

Who we are

- David Boundy
 - Executive committee of PTAAARMIGAN, a nonprofit representing Patent and Trademark Attorneys, Agents, and Applicants
 - Former software engineer—invited to lecture at MIT, Hewlett-Packard's alternate representative on an ANSI standards committee. Software used by Boeing and other high-reliability users.
 - Expertise in administrative law—in 2018, United States Court of Appeals for Federal Circuit (Jay Plager's court) flew me down to D.C. for a day to coach on *Chevron* deference
 - <https://www.potomacclaw.com/professionals-David-Boundy>
- Brad Forrest
 - General Counsel and Chairman of the Board of Schwegman Lundberg in Minneapolis, one of the ten largest filers of patent applications
 - Former Counsel and Manager of Intellectual Property Law for a division of IBM (1984-1993)
 - Currently Vice Chair of the AIPLA Legislation Committee (AIPLA is the American Intellectual Property Law Association, a nonprofit, and the largest organization of patent attorneys)
 - <https://www.slwip.com/people/bradley-forrest/>
- Rich Baker
 - President of NAPP, the National Association of Patent Practitioners, a nonprofit, the third-largest organization of patent attorneys and agents, generally representing small entities
 - President of New England Intellectual Property in Massachusetts
 - Former Director of Intellectual Property for Bottomline Technology, 3Com Corporate, and Schneider Automation
 - Former Director of Patent Sales for HP
 - Former Trustee for the Licensing Executives Society, a nonprofit organization of technology transfer professionals
 - Computer scientist with 20 years experience in developing and leading software teams
 - <https://www.newenglandip.com/#h.5twh6ycmz7z>
- All three appearing today *pro bono*

Issue 1: DOCX filing

The Patent Office proposes to displace a voluntary consensus standard for patent filing—PDF—with a single company software product – Microsoft Word – that does not observe any standard, let alone a voluntary consensus standard. This violates OMB Circular A-119.

The Patent Office adopted a DOCX filing system in which (a) the Patent Office *changes* the document that the applicant uploads, and (b) the Patent Office's computers render the file differently than the applicant's computer. Both of these factors introduce errors.

The Patent Office's ICR does not recognize the costs of proofreading or error correction. Comment letters estimate burden at \$200 million to \$600 million (assuming sufficient proofreading to elevate the reliability of DOCX filing to the same reliability as PDF).

The process followed by the Patent Office was flawed

Patent applications require extraordinary precision

Except in extraordinarily narrow circumstances, a patent application can't be modified or corrected to add new material after it is filed without sacrificing the original filing date. If the Patent Office's software makes an error, the applicant is stuck. Almost every other legal document can be revised or amended after initial filing—but for patent applications, that door is *very* narrow.

About half of U.S. filings serve as a basis for foreign filings. Any correction to a U.S. application also has to meet the requirements of foreign law (and in many countries, the rules are even stricter).

Thus, the Patent Office's upload software must be uniquely reliable. The form in which a patent application is filed must be reliable, and must be uniform so that a given file will appear *identical* on every computer that displays it. The Patent Office's software must reflect high-reliability design principles.

An entire patent's life (26 years) depend on correctness on day 1. Other parts of a patent's life are more error-tolerant, but not initial filing.

Part 1 of this presentation: text-based PDF meets those requirements. DOCX violates them.

Upshot:

When a patent application is filed in DOCX, the Patent Office cannot guarantee that what the Patent Office's computers see will be the same as what the patent applicant saw on his/her computer before filing.

We have observed a number of differences.

Some are innocuous, formatting only—

- Different pagination
- Different indents, which can lead to very different layouts for paragraphs and pages
- Different fonts
- A pain in litigation when cites to individual pages are required, and different readers will see different displays, but not substantively catastrophic

Some are catastrophic, potentially rendering a patent application valueless:

- Multiple examples in the 60-day letter in ICR 202309-0651-002, <https://www.reginfo.gov/public/do/DownloadDocument?objectID=135640900>, at PDF pages 68-94

Example 1: During 2019 NPRM comment period, commenters pointed to errors introduced by the PTO's DOCX software:

DOCX is stable and governed by two international standards (ECMA-376 and ISO/IEC 29500).

This statement is simply false. There is no single DOCX standard to which Microsoft Word and the other word processors are all compliant.

To give a simple example, consider this math equation in a patent application that I recently filed as a PDF-based PCT application using Libre Office:

$$f(u) = \cos(u)^3 \exp(0.2u) \quad (\text{Equation 14})$$

As an experiment I uploaded the DOCX file of this PCT application to EFS-Web as if I were filing a domestic US patent application. The way the USPTO has designed EFS-Web, what happens next is that the practitioner sees this message in red letters:

The PDF(s) have been generated from the docx file(s). Please review the PDF(s) for accuracy. By clicking the continue button, you agree to accept any changes made by the conversion and that it will become the final submission.

It is easy to see that this filing procedure, as contemplated by USPTO, imposes an enormous professional liability risk on the practitioner. The practitioner is obligated to proofread the entire patent application, from top to bottom, for any corruption introduced by the USPTO's rendering system.

