

(8) Labeling must include:

(i) A summary of clinical testing conducted with the device that includes a summary of device-related complications and adverse events;

(ii) Instructions for use;

(iii) A surgical guide for implantation, which includes instructions for imaging to assess bone dimensions;

(iv) A shelf life, for device components provided sterile;

(v) A patient identification card; and

(vi) A patient user manual.

Dated: October 22, 2018.

Leslie Kux,

Associate Commissioner for Policy.

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LIBRARY OF CONGRESS

U.S. Copyright Office

37 CFR Part 201

[Docket No. 2017-10]

Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies

AGENCY: U.S. Copyright Office, Library of Congress.

ACTION: Final rule.

SUMMARY: In this final rule, the Librarian of Congress adopts exemptions to the provision of the Digital Millennium Copyright Act (“DMCA”) that prohibits circumvention of technological measures that control access to copyrighted works, codified in the United States Code. As required under the statute, the Acting Register of Copyrights, following a public proceeding, submitted a Recommendation concerning proposed exemptions to the Librarian of Congress. After careful consideration, the Librarian adopts final regulations based upon the Acting Register’s Recommendation.

DATE: Effective October 28, 2018.

FOR FURTHER INFORMATION CONTACT: Regan A. Smith, General Counsel and Associate Register of Copyrights, by email at regans@copyright.gov, Anna Chauvet, Assistant General Counsel, by email at achau@copyright.gov, or Kevin Amer, Senior Counsel for Policy and International Affairs, by email at kamer@copyright.gov. Each can be contacted by telephone by calling (202) 707-8350.

SUPPLEMENTARY INFORMATION: The Librarian of Congress, pursuant to

section 1201(a)(1) of title 17, United States Code, has determined in this seventh triennial rulemaking proceeding that the prohibition against circumvention of technological measures that effectively control access to copyrighted works shall not apply to persons who engage in noninfringing uses of certain classes of such works. This determination is based upon the Recommendation of the Acting Register of Copyrights, which was transmitted to the Librarian on October 5, 2018.¹

The below discussion summarizes the rulemaking proceeding and Register’s Recommendation, announces the Librarian’s determination, and publishes the regulatory text specifying the exempted classes of works. A more complete discussion of the rulemaking process, the evidentiary record, and the Acting Register’s analysis can be found in the Acting Register’s Recommendation, which is posted at www.copyright.gov/1201/2018/.

I. Background

A. Statutory Requirements

Congress enacted the DMCA in 1998 to implement certain provisions of the WIPO Copyright and WIPO Performances and Phonograms Treaties. Among other things, title I of the DMCA, which added a new chapter 12 to title 17 of the U.S. Code, prohibits circumvention of technological measures employed by or on behalf of copyright owners to protect access to their works. In enacting this aspect of the law, Congress observed that technological protection measures (“TPMs”) can “support new ways of disseminating copyrighted materials to users, and . . . safeguard the availability of legitimate uses of those materials by individuals.”²

Section 1201(a)(1) provides in pertinent part that “[n]o person shall circumvent a technological measure that effectively controls access to a work protected under [title 17].” Under the statute, to “circumvent a technological measure” means “to descramble a scrambled work, to decrypt an encrypted work, or otherwise to avoid, bypass, remove, deactivate, or impair a technological measure, without the authority of the copyright owner.”³ A

¹ Acting Register of Copyrights, Section 1201 Rulemaking: Seventh Triennial Proceeding to Determine Exemptions to the Prohibition on Circumvention, Recommendation of the Acting Register of Copyrights (Oct. 2018) (“Acting Register’s Recommendation”).

² Staff of H. Comm. on the Judiciary, 105th Cong., Section-by-Section Analysis of H.R. 2281 as Passed by the United States House of Representatives on August 4, 1998, at 7 (Comm. Print 1998).

³ 17 U.S.C. 1201(a)(3)(A).

technological measure that “effectively controls access to a work” is one that “in the ordinary course of its operation, requires the application of information, or a process or a treatment, with the authority of the copyright owner, to gain access to the work.”⁴

Section 1201(a)(1) also includes what Congress characterized as a “fail-safe” mechanism,⁵ which requires the Librarian of Congress, following a rulemaking proceeding, to publish any class of copyrighted works as to which the Librarian has determined that noninfringing uses by persons who are users of a copyrighted work are, or are likely to be, adversely affected by the prohibition against circumvention in the succeeding three-year period, thereby exempting that class from the prohibition for that period.⁶ The Librarian’s determination to grant an exemption is based upon the recommendation of the Register of Copyrights, who conducts the rulemaking proceeding.⁷ The Register, in turn, consults with the Assistant Secretary for Communications and Information of the Department of Commerce, who oversees the National Telecommunications and Information Administration (“NTIA”), in the course of formulating her recommendation.⁸

The primary responsibility of the Register and the Librarian in the rulemaking proceeding is to assess whether the implementation of access controls impairs the ability of individuals to make noninfringing uses of copyrighted works within the meaning of section 1201(a)(1). To do this, the Register develops a comprehensive administrative record using information submitted by interested members of the public, and makes recommendations to the Librarian concerning whether exemptions are warranted based on that record.

Under the statutory framework, the Librarian, and thus the Register, must consider “(i) the availability for use of copyrighted works; (ii) the availability for use of works for nonprofit archival, preservation, and educational purposes; (iii) the impact that the prohibition on the circumvention of technological measures applied to copyrighted works has on criticism, comment, news reporting, teaching, scholarship, or research; (iv) the effect of circumvention of technological measures on the market

⁴ *Id.* at 1201(a)(3)(B).

⁵ See H.R. Rep. No. 105-551, pt. 2, at 36 (1998) (“Commerce Comm. Report”).

⁶ See 17 U.S.C. 1201(a)(1).

⁷ *Id.* at 1201(a)(1)(C).

⁸ *Id.*

for or value of copyrighted works; and (v) such other factors as the Librarian considers appropriate.”⁹

Significantly, exemptions adopted by rule under section 1201(a)(1) apply only to the conduct of circumventing a technological measure that controls access to a copyrighted work. Other parts of section 1201, by contrast, address the manufacture and provision of—or “trafficking” in—products and services designed for purposes of circumvention. Section 1201(a)(2) bars trafficking in products and services that are used to circumvent technological measures that control access to copyrighted works (for example, a password needed to open a media file),¹⁰ while section 1201(b) bars trafficking in products and services used to circumvent technological measures that protect the exclusive rights of the copyright owner in their works (for example, technology that prevents the work from being reproduced).¹¹ The Librarian of Congress has no authority to adopt exemptions for the anti-trafficking prohibitions contained in section 1201(a)(2) or (b).¹² More broadly, activities conducted under the regulatory exemptions must still comply with other applicable laws, including non-copyright provisions.

Also significant is the fact that the statute contains certain permanent exemptions to permit specified uses. These include: Section 1201(d), which exempts certain activities of nonprofit libraries, archives, and educational institutions; section 1201(e), which exempts “lawfully authorized investigative, protective, information security, or intelligence activity” of a state or the federal government; section 1201(f), which exempts certain “[r]everse engineering” activities to facilitate interoperability; section 1201(g), which exempts certain types of research into encryption technologies; section 1201(h), which exempts certain activities to prevent the “access of minors to material on the internet”; section 1201(i), which exempts certain activities “solely for the purpose of preventing the collection or dissemination of personally identifying information”; and section 1201(j), which exempts certain acts of “security

testing” of computers and computer systems.

C. Rulemaking Standards

In adopting the DMCA, Congress imposed legal and evidentiary requirements for the section 1201 rulemaking proceeding, as discussed in greater detail in the Acting Register’s Recommendation and the Copyright Office’s recent policy study on section 1201.¹³ The Register will recommend granting an exemption only “when the preponderance of the evidence in the record shows that the conditions for granting an exemption have been met.”¹⁴ “[I]t is the totality of the rulemaking record (*i.e.*, the evidence provided by commenters or administratively noticed by the Office) that must, on balance, reflect the need for an exemption by a preponderance of the evidence. Such evidence must, on the whole, show that it is more likely than not that users of a copyrighted work will, in the succeeding three-year period, be adversely affected by the prohibition on circumvention in their ability to make noninfringing uses of a particular class of copyrighted works.”¹⁵

To establish a case for an exemption, proponents must show at a minimum (1) that uses affected by the prohibition on circumvention are or are likely to be noninfringing; and (2) that as a result of a technological measure controlling access to a copyrighted work, the prohibition is causing, or in the next three years is likely to cause, an adverse impact on those uses. In addition, the Librarian must also examine the statutory factors listed in section 1201(a)(1)(C): “(i) The availability for use of copyrighted works; (ii) the availability for use of works for nonprofit archival, preservation, and educational purposes; (iii) the impact that the prohibition on the circumvention of technological measures applied to copyrighted works has on criticism, comment, news reporting, teaching, scholarship, or

research; (iv) the effect of circumvention of technological measures on the market for or value of copyrighted works; and (v) such other factors as the Librarian considers appropriate.” In some cases, weighing these factors requires the consideration of the benefits that the technological measure brings with respect to the overall creation and dissemination of works in the marketplace, in addition to any negative impact.

Finally, when granting an exemption, section 1201(a)(1) specifies that the exemption adopted as part of this rulemaking must be defined based on “a particular class of works.”¹⁶ Among other things, the determination of the appropriate scope of a “class of works” recommended for exemption may also take into account the adverse effects an exemption may have on the market for or value of copyrighted works. Accordingly, “it can be appropriate to refine a class by reference to the use or user in order to remedy the adverse effect of the prohibition and to limit the adverse consequences of an exemption.”¹⁷

D. Streamlined Renewal Process

Following a comprehensive policy study, and in response to stakeholder feedback, for this seventh triennial proceeding, the Office introduced a streamlined process to renew section 1201 exemptions adopted during the 2015 rulemaking.¹⁸ Previously, in recognition of legislative history stating that the basis of an exemption should be established *de novo* in each triennial proceeding,¹⁹ the Office had required the factual record be developed anew in each rulemaking.²⁰ In its Section 1201 Report, the Office evaluated the possibility of a renewal process, noting a “broad consensus in favor of streamlining the process for renewing exemptions to which there is no meaningful opposition.”²¹ As described in further detail in that report, the Office ultimately concluded that “the statutory language appears to be broad enough to permit determinations to be based upon evidence drawn from prior proceedings, but only upon a conclusion that this evidence remains reliable to support granting an exemption in the current

¹³ Acting Register’s Recommendation at 9–19; U.S. Copyright Office, Section 1201 of Title 17 105–15 (2017), <https://www.copyright.gov/policy/1201/section-1201-full-report.pdf> (“Section 1201 Report”).

¹⁴ Section 1201 Report at 111; *accord* Register of Copyrights, Section 1201 Rulemaking: Sixth Triennial Proceeding to Determine Exemptions to the Prohibition on Circumvention, Recommendation of the Register of Copyrights 14 (Oct. 2015). References to the Register’s Recommendations in prior rulemakings are cited by the year of publication followed by “Recommendation” (*e.g.*, “2015 Recommendation”). Prior Recommendations are available on the Copyright Office website at <https://www.copyright.gov/1201/>.

¹⁵ Section 1201 Report at 112.

¹⁶ 17 U.S.C. 1201(a)(1)(B).

¹⁷ 2006 Recommendation at 19.

¹⁸ Section 1201 Report at 127–28, 145–46.

¹⁹ *See* Commerce Comm. Report at 37 (explaining that for every rulemaking, “the assessment of adverse impacts on particular categories of works is to be determined *de novo*”).

²⁰ Exemptions to Permit Circumvention of Access Controls on Copyrighted Works, 82 FR 29804, 29805 (June 30, 2017) (“NOI”).

²¹ Section 1201 Report at vi.

⁹ *Id.*

¹⁰ *Id.* at 1201(a)(2).

¹¹ *Id.* at 1201(b).

¹² *See id.* at 1201(a)(1)(E) (“Neither the exception under subparagraph (B) from the applicability of the prohibition contained in subparagraph (A), nor any determination made in a rulemaking conducted under subparagraph (C), may be used as a defense in any action to enforce any provision of this title other than this paragraph.”).

proceeding.”²² The Office concluded that renewal may be sought only for exemptions in their current form, without modification, and that the Register “must apply the same evidentiary standards in recommending the renewal of exemptions as for first-time exemption requests.”²³

The Office detailed the renewal process in its notices for this proceeding.²⁴ Streamlined renewal is based upon a determination that, due to a lack of legal, marketplace, or technological changes, the factors that led the Register to recommend adoption of the exemption in the prior rulemaking are expected to continue into the forthcoming triennial period.²⁵ That is, the same material facts and circumstances underlying the previously-adopted regulatory exemption may be relied on to renew the exemption.²⁶ Because the statute itself requires that exemptions must be adopted upon a fresh determination concerning the next three-year period, the fact that the Librarian previously adopted an exemption creates no presumption that re-adoption is appropriate. Instead, the Office first solicited petitions summarizing the continuing need and justification for the exemption, and petitioners signed a declaration stating that, “to the best of their personal knowledge, there has not been any material change in the facts, law, or other circumstances set forth in the prior rulemaking record such that renewal of the exemption would not be justified.”²⁷ Next, the Office solicited comments from participants opposing the re-adoption of the exemption. Opponents were required to provide evidence that would allow the Acting Register to reasonably conclude that the prior rulemaking record and any further information provided in the petitions are insufficient for her to recommend renewal without the benefit of a further developed record. For example, “a change in case law might affect whether a particular use is noninfringing, new technological developments might affect the availability for use of copyrighted works, or new business models might affect the market for or value of copyrighted works.”²⁸ If the

appropriateness of renewing an exemption is meaningfully contested, that exemption would be fully noticed for written comment and public hearing to generate an updated administrative record for the Register to evaluate whether to recommend re-adoption, modification, or elimination of that exemption to the Librarian.²⁹

The streamlined renewal process elicited favorable responses during the 2018 rulemaking hearings. As detailed below, as a result of this new process, the Acting Register was able to recommend renewal of all exemptions adopted in the 2015 rulemaking, and subsequently consider whether some of them should be modified to accommodate additional new uses through the development of an expanded administrative record.

II. History of the Seventh Triennial Proceeding

In this rulemaking, the Copyright Office used the phased comment structure introduced in the last proceeding, to best facilitate a clear and thorough record. As promised in its Section 1201 Report,³⁰ the Office also created video tutorials explaining the rulemaking process, issued the Notice of Proposed Rulemaking (“NPRM”) earlier to give parties more time to participate, and offered increased opportunities for participant input, including through an established procedure for transparent *ex parte* meetings.

The Office initiated the seventh triennial rulemaking proceeding through a Notice of Inquiry (“NOI”) on June 30, 2017.³¹ The NOI requested petitions for renewals, petitions in opposition to renewal, and any petitions for new exemptions. In response, the Office received thirty-nine renewal petitions, five comments regarding the scope of the renewal petitions, and one comment in opposition to renewal of a current exemption.³² The Office also received twenty-three petitions for new exemptions, including seventeen seeking to expand certain current exemptions, and six petitions for new exemptions.

Next, on October 26, 2017, the Office issued its NPRM identifying the existing exemptions for which the Acting Register intended to recommend

renewal, and outlined the proposed classes for new exemptions (including proposed expansions of previously-adopted exemptions) for which three rounds of public comments were initiated.³³ Those classes were organized into twelve classes of works. Seven of the twelve proposed exemptions seek expansions of existing exemptions, while five propose new exemptions. The Office received 181 total submissions in response to the NPRM, substantially less than the approximately 40,000 submissions received in the last rulemaking.

