James E. White Response to US Access Board – ICT REFRESH – Proposed Information and Communication Technology (ICT) Standards and Guidelines of February 27, 2015 (80 FR 10880)

This material is presented in 3 main sections, 1) The Law (including ADA, Rehabilitation Act, and current regulations) with annotations and comments thereon, 2) The Proposed ITC Standards and Guidelines with comments thereon, and 3) WCAG 2.0 with comments thereon. For ease of reference this document is provided with line numbers.

Response Section 1 – The Law

The below summary of the law was first prepared for a talk titled *Planters on the Wheelchair Ramp: When Will YOU Remove Yours* and presented as session ACC-10 2:20-3:20 PM at the January 30, 2014, Assistive Technology Industry Association (ATIA) conference in Orlando, Florida. There have been minor revisions included here but no concerted effort to ensure that the material is 100% current with the ever shifting legal landscape which is very difficult to penetrate for certain in the websites of the US Federal Government. Internet web links to the material I used are provided however, since content is ever shifting it may have changed since I quoted it or a completely new "page" may have been created for the update therefore parties intending to use the material as a legal basis are cautioned to go get the most current material available.

This material shows the law as I read it. In the reproduced sections of the laws, regulations, standards, etc., I have intentionally left out large blocks (shown with []) that are not relevant to my discussion. Also added between brackets [added matter] and sometimes nested more than one level deep are law, regulation, and standards material rather than just the original reference. For an example of the text of the law being brought inline in brackets ([…]) see the beginning of Sec. 12101 below which has "[]" omissions, [brought in text to define "covered entity" [interrupted by brought in text to define "employer"]], etc. My own notes or text is [*(in italics within parentheses within brackets)*]. Critical wording in the law, etc. has been highlighted with a yellow background and bolded. Occasionally a double emphasis has been added with an underline below bolded text and should not be mistaken for a link. "EIT" is occasionally used to abbreviate Electronic and information technology. Occasionally material of little or no relevance to EIT has had its text greyed.

The material starts with the Americans with Disabilities Act because I'm completely convinced by my reading of the existing law that the Access Board's mandate ***IS NOT*** for ***ONLY*** "electronic and information technology developed, procured, maintained, or used ***BY FEDERAL AGENCIES*** covered by section 508 of the Rehabilitation Act of 1973" as the Access Board

continues to proclaim, but also for Employers, Public Services, and Public Accommodations as demonstrated and defined ***IN THE LAW***. (Please excuse the shouting but I don't believe at this point that mere italicized emphasis is sufficient as the quote above is directly from the "SUMMARY:" near the beginning of http://www.access-board.gov/guidelines-and-standards/communications-and-it/about-the-ict-refresh/proposed-rule. Also these links may not work or be intermittent since my host has been hacked and the battle is ongoing.)

Americans with Disabilities Act

Full ADA law: http://www.ada.gov/pubs/adastatute08.htm or http://www.gpo.gov/fdsys/pkg/USCODE-2012-title29/pdf/USCODE-2012-title29-chap16.pdf (see http://www.ecfr.gov/cgi-bin/ECFR?page=simple for access to the full Code of Federal Regulations)

TITLE 42 - THE PUBLIC HEALTH AND WELFARE

CHAPTER 126 - EQUAL OPPORTUNITY FOR INDIVIDUALS WITH DISABILITIES

Sec. 12101. Findings and purpose

[](b) Purpose

It is the purpose of this chapter

(1) to **provide a clear and comprehensive national mandate for the elimination of discrimination against individuals with disabilities**;

(2) to **provide clear, strong, consistent, enforceable standards addressing discrimination against individuals with disabilities**;

[][*(and see the notes of 12101, Findings and Purposes of Pub. L 110-325, the 2008 amendments,* ***rejecting*** *Supreme Court, EEOC, corporate, etc. limiting of the 1990 ADA, in other words rejecting weaseling)*][]

Sec. 12102. []The term "disability" means, with respect to an individual (A) a physical or mental impairment that substantially limits one or more major life activities []; or (C) **being regarded as having such** an [*(see particularly (3)(A))* actual or perceived] impairment[]. [] (2) Major Life Activities [](A)][] include, but are not limited to, caring for oneself, **performing manual tasks, seeing, hearing**, eating, sleeping, walking, standing, lifting, bending, **speaking**, breathing, **learning, reading, concentrating, thinking, communicating, and working** [or (2)](B)][] the operation of a major bodily function, including but not limited to, functions of the immune system, normal cell growth, digestive, bowel, bladder, **neurological, brain**, respiratory, circulatory, endocrine, and reproductive functions [](3)[] whether or not the impairment limits or is perceived to limit a major life activity. [] (4)[](A) **The definition of disability [] shall be construed in favor of broad coverage of individuals [] to the maximum extent permitted by the terms of this chapter [][(4)](E)[] without regard to the ameliorative effects of mitigating measures** such as (I) medication, medical supplies, equipment, or appliances []; (II) use of assistive technology; (III) reasonable accommodations or auxiliary aids or services.[]

SUBCHAPTER I – EMPLOYMENT

[]***Sec. 12112.*** [] (a) [] No covered entity [Sec. 12111(2), employer [Sec. 12111(5)(A),[]who has 15 or more employees[]], employment agency, labor organization, or joint labor-management committee] shall discriminate against a qualified individual on the basis of disability [by (b)(5)(A) not making reasonable accommodations [] unless such covered entity can demonstrate that the accommodation would impose an undue hardship on the operation of the business of such covered entity] in regard to job application procedures, the hiring, advancement, or discharge of employees, employee compensation, job training, and **other terms, conditions, and privileges of employment**.

Sec. 12116. Regulations

[]the [Equal Employment Opportunity] Commission shall issue regulations in an accessible format to carry out this subchapter [*(via Title 5, [Part I], Chap. 5, Subchap II [Sec. 553 – Rule making, etc.] viz.)* CFR Title 29 Part 1630.1 [](c) Construction—(1) In general. Except as otherwise provided in this part, **this part does not apply a lesser standard than the standards applied under title V of the Rehabilitation Act of 1973** (29 U.S.C. 790-794a[*(why the ending "a" I've no idea unless the "-794a" was intended as a substitute for the "et seq." of 12201)*], **as amended**), **or the regulations issued by Federal agencies** [*(e.g. Department of Justice, see Sec. 12134, Access Board)*] **pursuant to that title**[*(including now 29 US Code 794d EIT)*]. [] 1630.2 [] (o) Reasonable accommodation. (1) The term reasonable accommodation means: [] (ii) Modifications or adjustments to the work environment, or to the manner or circumstances under which the position held or desired is customarily performed, that enable an individual with a disability who is qualified to perform the essential functions of that position; or (iii) Modifications or adjustments that enable a covered entity's employee with a disability to enjoy equal benefits and privileges of employment as are enjoyed by its other similarly situated employees without disabilities. (2) Reasonable accommodation may include but is not limited to: [] (ii) [] acquisition or modifications of equipment or devices; appropriate adjustment or modifications of examinations, training materials, or policies; the provision of qualified readers or interpreters; and other similar accommodations for individuals with disabilities[1630.2 (j) [] (5) [] (ii) Use of assistive technology; (iii) []"auxiliary aids or services" (as defined by 42 U.S.C. 12103(1)[[] (A) qualified interpreters or other effective methods of making aurally delivered materials available to individuals with hearing impairments; (B) qualified readers, taped texts, **or other effective methods of making visually delivered materials available to individuals with visual impairments**; []]);]. [] 1630.9 [] (c) **A covered entity shall not be excused from the requirements of this part because of any failure to receive technical assistance authorized by section 507**[*(probably intended to be section 506, now 12206, which does require technical assistance manuals)*] **of the ADA, including any failure in the development or dissemination of any technical assistance manual authorized by that Act.**].

SUBCHAPTER II - PUBLIC SERVICES

Part A – **[]** ***Sec. 12132.*** [] (a) Subject to the provisions of this subchapter, no qualified individual with a disability shall, by reason of such disability, be excluded from participation in or be denied the benefits of **services, programs, or activities** of a public entity [Sec. 12131(1) (A) any State or local government; (B) any department, [] **or other instrumentality of a State or States or local government**], or be subjected to discrimination by any such entity.

[]*Sec. 12134. Regulations*

(a) Not later than 1 year after July 26, 1990, the **Attorney General** shall promulgate regulations in an accessible format that implement this part. Such regulations shall not include any matter within the scope of the authority of the Secretary of Transportation[]. (b) [] Except for "program accessibility, existing facilities", and "communications" [*(covered subsequently in this 12134 section)*], regulations under subsection (a) of this section shall be consistent with this chapter [*(specifically see SUBCHAPTER IV below as covered in)* e-CFR Title 28, Chapter 1, Part 35– NONDISCRIMINATION ON THE BASIS OF DISABILITY IN STATE AND LOCAL GOVERNMENT SERVICES [] 35.103 [] **Except as otherwise provided in this part, this part shall not be construed to apply a lesser standard than the standards applied under title V of the Rehabilitation Act of 1973** (29 U.S.C. 791 [*(why a 791 "employment" limit instead of the Subchapter IV's clear 790 et seq.)*]) or the regulations issued by Federal agencies pursuant to that title. *(and that's all I'll quote of it here, it is long and quite similar to the below quoted part 39 of title 28 of the "Department of Justice" federal agency)*] and with the coordination regulations under part 41 of title 28, Code of Federal Regulations [41.7 []section 502 *(29 U.S. Code § 792 - Architectural and Transportation Barriers Compliance Board)* of the Rehabilitation Act of 1973, as amended, as well as to section 504 *(29 U.S. Code § 794 - Nondiscrimination under Federal grants and programs)*] (as promulgated by the Department of Health, Education, and Welfare on January 13, 1978), applicable to recipients [41.3 any State or its political subdivision, any instrumentality of a State or its political subdivision, any public or private agency, institution, organization, or other entity, or any person to which Federal financial assistance is extended directly or through another recipient, including any successor, assignee, or transferee of a recipient, but excluding the ultimate beneficiary of the assistance] of Federal financial assistance under section 794 of title 29. With respect to "program accessibility, existing facilities", and "**communications**", such **regulations shall be consistent with regulations and analysis as in** part 39 of title 28 of the Code of Federal Regulations [*(by the Department of Justice)* ENFORCEMENT OF NONDISCRIMINATION ON THE BASIS OF HANDICAP IN PROGRAMS OR ACTIVITIES []

39.130 General prohibitions against discrimination.

(a) No qualified handicapped person shall, on the basis of handicap, be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under any program or activity conducted by the [PUBLIC SERVICE *(substituted for "the agency" [i.e., Department of Justice] as meant by "shall be consistent" above, "*PUBLIC AGENCY*" would work as well. Also be well aware that the law, as I read it, is clear on the point that of CFR Title 28 part 35 or 39 OR ANY OTHER Federal Agency CFR part, the one with the greatest level of*

accessibility applies across the board regardless, no rules or regulations can be a "lesser standard" than any other without a specific call for it in the law.)].

(b)(1) The [PUBLIC SERVICE], in providing any aid, benefit, or service, may not, directly or through contractual, licensing, or other arrangements, on the basis of handicap—

(i) Deny a qualified handicapped person the opportunity to participate in or benefit from the aid, benefit, or service;

(ii) Afford a qualified handicapped person an opportunity to participate in or benefit from the aid, benefit, or service that is not equal to that afforded others;

(iii) Provide a qualified handicapped person with an aid, benefit, or service that is not as effective in affording equal opportunity to obtain the same result, to gain the same benefit, or to reach the same level of achievement as that provided to others;

(iv) Provide different or separate aid, benefits, or services to handicapped persons or to any class of handicapped persons than is provided to others unless such action is necessary to provide qualified handicapped persons with aid, benefits, or services that are as effective as those provided to others;

(v) Deny a qualified handicapped person the opportunity to participate as a member of planning or advisory boards; or

(vi) Otherwise limit a qualified handicapped person in the enjoyment of any right, privilege, advantage, or opportunity enjoyed by others receiving the aid, benefit, or service.

(2) The [PUBLIC SERVICE] may not deny a qualified handicapped person the opportunity to participate in programs or activities that are not separate or different, despite the existence of permissibly separate or different programs or activities.

