¹⁸⁵ See *supra* para. 82.

¹⁸⁶ See *infra* para. 174 regarding information clearinghouses.

¹⁸⁷ See, *e.g.*, NAD Reply Comments at 11-14; Siemens Reply Comments at 6. See also SHHH Comments at 12 (unpaginated); Winters Comments at 2-3.

¹⁸⁸ 36 C.F.R. § 1193.51.

92. We propose to adopt these five criteria as a starting point for determining compatibility.¹⁸⁹ However, we recognize that these criteria might need to be broadened to account for likely technological advances in both telecommunications and accessibility products, either now or in the future, as developments warrant. We believe this is an area where processes involving other entities, or industry and consumer groups (such as negotiated rulemakings), might be useful in developing appropriate further criteria.¹⁹⁰ We seek comment on our proposal, and on these views.

d. Other Matters

93. Finally, we request commenters to address how the definition of “readily achievable” should apply to the obligations of manufacturers and service providers to provide compatibility pursuant to Section 255(d). We note that compatibility requirements apply only when accessibility is not “readily achievable.” Therefore, we seek comment regarding the extent to which the same factors that are used to determine whether accessibility is readily achievable can or should also be used to determine whether compatibility is readily achievable. Commenters should also address how the goal of compatibility can be met without hampering competition or the development of new technologies.

5. “Readily Achievable”

a. General

94. Section 255 requires accessibility to the extent it is “readily achievable.” Section 255(a)(2) provides that “[t]he term ‘readily achievable’ has the meaning given to it by section 301(9) of [the ADA],”¹⁹¹ which states:¹⁹²

¹⁸⁹ We note that any equipment that has achieved *internal compatibility* for purposes of Section 710 of the Act would also appear to have achieved *accessibility* within the meaning of Section 255. This would appear to be so because any such equipment would be usable by a person with disabilities without the need also to employ any peripheral device or specialized CPE. Unless otherwise specified, therefore, we propose to use the term “compatibility” in the sense that contemplates the use of external apparatus to achieve access to telecommunications.

¹⁹⁰ See *infra* para. 174.

¹⁹¹ Section 255(a)(2) of the Communications Act, 47 U.S.C. § 255(a)(2).

¹⁹² 42 U.S.C. § 12181(9).

The term “readily achievable” means easily accomplishable and able to be carried out without much difficulty or expense. In determining whether an action is readily achievable, factors to be considered include—

- (A) the nature and cost of the action needed under [the ADA];
- (B) the overall financial resources of the facility or facilities involved in the action; the number of persons employed at such facility; the effect on expenses and resources, or the impact otherwise of such action upon the operation of the facility;
- (C) the overall financial resources of the covered entity; the overall size of the business of a covered entity with respect to the number of its employees; the number, type, and location of its facilities; and
- (D) the type of operation or operations of the covered entity, including the composition, structure, and functions of the workforce of such entity; the geographic separateness, administrative or fiscal relationship of the facility or facilities in question to the covered entity.

95. The *Notice of Inquiry* sought comment on the application of this definition to telecommunications equipment and services in a way that will take advantage of market and technological developments, without constraining competitive innovation.¹⁹³ Commenters, on the whole, contend that there are significant differences that the Commission should consider between the application of the term “readily achievable” to public accommodations under Title III of the ADA and its application to telecommunications under Section 255. Commenters urge caution in transferring the ADA definition and factors, due to their origins for remedial purposes to existing buildings and facilities, and argue that it is necessary for the Commission to adapt them for telecommunications.¹⁹⁴

¹⁹³ *Notice of Inquiry*, 11 FCC Rcd at 19160 (para. 16).

¹⁹⁴ For example, Ericsson lists nine factors that it contends distinguish the telecommunications marketplace from entities or facilities subject to the ADA context. Ericsson Comments at 7. Pacific submits that while ADA cost factors can be applied to a “particular facility” or “covered entity,” in the telecommunications context, there are additional factors and ramifications that need to be considered for persons with disabilities and the firms involved. Pacific Comments at 18-19. Other parties point out that, while the ADA often involves retrofitting existing structures, the accessibility requirement of Section 255 applies to new products and services, and therefore determinations of what is readily achievable must be made at the design stage. NAD Comments at

96. The Access Board guidelines define “readily achievable” in the telecommunications context simply as “[e]asily accomplishable and able to be carried out without much difficulty or expense.”¹⁹⁵ Moreover, the Access Board states that “[n]ot all of the factors cited in the ADA or the Department of Justice (DOJ) implementing regulations (July 26, 1991) are easy to translate to the telecommunications context”¹⁹⁶ The *Access Board Notice* stated even more directly that “[t]he factors which apply in the ADA context may not be appropriate [in the context of the Communications Act].”¹⁹⁷

97. We tentatively conclude that “readily achievable,” as defined by the ADA and incorporated by Section 255, simply means “easily accomplishable and able to be carried out without much difficulty or expense.” We believe that this broad definition is applicable to telecommunications equipment and services.