After analyzing the written comments, the Office held seven days of hearings in Washington, DC (April 10–13) and Los Angeles, California (April 23–25). For the first time, the roundtables at both locations held audience participation panels and were live streamed online. Video recordings for these roundtables are available through the Office’s website and YouTube pages.³⁴ In total, the Office heard testimony from seventy-seven individuals. After the hearings, the Office issued questions to hearing participants in four proposed classes and received eighteen responses.³⁵ Subsequently, the Office received an unsolicited letter from the Computer Crime and Intellectual Property Section of the Criminal Division of the United States Department of Justice (“CCIPS”) regarding Proposed Class 10, and the Office solicited comment from Class 10 participants in response.³⁶

As noted in its NPRM, the Office determined that further informal communications with non-governmental participants might be beneficial in limited circumstances.³⁷ The Office thus established guidelines for *ex parte* meetings, noting that the Office will not consider or accept any new documentary materials at these

³³ NPRM, 82 FR at 49550, 49553–63.

³⁴ Video recordings of the roundtables are available at <https://www.copyright.gov/1201/2018/> and <https://www.youtube.com/uscopyrightoffice/>.

³⁵ Participant’s post-hearing letter responses are available on the Office’s website. Responses to Post-Hearing Questions, U.S. Copyright Office, (last visited Oct 2, 2018), <https://www.copyright.gov/1201/2018/post-hearing/answers/>.

³⁶ Letter from John T. Lynch, Jr., Chief, Comput. Crime & Intellectual Prop. Section, Criminal Div., U.S. Dep’t of Justice, to Regan A. Smith, Gen. Counsel & Assoc. Register of Copyrights, U.S. Copyright Office (June 28, 2018), https://www.copyright.gov/1201/2018/USCO-letters/USDOJ_Letter_to_USCO.pdf; Letter from to Regan A. Smith, Gen. Counsel & Assoc. Register of Copyrights, U.S. Copyright Office, to Class 10 Participants (June 29, 2018), https://www.copyright.gov/1201/2018/additional-correspondence/Proposed_Class_10_Letter.pdf.

³⁷ NPRM, 82 FR at 49563; see Section 1201 Report at 150–51 (documenting stakeholder desire for such further communication).

²² *Id.* at 143.

²³ *Id.* at 142, 145.

²⁴ NOI, 82 FR at 29805–07; Exemptions to Permit Circumvention of Access Controls on Copyrighted Works, 82 FR 49550, 49552 (Oct. 26, 2017) (“NPRM”).

²⁵ NOI, 82 FR at 29805–06; NPRM, 82 FR at 49552.

²⁶ Section 1201 Report at 143–44; NOI, 82 FR at 29806; NPRM, 82 FR at 49552.

²⁷ NPRM, 82 FR at 49552.

²⁸ Section 1201 Report at 145.

²⁹ See NPRM, 82 FR at 49554 (stating that if a renewal petition is meaningfully opposed, “the exemption would be considered pursuant to the more comprehensive rulemaking process (*i.e.*, three rounds of written comment, followed by public hearings”).

³⁰ Section 1201 Report at 149–51.

³¹ NOI, 82 FR at 29804.

³² Comments received in this rulemaking are available at <http://copyright.gov/1201/2018>.

meetings, and requiring participants to provide a letter summarizing the meeting for the Office to include in the rulemaking record.³⁸ The Office held nine *ex parte* meetings with participants concerning five proposed classes.³⁹

As required by section 1201(a)(1), the Acting Register consulted with NTIA during this rulemaking. NTIA provided input at various stages and participated in the public hearings held in Washington, DC and Los Angeles. NTIA formally communicated its views on each of the proposed exemptions to the Acting Register on September 25, 2018.⁴⁰

III. Summary of Register's Recommendation

A. Renewal Recommendations

As set forth in the NPRM, the Acting Register received petitions to renew every one of the exemptions adopted pursuant to the sixth triennial rulemaking. To the extent any renewal petition proposed uses beyond the current exemption, the Office disregarded those portions of the petition for purposes of considering the renewal of the exemption, and instead focused on whether it provided sufficient information to warrant re-adoption of the exemption in its current form.⁴¹ While a single party filed an opposition to renewal, the Acting Register concluded that its opposition was not sufficiently material to undermine the conclusion that the record and legal reasoning from the prior rulemaking supported renewal.⁴² Finding the renewal petitions sufficient under the guidelines outlined above, the Acting Register thus recommended renewal of each of the existing exemptions.⁴³ The existing exemptions, and the bases for the recommendation to re-adopt each exemption in accordance with the streamlined renewal process, are summarized below. Where noted, these exemptions served as a baseline for the Acting Register in considering subsequent requests for expansion.

³⁸ NPRM, 82 FR at 49563; Ex Parte Communications, U.S. Copyright Office (last visited Oct. 2, 2018), <https://www.copyright.gov/1201/2018/ex-parte-communications.html>.

³⁹ See Ex Parte Communications, U.S. Copyright Office, <https://www.copyright.gov/1201/2018/ex-parte-communications.html> (last visited Oct. 2, 2018).

⁴⁰ NTIA's recommendations can be viewed at https://www.copyright.gov/1201/2018/2018_NTIA_Letter.pdf.

⁴¹ See, e.g., NPRM, 82 FR at 49554.

⁴² *Id.*

⁴³ The Acting Register's analysis and conclusions regarding streamlined renewals can be found in the NPRM. See *id.* at 49552–58.

1. Literary Works Distributed Electronically—Assistive Technologies

Multiple organizations petitioned to renew the exemption for literary works distributed electronically (*i.e.*, e-books), for use with assistive technologies for persons who are blind, visually impaired, or have print disabilities. No oppositions were filed against re-adoption of this exemption. The petitions demonstrated the continuing need and justification for the exemption, stating that individuals who are blind, visually impaired, or print disabled are significantly disadvantaged with respect to obtaining accessible e-book content because TPMs interfere with the use of assistive technologies such as screen readers and refreshable Braille displays. In addition, the petitioners demonstrated personal knowledge and experience with regard to the assistive technology exemption; they are all organizations that advocate for the blind, visually impaired, and print disabled.

Accordingly, the Acting Register recommends renewal of the following exemption:

Literary works, distributed electronically, that are protected by technological measures that either prevent the enabling of read-aloud functionality or interfere with screen readers or other applications or assistive technologies:

(i) When a copy of such a work is lawfully obtained by a blind or other person with a disability, as such a person is defined in 17 U.S.C. 121; provided, however, that the rights owner is remunerated, as appropriate, for the price of the mainstream copy of the work as made available to the general public through customary channels; or

(ii) When such work is a nondramatic literary work, lawfully obtained and used by an authorized entity pursuant to 17 U.S.C. 121.

2. Literary Works—Compilations of Data Generated by Implanted Medical Devices—To Access Personal Data

Hugo Campos, member of the Coalition of Medical Device Patients and Researchers, and represented by the Harvard Law School Cyberlaw Clinic, petitioned to renew the exemption covering access to patient data on networked medical devices. No oppositions were filed against the petition to renew this exemption. Mr. Campos's petition demonstrated the continuing need and justification for the exemption, stating that patients continue to need access to data output from their medical devices to manage their health. Mr. Campos himself is a patient needing access to the data output from his medical device.

Accordingly, the Acting Register recommends renewal of the following exemption:

Literary works consisting of compilations of data generated by medical devices that are wholly or partially implanted in the body or by their corresponding personal monitoring systems, where such circumvention is undertaken by a patient for the sole purpose of lawfully accessing the data generated by his or her own device or monitoring system and does not constitute a violation of applicable law, including without limitation the Health Insurance Portability and Accountability Act of 1996, the Computer Fraud and Abuse Act of 1986 or regulations of the Food and Drug Administration, and is accomplished through the passive monitoring of wireless transmissions that are already being produced by such device or monitoring system.

3. Computer Programs—“Unlocking” of Cellphones, Tablets, Mobile Hotspots, or Wearable Devices

Multiple organizations petitioned to renew the exemption for computer programs that operate cellphones, tablets, mobile hotspots, or wearable devices (*e.g.*, smartwatches), to allow connection of a used device to an alternative wireless network (“unlocking”). No oppositions were filed against the petitions seeking to renew this exemption. The petitions demonstrated the continuing need and justification for the exemption, stating that consumers of the enumerated products continue to need to be able to unlock the devices so they can switch network providers. For example, the Institute of Scrap Recycling Industries, Inc. (“ISRI”) stated that its members continue to purchase or acquire donated cell phones and tablets, and try to reuse them, but that wireless carriers still lock devices to prevent them from being used on other carriers. In addition, the petitioners demonstrated personal knowledge and experience with regard to this exemption: Competitive Carriers Association, Owners' Rights Initiative (“ORI”), and ISRI represent companies that rely on the ability to unlock cellphones.

Accordingly, the Acting Register recommends renewal of this exemption and will consider proposed expansions below in the discussion on Proposed Class 5.

4. Computer Programs—“Jailbreaking” of Smartphones, Smart TVs, Tablets, or Other All-Purpose Mobile Computing Devices

Multiple organizations petitioned to renew the exemptions for computer programs that operate smartphones, smart TVs, tablets, or other all-purpose mobile computing devices, to allow the

device to interoperate with or to remove software applications (“jailbreaking”). The petitions demonstrate the continuing need and justification for the exemptions, and that petitioners had personal knowledge and experience with regard to these exemptions. Specifically, the petitions state that, absent the exemptions, TPMs applied to the enumerated products would have an adverse effect on noninfringing uses, such as being able to install third-party applications on a smartphone or to download third-party software on a smart TV to enable interoperability. For example, the Electronic Frontier Foundation’s (“EFF’s”) petition outlined its declarant’s experience searching current mobile computing device markets and technologies, working as a software engineer, and participating in four prior 1201 rulemakings. Similarly, the Libiquity petition was submitted by a person who “work[s] with the operating system and many of the system libraries that lie at the core of the firmware systems of a large majority of smartphones, portable all-purpose mobile computing devices, and smart televisions.” In a brief two-page comment, BSA v The Software Alliance (“BSA”) opposed the readoption of this exemption, asserting that “alternatives to circumvention exist,” and that “jailbreaking can undermine the integrity and security of a platform’s operating system in a manner that facilitates copyright infringement and exposes users to heightened risks of privacy violations.”

In the NPRM, the Office concluded that BSA’s opposition was not sufficient to draw the conclusion that the past rulemaking record is no longer reliable, or that the reasoning adopted in the Register’s 2015 Recommendation cannot be relied upon for the next three-year period. Specifically, the Office stated that BSA’s comment largely re-articulated a general opposition to a jailbreaking exemption, and noted that the past three rulemakings have adopted some form of an exemption for jailbreaking certain types of mobile computing devices. The Office also noted that BSA had failed to identify any specific circumvention alternatives, changes in case law, new technological developments, or new issues that had not already been considered and evaluated in granting the exemption previously.

Accordingly, the Acting Register recommends renewal of this exemption and will consider proposed expansions below in the discussion on Proposed Class 6.

5. Computer Programs—Diagnosis, Repair, and Lawful Modification of Motorized Land Vehicles

Multiple organizations petitioned to renew the exemption for computer programs that control motorized land vehicles, including farm equipment, for purposes of diagnosis, repair, and modification of the vehicle. The petitions demonstrated the continuing need and justification for the exemption to prevent owners of motorized land vehicles from being adversely impacted in their ability to diagnose, repair, and modify their vehicles as a result of TPMs that protect the copyrighted computer programs on the electronic control units (“ECUs”) that control the functioning of the vehicles. Indeed, the Motor & Equipment Manufacturers Association, which during the sixth triennial rulemaking initially opposed any exemption that would impact the software and TPMs in vehicles, now supports the exemption as striking an appropriate balance between encouraging marketplace competition and innovation while mitigating the impact on safety, regulatory, and environmental compliance. The petitioners demonstrated personal knowledge and experience with regard to this exemption; each either represents or gathered information from individuals conducting repairs or businesses that manufacture, distribute, and sell motor vehicle parts, and perform vehicle service and repair.

Accordingly, the Acting Register recommends renewal of this exemption and will consider proposed expansions below in the discussion on Proposed Class 7.

6. Computer Programs—Security Research

Multiple organizations and security researchers petitioned to renew the exemption for purposes of good-faith security research. The petitioners demonstrated the continuing need and justification for the exemption, and personal knowledge and experience with regard to this exemption. For example, Professors Bellovin, Blaze, and Heningler stated that they have conducted their own security research in reliance on the existing exemption, and that they “regularly engage” with other security researchers who have similarly relied on the exemption. They provided an example of a recent computer security conference in which thousands of participants relied on the existing exemption to examine and test electronic voting devices—the results of which were reported to election officials

to improve the security of their voting systems.

Accordingly, the Acting Register recommends renewal of this exemption and will consider proposed expansions below in the discussion on Proposed Class 10.

7. Computer Programs—3D Printers

Michael Weinberg and ORI jointly petitioned to renew the exemption for computer programs that operate 3D printers to allow use of alternative feedstock. No oppositions were filed against readoption of this exemption. The petition demonstrated the continuing need and justification for the exemption, and the petitioners demonstrated personal knowledge and experience, in particular, through Mr. Weinberg’s experience petitioning for the exemption adopted in 2015. In addition, the petition states that printers continue to restrict the use of third-party feedstock, thereby requiring renewal of the exemption.

Accordingly, the Acting Register recommends renewal of this exemption and will consider proposed expansions below in the discussion on Proposed Class 12.

8. Video Games Requiring Server Communication—for Continued Individual Play and Preservation of Games by Libraries, Archives, and Museums

Multiple organizations petitioned to renew the exemption for video games for which outside server support has been discontinued. The petitions stated that individuals still need the exemption to engage in continued play and libraries and museums continue to need the exemption to preserve and curate video games in playable form. In addition, the petitioners demonstrated personal knowledge and experience with regard to this exemption through past participation in the 1201 triennial rulemaking relating to access controls on video games and consoles, and/or representing major library associations with members that have relied on this exemption.

Accordingly, the Acting Register recommends renewal of this exemption and will consider proposed expansions below in the discussion on Proposed Class 8.

9. Audiovisual Uses—Educational and Derivative Uses

Multiple individuals and organizations petitioned to renew the exemption consisting of multiple subparts covering use of short portions of motion pictures for various educational and derivative uses. No

oppositions were filed. Petitions to renew the various subparts of the exemption are discussed below.

9a. Audiovisual Uses—Educational Uses—Colleges and Universities

Multiple individuals and organizations petitioned to renew the exemption's subpart covering use of motion picture clips for educational uses by college and university instructors and students (codified at 37 CFR 201.40(b)(1)(iv) (2016)). No oppositions were filed against re adoption. The petitions demonstrated the continuing need and justification for the exemption, and personal knowledge and experience with regard to the exempted use. For example, Professors Decherney, Sender, and Carpini, the Department of Communications at the University of Michigan ("DCSUM"), the International Communication Association ("ICA"), the Society for Cinema and Media Studies ("SCMS"), the American Association of University Professors ("AAUP"), and the Library Copyright Alliance ("LCA") stated that courses on video essays (or multimedia or videographer criticism), now taught at many universities, would not be able to exist without relying on this exemption. Similarly, Professor Hobbs, who represents more than 17,000 digital and media literacy educators, and the National Association for Media Literacy Education ("NAMLE"), an organization devoted to media literacy with more than 3,500 members, stated that teachers must sometimes circumvent a DVD protected by the Content Scramble System ("CSS") when screen-capture software or other non-circumventing alternatives are unable to produce the required level of high-quality content.