(3) The [PUBLIC SERVICE] may not, directly or through contractual or other arrangements, utilize criteria or methods of administration the purpose or effect of which would—

(i) Subject qualified handicapped persons to discrimination on the basis of handicap; or

(ii) Defeat or substantially impair accomplishment of the objectives of a program or activity with respect to handicapped persons.

[(b)(4), (5), (6), and (c) omitted]

(d) The [PUBLIC SERVICE] shall administer programs and activities in the most integrated setting appropriate to the needs of qualified handicapped persons.

[] 39.160 Communications.

(a) The [PUBLIC SERVICE] shall take appropriate steps to ensure effective communication with applicants, participants, personnel of other Federal entities, and members of the public. [*(two specific, presumably not exclusive, types omitted)*]

(b) The [PUBLIC SERVICE] shall ensure that interested persons, including persons with impaired vision or hearing, can obtain information as to the existence and location of accessible services, activities, and facilities. []

(d) This section does not require the [PUBLIC SERVICE] to take any action that it can demonstrate would result in a fundamental alteration in the nature of a program or activity or in undue financial and administrative burdens. [] If an action required to comply with this section would result in such an alteration or such burdens, **the [PUBLIC SERVICE] shall take any other action that would not result in such an alteration or such burdens but would nevertheless ensure that, to the maximum extent possible, handicapped persons receive the benefits and services of the program or activity**.], **applicable to federally conducted activities** [*(and here now being applied to ALL PUBLIC SERVICE activities)*]**under section 794 of title 29**[(Nondiscrimination under Federal grants and programs) [] (d) The standards used to determine whether this section [12132 of SUBCHAPTER II] has been violated **in a complaint alleging employment discrimination** under this section shall be the standards applied under title I of the Americans with Disabilities Act of 1990 (42 U.S.C. 12111 et seq.) and the provisions of sections 501 through 504, and 510, of the Americans with Disabilities Act of 1990 (42 U.S.C. 12201[title V of the Rehabilitation Act of 1973 (29 U.S.C. 790 et seq.) or the regulations issued by Federal agencies pursuant to such title]–12204 and 12210), a**s such sections relate to employment**. *(Which, for employment, is a circular loop that comes back to SUBCHAPTER IV (and thus 29 U.S.C. 790 et seq. and thus Access Board standards) below. Non-employment complaint standards are either left unspecified or meant simply to NOT apply as "employee" and thus I again conclude the only thing available to apply is the below SUBCHAPTER IV, Section 12201's nothing lesser than the Rehabilitation Act 29 USC 790 et seq. standards, ergo Access Board "508" EIT.)*].

SUBCHAPTER III - PUBLIC ACCOMMODATIONS AND SERVICES OPERATED BY PRIVATE ENTITIES

Sec. 12182. Prohibition of discrimination by public accommodations [12181 (7) (A) an inn, hotel, motel, or other place of lodging, except for an establishment located within a building that contains not more than five rooms for rent or hire and that is actually occupied by the proprietor of such establishment as the residence of such proprietor; (B) a restaurant, bar, or other establishment serving food or drink; (C) a motion picture house, theater, concert hall, stadium, or other place of exhibition or entertainment; (D) an auditorium, convention center, lecture hall, or other place of public gathering; (E) a bakery, grocery store, clothing store, hardware store, shopping center, or other sales or rental establishment; (F) a laundromat, dry-cleaner, bank, barber shop, beauty shop, travel service, shoe repair service, funeral parlor, gas station, office of an **accountant or lawyer**, pharmacy, insurance office, professional office of a health care provider, hospital, or other service establishment; (G) a terminal, depot, or other station used for specified public transportation; (H) a museum, library, gallery, or other place of public display or collection; (I) a park, zoo, amusement park, or other place of recreation; (J) a nursery, elementary, secondary, undergraduate, or postgraduate **private school**, or other place of education; (K) a day care center, senior citizen center, homeless shelter, food bank, adoption agency, or other social service center establishment; and (L) a gymnasium, health spa, bowling alley, golf course, or other place of exercise or recreation.]

(a) General rule

No individual shall be discriminated against on the basis of disability in the full and equal enjoyment of the goods, **services**, facilities, privileges, advantages, or accommodations of any place of public accommodation by any person who owns, leases (or leases to), or operates a place of public accommodation.

(b) Construction

(1) General prohibition

(A) Activities

(i) Denial of participation

It shall be discriminatory to subject an individual or class of individuals on the basis of a disability or disabilities of such individual or class, directly, or through contractual, licensing, or other arrangements, to a denial of the opportunity of the individual or class to participate in or benefit from the goods, services, facilities, privileges, advantages, or accommodations of an entity.

(ii) Participation in unequal benefit

It shall be discriminatory to afford an individual or class of individuals, on the basis of a disability or disabilities of such individual or class, directly, or through contractual, licensing, or other arrangements with the opportunity to participate in or benefit from a good, service, facility, privilege, advantage, or accommodation that is not equal to that afforded to other individuals.

(iii) Separate benefit

It shall be discriminatory to provide an individual or class of individuals, on the basis of a disability or disabilities of such individual or class, directly, or through contractual, licensing, or other arrangements with a good, service, facility, privilege, advantage, or accommodation that is different or separate from that provided to other individuals, unless such action is necessary to provide the individual or class of individuals with a good, service, facility, privilege, advantage, or accommodation, or other opportunity that is as effective as that provided to others.

(iv) Individual or class of individuals

For purposes of clauses (i) through (iii) of this subparagraph, the term ''individual or class of individuals'' refers to the clients or customers of the covered public accommodation that enters into the contractual, licensing or other arrangement.

(B) Integrated settings

Goods, services, facilities, privileges, advantages, and accommodations shall be afforded to an individual with a disability in the most integrated setting appropriate to the needs of the individual.

(C) Opportunity to participate

Notwithstanding the existence of separate or different programs or activities provided in accordance with this section, an individual with a disability shall not be denied the opportunity to participate in such programs or activities that are not separate or different.

(D) Administrative methods

An individual or entity shall not, directly or through contractual or other arrangements, utilize standards or criteria or methods of administration—(i) that have the effect of discriminating on the basis of disability; or (ii) that perpetuate the discrimination of others who are subject to common administrative control.[]

Sec. 12186. Regulations

(b) Not later than 1 year after July 26, 1990, the Attorney General shall issue regulations in an accessible format to carry out the provisions of this subchapter[]. (c) Standards []of this section shall be consistent with the minimum guidelines and requirements issued by the Architectural and Transportation Barriers Compliance Board in accordance with section 12204 [(b) Contents of guidelines: The **supplemental** guidelines issued under subsection (a)[, Transportation provisions,] of this section shall establish **additional** [*(meaning, apparently, that* SUBCHAPTER IV Sec. 12201 (a)*(below), Access Board general standards apply PLUS these special supplemental additional ones)*] requirements, consistent with this chapter, to ensure that buildings, facilities, rail passenger cars, and vehicles are accessible, in terms of architecture and design, transportation, and communication, to individuals with disabilities.] [].

SUBCHAPTER IV - MISCELLANEOUS PROVISIONS

Sec. 12201. Construction[1]

(a) In general

Except as otherwise provided in this chapter, nothing in this chapter [*(Title 42, Chapter 126, AKA ADA as amended)*] shall be construed to apply a lesser standard than the standards applied under title V [RIGHTS AND ADVOCACY] of the Rehabilitation Act of 1973 (29 U.S.C. 790 et seq. [*(thus including 794d Electronic and information technology (below))*]) or the regulations issued by Federal agencies [*(e.g., Justice [Title 42 Sec. 12134], EEOC [Title 42 Sec. 12116])*]pursuant to such title. [*(and, of course, meaning that employers, public services, and private entities providing public accommodations and services are all subject to 794d and Access Board standards)*]

The Rehabilitation Act

http://www.access-board.gov/the-board/laws/rehabilitation-act-of-1973

The Rehabilitation Act of 1973 did NOT include a Section 508 (now Title 29 Sec. 794d Electronic and information technology), that section was added in 1986 and had the foresight to require that the guidelines "shall be periodically revised as technologies advance or change." But

the then Section 508 turned out to be toothless since "[t]he Secretary, through the Director of the National Institute on Disability and Rehabilitation Research, and the Administrator of the General Services Administration, in consultation with the electronics and information technology industry and the Interagency Council on Accessible Technology" were in charge, nobody was in charge and there was minimal enforceability to boot. While the Americans with Disabilities act of 1990 referenced Title 29 Sec. 790 et seq. and did mention "communications," the thinking behind it apparently was telephonic communications of the era, including TDD's. In 1992 the Access Board was explicitly tasked with "guidelines for [] titles II [Public Services] and III [Public Accommodations []] of the Americans with Disabilities Act" (see below). Then a new Section 508 was enacted in 1998 at which time the Access Board was given the duty of creating the standards for 508 and keeping them current. The Access Board did create the Section 508 Standards for Electronic and Information Technology in 2000 (see below). And most recently the ADA amendments of 2008 added clear language inclusive of much more than physical mobility limitations including reading and communication. The question is, why is the Access Board repeatedly insisting that the 508 standards (794d Electronic and information technology) are ONLY for the federal government in spite of being certainly 790 et seq. and apparently thus ADA 1990 and again in 2008 applied to employers, public entities, and public accommodations via Title 42 Seq. 12201, i.e., ADA as amended?

Section 502 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §792)

§792. [](a) Establish[] (1) []the "Access Board"[] (b) [] to--[]

(2) develop advisory information for, and provide appropriate technical assistance to, individuals or entities with rights or duties under regulations prescribed pursuant to this subchapter **or titles II and III of the Americans with Disabilities Act** of 1990 (42 U.S.C. 12131 et seq. [public services] and 12181 et seq. [public accommodations]) with respect to overcoming architectural, transportation, and **communication** barriers;

(3) establish and maintain—[](B) minimum guidelines and requirements for the standards issued pursuant to titles II and III of the Americans with Disabilities Act of 1990 [](D) standards for accessible electronic and information technology under section 794d [*(begin)* **Text of Section 508 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794d)** **(a)** Requirements for Federal departments and agencies[and employers and public services and public accommodations *(read in from ADA Title 42 Section 12201(a))*]**(1)** [] (A) [][w]hen developing, procuring, maintaining, or using electronic and information technology, shall ensure, unless an undue burden would be imposed on the department or agency[or employer or public service or public accommodation *(read in from ADA)*], that the electronic and information technology allows, regardless of the type of medium of the technology -- (i) individuals with disabilities [~~who are Federal employees~~ *(meaningless with ADA inclusion)*] to have access to and use of information and data that is comparable to the access to and use of the information and data by [~~Federal employees~~ individuals *(meaning with ADA inclusion)*] who are not individuals with

disabilities; and **(ii) individuals with disabilities who are members of the public seeking information or services from a Federal department or agency**[or **employer or public service or public accommodation** *(read in from ADA)*] **to have access to and use of information and data that is comparable to the access to and use of the information and data by such members of the public who are not individuals with disabilities**. [].*(end text of 508)*][];

(4) promote accessibility throughout all segments of society;

(11) carry out the responsibilities specified for the Access Board in section 794d [*(begin)* **Text of Section 508 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794d)** [] **(a)(2)** [] (A) [] issue and publish standards [] (i) for [] electronic and information technology [*(defined in)* Title 40 Sec. 11101(6) (A) [] any equipment or interconnected system or subsystem of equipment, used in the automatic acquisition, storage, analysis, evaluation, manipulation, management, movement, control, **display**, switching, interchange, transmission, or reception of data or information by the [individuals with disabilities *(per "consistent with" in Title 29 Sec. 794d(2)(A)(i))*] that requires the use—(i) of that equipment; or (ii) **of that equipment to a significant extent in the performance of a service or the furnishing of a product**; (B) includes computers, ancillary equipment (including imaging peripherals, input, output, and storage devices necessary for security and surveillance), peripheral equipment designed to be controlled by the central processing unit of a computer, **software**, firmware and similar procedures, **services (including support services), and related resources**; *(and)* [Section 508 Standards, Federal Register December 21, 2000] includes, but is not limited to, telecommunications products (such as telephones), information kiosks and transaction machines, **World Wide Web sites**, multimedia, and office equipment such as copiers and fax machines] (ii) the technical and functional performance criteria necessary to implement the requirements set forth in paragraph [**(a)**][**(1)**][*(end text of 508)*][].