Here is how the USPTO rendered this math equation:

$$f(u) = \cos(u)^3 \exp(10.2u) \quad (\text{Equation 14})$$

The alert reader will notice that the USPTO inserted a spurious digit "1" into the math equation. Had I overlooked this corruption of the document by the USPTO, I might then have clicked "continue", at which point it would have been USPTO's position that I had agreed to accept USPTO's change of "0.2" to "10.2". TYFNIL the accused infringer would be able to seize upon this.

ten years from now in litigation

There are a dozen other places in this patent application where USPTO corrupted math equations; Equation 14 is merely the most striking so that is the one that I quoted here.

As a beta-tester of USPTO's DOCX systems, I have used a pretty simple way of choosing which of my patent applications I am willing to subject to the risks of filing in DOCX. Basically if there is any math equation or chemical formula, or anything other than very simple alphanumerical characters, I don't take the risk. Every now and then, on a whim, I will experiment with something like this "Equation 14" document, but I don't risk any actual substantive rights of a client by actually clicking "submit" in such a case.

providing ample time for applicants to transition to this new process.

Comment 43: One commenter questioned the statement made by the USPTO Acting Deputy Director in the September 2018 PPAC Fee Setting Hearing that “fees for search and examination are set below cost,” and

Therefore, they will continue to be automatically removed, and a warning will be provided.

To date, the Office has not received notifications of any issues resulting from the filing of applications in DOCX format. If there is an instance in which an error occurs, the Electronic Business

non-DOCX surcharge. Furthermore, the fee is reduced by 50 percent for small entities and 75 percent for applicants that qualify as micro entities.

The Office recognizes the need for freedom of choice to file in different formats. Therefore, image-based PDFs will continue to be accepted for

Perhaps this is literally true: as Carl's letter explains, after Carl detected the error to be introduced by the PTO's DOCX software, Carl abandoned the attempt, and filed that patent application as a reliable PDF. Thus, taken hyper-literally, there was no "issue resulting from the filing of an application in DOCX format."

This is a symptom of a larger disease: in the Final Rule and Supporting Statements, the Patent Office made dozens of representations to OMB that are only true if read hyper-literally.

For a Libre Office user (like Carl), (a) the error cannot be detected except by sharp-eyed character-by-character proofreading, and (b) this error cannot be overcome except by resorting to PDF. The very same bits mean different things to Carl's Libre Office and to the Patent Office's DOCX engine.

The Patent Office has never responded to the public's concern that this is not a problem of individual bugs. The problem is a design that can never be reliable, no matter how much debugging. The Patent Office's foundation is built on sand that is designed to shift.

publication automatically route into the U.S. national stage application in PDF form. However, the commenter stated that this highlights the unwarranted nature of the non-DOCX surcharge. If a relatively moderate increase in price for PCT national stage entry applications is believed to be fiscally sustainable within the proposed fee structure, then the same should be true of regular non-provisional application filings, and the imposition of a new non-DOCX filing surcharge fee for one and not the other is inconsistent.

Response: Processing DOCX in national stage applications presents additional challenges and burdens on the Office and applicants that are not encountered with a standard utility application. Further investigation is needed as to the possibility of alternative means for obtaining text data (i.e., via the International Bureau) that would not burden applicants. This is being considered for the future.

Comment 45: One commenter stated that filing in DOCX is a wonderful idea in theory, but says that bugs have not been worked out of the process. The commenter writes that EFS-Web should stop removing “text ornaments.” Until it stops doing this, and until a DOCX filing will reliably result in an identical PDF document, there should be no penalty for filing PDF specifications or other application elements.

Response: “Text ornaments,” or text decorations, may not be presented in a form that allows direct reproduction of readily legible copies. See CFR 1.52.

Response: The use of image-based PDFs incurs many costs over the lifetime of an application. There are large costs associated with the USPTO's systems and personnel, from pre-examination, examination, and publication, due to the need to apply OCR to convert image-based PDFs into structured text that can be leveraged by downstream systems. The surcharge is applied not only to account for these inefficiencies, but also to address rising expenses.

This answer is evasive. No one suggested "image-based PDFs." The suggestion was text-based PDFs, specifically PDF/A. Nowhere in 2019-2020 NPRM phase nor 2020 triennial ICR for 0651-0032 nor 2023 DOCX 0651-0089 does the PTO respond to the suggestion.

As patent applications have become increasingly complicated, the non-DOCX surcharge is an effective measure to recover the cost of converting PDFs to text. The text is essential for efficient examination and maintaining the quality of patents issued. According to surveys conducted by the USPTO, the majority of applicants use word-processing software, such as Microsoft Office and LibreOffice, to author applications in DOCX format. These applicants will now be able to submit applications in this same format to the USPTO, therefore avoiding the new

to provide a PDF version of the patent application being filed, along with the DOCX file. The PDF version would serve as the controlling version in the event of any discrepancy in the USPTO's rendering of the DOCX file.

Response: Many applications are originally created in DOCX and subsequently converted to PDF by applicants prior to submission. An advantage of submitting in DOCX format directly is that submitted files from all applicants are validated and converted to PDF by USPTO systems in a consistent manner. This eliminates the unnecessary step for applicants to generate and attach their own PDF documents. The generated PDF is available pre-submission to provide the applicant an opportunity to review the document before selecting the submit button.