9b. Audiovisual Uses—Educational Uses—Primary and Secondary Schools (K–12)

Multiple organizations petitioned to renew the exemption's subparts covering use of motion picture clips for educational uses by K–12 instructors and students. No oppositions were filed against re adoption. The petitions demonstrated the continuing need and justification for the exemption, stating that K–12 instructors and students continue to rely on excerpts from digital media for class presentations and coursework, and must sometimes use screen-capture technology. In addition, the petitioners demonstrated personal knowledge and experience with regard to this exemption through representation of thousands of digital and literacy educators and/or members supporting K–12 instructors and students, combined with past

participation in the section 1201 triennial rulemaking.

9c. Audiovisual Uses—Educational Uses—Massive Open Online Courses ("MOOCs")

Professors Decherney, Sender, and Carpini, DCSUM, ICA, SCMS, and LCA petitioned to renew the exemption's subpart covering use of motion picture clips for educational uses in MOOCs. No oppositions were filed against re adoption. The petition demonstrated the continuing need and justification for the exemption, stating that instructors continue to rely on the exemption to develop, provide, and improve MOOCs, as well as increase the number of (and therefore access to) MOOCs in the field of film and media studies. For example, the declarant, Professor Decherney, demonstrated personal knowledge by describing his reliance on the exemption to teach MOOCs on film and media studies.

9d. Audiovisual Uses—Educational Uses—Educational Programs Operated by Libraries, Museums, and Other Nonprofits

Multiple organizations petitioned to renew the subpart of the exemption covering use of motion picture clips for educational uses in digital and literacy programs offered by libraries, museums, and other nonprofits. No oppositions were filed against re adoption. The petitions demonstrated the continuing need and justification for the exemption, and demonstrated personal knowledge and experience with regard to the exempted use. For example, LCA stated that librarians across the country have relied on the current exemption and will continue to do so for their digital and literacy programs. In addition, Professor Hobbs and NAMLE stated that librarians will continue to rely on the exemption for their digital and literacy programs, and to advance the digital media knowledge of their patrons.

9e. Audiovisual Uses—Derivative Uses—Multimedia E-Books Offering Film Analysis

A professor and two organizations collectively petitioned to renew the subpart of the exemption covering the use of motion picture clips for multimedia e-books offering film analysis. No oppositions were filed against re adoption. The petition demonstrated the continuing need and justification for the exemption, attesting that the availability of video necessary for authors to undertake film analysis in e-books continues to be limited to formats encumbered by technological

protection measures. In addition, the petitioners demonstrated personal knowledge through Professor Buster's continued work on an e-book series based on her lecture series, "Deconstructing Master Filmmakers: The Uses of Cinematic Enchantment," and Authors Alliance's feedback that its members continue to desire authoring e-books that incorporate film for the purpose of analysis.

9f. Audiovisual Uses—Derivative Uses—Documentary Filmmaking

Multiple organizations petitioned to renew the subpart of the exemption covering the use of motion picture clips for uses in documentary films. No oppositions were filed against re adoption. The petitions summarized the continuing need and justification for the exemption, and the petitioners demonstrated personal knowledge and experience with regard to the exempted use. For example, Film Independent ("FI"), the International Documentary Association ("IDA"), Kartemquin Educational Films, Inc. ("KEF"), the Center for Independent Documentary ("CID"), and Women in Film and Video ("WIFV") stated that TPMs such as encryption continue to prevent filmmakers from accessing needed material in a sufficiently high quality to satisfy demands of distributors and viewers. Petitioners state that they personally know many filmmakers who have found it necessary to rely on this exemption, and will continue to do so.

9g. Audiovisual Uses—Derivative Uses—Noncommercial Remix Videos

Two organizations petitioned to renew the subpart of the exemption covering the use of motion picture clips for uses in noncommercial videos. No oppositions were filed against re adoption. The petitions demonstrated the continuing need and justification for the exemption, and the petitioners demonstrated personal knowledge and experience with regard to the exempted use. For example, the Organization for Transformative Works ("OTW") has advocated for the noncommercial video exemption in past triennial rulemakings, and has heard from a number of noncommercial remix artists who have used the exemption and anticipate needing to use it in the future. Similarly, New Media Rights ("NMR") stated that it has spoken to a number of noncommercial video creators who have relied on this exemption, and intend to do so in the future.

Accordingly, the Acting Register recommends renewal of this exemption, including all of its subparts, and will

consider proposed expansions below in the discussion on Proposed Class 1.

B. New or Expanded Designations of Classes

Based upon the record in this proceeding regarding proposed expansions to existing exemptions or newly proposed exemptions, the Acting Register recommends that the Librarian determine that the following classes of works be exempt from the prohibition against circumvention of technological measures set forth in section 1201(a)(1):

1. Proposed Class 1: Audiovisual Works—Criticism and Comment⁴⁴

Several petitions sought expansion of the existing exemption for circumvention of access controls protecting “short portions” of motion pictures on DVDs, Blu-Ray discs, and digitally transmitted video for purposes of criticism and comment by various users, including creators of noncommercial videos, college and university faculty and students, faculty of MOOCs, documentary filmmakers, and for nonfiction multimedia e-books offering film analysis. With the exception of one petition, proponents sought to keep the limitation to circumvention for uses of “short portions” of motion pictures, which the Register has previously found to be “integral” in recommending the current exemption. The proposed expansions implicate the same types of TPMs regardless of proposed noninfringing use, namely CSS-protected DVDs, AACS-protected Blu-ray discs, and various TPMs applicable to online distribution services. Because the new proposals raised some shared concerns, including the impact of TPMs on the alleged noninfringing uses of motion pictures and whether alternative methods of accessing the content could alleviate potential adverse impacts, the Office grouped these petitions into one class. This approach also accounted for a petition which proposed an “overarching exemption that would embrace multiple audiovisual classes” and collapse (essentially) all of the subparts in the existing exemption to eliminate limitations on the types of user or use—and instead allow circumvention so long as the purpose is for criticism and comment.

Screen-Capture Technology

For several of the activities it covers, the current exemption expressly permits the use of screen-capture technology

and also allows circumvention only where the user “reasonably believes that screen-capture software or other non-circumventing alternatives are unable to produce the required level of high-quality content.” Here, proponents sought to remove references to screen-capture technology, arguing that it is not a viable alternative because it does not permit the proposed uses, or else results in degraded-quality (and thus unusable) content. Others contended that the dual references to screen-capture technology are confusing. In response, opponents argued that screen-capture technology remains an adequate alternative to circumvention.

In the 2015 rulemaking, the Register concluded that certain uses of motion picture clips for criticism and comment do not require access to higher-quality content, and that screen-capture technology may be an alternative to circumvention—but that it can be unclear to users as to whether screen-capture technology may in fact involve circumvention. Accordingly, in this rulemaking the Acting Register recommended retaining a screen-capture provision for these categories to address the possibility of circumvention when using this technology. In addition, the Acting Register found it appropriate to continue to distinguish between purposes requiring high-quality motion picture clips and more general purposes that do not.

AACS2 Technology

Opponents argued that the exemption should not be expanded to include AACS2 technology, which is employed to protect ultra-high-definition or “4K” content distributed on Ultra HD Blu-ray discs. Opponents maintained that none of the petitions expressly sought extension to AACS2, and that the current exemption does not extend to AACS2 on Ultra HD Blu-ray discs, as that technology did not exist at the time of the 2015 rulemaking. In response, proponents asserted that the Acting Register should extend the proposed exemption to AACS2 technology because although AACS2 is different in form, it is fundamentally the same in function.

The Acting Register found the record insufficient to support extending the proposed class to AACS2. Her analysis of this proposed exemption thus addressed only TPMs employed on DVDs and Blu-ray discs, and by various online streaming services to protect motion pictures.

a. Single Overarching Exemption for Purposes of Comment and Criticism

EFF, NMR, and OTW proposed permitting circumvention to make use of motion picture excerpts so long as the purpose is for criticism and comment. They did not provide specific examples of proposed noninfringing uses or analyze such proposed uses under the 1201 statutory factors, but rather focused on “the value of adopting a simple overarching exemption that would embrace multiple audiovisual classes” for purposes of criticism and comment. EFF, NMR, and OTW asserted that the existing language is “practically unreadable” due to their complexities, and “a challenge for clients and attorneys alike to apply in practice.”

Opponents contended that the petition to create a single overarching exemption overstates the complexity of the existing exemption, and that the proposed expansion would eliminate carefully drawn distinctions among potential users of motion picture content. Opponents also asserted that to be appropriately narrow, exemptions should identify the specific persons who will be adversely affected in their abilities to make noninfringing uses by the section 1201 prohibition.

NTIA opposed the removal of all limitations on the types of user or use, concluding that “eliminating all of the categories of specific users . . . would stray too far from the statutory requirement of specificity.”

The Acting Register declined to recommend adopting EFF, NMR, and OTW’s proposed language, finding it overly broad for purposes of section 1201, and inconsistent with the rulemaking record upon which the current exemption has been adopted. She noted that courts evaluate fair use claims on a case-by-case basis, and the context in which use of the work is being made is part of that inquiry (*e.g.*, commercial versus noncommercial use). She found that the proposed language would eliminate these legally important distinctions.

b. Universities and K–12 Educational Institutions

BYU filed a petition to create a single consolidated exemption that would permit circumvention for nonprofit educational purposes in accordance with sections 110(1) and 110(2) of the Copyright Act. BYU proposed eliminating the “criticism and comment” limitation, references to screen-capture technology, and distinctions based on education level and type of educational course.

Opponents argued that although section 110(1) allows certain public

⁴⁴ The Acting Register’s analysis and conclusions for this class, including citations to the record and relevant legal authority, can be found in the Recommendation at 31–89.

performances of complete motion pictures in classrooms without obtaining licenses, it does not allow those performances to be made from unauthorized copies. Opponents also noted that sections 110(1) and 110(2) provide exceptions only to the public performance and display rights, not to the rights of reproduction or distribution, and that therefore they would not fully cover the proposed uses, which involve making and “librarying” copies of full-length films.

NTIA recommended allowing circumvention for colleges and universities to make use of entire motion pictures. In its view, the storage of a copy “in a central secured server available only for transmission to the institution’s classrooms” is “not fundamentally different from the uses allowed by the existing exemption” for purposes of analyzing whether the activity is a fair use.

The Acting Register concluded that section 110 cannot, by itself, establish that BYU’s proposed activities are noninfringing because any performances of motion pictures under sections 110(1) and 110(2) must originate from lawfully acquired copies. The Acting Register thus evaluated whether the copies made and used to facilitate the proposed motion picture performances were themselves noninfringing under section 112(f) and/or the fair use doctrine. The Acting Register determined that on its face, section 112(f) does not permit nonprofit educational institutions to make copies to facilitate performances under section 110(1). She found, however, that section 112(f) does support a conclusion that making and temporarily storing digital copies of motion pictures to perform “reasonable and limited portions” in distance teaching would be noninfringing, assuming the other requirements of section 110(2) are met. But she determined that such activity appears to be already covered by the existing exemption.

Regarding the use of short motion picture clips in face-to-face teaching, the Acting Register concluded that the record demonstrates that a significant number of the proposed uses are likely to be fair, such as using short film clips to create compilations from foreign language films with and without subtitles. By contrast, based on the relevant case law, the Acting Register could not conclude as a general matter that the contemplated uses of full-length motion pictures are likely to be fair. She found that DVD and Blu-ray players are still widely available on the market and that extending the exemption to such uses could undermine the value of the

market for works in those formats. She noted that, although institutions may incur a cost in re-purchasing digital versions of audiovisual works, the section 1201 exemption process is not meant to guarantee consumers the ability to access content through their preferred method or format.

Ultimately, the Acting Register recommended an expansion that allows K–12 and university faculty and students to engage with motion picture excerpts of high quality in contexts other than courses requiring close analysis of film excerpts, as well as for teaching or scholarship more generally. Based upon additional examples provided in this rulemaking cycle, the Acting Register recommended that the exemption retain the requirement that a person must reasonably believe that non-circumventing alternatives are unworkable, but remove the references to “film studies or other courses requiring close analysis” and eliminate distinctions between K–12 and universities and colleges, as well as between faculty and students. The Acting Register recommended, however, that the exemption require K–12 students to act under the direct supervision of K–12 educators.

c. Massively Open Online Courses (“MOOCs”)

Professors Decherney, Sender, Carpini, and DCSUM requested an expansion to allow faculty of MOOCs to circumvent for “all online courses” (*i.e.*, remove the limitation to “film studies or other courses requiring close analysis of film and media excerpts”), and for MOOCs offered by unaccredited and for-profit educational institutions. They maintained that without expanding the exempted use of MOOCs, there would be no ability for unaccredited, for-profit, or for-credit online educational offerings to use motion picture clips in MOOCs without licensing. They also argued that because the motion picture clips in this context would be used exclusively for educational purposes, such use would be unlikely to harm the market for motion pictures.

Opponents argued that proponents failed to support their assertion that including for-profit and unaccredited educational institutions likely constitutes fair use, and that the record lacked any examples of for-profit or unaccredited educational institutions wanting, but unable, to offer MOOCs, suggesting the expansion would cover only speculative uses.

Based on its review of the record, NTIA recommended expansion to for-profit educational institutions, but not to unaccredited educational institutions.

The Acting Register concluded that the record lacked examples sufficient to evaluate or recommend expansion to for-profit or unaccredited educational institutions, and did not demonstrate that section 1201 is inhibiting the use of motion pictures in online education offered by for-profit and/or unaccredited educational institutions. The Acting Register also found that proponents’ broadly framed proposal seeking to encompass “all online courses” would seemingly encompass any online video that could be characterized as an educational experience. The Register therefore recommended that the MOOCs language from the existing exemption be readopted without substantive changes.

d. Filmmaking

FI, IDA, and KEF sought expansion of the current exemption to permit circumvention for use of motion picture clips in all types of films (*i.e.*, remove the “documentary” limitation), a request rejected by the Register in 2015. Proponents argued that the exemption should be expanded because defining a “documentary” film is difficult, as many films that are not traditionally classified as a “documentary” use motion picture excerpts to engage in educational and social commentary. Proponents also asserted that many filmmakers do not know whether they are permitted to use the exemption.

The 2015 rulemaking identified fair use as the noninfringing basis for this exemption, and the Acting Register evaluated the proposed expansion on the same grounds. Proponents provided multiple examples of non-documentary films using short motion picture clips for parody or for the clip’s biographical or historical significance, ostensibly to provide criticism or commentary. Proponents also disputed that either clips created using non-circumventing screen capture technology, or clips obtained via licensing are viable alternatives for the proposed uses, and argued that expansion of the exemption to non-documentaries would not affect the market for motion pictures.

Opponents maintained that proponents failed to develop a record of likely noninfringing uses to support extension of the exemption to non-documentary films. Opponents also argued that the proposed uses would negatively impact the clip licensing market for motion pictures, and that licenses are readily available for using short portions of motion pictures. Opponents further contended that screen-capture technologies serve as valid alternatives to circumvention.

NTIA concluded that the existing exemption should be expanded to all

films. It maintained that the record supports a finding that in many instances the use of short portions of motion pictures is likely a noninfringing fair use and that opponents failed to demonstrate the expansion to non-documentaries would cause market harm.