Section 508 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794d) (f) Enforcement (1) [] (A) [] Effective 6 months after the date of publication by the Access Board of final standards described in subsection **(a)(2)**, any individual with a disability may file a complaint alleging that a Federal department or agency [or employer or public service or public accommodation *(read in from ADA)*]fails to comply with subsection **(a)(1)** of this section in providing electronic and information technology. (B) [] This subsection[Enforcement] shall apply only to electronic and information technology that is **procured** [*(Only? Not developed, maintained, or used per 794d(a)(1)(A)? Has to be a lazy inclusive or* **(a)(1)***'s list is bypassed by the expedient of doing all work in house. Access Board standards assume, correctly I think, the inclusive interpretation.)*] by a Federal department or agency[or employer or public service or public accommodation *(read in from ADA)*] not less than 6 months after the date of publication by the Access Board of final standards described in subsection **(a)(2)**. [] (g) Application to other Federal laws [] **This section shall not be construed to limit any right, remedy, or procedure otherwise available under any provision of Federal law** (including sections 791 through 794a of this title) that provides greater or equal protection for the rights of individuals with disabilities than this section.

[end of quotes from the law]

Certainly 29 U.S. Code § 794d - Electronic and information technology says "(a) Requirements for Federal departments and agencies" but it just as certainly says "(g) Application to other Federal laws [] This section shall not be construed to limit any right, remedy, or procedure otherwise available under any provision of Federal law [] that provides greater or equal protection for the rights of individuals with disabilities than this section."

Thus when ADA Title 42 – The Public Health and Welfare, Chapter 126 – Equal Opportunity for Individuals with Disabilities, Subchapter IV Sec. 12201 says (excepting special provisions in the chapter) "nothing in this chapter [126] shall be construed to apply a lesser standard than the standards applied under title V of the Rehabilitation Act of 1973 (29 U.S.C 790 et seq.) or the regulations issued by Federal agencies (such as the Access Board) pursuant to such title" it really is saying that effectively the explicit references to "Federal departments and agencies" must be construed as [2]"Federal departments and agencies, employers [with 15 or more employees], employment agencies, labor organizations, joint labor-management committees, states, local governments, departments or other instrumentality of states or local governments, inns or hotels or motels or other places of lodging (except for an establishment located within a building that contains not more than five rooms for rent or hire and that is actually occupied by the proprietor of such establishment as the residence of such proprietor), restaurants, bars, other establishment serving food or drink, motion picture houses, theaters, concert halls, stadiums, other places of exhibition or entertainment, ; auditoriums, convention centers, lecture halls, other place of public gathering, bakeries, grocery stores, clothing stores, hardware stores, shopping centers, other sales or rental establishments, laundromats, dry-cleaners, banks, barber shops, beauty shops, travel services, shoe repair services, funeral parlors, gas stations, offices of accountants or lawyers, pharmacies, insurance offices, professional offices of health care providers, hospitals, other service establishments, terminals, depots, other station used for specified public transportation, museums, libraries, galleries, other places of public display or collection, parks, zoos, amusement parks, other places of recreation, nurseries, elementary schools, secondary schools, undergraduate schools, postgraduate private schools, other places of education, day care centers, senior citizen centers, homeless shelters, food banks, adoption agencies, other social service center establishments, gymnasiums, health spas, bowling alleys, golf courses, or other places of exercise or recreation."

And still the above list is not 100% complete and I wonder not that Congress did not want to clutter the law with repetitions of such. Suffice it to say that I believe my quotes of the law above, reading everything into its proper place, should make it clear that 29-749d-EIT (known as "508" and which perhaps would be less confusing to know as "EIT") and thus the Access Board rules therefrom apply to Federal departments and agencies and to ADA [employers,] public entities, and public accommodations and should so state. (But perhaps "employers" only in

coordination, i.e., a joint proposed rule, with EEOC and thus tremendously simplifying the landscape.)

I think I can see where the confusion has arisen. Subchapter IV – Miscellaneous is not perhaps the best place to put what appears to me to be the heart of the law:

> nothing [except as otherwise provided] in this chapter [(Title 42, Chapter 126, AKA ADA as amended)] shall be construed to apply a lesser standard than the standards applied under title V [RIGHTS AND ADVOCACY] of the Rehabilitation Act of 1973 (29 U.S.C. 790 et seq.)

if one wants to make sure it gets tied to the originally stated purpose:

> (1) to provide a clear and comprehensive national mandate for the elimination of discrimination against individuals with disabilities;
>
> (2) to provide clear, strong, consistent, enforceable standards addressing discrimination against individuals with disabilities

and without the heart of the law the stated purpose is watered away to almost nothing.

http://www.access-board.gov/guidelines-and-standards/communications-and-it/about-the-section-508-standards/section-508-standards This link and the below are annotated portions of the current rules, not the proposed rules but are included here to aid in the discussion of "application" vs. "web" which will be further discussed in review of the proposed new rules.

Section 508 Standards for Electronic and Information Technology

(i.e., Title 29 Sec. 794d and included by "Except [for antique cars, historic properties, and similar minor things] as otherwise provided in [(Title 42, Chapter 126, AKA ADA as amended)], nothing in [(Title 42, Chapter 126)] shall be construed to apply a lesser standard than the standards applied under title V [RIGHTS AND ADVOCACY] of the Rehabilitation Act of 1973 (29 U.S.C. 790 et seq. [(thus 794d Electronic and information technology)]) or the regulations issued by Federal agencies [(Justice [Title 42 Sec. 12134], EEOC [Title 42 Sec. 12116])]pursuant to such title.")

Subpart A — General

§ 1194.4 Definitions. [*(out of order so you can see what I think the correct definition should be and as substituted into the Purpose and Application sections below per ADA's incorporation of 508 (794d) for employers, public services, and public accommodations)*]

The following definitions apply to this part:

Agency. Any Federal department or agency, including the United States Postal Service[, or employer or public service or public accommodation].

§ 1194.1 Purpose.

The purpose of this part is to implement section 508 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794d) [and Title 29 Chapter 126, ADA as amended]. Section 508 requires that when Federal agencies [or employers or public services or public accommodations]develop, procure, maintain, or use electronic and information technology, Federal employees [and others]with disabilities have access to and use of information and data that is comparable to the access and use by Federal employees [and others]who are not individuals with disabilities, unless an undue burden would be imposed on the agency [or employer or public service or public accommodation]. Section 508 also requires that individuals with disabilities, who are members of the public seeking information or services from a Federal agency [or employer or public service or public accommodation], have access to and use of information and data that is comparable to that provided to the public who are not individuals with disabilities, unless an undue burden would be imposed on the agency [or employer or public service or public accommodation].

§ 1194.2 Application.

(a) Products covered by this part shall comply with all applicable provisions of this part. When developing, procuring, maintaining, or using electronic and information technology, each agency [or employer or public service or public accommodation]shall ensure that the products comply with the applicable provisions of this part, unless an undue burden would be imposed on the agency[or employer or public service or public accommodation].

(1) When compliance with the provisions of this part imposes an undue burden, agencies [or employers or public services or public accommodations]shall provide individuals with disabilities with the information and data involved by an alternative means of access that allows the individual to use the information and data.

(2) When procuring a product, if an agency [or employer or public service or public accommodation]determines that compliance with any provision of this part imposes an undue burden, the documentation by the agency [or employer or public service or public accommodation]supporting the procurement shall explain why, and to what extent, compliance with each such provision creates an undue burden.

(b) When procuring a product, each agency [or employer or public service or public accommodation]shall procure products which comply with the provisions in this part when such

products are available in the commercial marketplace or when such products are developed in response to a Government [or employer or public service or public accommodation]solicitation. Agencies [or employers or public services or public accommodations]cannot claim a product as a whole is not commercially available because no product in the marketplace meets all the standards. If products are commercially available that meet some but not all of the standards, the agency [or employer or public service or public accommodation]must procure the product that best meets the standards.

(c) [T]his part applies to electronic and information technology developed, procured, maintained, or used by agencies [or employers or public services or public accommodations]directly or used by a contractor under a contract with an agency [or employer or public service or public accommodation]which requires the use of such product, or requires the use, to a significant extent, of such product in the performance of a service or the furnishing of a product.[]

§ 1194.21 Software applications and operating systems. [*(there is no definition of "application")*][]

(b) **Applications shall not disrupt or disable activated features of other products that are identified as accessibility features**, where those features are developed and documented according to industry standards. **Applications also shall not disrupt or disable activated features of any operating system** that are identified as accessibility features where the application programming interface for those accessibility features has been documented by the manufacturer of the operating system and is available to the product developer.

(c) **A well-defined on-screen indication of the current focus shall be provided that moves among interactive interface elements as the input focus changes.** The focus shall be programmatically exposed so that assistive technology can track focus and focus changes.[]

(g) **Applications shall not override user selected contrast and color selections and other individual display attributes.**[]

(j) When a product permits a user to adjust color and contrast settings, a variety of color selections capable of producing a range of contrast levels shall be provided.[]

§ 1194.22 Web-based intranet and internet information and applications. [*(what is the jump from information to application? Link? Form? Script? Applet? Database?)*][]

http://www.w3.org/TR/2002/REC-UAAG10-20021217/guidelines.html#Guidelines This link and the material below should, with reasonable consideration , show just how far the Access Board

bends over backwards to CIRCUMVENT accessibility features that are intentionally urged on browser (user agent) developers.

User Agent Accessibility Guidelines 1.0

Guideline 4. Ensure user control of rendering

Ensure that the user can select preferred styles (e.g., colors, size of rendered text, and synthesized speech characteristics) from choices offered by the user agent. **Allow the user to override author-specified styles and user agent default styles.**

Guideline 5. Ensure user control of user interface behavior

Ensure that the user can control the behavior of viewports and user interface controls, including those that may be manipulated by the author (e.g., through scripts).

Guideline 6. Implement interoperable application programming interfaces

Implement interoperable interfaces to communicate with other software (e.g., assistive technologies, the operating environment, and plug-ins).

Guideline 7. Observe operating environment conventions

Observe operating environment conventions for the user agent user interface, documentation, input configurations, and installation.

Part of user agent accessibility involves following the conventions of the user's operating environment, including:

•following operating environment conventions for user agent user interface design, documentation, and installation.

•incorporating operating environment-level user preferences into the user agent. For instance, some operating systems include settings that allow users to request high-contrast colors (for users with low vision) or graphical rendering of audio cues (for users with hearing disabilities).

Guideline 9. Provide navigation mechanisms

Provide access to content through a variety of navigation mechanisms, including sequential navigation, direct navigation, searches, and structured navigation.

Additional reading:

http://www.law.umaryland.edu/marshall/crsreports/crsdocuments/R40462_03282012.pdf

User Agent Accessibility Guidelines (UAAG) 2.0

http://www.w3.org/standards/techs/uaag#w3c_all

http://www.law.georgetown.edu/archiveada/documents/ADAAA9-11-08.pdf

And thus ends Response Section 1 – The Law with what I hope is a pretty clear reading of the law with all its relevant cross references rendered inline in such a way that it is possible to read and understand it without having 15 proverbial "index" fingers stuck into the volumes of the law to keep place for applicable sections, paragraphs, etc.

Response Section 2 – The Proposed ITC Standards and Guidelines

This section will concentrate its discussion and comments on web or application portions of the proposed standards and pretty much ignore the Section 255 of the Communications Act of 1934 (as amended) portions. The version of the proposed rule document to be used is the .pdf version found at http://www.access-board.gov/attachments/article/1702/ict-proposed-rule.pdf. Generally the relevant text of that document will be copied into this document and preceded by the page number and paragraph number (counted as practically as possible ignoring headings) from that document. As needed reference numbers will be inserted into the copied text and used when discussing specific words, phrases, etc. Discussion of the "Preamble summary" should provide a good example.

> [7][1] **SUMMARY:** The Architectural and Transportation Barriers Compliance Board (Access Board or Board), is proposing to revise and update, in a single document, both its standards for electronic and information technology developed, procured, maintained, or used by [1] federal agencies covered by section 508 of the Rehabilitation Act of 1973, and its guidelines for telecommunications equipment and customer premises equipment covered by Section 255 of the Communications Act of 1934. The proposed revisions and updates to the section 508-based standards and section 255-based guidelines are [2] intended to ensure that information and communication technology covered by the respective statutes is accessible to and usable by individuals with disabilities.