As a part of the DOCX intake process, preliminary validation is performed on DOCX documents at the time of upload. The system immediately detects and supplies the applicant with useful error and warning messages, allowing for adjustments to patent applications early in the process. This saves time, reduces potential costs, and prevents delays in processing by minimizing notices of missing parts or incomplete applications from the Office. Furthermore, the USPTO continuously performs rigorous testing to ensure that document integrity is preserved.

Comment 49: One commenter asked whether the surcharge would be waived if an applicant filed on paper because the electronic filing system was not

Example 2

- **Uploaded DOCX:**

- [0128]

```
[h,w]=size(lin);  
lout=zeros(size(lin));  
for i=1:h,  
    for j=1:w,  
        x=j;  
        y=i;  
        S=dZ/(f*H);  
        x1=x(:)-x0;  
        y1=y(:)-y0;  
        y2=y1./(1+y1*S);  
        x2=x1./(1+y1*S);  
        x2=x2+x0;  
        y2=y2+y0;  
        lout(i,j)=bilinearInterpolate(lin,x2,y2);  
    end;  
end;
```

- Patent Office’s “validated” DOCX:

```

• [0128] [h,w]=size(lin);          lout=zeros(size(lin));          for
  i=1:h,          for j=1:w,          x=j;
    y=i;          S=dZ/(f*H);          x1=x(:)-x0;
    y1=y(:)-y0;          y2=y1./(1+y1*S);
    x2=x1./(1+y1*S);          x2=x2+x0;
    y2=y2+y0;          lout(i,j)=bilinearInterpolate(lin,x2,y2);
  end;          end;

```

The top pseudocode listing (uploaded DOCX) is what was displayed on the applicant's computer. The bottom listing (Patent Office's "validated" DOCX) is what showed up when displayed on the Patent Office's system. All the formatting showing how the code worked is missing from the Patent Office's DOCX.

Example 3

Example 3 shows images of an equation copied directly from a display of the applicant. The Patent Office's displayed version shows squares for many of the parameters.

$$M(x)[Z] \leq \exp(\epsilon \cdot d(x, x')) \cdot M(x')[Z].$$

$$M(\square)[Z] \leq \exp(\square \cdot \square(\square, \square')) \cdot M(\square')[Z].$$

Example 4

Example 4 shows equation parameters converted to squares by the Patent Office's DOCX software:

$$[0002] \quad PL_{b,f,c}(q_d))$$

$$[0002] \quad \square\square_{\square,\square,\square}(\square\square))$$

$$[0003] \quad P_{O_PUSCH,b,f,c}(j))$$

$$[0003] \quad \square_{O_PUSCH,\square,\square,\square}(j))$$

$$[0004] \quad \alpha_{b,f,c}(j))$$

$$[0004] \quad \square_{\square,\square,\square}(j))$$

Example 5

Pages of text missing

PDF resulted in blank pages in PTO version

USPTO programmer says it has been fixed after we provided an example

- Temporary system resource constraint
- But - hyperlink **error** returned.
 - P [272] – Javascript hyperlink
 - Now it works

We worked with a programmer at the Patent Office to try and correct some errors during testing. Many hidden errors, like a hyperlink that may not even be visible in the display of the DOCX file can result in an error message that prevents filing of the application. Many hidden errors have been found and will continue to be found. After spending tens of hours drafting an application that needs to be filed quickly, these errors, can both prevent filing, or lie undetected potentially threatening the enforceability of the patent.

Example 6

Both Adobe Sign and the Patent Office's DOCX software changed this equation

$$V_{Dp/2}$$

to this:

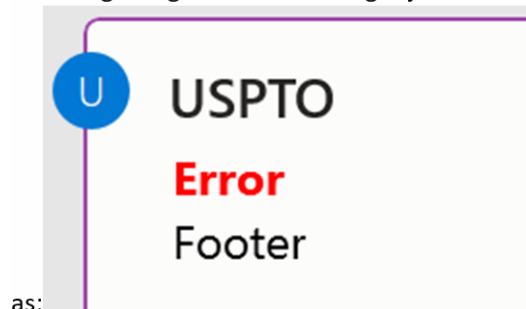
$$, \boxed{?}_{\boxed{?}p/2},$$

In Example 6, as displayed on the applicant's computer, the equation was displayed perfectly. In filing the application, Adobe sign was used to generate an auxiliary PDF to use to correct the Patent Office's "validated" version. Both Adobe Sign and the Patent Office's DOCX software generated the incorrect formula, replacing good symbols V and D with boxed question marks. Similar boxes with question marks were sprinkled through out the 50 plus pages of the application.

If the developer of the PDF standard can't reliably convert a DOCX file, what chance does the Patent Office have of getting it correct?

Example 7 (April 2024) Prevented filing until fixed

We are getting a DocX file being rejected due to “document automation fields”. One error shows up just after the title



In Example 7, an error prevented filing of the application using a DOCX file. The cause of the error was unviewable when performing normal editing. The error code is shown above. We could not figure out how to fix it.