Based on the extensive record, the Acting Register recommended that the existing exemption for documentary films be expanded to include a subset of fictional (*e.g.*, narrative) films for purposes of criticism and comment, where the clip is used for parody or its biographical or historically significant nature. She concluded this limitation would best reflect the examples in the record, many of which appear to involve the use of clips for purposes of criticism and comment, while preserving the requirement that filmmakers continue to seek authorization before using excerpts for general storytelling uses. The Acting Register found that the use of small portions of films for these purposes is consistent with principles of fair use and is unlikely to supplant the market for motion pictures, but cautioned that filmmakers would continue to need to obtain authorization for uses of clips outside of these uses.

e. Multimedia E-Books

The Authors Alliance, AAUP, OTW, the Interactive Fiction Technology Foundation, and Professor Buster (collectively, “Authors Alliance et al.”) sought expansion of the current exemption to permit circumvention for use of motion picture clips in all nonfiction multimedia e-books by removing the “offering film analysis” limitation. Authors Alliance et al. also sought expansion to fictional multimedia e-books and removal of references to screen-capture technology.

The 2015 rulemaking identified fair use as the noninfringing basis for this exemption, and the proposed expansion was evaluated on the same grounds. Proponents asserted that the uses of clips for comment or criticism in nonfiction multimedia e-books beyond those offering film analysis, as well as fictional multimedia e-books, are transformative and thus fair. Proponents also argued that expansion will not negatively impact the market for or value of copyrighted works. Proponents asserted that screen capture is an inadequate alternative to circumvention and that licensing remains an unworkable alternative due to high fees, difficulties in locating the rightsholders, and the delays caused by protracted negotiations.

In response, opponents argued that the record lacked evidence of actual use

of a motion picture clip in a fictional e-book or in an “other nonfiction” e-book, and that in the absence of actual use, evaluating the proposal is all but impossible. Regarding nonfictional uses, opponents asserted that many of the alleged additional uses would qualify under the current “film analysis” limitation. As to fictional uses, opponents maintained that the creation of fan fiction multimedia e-books would frequently infringe the right to prepare derivative works. Opponents also asserted that as with the proposed filmmaking expansion, there will be harm to the clip licensing market if the proposed e-books uses are exempted.

NTIA recommended expanding the exempted use to include all nonfiction multimedia e-books (*i.e.*, eliminating the “offering film analysis” limitation), but did not recommend expansion to fictional multimedia e-books.

The Acting Register found that the record failed to establish that the proposed uses in fictional e-books would likely be noninfringing, and thus she did not recommend expanding the exemption to such works. She did find, however, that the record supported expansion to all nonfiction multimedia e-books. Such an expansion, she concluded, is unlikely to harm, and may increase, the availability of copyrighted works. In addition, the Acting Register found that the proposed uses will facilitate criticism, comment, teaching and/or scholarship, and that they are unlikely to substitute for the original work in the marketplace.

f. Conclusion for Class 1

Accordingly, the Acting Register recommends that the Librarian adopt the following exemption:

Motion pictures (including television shows and videos), as defined in 17 U.S.C. 101, where the motion picture is lawfully made and acquired on a DVD protected by the Content Scramble System, on a Blu-ray disc protected by the Advanced Access Content System, or via a digital transmission protected by a technological measure, and the person engaging in circumvention under paragraph (b)(1)(i) and (b)(1)(ii)(A) and (B) of this section reasonably believes that non-circumventing alternatives are unable to produce the required level of high-quality content, or the circumvention is undertaken using screen-capture technology that appears to be offered to the public as enabling the reproduction of motion pictures after content has been lawfully acquired and decrypted, where circumvention is undertaken solely in order to make use of short portions of the motion pictures in the following instances:

(i) For the purpose of criticism or comment:

(A) For use in documentary filmmaking, or other films where the motion picture clip is

used in parody or for its biographical or historically significant nature;

(B) For use in noncommercial videos (including videos produced for a paid commission if the commissioning entity’s use is noncommercial); or

(C) For use in nonfiction multimedia e-books.

(ii) For educational purposes:

(A) By college and university faculty and students or kindergarten through twelfth-grade (K–12) educators and students (where the K–12 student is circumventing under the direct supervision of an educator), including of accredited general educational development (GED) programs, for the purpose of criticism, comment, teaching, or scholarship;

(B) By faculty of massive open online courses (MOOCs) offered by accredited nonprofit educational institutions to officially enrolled students through online platforms (which platforms themselves may be operated for profit), in film studies or other courses requiring close analysis of film and media excerpts, for the purpose of criticism or comment, where the MOOC provider through the online platform limits transmissions to the extent technologically feasible to such officially enrolled students, institutes copyright policies and provides copyright informational materials to faculty, students, and relevant staff members, and applies technological measures that reasonably prevent unauthorized further dissemination of a work in accessible form to others or retention of the work for longer than the course session by recipients of a transmission through the platform, as contemplated by 17 U.S.C. 110(2); or

(C) By educators and participants in nonprofit digital and media literacy programs offered by libraries, museums, and other nonprofit entities with an educational mission, in the course of face-to-face instructional activities, for the purpose of criticism or comment, except that such users may only circumvent using screen-capture technology that appears to be offered to the public as enabling the reproduction of motion pictures after content has been lawfully acquired and decrypted.

2. Proposed Class 2: Audiovisual Works—Accessibility⁴⁵

Proposed Class 2 would allow circumvention of technological measures protecting motion pictures (including television shows and videos) on DVDs, Blu-ray discs, and via digital transmissions, for disability services professionals at educational institutions to create accessible versions for students with disabilities by adding captions and/or audio description.⁴⁶ Proponents

⁴⁵ The Acting Register’s analysis and conclusions for this class, including citations to the record and relevant legal authority, can be found in the Recommendation at 89–111.

⁴⁶ “Captioning” is “the process of converting the audio content” of audiovisual material, such as a motion picture, “into text and displaying the text on a screen, monitor, or other visual display system.” Nat’l Ass’n of the Deaf, *What is*

explained that nearly all educational institutions are subject to disability laws such as the Americans With Disabilities Act (“ADA”), section 504 of the Rehabilitation Act (“Section 504”), and the Individuals With Disabilities Education Act (“IDEA”), which require accommodations for students with disabilities. Proponents maintained that creating accessible versions by adding captions and/or audio description is necessary because inaccessible motion pictures remain prevalent in the video industry, and copyright owners fail to retroactively make motion pictures accessible or grant permission to disability services offices to make those works accessible, even when contacted directly.

Proponents asserted that adding captions and/or audio description to motion pictures for the purpose of making them accessible to students with disabilities constitutes fair use based on the legislative history of section 107. Proponents also argued that viable alternatives to circumvention do not exist, and that not allowing circumvention will negatively affect the market for the copyrighted motion pictures because educational institutions will not use content that they cannot easily convert into an accessible format.

In response, opponents noted that while accessibility is an important issue, the proposed class was too broad because it did not take into account the extent to which DVDs and Blu-ray discs already include closed captions and audio description. They argued that the result of altering a motion picture—such as by adding captioning and/or audio description—is likely a derivative work that involves a creative interpretation of the underlying work. Opponents generally contended that the wide availability of versions with captioning and/or audio description already in the market constitutes a viable alternative to circumvention.

NTIA recommended that the proposed exemption allow “disability services offices and equivalent units” to “circumvent TPMs on audiovisual works in educational settings to add accessibility features” to motion

pictures, including “through the provision of closed and open captions and audio description.” In agreement with the Acting Register, NTIA believes that the exemption should apply “regardless of grade level” of the student, and apply to both nonprofit and for-profit educational institutions required to make motion pictures accessible to students under disability laws.

The Acting Register concluded that an exemption should be granted, with a few adjustments to the language outlined in the petition. She recommended that the exemption permit circumvention where the accessible version is created as a necessary accommodation for a student or students with disabilities under a federal or state disability law, such as the ADA, IDEA, or Section 504. In addition, the Acting Register recommended that the exemption apply to for-profit and nonprofit educational institutions, as well as to K–12 institutions, colleges, and universities, because they are subject to such disability laws. The Acting Register also recommended that the exemption allow circumvention only after the educational institution has conducted a reasonable market check and determined that an accessible version is not available, not available at a fair price, or not available in a timely way. The record suggested that these searches are already occurring, and that regardless of whether a decision is made to create an accessible version, outsource the creation of an accessible version, or purchase an accessible version, the educational institution would incur a cost. In this way, the market check requirement seeks to prevent copies being made of works already available in accessible formats, while encouraging the motion picture industry to further expand the availability of accessible versions in the marketplace. Finally, the recommended exemption requires the accessible versions to be provided to students and stored by the educational institution in a manner that reasonably prevents unauthorized further dissemination of the work.

Accordingly, the Acting Register recommends that the Librarian adopt the following exemption:

(i) Motion pictures (including television shows and videos), as defined in 17 U.S.C. 101, where the motion picture is lawfully acquired on a DVD protected by the Content Scramble System, on a Blu-ray disc protected by the Advanced Access Content System, or via a digital transmission protected by a technological measure, where:

(A) Circumvention is undertaken by a disability services office or other unit of a kindergarten through twelfth-grade educational institution, college, or university engaged in and/or responsible for the provision of accessibility services to students, for the purpose of adding captions and/or audio description to a motion picture to create an accessible version as a necessary accommodation for a student or students with disabilities under an applicable disability law, such as the Americans With Disabilities Act, the Individuals with Disabilities Education Act, or Section 504 of the Rehabilitation Act;

(B) The educational institution unit in paragraph (b)(2)(i)(A) of this section has, after a reasonable effort, determined that an accessible version cannot be obtained at a fair price or in a timely manner; and

(C) The accessible versions are provided to students or educators and stored by the educational institution in a manner intended to reasonably prevent unauthorized further dissemination of a work.

(ii) For purposes of this paragraph (b)(2), “audio description” means an oral narration that provides an accurate rendering of the motion picture.

3. Proposed Class 5: Computer Programs—Unlocking⁴⁷

Proposed Class 5 would expand an existing exemption for activity known as “unlocking,” that is, circumvention of access controls on computer programs for the purpose of enabling a wireless device to connect to a different mobile network provider. The Copyright Office has received petitions to permit the unlocking of cellphones since 2006. In 2015, as directed by the Unlocking Consumer Choice and Wireless Competition Act (“Unlocking Act”),⁴⁸ the Register considered whether to expand the exemption to additional categories of wireless devices. Based on the record in that proceeding, the Register recommended, and the Librarian granted, an exemption covering cellphones, all-purpose tablet computers, portable mobile connectivity devices such as mobile hotspots, and wearable devices such as smartwatches or fitness devices.

The current exemption also is limited to used devices, *i.e.* those previously activated on a wireless carrier. First adopted in 2010, this limitation was implemented in response to concerns raised by wireless carriers engaged in the business of selling cellphones at substantially discounted prices and recouping that investment through the sale of prepaid wireless service. These companies feared that including new

Captioning?, NAD.ORG, <https://www.nad.org/resources/technology/captioning-for-access/what-is-captioning/> (last visited Oct. 2, 2018). By contrast, “audio description” is a narration added to the soundtrack of audiovisual material, such as a motion picture, to describe significant visual details (*e.g.*, descriptions of new scenes, settings, costumes, body language) for individuals with sight impairments. Am. Council of the Blind, *The Audio Description Project*, ACB.ORG, <http://www.acb.org/adp/ad.html> (last visited Oct. 2, 2018). Audio description may also be referred to as “video description” or “descriptive narration.” *Id.*

⁴⁷ The Register’s analysis and conclusions for this class, including citations to the record and relevant legal authority, can be found in the Recommendation at 145–63.

⁴⁸ Public Law 113–144, 128 Stat. 1751 (2014).

phones in the class could foster illegal trafficking activity, which involves “the bulk purchase of unused handsets that have been offered for sale at subsidized prices . . . and then unlocking and reselling those unlocked handsets for a profit.”⁴⁹

In this proceeding, ISRI petitioned for expansions that would (1) remove the enumerated device categories and instead permit circumvention to unlock “any wireless device”; and (2) eliminate the requirement that a wireless device be “used.” As to the limitation on devices, proponents argued that the owner of any connected device should be able to transfer it to the carrier of his or her choice. Proponents warned that the rapid pace of innovation within the Internet of Things industry makes it impossible to predict the specific categories of wireless devices that consumers may need to unlock. Regarding the “used” limitation, proponents argued that illegal trafficking does not implicate copyright interests and that concerns about such activity therefore are outside the proper scope of this rulemaking. Proponents further suggested that, in contrast to 2015, there now exists a need to unlock unused devices, offering examples of corporations acquiring excess devices that are never activated but that they later seek to recycle. The Office received no comments opposing either of these requested expansions.

NTIA recommended granting both aspects of the petition. As it did in 2015, NTIA concluded that “proponents have provided sufficient evidence to demonstrate that circumvention of TPMs on all lawfully acquired wireless devices is a noninfringing use.” In its view, the statutory prohibition “limits consumer choice of wireless network providers, limits recyclers’ ability to recycle or resell wireless devices, and limits competition between wireless network providers.” NTIA also concluded that proponents met their burden with respect to unused devices, pointing to evidence that since 2015, “business practices have changed, resulting in a need for bulk and individual unlocking of new wireless devices.” NTIA proposes replacing the term “used” in the exemption with the phrase “lawfully acquired.”

The Acting Register recommended expanding the exemption to unused devices falling within the categories listed in the current exemption. She concluded that unlocking such devices is likely noninfringing under section 117(a) of the Copyright Act for the same reasons noted in the 2015

Recommendation with respect to used devices. She further found that unlocking such devices is likely a fair use, regardless of whether the devices are new or used. With respect to potential cellphone trafficking, the Acting Register found that although such activity limits the network provider’s ability to sell devices at a discount, there were no allegations relating to trafficking raised in this proceeding, and it is not clear that the economic harm caused by that activity affects the value of the computer programs allowing devices to connect to wireless networks. She further noted that other causes of action, such as unfair competition or unjust enrichment, may be available to address injury to non-copyright interests. In addition, the Acting Register concluded that absent an exemption, users are likely to be adversely affected in their ability to unlock unused devices of these types. She found that extending the exemption to such devices will increase the availability of the software within them and that the record lacked evidence that doing so would harm the market for copyrighted works.

The Acting Register therefore recommended removal of the provision in the current exemption requiring that a covered device be “used.” Consistent with NTIA’s recommendation, she proposed adding language requiring that such a device be “lawfully acquired.” Because the regulations implementing the Unlocking Act already require that circumvention under this exemption be initiated by the “owner” of the relevant device or by a person or service provider at the direction of the owner, the Acting Register views this as a technical, rather than a substantive, change.⁵⁰

The Acting Register determined, however, that the record was insufficient to support expanding the exemption to additional types of wireless devices. As in 2015, she found the record too sparse to support a finding that unlocking wireless devices of all types is likely to be a fair use. Proponents did provide evidence regarding three specific categories of devices: Home security devices, agricultural equipment, and vehicle GPS trackers. Based on the record, the Acting Register concluded that these devices are similar to those covered by the current exemption in relevant respects, and that unlocking them therefore is likely to be a fair use. But she concluded that proponents failed to establish that they are, or are likely to be, adversely affected by section 1201 in their ability

to unlock these types of devices. Proponents did not demonstrate that it would be possible to connect these devices to an alternate wireless network even if an exemption were granted. The Acting Register thus found that they failed to carry their burden to show actual or likely adverse effects resulting from the bar on circumvention. She therefore declined to recommend removal of the exemption’s enumerated device categories.