98. It is also our tentative view that the four factors set out with the ADA definition of “readily achievable” should be construed as the ADA describes them: factors to be considered in applying the definition in the ADA setting, *e.g.*, the removal of architectural barriers in buildings and facilities. Given the differences between architectural barriers and telecommunications barriers, it is our tentative view that the ADA factors should guide, though not constrain, our development of factors that more meaningfully reflect pertinent issues and considerations relevant to telecommunications equipment and services.¹⁹⁸

99. The telecommunications-specific factors we propose herein therefore reflect the ADA factors, but are tailored to the circumstances of the Section 255 setting. Our goal is to establish factors that are true to the letter and spirit of both the ADA definition and the objectives of Congress in enacting Section 255. We also stress that, while we believe this objective of establishing durable and pertinent factors for evaluating the “readily achievable” standard in the telecommunications field is important, we also expect that determinations regarding whether accessibility is readily achievable will be driven by the facts of particular

23-24; NCD Comments at 12-13 (unpaginated); UCPA Reply Comments at 9.

¹⁹⁵ 36 C.F.R. § 1193.3.

¹⁹⁶ *Access Board Order*, 63 Fed. Reg. at 5633.

¹⁹⁷ *Access Board Notice*, 62 Fed. Reg. at 19181.

¹⁹⁸ We also note that the ADA factors do not appear to exclude consideration of additional factors that may be relevant in particular situations. Thus, even assuming *arguendo* that the ADA factors were binding upon Section 255 determinations, we do not believe they would preclude our consideration of telecommunications-specific factors not enumerated in the ADA.

cases. We intend that any factors we develop in this rulemaking will be applied appropriately to the facts of particular cases, and will not operate so as to inadvertently impede our efforts to arrive at reasonable judgments in each case. We seek comment on these tentative conclusions.

b. Telecommunications Factors

100. We believe a useful framework for analyzing whether a particular telecommunications accessibility feature is “readily achievable” involves looking at three areas:

- Is the feature feasible?
- What would be the expense of providing the feature?
- Given its expense, is the feature practical?

We seek comment on these proposed factors, as discussed more fully below. We especially seek comment on the practical implications of options we may be urged to adopt: their effect on the development and marketing of accessibility features, on the pace of innovation, and on the administrative costs associated with implementation and enforcement measures (discussed in the remainder of this Notice).

(1) Feasibility

101. Feasibility is equivalent to achievability, and is thus an inherent component of the term “readily achievable.”¹⁹⁹ There are various reasons why a particular feature might not be feasible. For example, it might be physically impossible to fit large keypad buttons onto a small wireless telephone handset. Available technology may not be able to easily develop solutions for some accessibility problems.²⁰⁰ Conceivably there might be legal impediments to implementing some features. Or implementing features to improve accessibility for one disability might limit the ability to address accessibility for another.

¹⁹⁹ Feasibility also seems implicit in the first factor to be considered in determining whether an accessibility solution under the ADA is readily achievable: “the nature . . . of the action needed” *See supra* para. 94.

²⁰⁰ Although existing accessibility solutions are, by definition, feasible, we do not propose to determine that a solution is infeasible simply because the solution has not yet been found.

102. The Access Board acknowledges that “technological feasibility is inherent in the determination of what is readily achievable,” but for that reason saw no need to explicitly state it.²⁰¹ Although feasibility may seem to be an obvious element of “readily achievable,” not requiring special attention, we believe that identifying it as a separate analytical component serves a useful purpose. For manufacturers and service providers, it serves as a reminder of the need to carefully examine cases of apparent infeasibility, an exercise that may lead to the discovery of new accessibility solutions. For consumers, it highlights the fact that despite advances in technology, some features are still not possible. We therefore tentatively conclude that feasibility should be one factor to be considered in determining whether a particular accessibility feature is readily achievable, and we seek comment on how to further elaborate this factor in the telecommunications context.

(2) Expense

103. After a determination is made that a particular feature is feasible, further analysis must generally start with consideration of the expense of making the feature available.²⁰² We tentatively conclude that for products offered in the public marketplace, the relevant expense is a “net” figure, including both the cost of the feature and the additional income the feature will provide.²⁰³ The *Notice of Inquiry* stated that cost is an important aspect of the “readily achievable” standard, and sought data on types and levels of costs incurred to achieve accessibility of existing offerings and on estimates of the savings associated with achieving accessibility at the initial design stage.²⁰⁴ Many commenters address the issue of cost as a factor in determining whether a particular accessibility or compatibility feature or component is readily achievable.²⁰⁵ Inclusive contends that cost factors that are recognized for this purpose should include research and development, production, and marketing costs (and

²⁰¹ *Access Board Order*, 63 Fed. Reg. at 5615.