A Patent Office programmer we contacted recommended “press ALT &F9 to reveal the automation field code. Highlight/select the field code then hold down CTRL+SHIFT+F9 to remove the field code.”

That did not work. We finally figured out how to fix it a couple days later by using a feature in MS Word: click: **FILE, INFO** and then **Check for Issues**

The solution was found by a specialist in our sophisticated word processing group who had never used that function before. What about small entities, like individual inventors who use open source word processing that may not have a super-specialist that can do that kind of diagnosis?

Can you imagine trying to file your taxes using DOCX files and having the IRS version show that you under reported income by 10 fold and then not let you correct it? Next stop, big fine and criminal prosecution. Some of the patents we work on are worth millions of dollars, and the mistakes introduced by the DOCX rendering can render them worthless.

The next few pages illustrate the manglement that the Patent Office's DOCX software introduces, and the burden the Patent Office creates when a person seeks correction of Office error.

First, this is the way it's supposed to be. Notice how each claim begins with a number, and a single claim can have multiple paragraphs, and there's a total of 15 claims.

Claims

1. A laser amplifier device comprising:
 - an amplification element comprising a solid-state gain medium; said amplification element comprising a first main face and a second main face separated
 - 5 from each other by a distance which is at least ten times smaller than the lateral dimensions of said first and a second main faces,
 - a solid-state heat spreader thermally connected to the first main face of the amplification element and substantially covering the surface of said first main face; the solid-state heat spreader being optically transparent to a pump light configured to
 - 10 optically excite the gain medium of the amplification element; said solid-state heat spreader being further in thermal contact with a heat sink,
 - a first reflector substantially covering and facing said first main face and a second reflector substantially covering and facing the second main face; said reflectors being configured to reflect said pump light for at least a range of incidence angles,
 - 15 wherein the solid-state heat spreader and the first reflector are arranged such that when said pump light is directed towards the amplification element, the pump light passes through the solid-state heat spreader and through the first reflector,
 - wherein the first and second reflectors are configured to produce multiple reflections of said pump light across the amplification element, between the first and
 - 20 second reflectors; and
 - wherein said first reflector is not in physical contact with the amplification element and the solid-state heat spreader.
2. The laser amplifier device according to claim 1,
 - wherein the amplification element comprises a gain medium layer sandwiched between
 - 25 two surrounding layers, the gain medium layer constituting the gain medium of the amplification element and the surrounding layers being made from a transparent material approximately matching the index of refraction of the gain medium layer.
3. The laser amplifier device according to claim 2,
 - wherein the gain medium layer has a thickness between 100 μm and 3 mm; preferably,

between 200 μm and 300 μm , and wherein each of the surrounding layers has a thickness between 200 μm and 1 mm, preferably between 200 μm and 300 μm .

4. The laser amplifier device according to claim 2,
wherein the gain medium layer comprises a doped ceramic or crystalline material and
5 the surrounding layers comprise the same undoped ceramic or crystalline material.

5. The laser amplifier device according to claim 4,
wherein the material of said gain medium layer comprises Yb-doped YAG and, the
material of the surrounding layers comprises undoped YAG.

6. The laser amplifier device according to claim 1,
10 wherein said solid-state heat spreader is made of a material comprising diamond or sapphire.

7. The laser amplifier device according to claim 1,
wherein the pump light comprises an array of locally spatially confined pump beams;
and
15 wherein the first reflector comprises an array of small apertures configured to allow the passage of said array of locally spatially confined pump beams into the amplification element.

8. The laser amplifier device according to claim 7,
wherein the first reflector comprises a substrate comprising an array of tap-holes
20 defining said array of small apertures, said substrate being coated on at least one side with a reflective coating.

9. The laser amplifier device according to claim 7,
wherein the first reflector comprises a transparent substrate comprising a patterned reflective coating defining said array of small apertures.

25 10. The laser amplifier device according to claim 1,
wherein the pump light comprises a collimated beam;

the amplifier device being oriented relative to the collimated beam such as
to provide a predetermined angle of entrance of the collimated beam into the
amplification element;

wherein the second reflector makes a non-zero reflector angle relative to the first reflector such that the multiple reflections across the amplification element occur at other angles of incidence different from the predetermined angle of entrance;

said first reflector comprising a dielectric angle-dependent optical coating
 5 having transmitting properties for the collimated beam at the predetermined angle of entrance and having reflective properties for the collimated beam at said other angles of incidence.

11. A system comprising a laser amplifier device comprising:

an amplification element comprising a solid-state gain medium; said
 10 amplification element comprising a first main face and a second main face separated from each other by a distance which is smaller than the lateral dimensions of said first and a second main,

a solid-state heat spreader thermally connected to the first main face of the amplification element and substantially covering the surface of said first main face; the
 15 solid-state heat spreader being optically transparent to a pump light configured to optically excite the gain medium of the amplification element; said solid-state heat spreader being further in thermal contact with a heat sink,

a first reflector substantially covering and facing said first main face and a second reflector substantially covering and facing the second main face; said reflectors
 20 being configured to reflect said pump light for at least a range of incidence angles,

wherein the solid-state heat spreader and the first reflector are arranged such that when said pump light is directed towards the amplification element, the pump light passes through the solid-state heat spreader and through the first reflector,

wherein the first and second reflectors are configured to produce multiple
 25 reflections of said pump light across the amplification element, between the first and second reflectors, and

wherein said first reflector is not in physical contact with the amplification element and the solid-state heat spreader;

the laser amplifier device further comprising a light source configured to
 30 generate pump light adapted to optically excite the gain medium of the amplification element, the pump light substantially covering the surface of said first main face.