Accordingly, the Acting Register recommends that the Librarian adopt the following exemption:

Computer programs that enable the following types of lawfully acquired wireless devices to connect to a wireless telecommunications network, when circumvention is undertaken solely in order to connect to a wireless telecommunications network and such connection is authorized by the operator of such network:

- (i) Wireless telephone handsets (*i.e.*, cellphones);
- (ii) All-purpose tablet computers;
- (iii) Portable mobile connectivity devices, such as mobile hotspots, removable wireless broadband modems, and similar devices; and
- (iv) Wearable wireless devices designed to be worn on the body, such as smartwatches or fitness devices.

4. Proposed Class 6: Computer Programs—Jailbreaking⁵¹

Proposed Class 6 would expand an existing exemption for activity known as “jailbreaking”—that is, the process of gaining access to the operating system of a computing device to install and execute software that could not otherwise be installed or run on that device, or to remove pre-installed software that could not otherwise be uninstalled. An existing exemption permits the jailbreaking of smartphones and portable all-purpose mobile computing devices. In this proceeding, EFF filed a petition seeking to expand the current exemption by: (1) Adding voice assistant devices, such as the Amazon Echo and Google Home, to the categories of devices covered by the exemption; and (2) allowing jailbreaking not only to install, run, or remove software, but also for the purpose of enabling or disabling hardware features of the relevant device.

In proponents’ view, the fair use analysis relied upon by the Register in recommending the previous jailbreaking exemptions is equally applicable in the context of voice assistant devices. Moreover, regarding the 1201 statutory factors, proponents argued that a

⁵¹ The Acting Register’s analysis and conclusions for this class, including citations to the record and relevant legal authority, can be found in the Recommendation at 163–85.

⁴⁹ 2015 Recommendation at 145.

⁵⁰ 37 CFR 201.40(c) (2016).

jailbreaking exemption will have either no effect or a positive effect on the availability of copyrighted firmware and application software.

Opponents principally argued that jailbreaking is likely to enable voice assistant devices to access pirated content. Opponents asserted that piracy concerns are greater in the context of voice assistant devices than in that of other devices, as the former are relatively simple devices that do not incorporate the same “hardware and software complexity” that exists in personal computers, and therefore they provide more limited security options. Opponents further suggested that jailbreaking would facilitate the installation of counterfeit apps and apps that enable unauthorized access to copyrighted content. Opponents challenged the contention that jailbreaking is necessary to promote the development of new applications.

NTIA recommended granting the exemption in the form requested by proponents.

It agreed that jailbreaking voice assistant devices is unlikely to harm the market for copyrighted works, noting that there is no evidence of market harm for the devices covered by the current exemption. NTIA rejected opponents’ argument about unauthorized access to entertainment content on the ground that it “fail[s] to explain why infringement is more likely on voice assistant platforms than on smartphones, tablets, and other devices already subject to the exemption.” NTIA further concluded that proponents had demonstrated that users in this class are adversely affected by the statutory prohibition.

The Acting Register found that proponents met their burden of showing that jailbreaking voice assistant devices within the meaning of the current exemption is likely to be a fair use. She concluded that the record failed to show that the prior jailbreaking exemptions have harmed the market for firmware in smartphones or all-purpose mobile devices, and that nothing in the record suggests that a different conclusion is warranted for voice assistant devices. Additionally, the Acting Register found the record insufficient to establish that an expanded exemption is likely to harm the market for copyrighted works streamed to voice assistant devices. While acknowledging that piracy of streamed content is a highly significant concern, the evidence was insufficient to conclude that allowing jailbreaking of voice assistant devices created a greater risk of unauthorized access to streaming content than exists with respect to other devices, and suggested that subscription

streaming services typically control access to their content with TPMs separate from those protecting the firmware. The Acting Register thus recommended adoption of an exemption authorizing the jailbreaking of voice assistant devices, which must be “designed to take user input primarily by voice.” The recommended exemption excludes video game consoles, set-top boxes, DVD and Blu-Ray players, and similar devices that typically are operated using buttons. To address opponents’ serious concerns over the potential use of jailbroken devices as platforms for unauthorized content, the Acting Register recommended including language expressly excluding circumvention undertaken for purpose of accessing such material.

Accordingly, the Acting Register recommends that the Librarian adopt the following exemption:

Computer programs that enable voice assistant devices to execute lawfully obtained software applications, where circumvention is accomplished for the sole purpose of enabling interoperability of such applications with computer programs on the device, or to permit removal of software from the device, and is not accomplished for the purpose of gaining unauthorized access to other copyrighted works. For purposes of this paragraph (b)(8), a “voice assistant device” is a device that is primarily designed to run a wide variety of programs rather than for consumption of a particular type of media content, is designed to take user input primarily by voice, and is designed to be installed in a home or office.

5. Proposed Class 7: Computer Programs—Repair⁵²

Several organizations petitioned to expand the current exemption allowing for circumvention of access controls controlling the functioning of motorized land vehicles for purposes of diagnosis, repair, or lawful modification of a vehicle function to allow an additional range of activities. The Office synthesized these suggestions into Proposed Class 7. Although the commenters’ proposals varied in scope, and there was no singular unified proposed exemption, the Acting Register grouped them into the following four categories:

(1) Removing the current limitation prohibiting circumvention of TPMs to access computer programs primarily designed for the control of vehicle telematics and entertainment systems;

(2) expanding the exemption to apply to other types of software-enabled devices,

including appliances, computers, toys, and other Internet of Things devices;

(3) extending the exemption to allow circumvention by third-party service providers, and in particular, independent vehicle repair shops, for purposes of diagnosis, repair, and lawful modification; and

(4) allowing the acquisition, use, and dissemination of circumvention tools in furtherance of diagnosis, repair, and modification.

The Acting Register first considered proposed expansions within the context of motorized land vehicles, and then addressed expansion of the exemption to other types of devices.

Regarding motorized land vehicles, proponents asserted that diagnosis, repair, and lawful modification of vehicle telematics and entertainment systems are fair uses and noninfringing under section 117. Proponents contended that, because these systems are increasingly integrated with functional vehicle firmware, access is necessary to engage in diagnosis, repair, and lawful modification of vehicle functions—activities the Register found to be likely noninfringing in recommending the existing exemption. Proponents sought access to telematics systems in order to obtain diagnostic data for the same purposes. Proponents asserted that vehicle firmware is “effectively useless” outside of the vehicle, with essentially no separate market for the software apart from the vehicles. In addition, proponents suggested users should be permitted to access “storage capacity” in vehicle entertainment systems, and to repair infotainment/entertainment modules.

In response, opponents contended that the proposed activities are not favored under fair use because access to entertainment and telematics systems could allow unauthorized access to expressive content. Opponents asserted that telematics and entertainment firmware have value apart from a vehicle, and may be paid for on a continuing basis separate from the vehicle purchase. Opponents also argued that circumvention of telematics is unnecessary because diagnostic data is still available through the onboard diagnostics port and, further, a nationwide Memorandum of Understanding requires manufacturers to make this data available to vehicle owners and independent repair shops.

Commenters seeking to expand the exemption to allow diagnosis, repair, and modification of other software-enabled devices likewise asserted that these activities are noninfringing under the fair use doctrine and section 117. The Acting Register considered these

⁵² The Acting Register’s analysis and conclusions for these classes, including citations to the record and relevant legal authority, can be found in the Recommendation at 185–231.

arguments for those types of devices cognizably reflected in the record, namely home appliances, smartphones, video game consoles, computers and ancillary or peripheral computing devices, and consumables, plus a few examples of specific additional devices.

Opponents maintained that repair of these devices is not a transformative use because it merely causes a device to be used for the same purpose for which it was originally intended. In some cases, opponents also suggested that once the firmware on some devices is accessed, even for repair, it is compromised such that it can no longer prevent piracy; and consequently, these uses diminish the value of and market for the devices and other creative works. Regarding repair of video game consoles specifically, opponents expressed concern that circumvention of TPMs creates the risk of unauthorized access to content and piracy.

Concerning third-party assistance, several proponents requested that the exemption specifically permit third parties, such as repair services, to assist owners in carrying out the authorized activities. Alternatively, proponents suggested removing the current exemption language requiring that circumvention be “undertaken by the authorized owner” of the vehicle. Regarding circumvention tools, proponents asked the Office to recommend language that would allow exemption beneficiaries, including third parties, to not only make, use, and acquire tools, but also to distribute them. Opponents contended that the proposals concerning third-party assistance and circumvention tools would impermissibly expand the exemption to activity that would constitute unlawful trafficking in violation of sections 1201(a)(2) and (b).

NTIA supported expanding the exemption to a “new definable subclass” of home appliances and mobile handsets (such as cell phones) “when circumvention is a necessary step to allow the diagnosis, repair, or lawful modification of a device function.” NTIA concluded that these are noninfringing fair uses, in part because “diagnosis is a critical component of repairing a device” and subsequent modification of devices is transformative. With respect to vehicles, NTIA supported expanding the existing exemption to allow “use of telematics data for diagnostic purposes.” It recommended, however, “limiting use to obtaining the *diagnostic* data from the telematics module for purposes of repair and modification of the vehicle, and not repair or modification to the module itself.” As to vehicle entertainment

systems, NTIA “continue[d] to have reservations about the strength of [the] record and the potential for infringement” and did not recommend an expansion to permit access for the proposed uses, including “storage capacity.”

NTIA further recommended removing the current exemption’s reference to “the authorized owner of the vehicle”—a change that it characterizes as “extending the current exemption to allow third-party service providers to diagnose, repair and modify software-enabled vehicles on behalf of owners.” But NTIA recommended denying the proposals to “permit third-party commercialization of software repair tools for vehicles in this class,” concluding that such activity is “likely to constitute trafficking.”

The Acting Register recommended expanding the current exemption in areas where there was sufficient record support for such a change, while retaining language to ensure that both the class of works and the permitted uses are appropriately defined. As a result, the Acting Register recommended two separate exemptions, one relating to motorized land vehicles, and one related to the repair and maintenance of additional categories of devices.

Regarding motor vehicles, the recommended exemption removes the requirement that circumvention be “undertaken by the authorized owner” of the vehicle, instead providing that it apply where such items are “lawfully acquired.” This change responds to proponents’ concerns that the language of the existing exemption improperly excludes other users with a legitimate interest in engaging in noninfringing diagnosis, repair, or modification activities. The Acting Register expressed no view on whether particular types of third-party assistance may or may not implicate the anti-trafficking provisions. Those provisions, found in section 1201(a)(2) and (b), are unchanged and must be separately analyzed to determine whether third-party assistance would be permissible.

The Acting Register also recommended removing the language excluding access to computer programs designed for the control of telematics or entertainment systems. The Acting Register was persuaded that, due to increasing integration of vehicle computer systems since the 2015 rulemaking, retaining this limitation may impede noninfringing uses that can only be accomplished by incidentally accessing these systems. Nonetheless, the Acting Register credited opponents’ concerns about unauthorized access to

expressive works through subscription services unrelated to vehicle functioning, and accordingly the recommended exemption specifically excludes access to “programs accessed through a separate subscription service.” While the broadened exemption permits incidental access to a vehicle infotainment system, it provides that such access is allowed only to the extent it is “a necessary step to allow the diagnosis, repair or lawful modification of a vehicle function” and includes the additional requirement that circumvention may not be “accomplished for the purpose of gaining unauthorized access to other copyrighted works.” Because the Acting Register found the record insufficient to support expanding the exemption to permit diagnosis, repair, or lawful modification of the telematics and infotainment systems themselves, the regulatory language does not extend to those activities.

In addition, the Acting Register recommended a new exemption allowing for the circumvention of TPMs restricting access to firmware that controls smartphones and home appliances and home systems for the purposes of diagnosis, maintenance, or repair. In doing so, the Acting Register adopted the definitions of “maintenance” and “repair” in section 117(d). Here again, the recommended text includes the condition that circumvention not be “accomplished for the purpose of gaining unauthorized access to other copyrighted works.” The Acting Register did not recommend extending this exemption to circumvention for purposes of modifying a device function, concluding that “modification” was not defined with sufficient precision to conclude as a general category it is likely to be noninfringing.

Accordingly, the Acting Register recommends that the Librarian adopt the following exemptions:

(1) Computer programs that are contained in and control the functioning of a lawfully acquired motorized land vehicle such as a personal automobile, commercial vehicle or mechanized agricultural vehicle, except for programs accessed through a separate subscription service, when circumvention is a necessary step to allow the diagnosis, repair or lawful modification of a vehicle function, where such circumvention does not constitute a violation of applicable law, including without limitation regulations promulgated by the Department of Transportation or the Environmental Protection Agency, and is not accomplished for the purpose of gaining unauthorized access to other copyrighted works.

(2) Computer programs that are contained in and control the functioning of a lawfully

acquired smartphone or home appliance or home system, such as a refrigerator, thermostat, HVAC or electrical system, when circumvention is a necessary step to allow the diagnosis, maintenance or repair of such a device or system, and is not accomplished for the purpose of gaining access to other copyrighted works. For purposes of this paragraph (b)(10):

(i) The “maintenance” of a device or system is the servicing of the device or system in order to make it work in accordance with its original specifications and any changes to those specifications authorized for that device or system; and

(ii) The “repair” of a device or system is the restoring of the device or system to the state of working in accordance with its original specifications and any changes to those specifications authorized for that device or system.

6. Proposed Class 9: Computer Programs—Software Preservation⁵³

Proposed Class 9 seeks to address concerns that TPMs applied to computer programs can interfere with legitimate preservation activities. The Software Preservation Network (“SPN”) and the LCA filed a petition that would allow “libraries, archives, museums, and other cultural heritage institutions” to circumvent TPMs on “lawfully acquired software for the purposes of preserving software and software-dependent materials.” SPN and LCA explained that the proposed exemption is intended to enable cultural heritage institutions to preserve both TPM-protected computer programs, as well as “dependent” materials—“writings, calculations, software programs, etc.” stored in digital formats that are inaccessible without running the underlying program. Although proposed Class 9 constitutes a new exemption, proponents noted that the Register recommended, and the Librarian granted, exemptions for software preservation in 2003 and 2006, which allowed circumvention of access controls on computer programs and video games distributed in formats that have become obsolete and that require the original media or hardware as a condition of access. Proponents advanced three bases for finding their proposed activities to be noninfringing: (1) The fair use doctrine, (2) the section 108(c) exception for library and archival replacement copies, and (3) the section 117(a) exception for archival copies of computer programs.

⁵³ Because the issues in this class are relevant to the analysis in Proposed Class 8, which pertains specifically to video games, the Acting Register addresses this class first. The Acting Register’s analysis and conclusions for this class, including citations to the record and relevant legal authority, can be found in the Recommendation at 231–56.

Opponents contended that the proposal is overbroad because (1) the exemption would improperly allow circumvention for activities beyond those provided for in the section 108 exceptions for libraries and archives; (2) the term “computer program-dependent materials” might be read to sweep in any category of copyrightable work; and (3) the term “other cultural heritage institutions” within the class of beneficiaries is undefined. Although opponents did not directly contest proponents’ fair use arguments, they did assert that section 117(a)(2) does not protect proponents’ activities.