As discussed above in Sec. 12201 on page 8 at superscript 1, on page 41 at superscript 2, and elsewhere above the limitation of 508 to [1] "federal agencies" because the law pretty clearly states "nothing in this chapter [*(ADA)*] shall be construed to apply a lesser standard than the standards applied under title V of the Rehabilitation Act of 1973 (29 U.S.C. 790 et seq. [*(including 508)*]) or the regulations issued by Federal agencies pursuant to such title." If this proposed rule really is [2] "intended to ensure that information and communication technology [] is accessible to [] individuals with disabilities" then it should not have the "federal agency" limit but

should encompass federal agencies, employers, public services, and public accommodations. On the other hand, should the Access Board be intent on limiting the applicability it should modify its "intended" statement to cover only what it actually intends to deliver, namely: ensuring accessibility for information and communication technology within the federal government and accessibility as such federal information and communication is delivered by the federal government to individuals with disabilities.

> [9][3] We are proposing to update the two sets of regulatory provisions jointly to ensure consistency in accessibility across the spectrum of communication and electronic and information technologies and products.

The above is pure pabulum for the executive readers that don't dive into the rest of the document as will be amply shown later.

> [9][4] The term "information and communication technology" (ICT) [] encompass[es] [] software, websites, and electronic documents.

Obviously more is included but as stated previously, these, and websites in particular, will be my focus. There is no reason to believe that my comments must be understood to only apply to websites. Throughout the proposed standards questionable statements are made to restrict the generally applicable principles of universal accessibility. I suggest that such statements need to be backed up by real research that clearly delineates the lines and meaningful reasons for them, not mere rationale of questionable lineage. If the Access Board's mandate truly is universal accessibility then the limiting statements ought to be modified to much less limited ones.

> [10][2] Section 508 of the Rehabilitation Act of 1973 (hereafter, "Section 508"), as amended, 29 U.S.C. 794d, mandates that federal agencies "develop, procure, maintain, or use" ICT in a manner …

ADA Subchapters II- IV as shown above mandates that, in addition to federal agencies, public services and public accommodations also adhere to "section 508" but known thereto as just 29 U.S.C. 790 et seq. which includes 794d that replaced the old 508. ADA Subchapter I gives EEOC responsibility for equivalent rules for employers (of more than 15 employees) that don't fall into the above 3 categories and therein also is a mandate for "coordination" with other federal agencies evidence of which, so far, is lacking in regard to the full breadth of the proposed rules as provided.

> [11][2] The proposed rule would incorporate by reference the Web Content Accessibility Guidelines (WCAG) 2.0, a voluntary consensus standard developed by ICT industry representatives and other experts. It would also make WCAG 2.0 Success Criteria applicable not only to content on the "World Wide Web" (hereafter, Web), but also to non-Web electronic documents and software (e.g., word processing documents, portable document format files, and project management software).

Making a single "Success Criteria" set work across a broad swath of things is indeed a noble objective. Unfortunately, as will be shown below, the actual regulations take about 80% of this objective away so unless this was merely provided as window dressing there is no reason for it to be here. Additionally there are some significant deficiencies in the WCAG 2.0 guidelines and criteria

that make it clear that while "accessibility" was on the mind, the "consensus" was also not to overly upset the current status quo even if it ignored large swaths of the disabled.

> [11][] But, because this requirement has given rise to ambiguity in application, the proposed rule would provide more specificity about how operating systems, software development toolkits, and software applications should interact with assistive technology. These proposed requirements would allow assistive technology users to take full advantage of the functionalities that ICT products provide.

The first sentence is laudable. The second sentence is an untruth when compared against the details of the proposed rule as will be shown clearly hereafter.

> [22][5] In this NPRM, the Board is retaining the Level A and Level AA Success Criteria and Conformance Requirements in WCAG 2.0 for all ICT subject to Sections 508 and 255, including documents and software. The Board also proposes, as in the 2011 ANPRM, to incorporate WCAG 2.0 by reference, rather than restating its requirements in the proposed rule. Incorporating the WCAG Success Criteria verbatim in the rule would be unhelpful because they are best understood within the context of the original source materials. WCAG 2.0 incorporates context-sensitive hypertext links to supporting advisory materials. The two core linked resources are Understanding WCAG 2.0 and Techniques for WCAG 2.0. The first provides background information, including discussion of the intention behind each of the success criteria. The second provides model sample code for conformance. The linked expository of documents, which is publicly available online free of charge, comprise a rich and informative source of detailed technical assistance and are updated regularly by standing working committees. These linked resources are not themselves requirements and agencies adopting WCAG 2.0 are not bound by them.

While consistency is laudable there are significant problems with WCAG 2.0 as will be discussed in Response Section 3 – WCAG 2.0 starting on page 32. An additional problem with the WCAG 2.0 materials is that the user is still continually confronted by the unhelpful "(future link)" annotation in many places when the user is attempting to answer the "what do I do?" question. As far as clearer definitions, things are better than they were in 2011 but at the same time there may very well have been some watering down of the original high accessibility intent. Again, that discussion is left for the WCAG 2.0 portion of this document.

> [23][2] The Board cannot accept the suggestion of software industry representatives that the proposed rule permit compliance with any follow-on versions of WCAG 2.0. Federal agencies cannot "dynamically" incorporate by reference future editions of consensus standards. Such action is legally prohibited since it would, among other things, unlawfully delegate the government's regulatory authority to standards development organizations, as well as bypass rulemaking requirements…

It is, of course, essential that there be clear rules and that they not keep moving out from under the best efforts of people to comply with the rules so I believe that the above, while not only necessary to be legal, is very necessary to avoid the very issues that plague the WCAG 2.0 efforts, i.e., the watering down by (we'll call them) "big money" interests though they could be anyone interested in keeping costs down. "Big money" because to play in the "consensus" WCAG group requires a

purchased membership and a substantial time commitment. Unfortunately I don't believe that purely turning "the standard" over to the current "fixed" WCAG 2.0 guidelines is actually in keeping with the Access Board's mandate to promulgate rules to "(4) promote accessibility throughout all segments of society," it falls short and does exactly what the Access Board states it does not want to do "unlawfully delegate the government's regulatory authority to standards development organizations."

> [40][1] Question 4. Are the eight proposed categories of non-public facing content sufficiently clear? Do they ensure a sufficient level of accessibility without imposing an unnecessary burden on agencies? If not, the Board encourages commenters to suggest revisions to these categories that would improve clarity or strike a more appropriate balance.
>
> [40][3] Question 5. Should a category for "widely disseminated" electronic content be included among the categories of non-public facing official communications by agencies that must meet the accessibility requirements in the 508 Standards? Why or why not? If such a category were to be included in the final rule, what metrics might be used to determine whether a communication is broadly disseminated throughout an agency?

The mere appearance of the two questions above suggest to me that the Access Board is pretty certain that the discussion that proceeded them was done more for the point of easing the minds of, and the burden on, government employees than for fulfilling the Access Board's mandate for ensuring accessibility. Other than this note I will not be commenting on or discussing such proposed fine distinctions on when accessibility is applicable and when it is not since my focus in on providing sound accessibility when accessibility is appropriate.

> [41][3-4] We have four principal reasons for incorporation by reference of WCAG 2.0. They are as follows:
>
> First, our approach is consistent with that taken by other international standards organizations dealing with this issue. Standards developed in Australia, New Zealand, and Canada…

When consistency is appropriate, I applaud it, when leadership would be more appropriate, consistency is merely a way to hide behind someone else's skirts. In the current case I don't believe the watered down rules of WCAG 2.0 are appropriate, I'd like to see some leadership. The details of how WCAG 2.0 fails and how the Access Board can overcome that failure will follow.

> [42][2] Fourth, incorporation of WCAG 2.0 directly serves the best interests of Americans with disabilities because it will help accelerate the spread of Web accessibility. The accessibility of the Web is essential to enable the participation of individuals with disabilities in today's information society.

I respectfully disagree. The unacceptable (for accessibility purposes, not for their intended effect of lessening the burden on web developers) portions of WCAG 2.0 that intentionally and excessively degrade accessibility will set back universal accessibility for years and only increase the burden on web developers when they finally must upgrade to be truly as widely accessible as practical.

> [42][3] The Access Board is proposing to require not only Web content to conform to the Level A and Level AA Success Criteria and Conformance Requirements in WCAG 2.0—an approach

with which commenters to the 2010 and 2011 ANPRMs unanimously agreed—but also software and non-Web documents.

Agreed that, for the most part, accessible ought to mean accessible across the board. Disagreed in the sense that WCAG 2.0 does not yet meet that standard, it is the Access Board's responsibility to set a standard that does.

[44][3] At the time these standards were promulgated, Web pages created with HyperText Markup Language (HTML®) were *always* keyboard operable. [*emphasis added*]

In addition to being utter baloney this statement applies the r-in-a-circle registered trademark symbol wholly inappropriately. "HTML" the acronym for HyperText Markup Language, is not, and likely should never be (at least as far as web related goods and services), a US trademark. Visit http://tmsearch.uspto.gov/bin/gate.exe?f=tess&state=4802:v214dw.1.1 and do a Basic Word Mark Search yourself and check the list and you won't find a "Live" registration at all let alone one that is proprietary to anybody or organization.

[45][6] We propose to replace § 1194.21(g) of the existing 508 Standards, which prohibits applications from overriding user-selected contrast and color selections and other individual display attributes, with a new section 503.2 User Preferences. As with § 1194.21(g), this proposed provision requires applications to permit user preferences from platform settings for display settings. However, proposed 503.2 also provides an exception for applications—such as Web software—that are designed to be isolated from their operating systems. By design, Web applications (such as, for example, software used to create interactive multimedia content) are isolated from the operating system (i.e., [1] "sand boxed") for security reasons. An expectation that certain platform settings (e.g., [2] font preferences) apply globally to all documents found on the Web is not practical.

More when it crops up in the actual proposed standard itself but in particular the statements about [1] "sandboxed" and [2] "fonts" show a fundamental misunderstanding of the web technologies. While CSS fonts can now be included with the page they can also be safely and totally ignored and fonts off of the client machine can be used (and must be used if the browser does not support the with-the-page CSS fonts).

[46][4] Question 7. A Web page can conform to WCAG 2.0 either by satisfying all success criteria under one of the levels of conformance or by providing a conforming alternate version. WCAG 2.0 always permits the use of conforming alternate versions. Are there any concerns that unrestricted use of conforming alternate versions of Web pages may lead to the unnecessary development of separate Web sites or unequal services for individuals with disabilities?

In my opinion, there should never be any "parallel" websites for disabled users, all content, including the alternatives that are necessary for accessibility should be equally available and provided to all and preferably all through a single page for the specific content, i.e., should a user wish to view the video they go to the video page which also includes the transcript (or better the full descriptive screen play). Should they wish to watch the video simultaneously with reading the transcript they can open a second window to do so. The corrected links for the understanding of "conforming" are http://

www.w3.org/TR/WCAG20/#conforming-alternate-versiondef and http://www.w3.org/TR/UNDERSTANDING-WCAG20/conformance.html respectively.

> [46][5] We propose to delete § 1194.22(l) of the existing 508 Standards, which applies when pages utilize scripting languages to display content or to create interface elements and requires the scripted information to be identified with functional text that can be read by assistive technology. Because WCAG 2.0 is technology neutral, inclusion of a separate provision applicable to scripting languages would be redundant; the same requirements that apply to HTML and other Web technologies also apply to scripting languages.