12. The system according to claim 11,
wherein the light source is configured to generate an array of locally spatially confined
pump beams;
wherein the first reflector comprises an array of small apertures configured to allow the
5 passage of said array of locally spatially confined pump beams into the amplification
element.

13. The system according to claim 12,
wherein the light source comprises an array of optical fibers; and
wherein each optical fiber comprises an output face emitting one of the locally spatially
10 confined pump beams, each output face being aligned in front of each of said small
apertures.

14. The system according to claim 12,
wherein the light source comprises an array of micro-lenses generating the array of
locally spatially confined pump beams, the array of micro-lenses being arranged to
15 focus said locally spatially confined pump beams into said small apertures.

15. The system according to claim 14,
wherein the light source is configured to generate a collimated beam.

Example 8 (continued) This is the mangement created by the Patent Office's DOCX software. Note that many of the claims are separated into separate paragraphs, and then a number given to each separate paragraph.

Then the Patent Office charges per-claim fees for each claim -- in this case, over \$8000 in additional fees.

Claims

1. A laser amplifier device comprising:
 - an amplification element comprising a solid-state gain medium; said amplification element comprising a first main face and a second main face separated
 - 5 from each other by a distance which is at least ten times smaller than the lateral dimensions of said first and a second main faces,
 - a solid-state heat spreader thermally connected to the first main face of the amplification element and substantially covering the surface of said first main face; the solid-state heat spreader being optically transparent to a pump light configured to
 - 10 optically excite the gain medium of the amplification element; said solid-state heat spreader being further in thermal contact with a heat sink,
 - a first reflector substantially covering and facing said first main face and a second reflector substantially covering and facing the second main face; said reflectors being configured to reflect said pump light for at least a range of incidence angles,
 - 15 wherein the solid-state heat spreader and the first reflector are arranged such that when said pump light is directed towards the amplification element, the pump light passes through the solid-state heat spreader and through the first reflector,
 - wherein the first and second reflectors are configured to produce multiple reflections of said pump light across the amplification element, between the first and
 - 20 second reflectors; and
 - wherein said first reflector is not in physical contact with the amplification element and the solid-state heat spreader.
2. The laser amplifier device according to claim 1,
3. wherein the amplification element comprises a gain medium layer
- 25 sandwiched between two surrounding layers, the gain medium layer constituting the gain medium of the amplification element and the surrounding layers being made from a transparent material approximately matching the index of refraction of the gain medium layer.
4. The laser amplifier device according to claim 2,

5. wherein the gain medium layer has a thickness between 100 μm and 3 mm; preferably, between 200 μm and 300 μm , and wherein each of the surrounding layers has a thickness between 200 μm and 1 mm, preferably between 200 μm and 300 μm .
- 5 6. The laser amplifier device according to claim 2,
7. wherein the gain medium layer comprises a doped ceramic or crystalline material and the surrounding layers comprise the same undoped ceramic or crystalline material.
8. The laser amplifier device according to claim 4,
- 10 9. wherein the material of said gain medium layer comprises Yb-doped YAG and, the material of the surrounding layers comprises undoped YAG.
10. The laser amplifier device according to claim 1,
11. wherein said solid-state heat spreader is made of a material comprising diamond or sapphire.
- 15 12. The laser amplifier device according to claim 1,
13. wherein the pump light comprises an array of locally spatially confined pump beams; and
14. wherein the first reflector comprises an array of small apertures configured to allow the passage of said array of locally spatially confined pump beams
- 20 into the amplification element.
15. The laser amplifier device according to claim 7,
16. wherein the first reflector comprises a substrate comprising an array of tap-holes defining said array of small apertures, said substrate being coated on at least one side with a reflective coating.
- 25 17. The laser amplifier device according to claim 7,
18. wherein the first reflector comprises a transparent substrate comprising a patterned reflective coating defining said array of small apertures.
19. The laser amplifier device according to claim 1,
20. wherein the pump light comprises a collimated beam;

the amplifier device being oriented relative to the collimated beam such as to provide a predetermined angle of entrance of the collimated beam into the amplification element;

5 wherein the second reflector makes a non-zero reflector angle relative to the first reflector such that the multiple reflections across the amplification element occur at other angles of incidence different from the predetermined angle of entrance;

said first reflector comprising a dielectric angle-dependent optical coating having transmitting properties for the collimated beam at the predetermined angle of entrance and having reflective properties for the collimated beam at said other angles of
10 incidence.