NTIA supported adopting the proposed exemption. In its view, the class was appropriately defined because it was limited to “computer programs, to preservation uses, and to preservation-oriented institutional users.” It agreed with proponents that the exemption should expressly refer to preservation of “computer program-dependent materials,” concluding that “a user would not be able to access those materials without preserving the software protected by a TPM.” It also agreed that the exemption should include video games, noting that proponents provided specific examples of games that may not be covered by the current preservation exemption. In addition, it found that there were no reasonable alternatives to circumvention, as the use of software with backwards compatibility “is inadequate and can distort the original work.”

The Acting Register recommended granting an exemption that incorporates most of the substance of proponents’ request, with certain changes to address opponents’ concerns. First, the recommended language limits the eligible users to libraries, archives, and museums, as defined according to the criteria proposed in the Office’s recent Section 108 Discussion Document.⁵⁴ The Acting Register declined to recommend including “other cultural heritage institutions” within the class of beneficiaries, finding that term to be undefined and potentially far-reaching. In addition, the Acting Register recommended that the exemption incorporate proponents’ suggestion that the class be defined as computer programs “that have been lawfully acquired and that are no longer reasonably available in the commercial marketplace.” The Acting Register also recommended that in lieu of including the phrase “computer program-

⁵⁴ See U.S. Copyright Office, Section 108 of Title 17 51 (2017), <https://www.copyright.gov/policy/section108/discussion-document.pdf>.

dependent materials” as a defined term, the recommended exemption simply provide that circumvention is permitted for the purpose of “lawful preservation . . . of digital materials dependent upon a computer program as a condition of access.” Finally, in response to concerns over having video game preservation governed by two separate exemptions, the Acting Register recommended that the portion of this class pertaining to video games be codified in the existing video game preservation exemption. Thus, the recommended exemption for Class 9 will cover computer programs other than video games, while an addition to the prior exemption for video games will provide for preservation of the video games addressed by this class (*i.e.*, those that do not require an external server for gameplay). Preservation of server-based games will continue to be governed by the recommended exemption for Class 8.

Accordingly, the Acting Register recommends that the Librarian adopt the following exemption:

(i) Computer programs, except video games, that have been lawfully acquired and that are no longer reasonably available in the commercial marketplace, solely for the purpose of lawful preservation of a computer program, or of digital materials dependent upon a computer program as a condition of access, by an eligible library, archives, or museum, where such activities are carried out without any purpose of direct or indirect commercial advantage and the program is not distributed or made available outside of the physical premises of the eligible library, archives, or museum.

(ii) For purposes of the exemption in paragraph (b)(13)(i) of this section, a library, archives, or museum is considered “eligible” if—

(A) The collections of the library, archives, or museum are open to the public and/or are routinely made available to researchers who are not affiliated with the library, archives or museum;

(B) The library, archives, or museum has a public service mission;

(C) The library, archives, or museum’s trained staff or volunteers provide professional services normally associated with libraries, archives, or museums;

(D) The collections of the library, archives, or museum are composed of lawfully acquired and/or licensed materials; and

(E) The library, archives, or museum implements reasonable digital security measures as appropriate for the activities permitted by this paragraph (b)(13).

8. Proposed Class 8: Computer Programs—Video Game Preservation⁵⁵

Class 8 proponents sought expansion of the provisions in the existing

⁵⁵ The Acting Register’s analysis and conclusions for this class, including citations to the record and

exemption that allows eligible institutions to circumvent access controls to preserve video games for which external server support has been discontinued. As explained in the 2015 rulemaking, some video games require a network connection to a remote server operated by the game's developer before the video game can be accessed and played. When the developer takes such a server offline, a game can be rendered unplayable or limited to certain functions, such as single-player play or multiplayer play on a local network. The current exemption allows an eligible library, archives, or museum to circumvent this type of authentication mechanism to preserve lawfully acquired games in "complete" form, *i.e.*, those that can be played without accessing or reproducing copyrightable content stored or previously stored on an external computer server. The exemption requires that such games not be distributed or made available outside of the physical premises of the eligible institution.

The Museum of Art and Digital Entertainment ("MADE") filed a petition seeking to expand the exemption to allow for circumvention of access controls on video games that need to access creative content stored on a remote server, which MADE refers to as "online" games. MADE contended that the current exemption, while helpful, does not allow it to preserve the growing number of online video games for future generations to study. Proponents explained that libraries, archives, and museums cannot engage in certain preservation activities involving online games without either copying the game's server code or reconstructing that server's functionality, which would also require an exemption to circumvent TPMs on these works. MADE also sought to broaden the class of users of the exemption to include volunteer "affiliate archivists," who wish to circumvent access controls off-premises, but under the supervision of preservation entities.

Opponents objected to the proposed expansions, arguing that proponents' intended use of the video games is not a true preservation use. Instead, opponents contended that proponents wish to engage in recreational play that could function as a market substitute. In addition, the Entertainment Software Association expressed concern that the server copy proponents wish to recreate is an unpublished work that has never been distributed to the public. Overall,

opponents contend that the proposed uses are infringing. Opponents also objected to the use of affiliate archivists, contending that there is a heightened risk of market harm if the public can circumvent access controls on video games in their own homes.

NTIA supported the adoption of an expanded exemption, but one narrower than that requested by proponents. It proposed an expansion to allow preservation "where the user uses the server component—while still not providing any substantial expressive content—for administrative tasks beyond authentication, including command and control functions such as tracking player progress, facilitating communications between players, or storing high scores." To accommodate these uses, it recommended regulatory language that would apply in situations where "all or nearly all of the audiovisual content and gameplay mechanics reside on the player or institution's lawfully acquired local copy of the game." NTIA did not, however, support adding an "affiliate archivist" user class, concluding that adding such a provision risks "introducing confusing language or suggesting that any such preservationists may not need to be answerable to the institutions for which they are volunteering."

The Acting Register found that the record supported granting an expansion in the relatively discrete circumstances where a preservation institution legally possesses a copy of a video game's server code and the game's local code. She concluded that in such circumstances, the preservation activities described by proponents are likely to be fair uses. She further found that proponents demonstrated that such uses would be adversely affected by the statutory prohibition absent an exemption. The record indicated that an exemption would enable future scholarship by enabling researchers to experience games as they were originally played and thereby better understand their design or construction. The Acting Register additionally found such activity unlikely to harm the market for video games.

The Acting Register did not, however, recommend an exemption to allow for instances where the preservation institution lacks lawful possession of the server software. She found the record insufficient to support a finding that the recreation of video game server software as described by proponents is likely to be a fair use. A number of scenarios described by proponents do not involve preserving server software that is already in an institution's

collections, but instead appear to involve something more akin to *reconstructing* the remote server. She found that this activity distinguishes proponents' request from the preservation activity at issue in the case law upon which they relied. Moreover, she noted, the reconstruction of a work implicates copyright owners' exclusive right to prepare derivative works.

Additionally, the Acting Register concluded that the record did not support the addition of an "affiliate archivist" user class to the exemption, finding such activity unlikely to constitute fair use. She noted that both the proposed exemption language and the proponents' institutions' practices seemed to lack appropriate protective guidelines to govern such volunteers' use of copyrighted materials.

In light of the foregoing, the Acting Register recommended an exemption for "server-dependent games," defined as video games that can be played by users who lawfully possess both a copy of a game intended for a personal computer or video game console and a copy of the game's code that is stored or was previously stored on an external computer server. The Acting Register continues to recommend an exemption for "complete games," but proposed revising the exemption language to reflect that the exemption for "complete games" applies to both gamers and preservation uses, but the exemption for "server dependent games" applies only to preservation uses. In addition, for the reasons explained above in the discussion of Proposed Class 9, the Acting Register recommended adding a paragraph to the exemption in this class to accommodate preservation of non-server-based video games.

Accordingly, the Acting Register recommends that the Librarian adopt the following exemption:

(i) Video games in the form of computer programs embodied in physical or downloaded formats that have been lawfully acquired as complete games, when the copyright owner or its authorized representative has ceased to provide access to an external computer server necessary to facilitate an authentication process to enable gameplay, solely for the purpose of:

(A) Permitting access to the video game to allow copying and modification of the computer program to restore access to the game for personal, local gameplay on a personal computer or video game console; or

(B) Permitting access to the video game to allow copying and modification of the computer program to restore access to the game on a personal computer or video game console when necessary to allow preservation of the game in a playable form by an eligible library, archives, or museum, where such activities are carried out without

any purpose of direct or indirect commercial advantage and the video game is not distributed or made available outside of the physical premises of the eligible library, archives, or museum.

(ii) Video games in the form of computer programs embodied in physical or downloaded formats that have been lawfully acquired as complete games, that do not require access to an external computer server for gameplay, and that are no longer reasonably available in the commercial marketplace, solely for the purpose of preservation of the game in a playable form by an eligible library, archives, or museum, where such activities are carried out without any purpose of direct or indirect commercial advantage and the video game is not distributed or made available outside of the physical premises of the eligible library, archives, or museum.

(iii) Computer programs used to operate video game consoles solely to the extent necessary for an eligible library, archives, or museum to engage in the preservation activities described in paragraph (b)(12)(i)(B) or (b)(12)(ii) of this section.

(iv) For purposes of this paragraph (b)(12), the following definitions shall apply:

(A) For purposes of paragraph (b)(12)(i)(A) and (b)(12)(ii) of this section, “complete games” means video games that can be played by users without accessing or reproducing copyrightable content stored or previously stored on an external computer server.

(B) For purposes of paragraph (b)(12)(i)(B) of this section, “complete games” means video games that meet the definition in paragraph (b)(12)(iv)(A) of this section, or that consist of both a copy of a game intended for a personal computer or video game console and a copy of the game’s code that was stored or previously stored on an external computer server.

(C) “Ceased to provide access” means that the copyright owner or its authorized representative has either issued an affirmative statement indicating that external server support for the video game has ended and such support is in fact no longer available or, alternatively, server support has been discontinued for a period of at least six months; provided, however, that server support has not since been restored.

(D) “Local gameplay” means gameplay conducted on a personal computer or video game console, or locally connected personal computers or consoles, and not through an online service or facility.

(E) A library, archives, or museum is considered “eligible” when the collections of the library, archives, or museum are open to the public and/or are routinely made available to researchers who are not affiliated with the library, archives, or museum.

7. Proposed Class 10: Computer Programs—Security Research⁵⁶

The Office received multiple petitions to expand the existing exemption

allowing circumvention for the purpose of conducting good-faith security research on certain types of software-enabled devices and machines.

Proponents argued that the current language contains limitations that unnecessarily restrict its scope, as well as ambiguities that chill legitimate research. These include: (1) A provision limiting the exemption to specified categories of devices (“Device Limitation”); (2) a requirement that a device be “lawfully acquired” (“Lawfully Acquired Limitation”); (3) a requirement that circumvention be “solely” for the purpose of good-faith security research, and the definition of such research as accessing a program “solely” for purposes of good-faith testing, investigation, and/or correction (“Access Limitation”); (4) a requirement that the research be “carried out in a controlled environment designed to avoid any harm to individuals or the public” (“Controlled Environment Limitation”); (5) a requirement that “the information derived from the activity [be] used primarily to promote the security or safety of the class of devices or machines . . . or those who use such devices or machines, and is not used or maintained in a manner that facilitates copyright infringement” (“Use Limitation”); and (6) a requirement that the circumvention “not violate any applicable law” (“Other Laws Limitation”). Proponents maintained that the proposed activity is noninfringing on one or both grounds relied upon by the Register in 2015—section 117 and fair use.

Opponents objected to removal of each of these provisions, arguing that the current language appropriately balances the interests of security researchers, copyright owners, and the general public. In their view, the adverse effects asserted by proponents are unsupported by the record and are based on unreasonable readings of the relevant text. Opponents also variously argued that removing the limitations would render the class impermissibly broad, give rise to infringing uses, and jeopardize public safety and national security.

Following the close of the public comment period and the completion of the public hearings, the Office received a letter concerning this class from CCIPS. The CCIPS letter stated that “[m]any of the changes sought in the petition appear likely to promote productive cybersecurity research, and CCIPS supports them,” subject to certain limitations. With respect to the Device Limitation, CCIPS advised that it would support eliminating the language confining the exemption to devices

“primarily designed for use by individual consumers.” It recommended clarification of the Controlled Environment Limitation and said that it “would not object to its removal.” As to the Lawfully Acquired Limitation, CCIPS stated concluded that the current language is preferable to conditioning the exemption on ownership of a particular copy of software. CCIPS also addressed the Other Laws Limitation, stating that it would not object to removal of the phrase “any applicable law” were it standing alone, but recommending retaining the express reference to the Computer Fraud and Abuse Act of 1986.

NTIA recommended granting the proposed expansion and proposed the same regulatory text it offered in 2015. That language would allow circumvention “in order to conduct good faith security research” on computer programs, “regardless of the device on which they are run.” NTIA further recommended that the Other Laws Limitation be replaced with a statement that the exemption “does not obviate the need to comply with all other applicable laws and regulations.” In addition, NTIA recommended removal of the Controlled Environment, Access, and Use Limitations, largely agreeing with proponents that those provisions may chill legitimate research.

The Acting Register found that good-faith security research involving devices beyond those covered by the current exemption is likely to be a fair use. As the Register found in 2015, the Acting Register concluded that good-faith security research promotes several of the activities identified in section 107 as examples of favored purposes, including criticism, comment, teaching, scholarship, and research. In contrast to 2015, the current rulemaking record contained many additional examples of activities security researchers wished to engage in but for the Device Limitation. But the Acting Register did not find that section 117 provides an additional basis for finding such activity to be noninfringing. She found the record insufficient to support the conclusion that security researchers as a general matter are likely to own the copies of the device software, as is required under section 117.

Ultimately, the Acting Register recommended that the exemption remove the Device Limitation, and include a provision allowing circumvention to be undertaken on a “computer, computer system, or computer network on which the computer program operates.” The latter provision is intended to address situations in which a researcher seeks

⁵⁶ The Acting Register’s analysis and conclusions for this class, including citations to the record and relevant legal authority, can be found in the Recommendation at 284–315.

access to a structure, such as a building automation system, that cannot be “acquired” in the sense of obtaining physical possession of it, in contrast to instances where the researcher can lawfully acquire a device or machine. The exemption requires that circumvention in these circumstances be undertaken “with the authorization of the owner or operator of such computer, computer system, or computer network.” In addition, to address proponents’ concerns over potential ambiguity in the Controlled Environment Limitation, the exemption removes the term “controlled,” so that it simply would require the research to be “carried out in an environment designed to avoid any harm to individuals or the public.” The Acting Register did not recommend removal of the other limitations challenged by proponents, finding that proponents had failed to demonstrate that those provisions are causing, or are likely to cause, any adverse effect on noninfringing security research.

Accordingly, the Acting Register recommends that the Librarian adopt the following exemption:

(i) Computer programs, where the circumvention is undertaken on a lawfully acquired device or machine on which the computer program operates, or is undertaken on a computer, computer system, or computer network on which the computer program operates with the authorization of the owner or operator of such computer, computer system, or computer network, solely for the purpose of good-faith security research and does not violate any applicable law, including without limitation the Computer Fraud and Abuse Act of 1986.

(ii) For purposes of this paragraph (b)(11), “good-faith security research” means accessing a computer program solely for purposes of good-faith testing, investigation, and/or correction of a security flaw or vulnerability, where such activity is carried out in an environment designed to avoid any harm to individuals or the public, and where the information derived from the activity is used primarily to promote the security or safety of the class of devices or machines on which the computer program operates, or those who use such devices or machines, and is not used or maintained in a manner that facilitates copyright infringement.