The catch with this is that WCAG 2.0 is totally silent on accessibility should the author have used JavaScript[3] (or some other "technology" to achieve accessibility and the user have turned JavaScript off (or not have the "technology") thus the page could be left in a totally inaccessible condition for the user even though, technically, the author made the page accessible. This is a significant hole in the WCAG 2.0 standards and it, to me anyway, appears to have been intentionally put here because page designers want to force "neat things" (at least to themselves) onto users without concern that one person's neat thing might just happen to be some form of abuse, such as opening hundreds of windows. The old, pre-WCAG accessibility rules that mandated that the page work correctly and entirely without JavaScript were, I think, far better. JavaScript was intended just for fluff and (unnecessary) convenience features. Certainly screen readers (and browsers) have gotten better at handling JavaScript but abusive websites also exist by the thousands. Also while the big commercial players are leaning toward JavaScript always being on I don't think it is either a good or a safe assumption given that JavaScript can be very easily abused and that because of that thousands of people do turn it off even though that is being made harder and harder to do. Deletion also apparently assumes that all persons using, for example, a screen reader will be using the latest and most up to date ones. This, I think, is not a safe assumption and will likely have its worst impacts on those that are disabled and financially disadvantaged.

> [46][6] We propose to delete § 1194.22(m) of the existing 508 Standards, which applies when a Web page needs an applet, plug-in, or other application present on the client system to interpret page content and requires that such page provide a link to a plug-in or applet that complies with other referenced standards (in § 1194.21) relating to software applications. Because WCAG 2.0 applies directly to applets, plug-ins, and Web applications, § 1194.22(m) is redundant.

It is true that the WCAG 2.0 guidelines are technology neutral but it is also true that those guidelines are totally silent about how to go about letting the user know what is needed to see content that requires the technology or how to acquire the technology (see "accessibility supported" in the WCAG 2.0 Glossary). While the guidelines touch on acquiring plug-ins and such it is only to note that they be as findable and at the same price as for non-disabled users. So I believe that for universal usability, including the link on the page is a good idea though it might also be fine if it were allowed that if the technology were detected as available to the page then the link to acquire it could be omitted.

> [47][2] Lastly, the Board proposes to delete § 1194.24(e) of the existing 508 Standards, which requires that the non-permanent display or presentation of alternate text presentation or audio descriptions be user-selectable. Section 1194.24(e) essentially duplicates requirements for video and multimedia products already set forth in other provision in the same section (i.e.,

subsections (c) and (d)). The provision for user selectable closed captions and audio description restates existing practice, so it is unnecessary.

Section 1194.24(e) is not redundant with (c) and (d) so should not be deleted. The current rules can be seen at http://www.access-board.gov/guidelines-and-standards/communications-and-it/about-the-section-508-standards/section-508-standards. I believe it is essential that, when all versions of the content are not directly on the page, at the very least links to the alternative versions MUST, as (e) calls for, be on the page. Also the final sentence of the paragraph is not a safe one even if it were true that it "restates existing practice" because the whole point of the rules is to state clearly what should be practiced. Omitting such a clear statement is very likely to have the result of making things less accessible because the rule no longer states what should be done.

From this point on in this Response Section 2 I will be quoting first any relevant part of the actual proposed rules "APPENDIX A TO PART 1194" starting on page 153 of the http://www.access-board.gov/attachments/article/1702/ict-proposed-rule.pdf followed by any relevant "VI. Section-by-Section Analysis" starting on page 59 of that same document and then followed by my comments.

[153][5] E102 Referenced Standards

E102.1 Incorporation by Reference. The specific editions of the standards and guidelines listed in E102 are incorporated by reference in the 508 Standards and are part of the requirements to the prescribed extent of each such reference.

While a web link to the current version of each referenced standard and guideline (hereafter encompassed individually without distinction by the terms "standards" or "guidelines") is appropriate it is a very bad idea for the long term. These standards all need to be brought in their entirety in their current form onto the Access Board website and made 100% available for free to anyone seeking them. No appearance at the Access Board's office, no nothing but following a link to the standard on the Access Board's website. I believe it is already settled law that such standards (when effectively enacted into "law" be they rules, codes, guidelines, whatever, for which legal compliance is obligatory) are no longer protected by copyright law. Having permanent, guaranteed, links to the standards as they exist at this point in time under Access Board control is the only way to avoid future confusion as the organizations that developed the standards modify either their websites or their standards.

[62][2] The standards proposed for incorporation would improve clarity because they are built on consensus standards developed by stakeholders.

Perhaps true on the clarity part but then again perhaps not depending on how clearly they are written. Unfortunately the very fact that they "are built on consensus standards developed by stakeholders" which to a large extent are *not* the disabled but are stakeholders who may have a financial interest in limiting the standards to their own, not the disabled's, benefit also needs to be considered. I will be only commenting on the WCAG 2.0 standards which I'm sure were started out with the highest accessibility intentions but unfortunately became somewhat watered down by stakeholders looking to keep their own control up and their costs down.

While it is laudable that organizations are interested (ostensibly) in accessibility improvements it needs to also be noted that any organization participating in both World Wide Web Consortium (W3C) and Access Board activities may have a vested interest in getting the Access Board to accept a W3C standard. It is also clear that Access Board efforts are a considerable drain on member time and could be even a bigger drain if they started from a blank slate of "what is our responsibility" rather than from a "what's available" already perspective. Yes, WCAG 2.0 goes a long way. But does it really meet the full mandate of accessibility for all or is it just an easy solution? I'll let you judge that as my comments unfold below on what WCAG 2.0 does not do for accessibility.

> [62][4] Industry supports harmonization in principle because it allows the ICT market to address accessibility through a global process -- one product developed to be sold world-wide -- rather than by trying to meet unique, potentially conflicting standards required by different countries. Harmonization should result in more accessible products, delivered through a more economically efficient market. [1] Consumers thus benefit…

Harmonization is laudable, but only if it really does the job – in this case – make ICT accessible. On the other hand, a stricter standard than others that is non-conflicting may also advance the industry farther because it is simpler to comply with the more accessible standard than it is to do multiple versions. I think the Access Board needs to seriously look at whether it ought to advance the standards a little and especially so if great gains can be rather easily gotten. More, of course, later when examining WCAG 2.0. It is also interesting to note the (correct) choice of [1] "consumers" as a whole rather than restricting it to disabled users.

> [155][3] ISO 14289-1 Document management applications — Electronic document file format enhancement for accessibility — Part 1: Use of ISO 32000-1 (PDF/UA-1), Technical Committee ISO/TC 171, Document Management Applications, Subcommittee SC 2, Application Issues, (2014), IBR proposed for Sections E205.1 and 602.3.1.

Starting at "IBR proposed for" should probably read: "Included by reference in" with the first Section references being "E205.4" (not ".1") and the last being "602.3" with no ending ".1" on the last one and perhaps with a "C203.1" thrown in in the middle. Though maybe the C reference is to be included in the C102 references rather than the E ones that are there now?

> [156][7] Web Content Accessibility Guidelines (WCAG) 2.0, W3C Recommendation, December 2008, IBR proposed for Sections E205.1, E207.2, 405.1 Exception, 501.1 Exception 1, 504.2, 504.3, 504.4, and 602.3.1.

Starting at "IBR proposed for" should probably read: "Included by reference in" with the section references beginning with "E205.4" (not ".1") and the last one being "602.3" with no ending ".1" and maybe C203.1 and C205.2 references are to be included or maybe not but only the E references appear in the C IBRs.

FAIR WARNING: I only checked the "IBR" clauses of the two included standards above and no others. Those errors noted above are also duplicated in C102.6 and C102.9 respectively. The rest of the IBR Section references ought to be carefully checked and, I would think, the word "proposed" should be done away with if these IBR lists are to appear in the actual rule.

It should be noted that while the IBR only includes the direct WCAG 2.0 standard at http://www.w3.org/TR/WCAG20/, which *is* a stable document, it also references, at [165][7], [176][7], and

177][2], http://www.w3.org/TR/wcag2ict/ which is *not* a stable document and is, in fact, effectively a "note" suggesting how WCAG 2.0 might be applied to non-web documents. Also be aware that many of the documents that the actual WCAG 2.0 standard document links to are also *not* considered stable documents and are subject to change at any time. Witness the "(future link)" annotations mentioned earlier.

> [157][4] [Defined terms] *Agency*. Any agency or department of the United States as defined in 44 U.S.C. 3502, and the United States Postal Service.

Why not also employers, public services, and public accommodations which all, per the above law section, have to meet 794d under the Miscellaneous *et seq.* of ADA? Do this all in one fell swoop even though it gets dumped into CFR rules for "Parks, Forests, and Public Property" rather than something with a name of greater scope. This comment applies but will not be repeated for each occurrence of "agency" or equivalent in the remainder of the proposed rules.

> [157][5] *Application*. Software designed to perform, or to help the user to perform, a specific task or tasks.

Unfortunately this wasn't defined in the prior 508 rules even though the term was used. But, given this definition many, many web pages and even whole websites must fall into this definition. I fully consider most web pages to fall into this definition. Take a simple example of a web page with a search box on it which helps the user to perform a specific task of searching for exactly the website content they want. Take a typical "index" page with links that helps the user find what she wants. Some further discussion on application/web page can be found in this "Planters on the Wheelchair Ramp" PowerPoint presentation on pages 24-25 (line numbers are for the related .doc file).

> [157][6] *Assistive Technology (AT)*. Any item, piece of equipment, or product system, whether acquired commercially, modified, or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities.

By this definition clearly a browser running in an operating system on a computer or phone or tablet and such like is included. And I agree that it should be. Browsers include assistive technology items such as user specified text size and contrast choices.

> [157][10] *Content*. Electronic information and data, as well as the encoding that defines its structure, presentation, and interactions.

By this definition, content can also be an application.

> [163][2] E202.6 Best Meets. Where ICT conforming to one or more requirements in the 508 Standards is not commercially available, the agency shall procure the product that best meets the 508 Standards consistent with the agency's business needs.

This one needs a major change since it has had next to 0 effect in getting software manufacturers, including operating system (platform software) manufacturers, to make truly accessible software. Try using large type, for one small example, in Microsoft Windows. Effectively you cannot do it because large type usually will push into hidden territory outside of fixed size small windows (actually viewports) that cannot be enlarged. Probably a much better way to word this is in some way to make it mandatory to make each current sale to the government include a contract clause that the payment

must be fully refunded if future versions of such software do not meet all the 508 accessibility requirements after some date say 3 years in the future. That would get the attention of software manufacturers that are not compliant and "commercially available" now but without any full accessibility nor any incentive to do it.

[Editorial note: On page 172 of the proposed rule PDF the term "Information and Communication Technology (ICT)" is apparently inadvertently not italicized.]

> [179][3] 302.2 With Limited Vision. Where a visual mode of operation is provided, ICT shall provide at least one mode of operation that magnifies, one mode that reduces the field of vision required, and one mode that allows user control of contrast.

This is excellent! Unfortunately it only applies when Chapters 4 and particularly 5 DO NOT apply. Since 4 & 5 pretty much always apply and their rules or incorporated standards generally include something that allows almost everything to not provide accessibility to limited vision users this most excellent inclusion is practically worthless. For example, web pages are covered by 5 but 5 explicitly excludes "web applications" (which I assume without definition is intended to include web pages) from compliance with all chapter 5 rules and all chapter 3 rules and lets web pages only follow WCAG 2.0 which, unfortunately, pretty much leaves low vision users in the lurch by effectively turning it over to the browser and all they have to have is some form of magnification whether it truly provides accessibility to low vision users or not. Generally such browser features, and especially in conjunction with common HTML/CSS practices, do not gracefully provide low vision users with effectively equivalent usability to normally sighted users.

> [87][2] Question 17. Some commenters raised concerns with proposed 302.2 With Limited Vision. They recommended that the Board establish thresholds for how much magnification, reduction, or contrast is sufficient to meet the provision. Should proposed 302.2 be more specific, and if so, what should the thresholds be? Please cite a scientific basis for threshold recommendations.

I believe the commenters have very valid concerns and that 302.2 should be much more specific. I'm not a scientist and I'm not going to dig up the research but I believe it is readily available and an Access Board complying with its mandate would have dug it up long ago. At a minimum at least magnification of 5 times should be available without significantly damaging the use of the content, application, web page, whatever. This is readily achievable in modern browser software though Opera is the only browser I know of that currently goes that far, most stop at 4.5 times or 72 relative to an unmagnified base of 16. Except, of course, the Access Board has expressly excluded web pages from compliance with users text size choice as will be discussed later.