21. A system comprising a laser amplifier device comprising:

an amplification element comprising a solid-state gain medium; said amplification element comprising a first main face and a second main face separated from each other by a distance which is smaller than the lateral dimensions of said first
15 and a second main,

a solid-state heat spreader thermally connected to the first main face of the amplification element and substantially covering the surface of said first main face; the solid-state heat spreader being optically transparent to a pump light configured to optically excite the gain medium of the amplification element; said solid-state heat
20 spreader being further in thermal contact with a heat sink,

a first reflector substantially covering and facing said first main face and a second reflector substantially covering and facing the second main face; said reflectors being configured to reflect said pump light for at least a range of incidence angles,

wherein the solid-state heat spreader and the first reflector are arranged such
25 that when said pump light is directed towards the amplification element, the pump light passes through the solid-state heat spreader and through the first reflector,

wherein the first and second reflectors are configured to produce multiple reflections of said pump light across the amplification element, between the first and second reflectors, and

30 wherein said first reflector is not in physical contact with the amplification element and the solid-state heat spreader;

the laser amplifier device further comprising a light source configured to generate pump light adapted to optically excite the gain medium of the amplification element, the pump light substantially covering the surface of said first main face.

22. The system according to claim 11,
- 5 **23.** wherein the light source is configured to generate an array of locally spatially confined pump beams;
- 24.** wherein the first reflector comprises an array of small apertures configured to allow the passage of said array of locally spatially confined pump beams into the amplification element.
- 10 25. The system according to claim 12,
- 26.** wherein the light source comprises an array of optical fibers; and
- 27.** wherein each optical fiber comprises an output face emitting one of the locally spatially confined pump beams, each output face being aligned in front of each of said small apertures.
- 15 28. The system according to claim 12,
- 29.** wherein the light source comprises an array of micro-lenses generating the array of locally spatially confined pump beams, the array of micro-lenses being arranged to focus said locally spatially confined pump beams into said small apertures.
30. The system according to claim 14,
- 20 **31.** wherein the light source is configured to generate a collimated beam.

The Patent Office charges fees per claim. Because the Patent Office's software changed 15 claims to 31, the fees increased by over \$8000.

Example 8 (continued): The applicant requested a refund of the fee overcharge.

(Also notice how pixelated the text is.)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor: Steve Lecomte, et al.
Appln No.: 17/935,676
Filed: September 27, 2022
Title: MAGNETORESISTIVE ELEMENT FOR A 2D MAGNETIC
SENSOR HAVING A REDUCED HYSTERESIS RESPONSE
Conf. No.: 5463
Customer No.: 86378
Docket No.: P&TS-66813

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REQUEST FOR REFUND

Dear Sir:

This application was filed through Patent Center on September 09/27/2022. The application was uploaded as an MS Word DOCX file with 15 claims (including 2 independent claims). All corresponding fees were paid during submission of the application.

On 04/17/2023, our deposit account was charged \$8300 for additional claim fees (\$1100 for 11 claims in excess of 20 and \$7200 for 15 independent claims in excess of 3).

Upon seeing the additional claim fees, applicant's representative discovered that the USPTO's conversion of the uploaded DOCX application had renumbered the claims. Based on the renumbering of the claims, it appears that Patent Center interpreted the second line of each dependent claim as a new independent claim. See the warnings in the attached feedback copy.

It is clear from the format of the claims in the application in Patent Center that the application had only 15 claims and there was a conversion error in Patent Center. This is further evidenced by review of the DOCX application we uploaded (copy attached). A preliminary amendment has been filed to correct the conversion error by entering new (renumbered) claims matching the originally submitted claims.

Accordingly, applicant requests a refund of the \$8300 additional claim fees that were erroneously charged. Please credit the refund to the deposit account 16-0820, order P&TS-66813.

Respectfully submitted,
PEARNE & GORDON LLP

Dated: May 15, 2023

By: /michaelwgarvey/
Michael W. Garvey, Reg. No. 35878

1801 East 9th Street, Suite 1200
Cleveland, OH 44114



United States Patent and Trademark Office

Office of the Chief Financial Officer

January 02, 2024

86378
PEARNE & GORDON LLP
Attn: MICHAEL GARVEY
1801 EAST 9TH STREET,
SUITE 1200
CLEVELAND, OH 44114

Dear Sir/Madam,

The United States Patent and Trademark Office (USPTO) has reviewed your refund request for Reference Number **17935676** - Refund Request ID **REFND-20231229-19314**. Below is the current status of your refund request assigned to the following processing area: Office of Patent Application Processing

Fee code	Decision	Decision Reason(s)	Refund Amount
1201	Dismissed	Other - see attached page(s)	\$0.00
1202	Dismissed	Other - see attached page(s)	\$0.00

Please refer to the following page to review the detailed dismissal reason(s).

You will receive a separate decision letter for any additional fee codes assigned to other processing areas, if applicable. Decisions may be subject to change if an error is identified.

For questions related to this refund request, contact the Office of Patent Application Processing at (703) 756-1158.