²⁰² We would emphasize that Section 255 does not excuse inaccessibility when accessibility entails expense; the test is whether accessibility can be provided “without much difficulty or expense.” *See supra* para. 94. The purpose of the telecommunications-specific “readily achievable” factors is to guide a determination of whether accessibility is readily achievable in the circumstances of each case.

²⁰³ *See infra* paras. 115-117. The more a provider can recover the cost of providing an accessibility feature, the more likely the feature can be provided “without much . . . expense.” *See supra* para. 94.

²⁰⁴ *Notice of Inquiry*, 11 FCC Rcd at 19160 (para. 17). Cost is also a component of the first factor to be considered in determining whether an accessibility solution under the ADA is readily achievable: “the . . . cost of the action needed . . .” 42 U.S.C. § 12181(9). *See supra* para. 94.

²⁰⁵ *See, e.g.*, Lucent Comments at 13; PCIA Comments at 5; CEMA Reply Comments at 11, 12 & n.31.

customer support), over the life of the product.²⁰⁶ Microsoft asserts that it will often be difficult to separate accessibility costs from operating expenses.²⁰⁷ AFB asserts that the cost of accessible technology drops when required by regulation.²⁰⁸

104. While expense is most often thought of in terms of a dollar figure, it can also include the cost of other resources, as well as opportunity costs. For example, if there are technological barriers to implementing an accessibility feature, what engineering staff would the provider need in order to develop solutions? What fabrication facilities would be required to produce the more accessible product? Opportunity costs could reflect the fact that adding an accessibility feature with respect to one disability might decrease product or service accessibility with respect to another disability, or reduce product or service performance in some other way.

105. We seek comment on these issues. We also ask commenters to supply pertinent information regarding:

- The types and levels of expenses that have been incurred to achieve or improve accessibility of existing offerings, and the extent to which they may serve as a basis for anticipating expenses associated with accessibility standards to be developed.
- Expedient processes that the Commission could establish to determine expenses in situations where anticipated expenses relating to accessibility (or compatibility) are disputed.
- Savings when accessibility is achieved at the design stage.

(3) Practicality

106. Perhaps the most difficult aspect of determining whether a particular accessibility feature is readily achievable involves determining whether it is practical, given the expenses involved.²⁰⁹ For example:

²⁰⁶ Inclusive Comments at 4. *See also* NCD Comments at 14-15; WID Reply Comments at 6 (arguing that cost of learning accessible design is part of overall research and development spending).

²⁰⁷ Microsoft Comments at 26.

²⁰⁸ AFB Comments at 10.

²⁰⁹ These practicality considerations are similar to the second, third, and fourth factors under the ADA. *See supra* para. 94.

- The resources (financial, staff, facilities, and otherwise) available to the provider to meet the expenses associated with accessibility.
- The potential market for the product or service, taking into account the manner and extent to which the product or service is altered or changed in connection with making it accessible.
- The degree to which the provider would recover the incremental cost of the accessibility feature.
- Issues regarding product life cycles.

(a) Resources

107. The *Notice of Inquiry* sought comment on ways to consider the resources of firms of varying characteristics, in a manner which would not distort competitive incentives, including the relationship between parent and subsidiary corporations. The Commission also asked commenters to consider the estimation and determination of costs associated with a specific technical or performance standard, as well as more process-oriented standards.²¹⁰

108. A number of industry comments state that the *Notice of Inquiry* fails to reflect corporate divisions and financial structures commonly used by equipment manufacturers. These commenters argue that guidelines should consider only financial resources directly controlled by the unit responsible for design and production of equipment.²¹¹ Several comments note that DOJ rules implementing the ADA provide that the scope of resources to be considered available is potentially broad, and is determined on a case-by-case basis.²¹² On the other hand, Waldron warns that if all resources are not considered, subsidiaries will “buy off” accessibility obligations.²¹³

109. We tentatively find most compelling the view that the financial resources of the organization that has legal responsibility for, and control over, a telecommunications product (service or equipment) should be presumed to be available to make that product accessible in

²¹⁰ *Notice of Inquiry*, 11 FCC Rcd at 19160-61 (para. 17-20).

²¹¹ ITI Comments at 12; Motorola Comments at 12; NCD Comments at 10; Pacific Comments at 17-18; TIA Comments at 6; Motorola Reply Comments at 5, 9.

²¹² *See, e.g.*, Motorola Comments at 13; AFB Reply Comments at 12; WID Reply Comments at 6.

²¹³ Waldron Comments at 11. *See also* ACB Reply Comments at 7.