Limiting the above few paragraphs to "Limited Vision" is not intended to imply that the other factors of Chapter 3 are not important. The limited vision aspect is simply my focus because it has been so badly handled in the past and it is where the greatest, in my opinion, accessibility gains are going to come from. Gains that are not supported in WCAG 2.0. Gains for limited vision also very substantially tend to overlap into significant improvements in accessibility for those with limited manipulation capabilities also. How often, for example, have you pushed a link drowned among links on a page on a cell phone and gotten "the wrong one," or, if you're lucky, a second step to again pick from a slightly magnified area the one you wanted? Now imagine doing the link picking with mittens and palsy.

> [91][1] Question 18. In the final rule, the Board is considering incorporating by reference the requirements for VMS in ICC A117.1-2009—or its successor ICC A117.1-2015, if the standard has been finalized by that time—in order to make such signs more accessible to individuals who are blind or have low vision.

While I think it is basically a good idea to incorporate such standards I think the time needs to be taken to be sure it is inclusive enough, e.g., not just within buildings but to signs/points of interest outside of buildings too. The biggest issue is how to make someone aware of something without also being a potential constant distraction. Take your time, I know people that are experimenting with this.

> [182][7] 402.4 Characters. At least one mode of characters displayed on the screen shall be in a sans serif font. Where ICT does not provide a screen enlargement feature, characters shall be 3/16 inch (4.8 mm) high minimum based on the uppercase letter "I".

Presumably "ell" was meant? Or in this character set is clearly appears as a "capital i". Let's be accessible and USEABLE here across document and font technologies.

Now we get to the heart of the rules (as far as websites and e-documents? are concerned), pages 197-199 and where the promise of the following statement is not fulfilled:

> [11][2] Broad application of WCAG 2.0: The proposed rule would incorporate by reference the Web Content Accessibility Guidelines (WCAG) 2.0, a voluntary consensus standard developed by ICT industry representatives and other experts. It would also make WCAG 2.0 Success Criteria applicable not only to content on the "World Wide Web" (hereafter, Web), but also to non-Web electronic documents and software (e.g., word processing documents, portable document format files, and project management software). By applying a single set of requirements to websites, electronic documents, and software, this proposed provision would adapt the 508 Standards to reflect the newer multifunction technologies (e.g., smartphones that have telecommunications functions, video cameras, and computer-like data processing capabilities) and address the accessibility challenges that these technologies pose for individuals with disabilities.

If, in fact, WCAG 2.0 really were a sound standard for accessibility across all disabilities, then maybe the above would work. Unfortunately, it isn't, it addresses low vision and limited manipulation but not to the extent that they can truly be said to have equivalent accessibility. There are simple ways to change that but it means adding some requirements not found in WCAG 2.0.

[Editorial note: the first line on page 197 should have a space between "with" and "assistive"]

> [197][2] EXCEPTIONS: 1. Web applications that conform to all Level A and Level AA Success Criteria and all Conformance Requirements in WCAG 2.0 (incorporated by reference in Chapter 1) shall not be required to conform to 502 and 503.

What the heck are web applications and why isn't web content mentioned. Back to a question I posed above, what additional features swings a mere web content page over to a web application? I proposed that if a website page had a link or a form on it it must be an application. Better word choice and an appropriate definition would probably be in order.

> [114][5] This exception is provided because software that conforms to WCAG 2.0 AA is already accessible.

Or so the Access Board tells us apparently by relying on WCAG 2.0's creators to truthfully tell us what exactly accessibility is. But I say bunk. The WCAG "consensus" was NOT a sound definition of what accessibility is but a quiet way to mainly keep the graphic look status quo intact for the "big money players" and graphic artists and to simply sweep the many low vision users under the rug and out of sight because to NOT discriminate against low vision users would require a new, non-pixel counting, way of thinking about websites. And, shudder, that would require reworking practically all websites (excepting those that followed the original, pre-WCAG accessibility standard).

Let's go on and look at some specifics from further on in the proposed rules. We will do it out of order to make the logic flow a little better.

> [199][3] 503.2 User Preferences. Applications shall permit user preferences from platform settings for color, contrast, font type, font size, and focus cursor.

Note that in the absence of the exception quoted from [197][2] above that web applications would be required to comply with 503.2. Think about it a second or two, if that long, and you'll see that these user preference features are indeed VERY good for accessibility and, in fact cover tremendous ground in aiding the low vision and otherwise visually impaired. WCAG 2.0 omits or limits a couple critical ones of those very important features. Is WCAG 2.0 as "accessible" as the Congressional mandate to the Access Board requires? Apparently the Access Board doesn't really think so because it provides these broader requirements where it hasn't applied the WCAG 2.0 exclusion but still, it wants to be nice and harmonious (wags have said HARMonious) and not upset the WCAG folks.

But what has been left out of the above? Why is only "user preferences from platform settings for color, contrast, font type, font size, and focus cursor" included? Something is rotten in Denmark. Here is the current rule:

> (g) Applications shall not override user selected contrast and color selections and other individual display attributes.

Note that this old rule is broader and actually covers one of the very most important "accessibility" *and "usability"* features of modern window based operating systems and applications. The user selection of the window (or viewport) size itself is an extremely important "display attribute." We can note that 502.2 is explicitly telling us to not disrupt or override "documented" accessibility features and that 502.3.1 is going on about object boundaries but only for "platform or documented" accessibility services.

What if a platform developer were to simply call such things usability features? Bang! Now there are no longer any underlying "accessibility" features and all applications built on the platform, per the proposed rules, have almost no 508 rules they need to follow! Not likely the intended result. You've all seen big trucks that obviously never or only rarely move sitting by the interstate with big "signs" painted on them. Is that the kind of loophole we really want in our accessibility rules. It's a truck, not a sign! It's a usability feature, not an accessibility feature? Should 503.2 be omitting the user selected window size? I think not. What about other user selected display attributes such as the position on the screen or across screens or tiling versus overlapping and perhaps other user selected attributes.

At a very minimum 503.2 needs to be more inclusive, perhaps by re-adding the “and other individual display attributes” text and maybe making window size and a few others explicit. And at a very minimum 502.2 and its subparts and perhaps 502.3 also need to switch to “documented or generally recognized accessibility features” to be sure that a mere re-designating of a feature from accessibility to usability cannot remove it from 508 compliance.

> [199][4]Advisory 503.2 User Preferences. This provision applies to applications that are platforms. One example of an application that is also a platform is a web browser.

Note that web browsers (as they should be) are also “platforms” because their underlying HTML, CSS, JavaScript, etc. processing components take what is literally raw text and transforms it into a living display page.

> [199][5] EXCEPTION: Applications that are designed to be isolated from their underlying platforms, including Web applications, shall not be required to conform to 503.2.
>
> [120][1] An exception is provided that would exempt software designed to be isolated from the underlying operating system. Lightweight applications (often called “applets”) using the Adobe® Flash® Platform, Oracle® Java Platform, W3C HTML 5 platform, and similar technologies, are commonly isolated in this way for security reasons. Accordingly, it would be a fundamental alteration to require such applications to carry over platform settings.

Whoa doggies! Hold your horses!! Does this all make good sense? Because certain technologies have so far been allowed to escape any accessibility requirements they should be blatantly allowed to continue to do so? Is that part of the Access Board mandate? I’ve not seen that portion of the mandate. In fact it’s been my experience that Flash and Java have been by far the worst offenders in efforts to make websites accessible. I ban them as often as I can from websites I work on. Wouldn’t the Access Board, in the interests of accessibility and equal access for all be better off going the other way and finally now mandating that within some x timeframe these technologies also become accessible?

But wait, how did W3C HTML 5 get lumped into there? Does it so radically alter the HTML foundations that it too does not have to be accessibility compliant, not even at the WCAG 2.0 AA level as the proposal is now written? I don’t think so. I just did a quick test of a very simple HTML5 web page and it passed my accessible browser setting right through to the screen; did font size 72 and liquid layout like a champ in two modern browsers. You can try it yourself.