Thank you,
Refund Branch

Enclosure: Refund Dismissal Reason(s)

Refund Dismissal Reason(s) for fee code 1201:

- Other - The Office cannot refund excess claim fees that were properly paid merely because applicant cancels the excess claims prior to the first Office action. Preliminary amendments canceling or adding claims, will be taken in to account in determining the appropriate fees due. No, refund will be made for claims being canceled that have already been paid for. See MPEP § 607.02. The fees that were charged, are fees that are set forth in 37 CFR 1.16 and 37 CFR 1.17. Thus, the fees were properly charged to the deposit account. Authorization was given on September 22, 2022, to credit any overpayment to Deposit Account No. 16-0820

Refund Dismissal Reason(s) for fee code 1202:

- Other - The Office cannot refund excess claim fees that were properly paid merely because applicant cancels the excess claims prior to the first Office action. Preliminary amendments canceling or adding claims, will be taken in to account in determining the appropriate fees due. No, refund will be made for claims being canceled that have already been paid for. See MPEP § 607.02. The fees that were charged, are fees that are set forth in 37 CFR 1.16 and 37 CFR 1.17. Thus, the fees were properly charged to the deposit account. Authorization was given on September 22, 2022, to credit any overpayment to Deposit Account No. 16-0820

Example 8 (continued): the applicant filed a second, more-detailed request for refund.

I phoned the attorney; this request for refund took about 5 hours.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor:	Steve Lecomte, et al.
Appln No.:	17/935,676
Filed:	September 27, 2022
Title:	MAGNETORESISTIVE ELEMENT FOR A 2D MAGNETIC SENSOR HAVING A REDUCED HYSTERESIS RESPONSE
Conf. No.:	5463
Customer No.:	86378
Docket No.:	P&TS-66813

Office of Petitions
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**PETITION UNDER 37 C.F.R. § 1.181 TO THE DIRECTOR REQUESTING
RECONSIDERATION OF REQUEST FOR REFUND**

Dear Sir:

This petition was originally filed on February 20, 2024 but it has come to Applicant's attention that the filed copy was not signed. Accordingly, this petition is resubmit with the present date and signed.

For the reasons set forth below, applicant respectfully petitions the Director pursuant to 37 CFR § 1.181 to request reconsideration of the Dismissal of the Request for Refund filed on May 15, 2023.

Statement of Facts

This application was filed through Patent Center on 09/27/2022. The application was uploaded as an MS Word DOCX file with 15 claims (including 2 independent claims). All corresponding fees were paid during submission of the application.

On 04/17/2023, our deposit account was charged \$8300 for additional claim fees (\$1100 for 11 claims in excess of 20 and \$7200 for 15 independent claims in excess of 3).

Upon seeing the additional claim fees, applicant's representative discovered that the USPTO's conversion of the uploaded DOCX application had renumbered the claims. Based on the

renumbering of the claims, it appears that Patent Center interpreted the second line of each dependent claim as a new independent claim.

It is clear from the format of the claims in the application in Patent Center that the application had only 15 claims and there was a conversion error in Patent Center. This is further evidenced by review of the uploaded DOCX application.

A refund request was submitted on 05/15/2023 and a decision issued on 01/02/2024 indicating that request was dismissed. As noted therein, the decision may be subject to change if an error is identified. This petition sets forth that error and request change of the request.

Errors in Decision

The Decision indicates that a refund is not warranted where “excess claim fees that were properly paid merely because applicant cancels the excess claims prior to the first Office action.” That is, the Decision relies on an interpretation of the facts in which Applicant submitted a number of claims requiring excess fees, and then decided to cancel those additional claims at a later date. But that is not true. Rather, the USPTO systems improperly renumbered Applicant’s claims and then incorrectly calculated the total number of claims based on that renumbering. Put another way, the application as filed did not include additional claims warranting excess fees, and the preliminary amendment submitted by Applicant merely corrected numbering errors caused by the Office. The Decision is thus based on an incorrect understanding of the present situation.

More particularly, a technical review indicated the DOCX file uploaded by Applicant included a line break character (↵) between various lines/limitations of the claims, and the claims were numbered subject to Microsoft Word’s ‘automatic numbering.’ During the USPTO’s conversion of the DOCX file after being uploaded to Patent Center, the line break character (↵) between the preamble and subsequent limitations in each dependent claim was converted to a paragraph break character (¶). This conversion then caused each dependent claim to be renumbered as if it were two or more claims. By way of example, Applicant included the following Claim 2 in their uploaded DOCX file:

2. The laser amplifier device according to claim 1, ↵
wherein the amplification element comprises a gain medium layer sandwiched between two surrounding layers, the gain medium layer constituting the gain medium of the amplification element and the surrounding layers being made from

a transparent material approximately matching the index of refraction of the gain medium layer.

During processing in Patent Center, this claim was reformatted and renumbered as:

2. The laser amplifier device according to claim 1, ¶
3. wherein the amplification element comprises a gain medium layer sandwiched between two surrounding layers, the gain medium layer constituting the gain medium of the amplification element and the surrounding layers being made from a transparent material approximately matching the index of refraction of the gain medium layer.

This numbering resulted in the improper calculation of the additional claim fees, counting the portion numbered “2” as a dependent claim and the portion numbered “3” as an independent claim. Considering this, the excess claim fees were not the result of Applicant’s submission of any additional claims, but rather the result of errors in the USPTO systems. This was not considered in the Decision, and thus refund is warranted and the Decision should be changed.