8. Proposed Class 12: Computer Programs—3D Printing⁵⁷

3D printing—also known as “additive” manufacturing—is a technology that translates digital files into physical objects by adding successive layers of material. Some 3D printer manufacturers use TPMs to limit

the types of material—or “feedstock”—that can be used in their 3D printers to manufacturer-approved feedstock.

Proponents sought to expand a current exemption that permits the circumvention of access controls on computer programs in 3D printers to enable the use of non-manufacturer-approved feedstock. Michael Weinberg filed a petition to eliminate the following language at the end of the exemption: “provided, however, that the exemption shall not extend to any computer program on a 3D printer that produces goods or materials for use in commerce the physical production of which is subject to legal or regulatory oversight or a related certification process, or where the circumvention is otherwise unlawful.”

Proponents put forth two arguments as to why the Acting Register should broaden the exemption by dropping this language: (1) The clause creates ambiguity such that the exemption itself cannot be applied or used in the majority of circumstances, and (2) the concerns that the clause seeks to address are more suitably addressed by other agencies. Stratasys, an opponent to the exemption, contended that this expanded range of activities is less likely to constitute fair use and should remain prohibited for reasons of public policy.

NTIA supported renewing the exemption as well as expanding the exemption by removing the relevant limiting language. NTIA’s proposed language differed from the current regulatory language in additional ways. For example, NTIA proposed incorporating the restriction that “circumvention is undertaken for the purpose of enabling interoperability of feedstock or filament with the device.” NTIA, however, did not provide specific support for altering the regulatory text beyond removing the qualifying language.

The 2015 rulemaking identified fair use as the noninfringing basis for this exemption, and the proposed expansion was evaluated on the same grounds. Because the record indicated that the state of the 3D printing market appears to be substantially the same as in 2015, and case law has not significantly altered the relevant fair use issues, the Acting Register concluded that the copying or modifying of printer software to accept non-manufacturer-approved feedstock is likely to be a fair use.

Because the first four statutory factors do not fit neatly onto this situation, the Acting Register focused most of her analysis on the fifth factor to consider these related concerns. The Acting Register determined that the expanded

record now shows that there are situations in which an individual may be complying with relevant law or regulations but still be at risk of violating section 1201 due to the exemption’s qualifying language (e.g., individual sellers of homemade wares). The Acting Register concluded that the record established that the qualifying language in the existing exemption may be inhibiting otherwise beneficial or innovative uses of alternate feedstock, which is contrary to the intention of that exemption—and moreover, that there are safeguards outside of the current exemption addressing health and safety concerns associated with 3D printing.

Accordingly, the Acting Register recommends that the Librarian adopt the following exemption:

Computer programs that operate 3D printers that employ microchip-reliant technological measures to limit the use of feedstock, when circumvention is accomplished solely for the purpose of using alternative feedstock and not for the purpose of accessing design software, design files, or proprietary data.

C. Classes Considered but Not Recommended

Based upon the record in this proceeding, the Acting Register of Copyrights recommended that the Librarian determine that the following classes of works shall not be exempt from the prohibition against circumvention of technological measures set forth in section 1201(a)(1):

1. Proposed Class 3: Audiovisual Works—Space-Shifting⁵⁸

Proposed Class 3 would allow circumvention of technical measures protecting motion pictures and other audiovisual works to engage in “space-shifting.” As the 2015 rulemaking described, the Copyright Office’s understanding is that space-shifting occurs when a work is transferred from one storage medium to another, such as from a DVD to a computer hard drive. Chris De Pretis petitioned for an exemption to allow circumvention by individuals to create a personal digital backup of content for private use, a proposal similar to those sought and rejected in previous rulemakings. The Office also received a petition from OmniQ, a corporate entity, proposing an exemption to allow so-called “non-reproductive” space-shifting, including for commercial uses. A third proponent, SolaByte Corporation, filed a one-page

⁵⁷ The Acting Register’s analysis and conclusions for this class, including citations to the record and relevant legal authority, can be found in the Recommendation at 319–31.

⁵⁸ The Acting Register’s analysis and conclusions for this class, including citations to the record and relevant legal authority, can be found in the Recommendation at 111–28.

comment in support of OmniQ and testified at the public hearing.

OmniQ primarily argued that its proposed technology did not result in a reproduction of a copyrighted work, and thus fair use analysis was unnecessary. Proponents also argued that the overall availability of works for public use is shrinking because the hardware and software needed to play disc media are becoming less available in the marketplace. They argued that online content distribution platforms, taken in the aggregate, only offer a small and always-changing fraction of the titles historically available on DVD and Blu-ray disc, and that the costs of these services are unacceptable, especially when users already own the content in disc form.

In response, opponents argued that OmniQ's technology would reproduce works because they would constitute entirely new things (*i.e.*, a copy). Opponents also contended that recent case law developments further demonstrate that space-shifting is not a fair use. In addition, opponents provided evidence of alternatives to circumvention in the form of a substantial number of online distribution platforms for accessing copyrighted audiovisual works, the vast majority of which they claim exist as viable business models only because of the ability to employ TPMs to protect the content from unauthorized uses.

Unlike in prior rulemakings where NTIA "supported limited versions of a noncommercial space-shifting exemption . . . mainly in the interest of consumer protection," NTIA did not support an exemption for this class in the present rulemaking. NTIA acknowledged that the "legal status of the concept of space-shifting remains a matter of dispute among copyright experts" and that it "has not been explicitly established as non-infringing on the basis of the fair use doctrine." NTIA added that "proponents ha[d] not established in this proceeding that their specific proposal would be non-infringing." Moreover, NTIA recognized that "[p]roponents failed to demonstrate that the 'prevalence of [encrypted digital content] is diminishing the ability of individuals to use these works in ways that are otherwise lawful.'"

The Acting Register found that under current law, OmniQ's self-described process is likely to result in an unauthorized reproduction in violation of section 106(1), and that, as in 2015, the case law maintains that transferring digital files from one location to another implicates the reproduction right and is therefore infringing, even where the original copy is contemporaneously or

subsequently deleted. With regard to personal space-shifting, in light of the lack of record and in the absence of clear supporting precedent, the Acting Register found no basis to depart from the fair use analysis and ultimate conclusion reached in the 2015 proceeding, where the Register was unable to determine that the proposed uses were noninfringing. She noted that the commercial nature and potential market effects of the OmniQ and SolaByte business models complicate the fair use analysis, and not in their favor. For example, the record included substantial evidence of extensive markets for internet-based distribution services for copyrighted audiovisual works, including digital rentals, online streaming and over-the-top services, on-demand cable and satellite television offerings, disc-to-digital services, and digital locker services, which could be negatively impacted by the proposed exemption. These markets also served as sufficient alternatives to circumvention, as they demonstrated a wide availability of easily accessible copyrighted works that could potentially be negatively affected by an exemption that allowed unauthorized copies to compete with these authorized access models. Based on the record in this proceeding, the Acting Register did not find that the statutory factors supported the proposed exemption.

2. Proposed Class 4: Audiovisual Works—HDCP/HDMI⁵⁹

Proposed Class 4 would allow circumvention "to make noninfringing uses of audiovisual works that are subjected to High-bandwidth Digital Content Protection (HDCP)." Petitioner Andrew "bunnie" Huang described HDCP as "a protocol used to restrict content sent over High-Definition Multimedia Interface (HDMI) cables," or "a standard for video transport from one device to another." He explained that many devices that play video discs and video game software encode their output using HDCP, and that this interferes with capturing the output for subsequent noninfringing uses.

Multiple participants opposed this exemption, arguing that section 1201 does not permit such a broad exemption, noting that HDCP is the industry standard for protecting audiovisual works in transit to a display device and that past Registers have rejected exemptions for "all noninfringing uses." They characterized

Huang's discussion of the proposed uses as "cursory," and suggested it was not possible to evaluate the proposed uses under the exemption without further detail. Opponents also suggested that multiple proposed uses would actually be infringing, and highlighted what they see as a significant online infringement risk if the exemption permitted in-the-clear copies of entire works. In addition, opponents set forth a large number of concrete examples of potential alternatives to circumvention that the petitioner failed to meaningfully challenge. Finally, they asserted that "HDCP is a critically important component of the secure ecosystem through which content is delivered for home entertainment" and noted that section 1201 was intended to encourage copyright owners to make their works available digitally and foster new means of distribution by providing reasonable assurances against fears of piracy.

NTIA recommended against this exemption, stating that "[p]roponents did not provide sufficient evidence on the record about the alleged non-infringing uses," and that "[w]hile there are several examples of potential non-infringing uses that could serve as the basis for an exemption, the proponents [had] not developed the argument in the record . . ." NTIA also observed that the proposed exemption "appear[ed] to be for the HDCP TPM itself, which is not appropriate for this rulemaking process."

The Acting Register also recommended against the exemption, largely agreeing with many of the bases advanced by opponents. Specifically, the Acting Register concluded that the proposed exemption was overly broad, as HDCP is the industry standard for protecting audiovisual works in transit to a display device, and thus limiting the proposal this way did not very meaningfully focus the scope beyond the starting point of all audiovisual works. The Acting Register also determined that some of the proposed uses may potentially be fair use depending upon factual circumstances, but that the record lacked the requisite detail and legal support for the Acting Register to conclude that the proposed uses are or are not likely to be noninfringing. Based upon the record, the Acting Register could not conclude that the overall availability for use of copyrighted works has been diminished or is likely to be in the next three years absent an exemption, noting that the proposed activities may well have a negative effect on the market for or value of copyrighted works. Finally, she concluded that the request was an individual case of *de minimis* impact, as

⁵⁹ The Acting Register's analysis and conclusions for this class, including citations to the record and relevant legal authority, can be found in the Recommendation at 128–45.

it was largely made upon a single request of an individual who resides in Singapore for which there appeared to be myriad alternative ways to achieve the proposed uses.

3. Proposed Class 11: Computer Programs—Avionics⁶⁰

Proposed Class 11 would permit circumvention of access controls on electronic systems used in aircraft, *i.e.*, avionics, to enable access to aircraft flight, operations, maintenance and security bulk data collected by third parties upon authorization of the aircraft owner or operator in the course of complying with Federal Aviation Administration (“FAA”) standards, rules, and regulations. Due to reliance upon these electronic systems, proponents asserted that aircraft “operators have faced a . . . rise in the complexity and scope of work needed to keep their fleet secure and operating efficiently,” and that the FAA “has mandated the review of the data, information, logs[,] and other information [by aircraft owners or operators] as a means to ensure safety, security[,] and regulatory compliance.”

In NTIA’s view, “[p]roponents failed to demonstrate that the proposed class includes copyrighted works protected by TPMs.” Moreover, NTIA continued, “Air Informatics failed to identify clearly the proposed users of the exemption,” suggesting that “the prohibition on circumvention does not adversely affect and is not likely to adversely affect users.” Lastly, NTIA maintained that “[r]easonable alternatives to circumvention seem to exist,” noting that “the two relevant parties can come to an agreement for access to and use of the data.”

The Acting Register found that the record suggested that the data collected by aircrafts at issue consist of facts, which are not copyrightable. According to the petitioner, the information represents objective details about aircraft, such as flight operations and fuel economy. As Public Knowledge explained, the data inputs and outputs “are not classifiable as a ‘work’ protected under Title 17” and such “access does not implicate any colorable copyright concerns.” The Acting Register also concluded that the collected information would not qualify as a copyrightable compilation, because it is formatted and compiled in accordance with an industry-wide standard. The Acting Register

accordingly concluded that proponents have not alleged that the data or data compilations they are seeking to access are copyrightable, and thus subject to the prohibition on circumvention. Although petitioner raised some concerns regarding attempts by airplane manufacturers to control the aftermarket for the data in security research and analytics, the Acting Register determined that it was not clear that section 1201 is facilitating those actions, and noted that the security research exemption may potentially be utilized to cover such activities, to the extent applicable.

C. Conclusion

Having considered the evidence in the record, the contentions of the commenting parties, and the statutory objectives, the Acting Register of Copyrights has recommended that the Librarian of Congress publish certain classes of works, as designated above, so that the prohibition against circumvention of technological measures that effectively control access to copyrighted works shall not apply to persons who engage in noninfringing uses of those particular classes of works.

Dated: October 19, 2018.

Karyn A. Temple,

Acting Register of Copyrights and Director of the U.S. Copyright Office.

Determination of the Librarian of Congress

Having duly considered and accepted the Recommendation of the Acting Register of Copyrights, which Recommendation is hereby incorporated by reference, the Librarian of Congress, pursuant to 17 U.S.C. 1201(a)(1)(C) and (D), hereby publishes as a new rule the classes of copyrighted works that shall for a three-year period be subject to the exemption provided in 17 U.S.C. 1201(a)(1)(B) from the prohibition against circumvention of technological measures that effectively control access to copyrighted works set forth in 17 U.S.C. 1201(a)(1)(A).

List of Subjects in 37 CFR Part 201

Copyright, Exemptions to prohibition against circumvention.

Final Regulations

For the reasons set forth in the preamble, 37 CFR part 201 is amended as follows:

PART 201—GENERAL PROVISIONS

■ 1. The authority citation for part 201 continues to read as follows:

Authority: 17 U.S.C. 702.

■ 2. Section 201.40 is amended by revising paragraphs (b) and (c) to read as follows:

§ 201.40 Exemptions to prohibition against circumvention.

* * * * *

(b) *Classes of copyrighted works.* Pursuant to the authority set forth in 17 U.S.C. 1201(a)(1)(C) and (D), and upon the recommendation of the Register of Copyrights, the Librarian has determined that the prohibition against circumvention of technological measures that effectively control access to copyrighted works set forth in 17 U.S.C. 1201(a)(1)(A) shall not apply to persons who engage in noninfringing uses of the following classes of copyrighted works:

(1) Motion pictures (including television shows and videos), as defined in 17 U.S.C. 101, where the motion picture is lawfully made and acquired on a DVD protected by the Content Scramble System, on a Blu-ray disc protected by the Advanced Access Content System, or via a digital transmission protected by a technological measure, and the person engaging in circumvention under paragraph (b)(1)(i) and (b)(1)(ii)(A) and (B) of this section reasonably believes that non-circumventing alternatives are unable to produce the required level of high-quality content, or the circumvention is undertaken using screen-capture technology that appears to be offered to the public as enabling the reproduction of motion pictures after content has been lawfully acquired and decrypted, where circumvention is undertaken solely in order to make use of short portions of the motion pictures in the following instances:

(i) For the purpose of criticism or comment:

(A) For use in documentary filmmaking, or other films where the motion picture clip is used in parody or for its biographical or historically significant nature;

(B) For use in noncommercial videos (including videos produced for a paid commission if the commissioning entity’s use is noncommercial); or

(C) For use in nonfiction multimedia e-books.

(ii) For educational purposes:

(A) By college and university faculty and students or kindergarten through twelfth-grade (K–12) educators and students (where the K–12 student is circumventing under the direct supervision of an educator), including of accredited general educational development (GED) programs, for the purpose of criticism, comment, teaching, or scholarship;

⁶⁰The Acting Register’s analysis and conclusions for this class, including citations to the record and relevant legal authority, can be found in the Recommendation at 315–19.