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="utf-8"/>
<title>HTML5 Test</title>
</head>
<body>
<p>This is nothing but a fairly long sentence to see if it wraps when the text gets large enough to extend all the way across the screen.</p>
</body>
</html>
```

And who decides which “and similar” technologies don’t have to be accessible either? Let’s see the playing field leveled for all comers, nobody escapes the accessibility mandate. It’s the right thing to do. While the HTML5 experiment above shows that browser accessibility settings can be passed on through to web pages I’m certain that a browser like any other application could pick up underlying platform settings and pass those that were applicable to web pages right on up too. If it were mandated, it would happen. As long as it is not, it won’t likely happen.

And what really is the “security” issue with Java? Sure, remote programmers should not be able to use Java (or JavaScript, or SVG, or any other technology?) to get at the client computer but why is not the Java application which already must run on the client computer allowed to pick up accessibility settings from the client computer just like any other application (a browser say, or word processor) and present them to the applet for use in giving the user the accessible settings he has chosen?

[Editorial note: Advisory 503.2 User Preferences – Exception is not boxed when it should be.]

> [199][6] Advisory 503.2 User Preferences - Exception. One example of an application that is designed to be isolated from its underlying platform is a media player that is restricted from having access to the desktop operating system.

This is a rather complex issue. A “Flash” media player would indeed be isolated from the desktop operating system but exactly why should it be excepted from being accessible? Really, it should not be excepted from accessibility. Many media players, such as Microsoft’s Windows Media Player, and Apple’s QuickTime are most certainly not isolated from the desktop operating system. A browser built-in HTML5 video player is, by web convention, isolated from the desktop operating system but there is no real block that prevents the browser maker from coding it otherwise; it still should not allow a served video itself to interact with the operating system.

> [197][8-9] 502.2.1 User Control of Accessibility Features. Platforms shall provide user control over platform features that are defined in the platform documentation as accessibility features.
>
> 502.2.2 No Disruption of Accessibility Features. Applications shall not disrupt platform features that are defined in the platform documentation as accessibility features.

Again, very worthwhile accessibility features so why is the Access Board explicitly exempting web content and web applications (i.e., websites) or anything else the Access Board let’s use the limited WCAG 2.0 standards from these accessibility features? Why should a user NOT be able to set one time her accessibility settings at an operating system or browser level then expect them to be faithfully used across all applications and content that she views on her computer? Why are the Access Board and WCAG demanding that low vision and limited manipulation users have less accessibility than the blind when there are greater numbers of them than there are of the blind? There is no reason websites should be exempted from 502 and 503, the browser is perfectly capable of using such settings to render web pages. Particularly for low vision users the proposed Access Board rule that gives web content an explicit exemption simply because some third party (WCAG) has taken a stab at accessibility, an intentionally limited stab that prefers the wishes of website designers over inclusion of low vision users.

So the biggest problem with allowing “web applications that conform to all Level A and Level AA Success Criteria and all Conformance Requirements in WCAG 2.0” to escape from the requirements

of 502 Interoperability with Assistive Technology and 503 Applications is that it just makes certain that websites, one of the greatest inventions for information dissemination ever and for leveling the playing field for all, including the disabled, are guaranteed to NOT be as accessible as operating systems, applications, and other ICT. Does that make sense? Does it fit within the mandate of the Access Board?

The simple solution will be spelled out below after WCAG 2.0 is briefly examined.

> [200][1] 504.1 General. Where an application is an authoring tool, the application shall conform to 504 to the extent that information required for accessibility is supported by the destination format.

To make the above and the remainder of 504 even clearer I believe an additional sentence should be added such as: Authoring tool applications themselves must comply with the 508 standards applicable to applications even when an author is editing only plain text.

Such a statement should clarify that 504 is about the authoring tool supporting accessibility in the output of the authoring tool, not the tool itself which is still an application covered by application rules. Perhaps that could be further clarified by changing the section title to: 504 Authoring Tools Must Guide the User Toward Accessible Output

[Editorial note: Advisory 504.1 General is not boxed when it should be.]

Response Section 3 – WCAG 2.0

The major accessibility hole in WCAG 2.0 is that it does not adequately deal with low vision users who outnumber blind users about 3 to 1. Why doesn't it? My take on it is that to keep the "big money players,", or maybe just graphic artists who still count pixels, happy the 1.4.4 Resize text: (AA) guideline only, without assistive technology, requires resizing up to 200% without loss of content or functionality while, again without assistive technology, for 1.4.8 Visual Presentation: (AAA) the rule is up to 200% in a way that does not require the user to scroll horizontally to read a line of text on a full screen window (on the most common sized desktop/laptop display with the viewport maximized). Do a survey of low vision users and I believe you will find that none of them find either of these acceptable. The two facts may not be related but the 200% just happens to be the exact maximum text resizing that Microsoft Internet Explorer allows (on pages that actually allow text resizing). The 200% works for ordinary bifocal, trifocal, multifocal users, but, for low vision users, no.

But the WCAG material only gets worse for low vision users. Dig into the "Sufficient Techniques" and you'll find that web content developers don't actually have to do anything at all, they can simply leave the text resizing to the browser (user agent) manufacturers' zoom feature. Isn't that convenient for the low vision user! I think if you consult a few low vision users you'll find that A) they have to be picky about the browser they use because not all give the same result when they set their zoom because not all browsers allow zoom to be set across websites, some require it on a site by site basis; B) if they try to set their base text size in browsers because they really don't care about zooming a low definition image into a blurry bigger version but want to see the text much larger, say 400%, they completely wreak MOST websites if the text enlarges at all, and C) large text only works well on

liquid layout websites which are NOT confined to a narrow column down the middle (usually) of the screen by a pixel counting designer.

It also turns out that the best way to aid many of the disabled with limited manipulation capabilities, particularly tremors and such, is to enlarge the area they are working with. Very often a 200% text enlargement is not sufficient (when a website even allows it) for their motor skills and a zoom enlargement, again often one website or page at a time, that makes all the pictures blurry and or requires back and forth horizontal scrolling simply makes the problems worse, not better. Again, a clear case of discrimination when there is absolutely no reason there has to be.

By far the easiest way to give a consistent visual presentation accessibly to all users, including low vision, is to mandate that web designers 1) completely abandon setting the page base text size and let the user's font size (if not font) setting flow through to the page content while content type sizes that differ from the "normal" are done as either % or em (% being best), 2) mandating that all content be fully liquid layout so that it flows within its non-vertically restricted containers in 3) the full available viewport width (i.e., no fixed width settings for any text container, again percents). Amazingly enough, before there was a WCAG there was a web accessibility standard that mandated these "features" but then the commercial people and their graphic artists came into the picture and they wanted A-B-S-O-L-U-T-E control of every pixel on every screen in every browser. Then a giant mess ensued known as the browser wars (foolishly resumed here recently with browser specific CSS). And eventually to fix this mess the "big money players" started buying their way into W3C in droves so that they could help straighten it out. A lot helped but there were some things the "big money players" were loath to give up because (they think, or thought) they have too much money invested in the pixel counted looks of their websites.

Suppose the Access Board does, and I hope it does, reinstate the 1194.21(g) inclusion of window size as a user set attribute that applications must accept. Then web pages must accept the same and always fill the user selected window. What good is an "application" standard for a browser that must allow its viewport expand to full screen size if the Access Board then turns around and says the web page designer can restrict the content to whatever space they happen to see fit? I'll tell you, it means that the now more than 50% of all information retrieval CAN be inaccessible and CAN discriminate against low vision (at the very least) users. I don't believe that is what the Access Board's mandate is all about. Does it meet the ADA number 1 purpose "to provide a clear and comprehensive national mandate for the elimination of discrimination against individuals with disabilities?"

The second, as I see it, major failing of the WCAG 2.0 specification is in not dealing with the issue of a page that has some client side changes made via JavaScript or something similar. Basically WCAG 2.0 is totally silent on accessibility should the author have used JavaScript (or some other "technology" to achieve accessibility and the user have turned JavaScript off (or not have the "technology"). Is the page WCAG 2.0 compliant? Certainly not as rendered. It does let authors do fancy stuff but my experience is that few users care much after a few second and rarely more than once unless the JavaScript is doing something useful such as error checking. The old, pre-WCAG accessibility rules that mandated that the page work correctly and entirely without JavaScript were, I think, far better. While screen readers (and browsers) have gotten better at handling JavaScript and even preventing abuse there is still far too much abuse. For more see the JavaScript discussion above at superscript 3 on page 21.

The only other significant concern I have with WCAG 2.0 is that 2.4.9 Link Purpose (Link Only) seems also to be going backwards, why should this be AAA rather than AA for any reason other than *far too many* website links now say "More" or "click here" and are totally useless to anyone just seeing the links or even to indexing bots or other software that has to make some sense of them. The original main purpose for having meaningful (not "purpose") link text was to aid blind users to rapidly get a sense of where a page might lead them. Have blind users been queried about this change and do they find it acceptable? Certainly while still in context it is still (usually) easy to determine what the link is going to do and generally when a title with a link is followed by a snippet/teaser followed by a "More" having a list of title, more, title, more would work but those aren't always the case. So again, why AAA rather than AA? The Access Board can't change WCAG 2.0 but they can still add this AAA item to the mandatory items as if it were AA.

Alternative Proposal

I suggest that the Access Board carefully rework its proposed rules so that all of the following things are accomplished:

1. Mandate that web pages (or any "browser" displayed content) not include a setting for the base text size (not even to 100% because some browsers don't get that right but all I've tested do successfully use a user's setting). This could be effectively stated perhaps as a functional requirement for web pages (at least) that the user's settings for font size be carried through to the commonest font size on the page. But it probably ought to be true for .PDF's, e-publications of all kinds, text editors, etc.

2. Mandate that web pages (or any "browser" displayed content) only use CSS % (or em but preferably %) to adjust text sizes up or down from normal for things such as headings, footnotes, whatever. Again this ought to be carried through equivalently for .PDF's, e-publications, other user software, etc. while still maintaining some mechanism/mode to know what the original, as laid out by the author, page, column, and line are. Example, the shift key tapped twice without any other key press toggles some overlying form of display that provides the page, column and line numbers.

3. Mandate that all web pages (or any "browser" displayed content) let their width float to that of the browser window (content perhaps including up to 20 pixels per side for margins for aesthetic reasons). The same should hold true for .PDF's, etc. I.e., 1194.21(g) needs to be put back in and it be made really clear that user set window size must be obeyed for all content with maybe a minor allowance for an aesthetic margin.

4. Strongly suggest that whitespace, such as margins and padding, normally be specified in pixels or similar "fixed" dimensions so that it does NOT expand with the text size since maximum use of the available screen real estate is generally best for low vision and limited manipulation users.

In fact all of the above are very much intended to benefit not only the low vision user but any user's vision AND "limited manipulation" on diminished dimension screens such as those on mobile phones. In fact, using the full window size and liquid layout, which many sites are going to now anyway, are practically essential for responsive design so making the above requirements will cost little beyond what a great many web developers are doing now to restructure sites for all devices.

And really, how hard can it be to let the user set the text size once in his browser! It only means removing anything which attempts to imprint print-on-paper thinking into websites. For new web (or e-document) content it is as simple as NOT setting a base text size and specifying other text sizes as a reasonable percent of the base (or whatever CSS makes current). It would also put the Access Board where it belongs to fulfill its mandate in leading the accessibility effort rather than dragging along behind it. The bulk of WCAG 2.0 is over 8 years old and did not, I think, fully consider smartphones and similar devices and certainly made little attempt to include the low vision or limited manipulation users into the mainstream.

Go ahead and reference the WCAG 2.0 AA Guidelines but switch the Software 501 General Exception 1 to something along the lines of: Web browser displayed content must conform to the most accessible of the WCAG 2.0 AA Success Criterial and Conformance Requirements or these rules where “these rules” also include Appendix C, the Chapter 3 300 series. Generally it should also be provided that the author’s web pages (or documents) should not interfere with platform features that aid accessibility. A good example is 302.2 With Limited Vision where the user’s ability to expand the window to full width or narrow it and possibly shrink its height would be all that is needed for, for example, “reducing the field of vision.”

Make similar adjustments wherever else the WCAG 2.0 Guidelines are included by reference so that the Access Board standards better deal with the equal accessibility for all by giving the low vision and limited manipulation users exactly what the non-disabled user gets but adjusted per the user’s choice of browser (or other application/system) settings.

Also the Access Board should seriously consider addressing the newly introduced problem of “adaptive” content serving where “just the right size” image, for example, is served for the space that the content author wants to use for it on whatever device. Yes, adaptive is good for reducing bandwidth and making slow connections seem faster but it also takes away resolution. This means that what might have otherwise been a glorious image of (not uncommon) 2560x1600 or 1600x2560 now becomes 320x200. Now the user spreads her fingers to zoom in and a once glorious image with fine detail is a pixelated mess—with no way to see the full image (albeit a bit at a time) without going and getting onto a computer with a larger screen. It would probably be very good for the Access Board to provide a rule that would allow the user, once they’ve seen the small image, to request a larger, or even any of several larger, versions all the way up to the original glorious size. Let the user decide the tradeoff between resolution and bandwidth, not have it artificially imposed by someone whose possible major concern is their own costs, not the benefits of the user. In other words The Access Board can get ahead of the game a bit here before the inability to see the glorious details version of the image is lost to all but big screen owners.

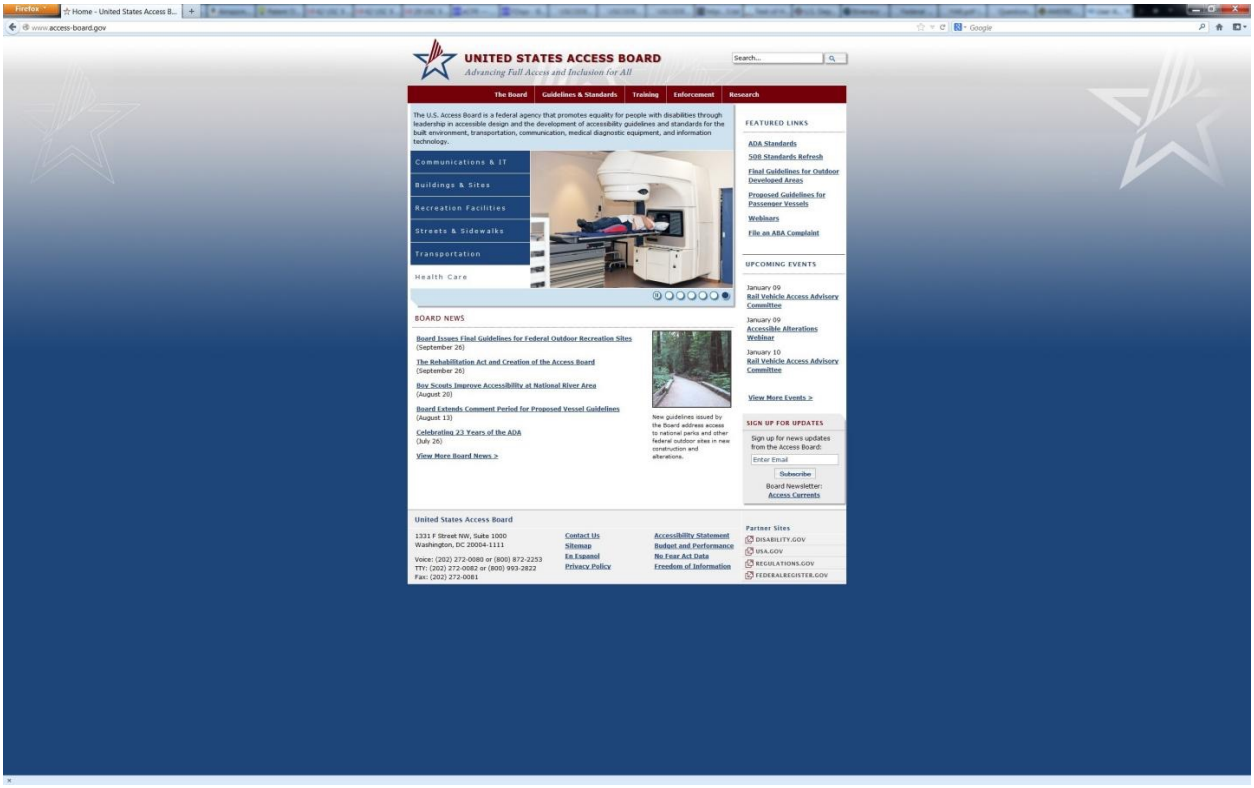
There are also some other suggestions in my preceding pages that should be seriously considered and which I will not repeat here.

Additionally the rules here probably need to provide both a suitable and a realistic timeframe in which website remediation is to occur and declare a date on which new websites or revamped websites must comply including all those covered by ADA (employers, public services, public accommodations), not just the Rehabilitation Act (mainly Federal government) ones, and do the same for other 255 ICT equivalent adjustment.

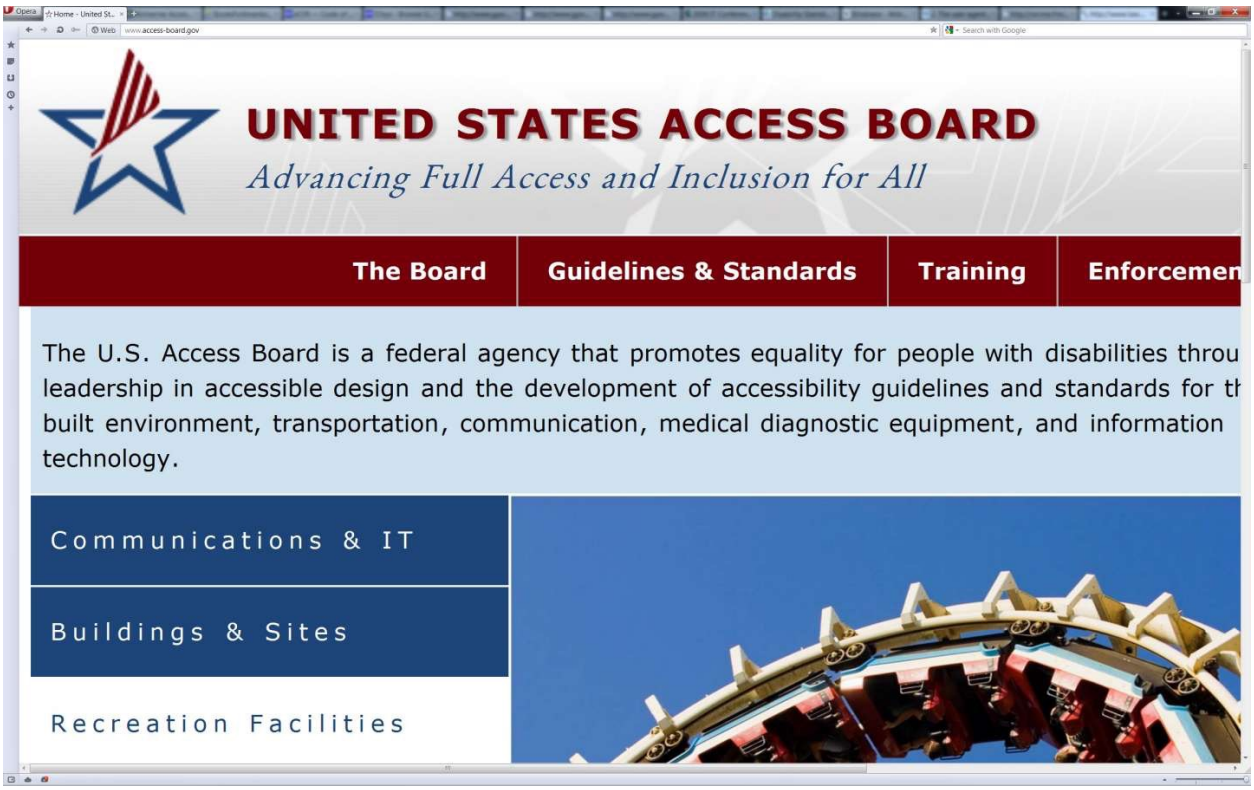
You'll probably need to make some estimates on what compliance will cost and, while it won't be free, it shouldn't be all that expensive either. As a start I'm going to include several images and the notes that accompany them from the presentation I linked to above. To do the revised page structure and CSS for the Access Board's home page took only about 2 hours of which the most was taken up removing all the <expletive deleted> px sizing from the fonts.

Examples of My Proposed Changes

The following material provides some examples of a current web page and the result of some simple changes to implement my proposed revised rules above.

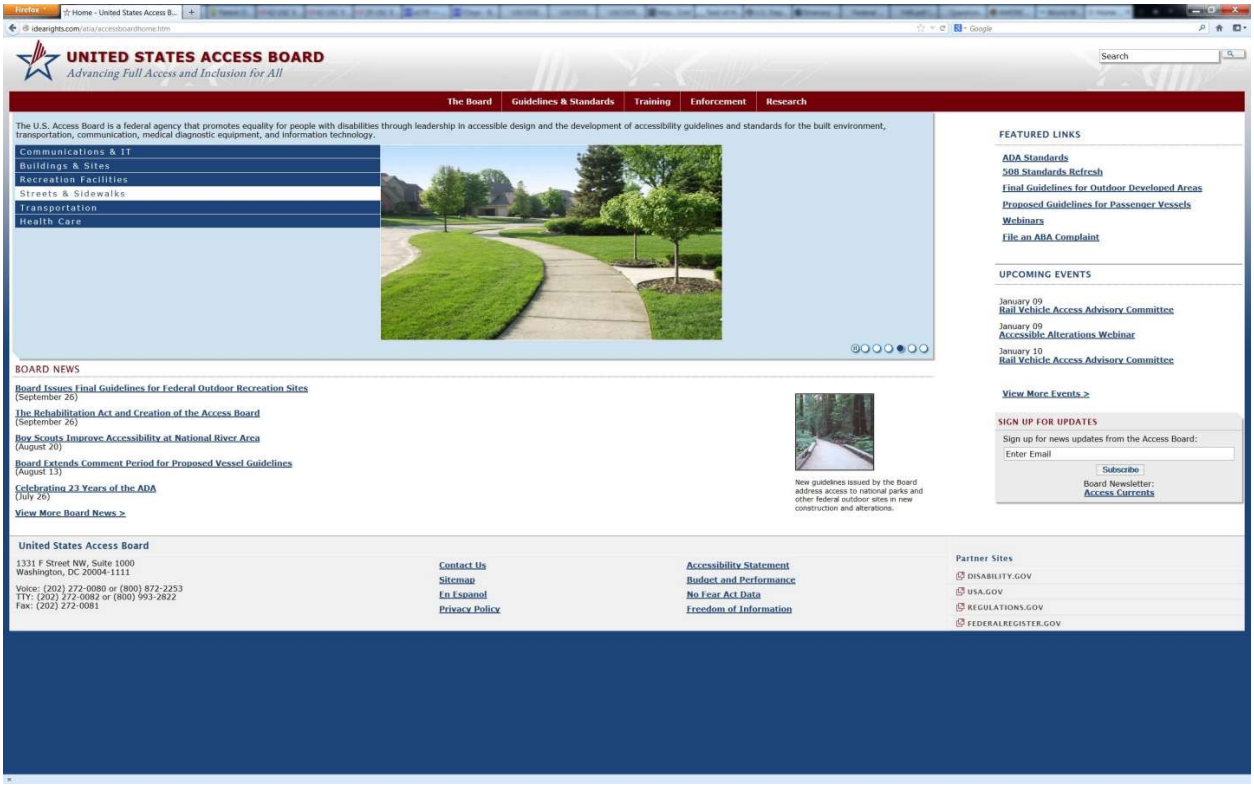


This image of the Access Board website's home page is taken from a full screen view on my 2560 x 1600 pixel monitor and is shown here reduced to just fit the SVGA 1024 width which best fits in a Word document or on an overhead projector. Even when projected to an 8 foot screen the text readability is only about what a 20/55 visual acuity user would see. In this Word document it's probably closer to what a person with a visual acuity of 20/85 would see. So if you have normal or corrected to 20/20 vision, I've just adjusted your eyesight down by magic. But also be aware that this shows what the page looks like whether I set my browser text size to 16 or 72 (nominally pixels but relative pixels these days). In other words the Access Board's web page overrides MY ASSISTIVE SETTING!! The page is just a little area taking up just a tad over 33% of the width and a bit less than 65% of height the available screen so you can see that not only has the Access Board overridden my text size they've overridden my window size setting too! They are in violation of 1194.21(g)! Unless otherwise noted the rest of my screen images below are all 2560 x 1600 reduced to the 1024 presentation width.

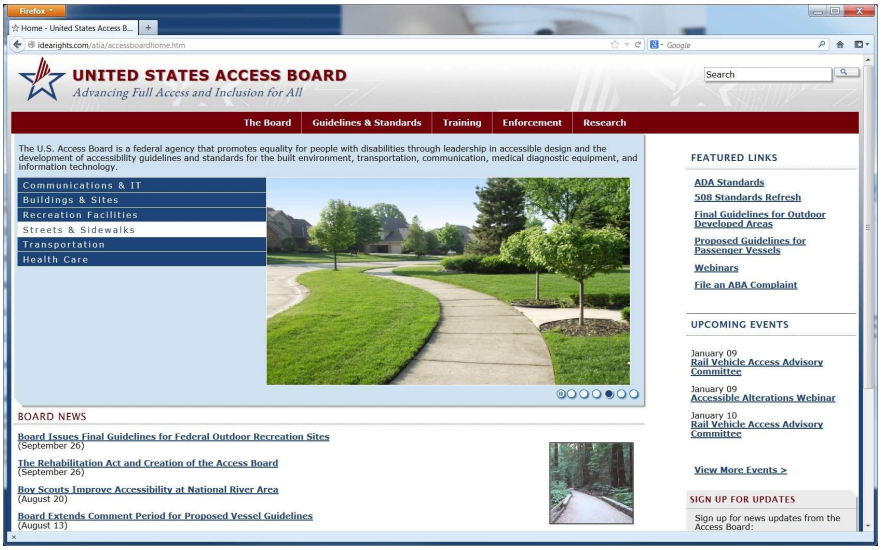


Let's try again and this time zoom to 400%, the maximum my browser will allow but a bit shy of the 450%, i.e., four and a half times, enlargement that is needed for a true 72 so really the size for a 20/80 visual acuity user. A user, in other words, toward the bottom edge of "low vision, 20/70" but well below the 20/200 of legally blind. You 20/20 and corrected vision users can now easily read it though the reduction for the full screen to fit 1024 nets a visual acuity of approximately 20/32. But note that hidden text shoots way off to the right so that about 25% of the width of the page and its content have to be scrolled to with the scroll bar at the bottom. Any 20/90 reader of the page must scroll left, right, left, right, left right, …, down, left, right, …, just to read the page. Is that accessible? Equitable? Equivalent?

This full 2560 x 1600 (reduced) screen image shows, after my CSS adjustments to the page to allow full screen width and pass through the user font-size setting, the exact same Access Board page but without the fixed pixel font sizes so this one truly uses my 72 font setting. There is no scroll bar at the bottom. The page in its entirety can be read simply by scrolling down (like a normal sighted user would!!). You will note that the top menu line wrapped onto two lines so it is still very useable and that the vertical menu items on each side were wrapped within a fixed percent of the screen so they too are fully readable and useable. These were very simple changes that took me less than 2 hours of which by far the hardest part was **getting rid of most of the fixed pixel count items** in the original CSS. You'll note that for this example I did not change the image sizes either for the "Search" icon (way up there to the right of the "Search" box) or the main illustration. Those can be much more accessibly dealt with too.



Still on my 2560x1600 screen but shrunk here to show how my CSS changes have affected the Access Board's home page when my browser is set to full screen with the default 16 size for text. There is some whitespace distortion in that there is a lot more of it than in the pixel counted size for the original but this is still a reasonable looking page and works quite well. If I wanted to I could set my text size to say 24 and be very happy or set my browser window to 75% or whatever of the width of my screen and again be very happy.



Last screen shot of the Access Board home page shown again with 16 as the text size and using my CSS but this time on an ordinary screen size though reduced here equally with my earlier reductions for the large screen that were fit into the width of this document. For all practical purposes all users will see this design as exactly the same as the original Access Board version the difference here being that neither the user's selected window size nor the user's selected text size are overridden so now the website does support the "low vision" user text content wise EXACTLY (NOT SOME PSEUDO EQUIVALENTLY) as it does the normal sighted user though still with the possible exception of the pictures. They can be handled too but I've not done it here.

Cross-Reference “Endnote” numbers for the purpose of providing self-updating references to specific passages within the text.

[1] Sec 12201 Subchapter IV Miscellaneous Provisions (Title V) Construction (Section 501)

[2] 508/ADA covered entities (incomplete)

[3] JavaScript