(B) By faculty of massive open online courses (MOOCs) offered by accredited nonprofit educational institutions to officially enrolled students through online platforms (which platforms themselves may be operated for profit), in film studies or other courses requiring close analysis of film and media excerpts, for the purpose of criticism or comment, where the MOOC provider through the online platform limits transmissions to the extent technologically feasible to such officially enrolled students, institutes copyright policies and provides copyright informational materials to faculty, students, and relevant staff members, and applies technological measures that reasonably prevent unauthorized further dissemination of a work in accessible form to others or retention of the work for longer than the course session by recipients of a transmission through the platform, as contemplated by 17 U.S.C. 110(2); or

(C) By educators and participants in nonprofit digital and media literacy programs offered by libraries, museums, and other nonprofit entities with an educational mission, in the course of face-to-face instructional activities, for the purpose of criticism or comment, except that such users may only circumvent using screen-capture technology that appears to be offered to the public as enabling the reproduction of motion pictures after content has been lawfully acquired and decrypted.

(2)(i) Motion pictures (including television shows and videos), as defined in 17 U.S.C. 101, where the motion picture is lawfully acquired on a DVD protected by the Content Scramble System, on a Blu-ray disc protected by the Advanced Access Content System, or via a digital transmission protected by a technological measure, where:

(A) Circumvention is undertaken by a disability services office or other unit of a kindergarten through twelfth-grade educational institution, college, or university engaged in and/or responsible for the provision of accessibility services to students, for the purpose of adding captions and/or audio description to a motion picture to create an accessible version as a necessary accommodation for a student or students with disabilities under an applicable disability law, such as the Americans With Disabilities Act, the Individuals with Disabilities Education Act, or Section 504 of the Rehabilitation Act;

(B) The educational institution unit in paragraph (b)(2)(i)(A) of this section has, after a reasonable effort, determined that an accessible version cannot be obtained at a fair price or in a timely manner; and

(C) The accessible versions are provided to students or educators and stored by the educational institution in a manner intended to reasonably prevent unauthorized further dissemination of a work.

(ii) For purposes of this paragraph (b)(2), “audio description” means an oral narration that provides an accurate rendering of the motion picture.

(3) Literary works, distributed electronically, that are protected by technological measures that either prevent the enabling of read-aloud functionality or interfere with screen readers or other applications or assistive technologies:

(i) When a copy of such a work is lawfully obtained by a blind or other person with a disability, as such a person is defined in 17 U.S.C. 121; provided, however, that the rights owner is remunerated, as appropriate, for the price of the mainstream copy of the work as made available to the general public through customary channels; or

(ii) When such work is a nondramatic literary work, lawfully obtained and used by an authorized entity pursuant to 17 U.S.C. 121.

(4) Literary works consisting of compilations of data generated by medical devices that are wholly or partially implanted in the body or by their corresponding personal monitoring systems, where such circumvention is undertaken by a patient for the sole purpose of lawfully accessing the data generated by his or her own device or monitoring system and does not constitute a violation of applicable law, including without limitation the Health Insurance Portability and Accountability Act of 1996, the Computer Fraud and Abuse Act of 1986 or regulations of the Food and Drug Administration, and is accomplished through the passive monitoring of wireless transmissions that are already being produced by such device or monitoring system.

(5) Computer programs that enable the following types of lawfully acquired wireless devices to connect to a wireless telecommunications network, when circumvention is undertaken solely in order to connect to a wireless telecommunications network and such connection is authorized by the operator of such network:

(i) Wireless telephone handsets (*i.e.*, cellphones);

(ii) All-purpose tablet computers;

(iii) Portable mobile connectivity devices, such as mobile hotspots, removable wireless broadband modems, and similar devices; and

(iv) Wearable wireless devices designed to be worn on the body, such as smartwatches or fitness devices.

(6) Computer programs that enable smartphones and portable all-purpose mobile computing devices to execute lawfully obtained software applications, where circumvention is accomplished for the sole purpose of enabling interoperability of such applications with computer programs on the smartphone or device, or to permit removal of software from the smartphone or device. For purposes of this paragraph (b)(6), a “portable all-purpose mobile computing device” is a device that is primarily designed to run a wide variety of programs rather than for consumption of a particular type of media content, is equipped with an operating system primarily designed for mobile use, and is intended to be carried or worn by an individual.

(7) Computer programs that enable smart televisions to execute lawfully obtained software applications, where circumvention is accomplished for the sole purpose of enabling interoperability of such applications with computer programs on the smart television.

(8) Computer programs that enable voice assistant devices to execute lawfully obtained software applications, where circumvention is accomplished for the sole purpose of enabling interoperability of such applications with computer programs on the device, or to permit removal of software from the device, and is not accomplished for the purpose of gaining unauthorized access to other copyrighted works. For purposes of this paragraph (b)(8), a “voice assistant device” is a device that is primarily designed to run a wide variety of programs rather than for consumption of a particular type of media content, is designed to take user input primarily by voice, and is designed to be installed in a home or office.

(9) Computer programs that are contained in and control the functioning of a lawfully acquired motorized land vehicle such as a personal automobile, commercial vehicle, or mechanized agricultural vehicle, except for programs accessed through a separate subscription service, when circumvention is a necessary step to allow the diagnosis, repair, or lawful modification of a vehicle function, where such circumvention does not constitute a violation of applicable law, including without limitation regulations promulgated by the Department of Transportation or the Environmental Protection Agency, and is not accomplished for the purpose of gaining

unauthorized access to other copyrighted works.

(10) Computer programs that are contained in and control the functioning of a lawfully acquired smartphone or home appliance or home system, such as a refrigerator, thermostat, HVAC, or electrical system, when circumvention is a necessary step to allow the diagnosis, maintenance, or repair of such a device or system, and is not accomplished for the purpose of gaining access to other copyrighted works. For purposes of this paragraph (b)(10):

(i) The “maintenance” of a device or system is the servicing of the device or system in order to make it work in accordance with its original specifications and any changes to those specifications authorized for that device or system; and

(ii) The “repair” of a device or system is the restoring of the device or system to the state of working in accordance with its original specifications and any changes to those specifications authorized for that device or system.

(11)(i) Computer programs, where the circumvention is undertaken on a lawfully acquired device or machine on which the computer program operates, or is undertaken on a computer, computer system, or computer network on which the computer program operates with the authorization of the owner or operator of such computer, computer system, or computer network, solely for the purpose of good-faith security research and does not violate any applicable law, including without limitation the Computer Fraud and Abuse Act of 1986.

(ii) For purposes of this paragraph (b)(11), “good-faith security research” means accessing a computer program solely for purposes of good-faith testing, investigation, and/or correction of a security flaw or vulnerability, where such activity is carried out in an environment designed to avoid any harm to individuals or the public, and where the information derived from the activity is used primarily to promote the security or safety of the class of devices or machines on which the computer program operates, or those who use such devices or machines, and is not used or maintained in a manner that facilitates copyright infringement.

(12)(i) Video games in the form of computer programs embodied in physical or downloaded formats that have been lawfully acquired as complete games, when the copyright owner or its authorized representative has ceased to provide access to an external computer server necessary to facilitate an authentication process to

enable gameplay, solely for the purpose of:

(A) Permitting access to the video game to allow copying and modification of the computer program to restore access to the game for personal, local gameplay on a personal computer or video game console; or

(B) Permitting access to the video game to allow copying and modification of the computer program to restore access to the game on a personal computer or video game console when necessary to allow preservation of the game in a playable form by an eligible library, archives, or museum, where such activities are carried out without any purpose of direct or indirect commercial advantage and the video game is not distributed or made available outside of the physical premises of the eligible library, archives, or museum.

(ii) Video games in the form of computer programs embodied in physical or downloaded formats that have been lawfully acquired as complete games, that do not require access to an external computer server for gameplay, and that are no longer reasonably available in the commercial marketplace, solely for the purpose of preservation of the game in a playable form by an eligible library, archives, or museum, where such activities are carried out without any purpose of direct or indirect commercial advantage and the video game is not distributed or made available outside of the physical premises of the eligible library, archives, or museum.

(iii) Computer programs used to operate video game consoles solely to the extent necessary for an eligible library, archives, or museum to engage in the preservation activities described in paragraph (b)(12)(i)(B) or (b)(12)(ii) of this section.

(iv) For purposes of this paragraph (b)(12), the following definitions shall apply:

(A) For purposes of paragraph (b)(12)(i)(A) and (b)(12)(ii) of this section, “complete games” means video games that can be played by users without accessing or reproducing copyrightable content stored or previously stored on an external computer server.

(B) For purposes of paragraph (b)(12)(i)(B) of this section, “complete games” means video games that meet the definition in paragraph (b)(12)(iv)(A) of this section, or that consist of both a copy of a game intended for a personal computer or video game console and a copy of the game’s code that was stored or previously stored on an external computer server.

(C) “Ceased to provide access” means that the copyright owner or its authorized representative has either issued an affirmative statement indicating that external server support for the video game has ended and such support is in fact no longer available or, alternatively, server support has been discontinued for a period of at least six months; provided, however, that server support has not since been restored.

(D) “Local gameplay” means gameplay conducted on a personal computer or video game console, or locally connected personal computers or consoles, and not through an online service or facility.

(E) A library, archives, or museum is considered “eligible” when the collections of the library, archives, or museum are open to the public and/or are routinely made available to researchers who are not affiliated with the library, archives, or museum.

(13)(i) Computer programs, except video games, that have been lawfully acquired and that are no longer reasonably available in the commercial marketplace, solely for the purpose of lawful preservation of a computer program, or of digital materials dependent upon a computer program as a condition of access, by an eligible library, archives, or museum, where such activities are carried out without any purpose of direct or indirect commercial advantage and the program is not distributed or made available outside of the physical premises of the eligible library, archives, or museum.

(ii) For purposes of the exemption in paragraph (b)(13)(i) of this section, a library, archives, or museum is considered “eligible” if—

(A) The collections of the library, archives, or museum are open to the public and/or are routinely made available to researchers who are not affiliated with the library, archives, or museum;

(B) The library, archives, or museum has a public service mission;

(C) The library, archives, or museum’s trained staff or volunteers provide professional services normally associated with libraries, archives, or museums;

(D) The collections of the library, archives, or museum are composed of lawfully acquired and/or licensed materials; and

(E) The library, archives, or museum implements reasonable digital security measures as appropriate for the activities permitted by this paragraph (b)(13).

(14) Computer programs that operate 3D printers that employ microchip-reliant technological measures to limit

the use of feedstock, when circumvention is accomplished solely for the purpose of using alternative feedstock and not for the purpose of accessing design software, design files, or proprietary data.

(c) *Persons who may initiate circumvention.* To the extent authorized under paragraph (b) of this section, the circumvention of a technological measure that restricts wireless telephone handsets or other wireless devices from connecting to a wireless telecommunications network may be initiated by the owner of any such handset or other device, by another person at the direction of the owner, or by a provider of a commercial mobile radio service or a commercial mobile data service at the direction of such owner or other person, solely in order to enable such owner or a family member of such owner to connect to a wireless telecommunications network, when such connection is authorized by the operator of such network.

Dated: October 19, 2018.

Carla D. Hayden,

Librarian of Congress

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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 9 and 721

[EPA-HQ-OPPT-2017-0464; FRL-9985-55]

RIN 2070-AB27

Significant New Use Rules on Certain Chemical Substances; Withdrawal

AGENCY: Environmental Protection Agency (EPA).

ACTION: Withdrawal of direct final rule.

SUMMARY: EPA is withdrawing significant new use rules (SNURs) promulgated under the Toxic Substances Control Act (TSCA) for 19 chemical substances, which were the subject of premanufacture notices (PMNs). EPA published these SNURs using direct final rulemaking procedures, which requires EPA to take certain actions if an adverse comment is received. EPA received adverse comments and a request to extend the comment period regarding the SNURs identified in the direct final rule. Therefore, the Agency is withdrawing the direct final rule SNURs identified in this document, as required under the direct final rulemaking procedures.

DATES: The direct final rule published at 83 FR 43538 on August 27, 2018, is withdrawn effective October 26, 2018.

ADDRESSES: The docket for this action, identified by docket identification (ID) number EPA-HQ-OPPT-2017-0464 is available at <http://www.regulations.gov> or at the Office of Pollution Prevention and Toxics Docket (OPPT Docket), Environmental Protection Agency Docket Center (EPA/DC), West William Jefferson Clinton Bldg., Rm. 3334, 1301 Constitution Ave. NW, Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the OPPT Docket is (202) 566-0280. Please review the visitor instructions and additional information about the docket available at <http://www.epa.gov/dockets>.

FOR FURTHER INFORMATION CONTACT: For technical information contact: Kenneth Moss, Chemical Control Division (7405M), Office of Pollution Prevention and Toxics, Environmental Protection Agency, 1200 Pennsylvania Ave. NW, Washington, DC 20460-0001; telephone number: (202) 564-9232; email address: moss.kenneth@epa.gov.

For general information contact: The TSCA-Hotline, ABVI-Goodwill, 422 South Clinton Ave., Rochester, NY 14620; telephone number: (202) 554-1404; email address: TSCA-Hotline@epa.gov.

SUPPLEMENTARY INFORMATION:

I. Does this action apply to me?

A list of potentially affected entities is provided in the **Federal Register** of August 27, 2018 (83 FR 43538) (FRL-9982-24). If you have questions regarding the applicability of this action to a particular entity, consult the technical person listed under **FOR FURTHER INFORMATION CONTACT**.

II. What direct final SNURs are being withdrawn?

In the **Federal Register** of August 27, 2018 (83 FR 43538) (FRL-9982-24), EPA issued direct final SNURs for 19 chemical substances that are identified in that document. Because the Agency received adverse comments and a request to extend the comment period regarding the SNURs identified in the document, EPA is withdrawing the direct final SNURs issued for these 19 chemical substances, which were the subject of PMNs. In addition to the Direct Final SNURs, elsewhere in the same issue of the **Federal Register** of August 27, 2018 (83 FR 43538) (FRL-9982-24), EPA issued proposed SNURs

covering these 19 chemical substances. EPA will address all adverse public comments in a subsequent final rule, based on the proposed rule.

III. Good Cause Finding

EPA determined that this document is not subject to the 30-day delay of effective date generally required by the Administrative Procedure Act (APA) (5 U.S.C. 553(d)) because of the time limitations for publication in the **Federal Register**. This document must publish on or before the effective date of the direct final rule containing the direct final SNURs being withdrawn.

IV. Statutory and Executive Order Reviews

This action withdraws regulatory requirements that have not gone into effect and which contain no new or amended requirements and reopens a comment period. As such, the Agency has determined that this action will not have any adverse impacts, economic or otherwise. The statutory and Executive Order review requirements applicable to the direct final rules were discussed in the August 27, 2018 **Federal Register** (83 FR 43538). Those review requirements do not apply to this action because it is a withdrawal and does not contain any new or amended requirements.

V. Congressional Review Act (CRA)

Pursuant to the Congressional Review Act (5 U.S.C. 801 *et seq.*), EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. This action is not a "major rule" as defined by 5 U.S.C. 804(2). Section 808 of the CRA allows the issuing agency to make a rule effective sooner than otherwise provided by CRA if the agency makes a good cause finding that notice and public procedure is impracticable, unnecessary, or contrary to the public interest. As required by 5 U.S.C. 808(2), this determination is supported by a brief statement in Unit III.

List of Subjects

40 CFR Part 9

Environmental protection, Reporting and recordkeeping requirements.

40 CFR Part 721

Environmental protection, Chemicals, Hazardous substances, Reporting and recordkeeping requirements.