Notwithstanding the above renumbering error, refund is also warranted because Applicant did not actually submit more than twenty (20) total claims and three (3) independent claims. That is, 35 USC § 112(d) defines a dependent claim as one having both “a reference to a claim previously set forth” and “a further limitation of the subject matter claimed.” 37 CFR § 1.75 further identifies that each claim has a “preamble comprising a general description of . . . elements or steps . . . which are conventional or known”, a “[transitional] phrase such as ‘wherein the improvement comprises,’” and the substantive “elements, steps and/or relationships which constitute that portion of the claimed combination which the applicant considers as the new or improved portion.” Claims are identified by these features, not by their numbering.

Using the above example Claim 2, it is clear that the elements thereof present only a single claim where “The laser amplifier device according to claim 1” constitutes the preamble and reference to a previously set forth claim, and the remainder of the claim constitutes the transitional phrase and substantive further limitation. That is, neither phrase on its own constitutes a complete claim and thus neither can be counted as a separate or independent claim. When reviewing the submitted claims then, it becomes clear that the application as-filed contained only fifteen (15) total claims and two (2) independent claims, regardless of how those claims were numbered. The excess claim fees are thus the result of an improper calculation based only on the claims as-numbered, rather than the substantive definition of a claim as provided by the US Code and Code of Federal Regulations. Considering this, regardless of any renumbering errors caused by the

USPTO DOCX processing, the Applicant did not actually include additional claims as the Decision suggests. This issue was also not considered in the Decision, and thus refund is warranted and the Decision should be changed for this additional reason.

Finally, as a policy matter, it is not equitable to impose these fees on Applicant. That is, this issue arises from the Applicant's participation in the USPTO's beta trials for DOCX filing. As noted above, the fees were charged automatically and as a result of bugs in the USPTO's own systems, which Applicant's participation was helping to identify. Applicant should not be punished for this participation, and imposition of these fees serves only to discourage future stakeholder participation in these programs. This is particularly true of programs such as DOCX filing, which has been highly controversial and subject to intense scrutiny, and which was subject to many delays in implementation due to a litany of other errors in the USPTO systems.

For at least the above reasons, Applicant was erroneously charged excess claim fees in the amount of \$8300 and the prior refund Decision was based on an misunderstanding of the present facts. It is thus requested that the Decision be changed and those fees be refunded. Please credit the refund to the deposit account 16-0820, order P&TS-66813.

Respectfully submitted,
PEARNE & GORDON LLP

Dated: March 6, 2024

By: /Andrew W. Jenkins/
Andrew W. Jenkins, Reg. No. 70836

Pearne & Gordon LLP
1801 East 9th Street, Suite 1200
Cleveland, OH 44114
216-579-1700 (telephone)
216-579-6073 (fax)



United States Patent and Trademark Office

Office of the Chief Financial Officer

Example 8 (continued): Finally, on May 3 (last Thursday, over a year after the original error), the Patent Office refunded the error

Document Code:WFEE

User :Gloria Arias

Refund Accounting Date:05/03/2024

Effective Date	Sale Item Reference Number	Refund Total
05/03/2024	17935676	\$8,300.00

Document Number	Fee Code	Fee Code Description	Amount Paid	Payment Method	Account Number
I202453805235309	1201	INDEPENDENT CLAIMS IN EXCESS OF 3	\$7,200.00	DA	160820
I202453805235309	1202	CLAIMS IN EXCESS OF 20	\$1,100.00	DA	160820

Lessons from these examples:

1. the DOCX software introduces errors. This is inevitable for three reasons. (a) the Patent Office's software quality and testing functions are far below private-sector standards. (b) the DOCX standard is very complex (3X to 9X more pages than the PDF standard, depending on how you count) -- complexity invites error. (c) DOCX is not designed to be a reliable vehicle for archival text or inter-computer interchange, and can never be. The standard makes no such guarantees. Further, Microsoft makes undocumented changes to DOCX/Word all the time (one of the central design goals of Microsoft Office 365 is to make it easier for Microsoft to distribute updates).
2. Catching these errors is very difficult for applicants, and the Patent Office compounds the problem by making error correction very difficult. This error came to light because of the \$8000 charge--the error is very hard to catch at the moment a patent application is filed. For most of these errors, the first time they will be visible to the applicant is when the patent application publishes (at 18 months) or issues (typically 3-5 years). In the past, proofreading of issued patents has been common, but no one proofreads the 18 month publications. The Patent Office's Federal Register notices state that correction requests will only be entertained within the first year.
3. Error correction requests will be necessary. The PTO books the extra petitions at zero.
4. Procedure matters. The ICR regulations require an agency to gather information and analyze it fairly. When an agency skips procedure, bad decisions that should be caught early, while they're easy to fix, propagate for years and can only be backed out at far greater costs. Those costs should be borne by the agency that skipped procedure, not the public that exercised every possible procedure to encourage the Patent Office to not make the error.

The solution is simple:

- (a) The "of record" copy must be the file uploaded by the applicant, bit-for-bit, no changes. No tampering in the name of "validation" or "uniform format." This is mandated by Federal Records Act and Federal Rule of Evidence 1002.
- (b) The "of record" copy must be in a format that is uniform, stable, reproducible across all software and hardware implementations. PDF makes exactly that promise. The DOCX standard, and Microsoft's web pages, promise the opposite. That's what all courts and other agencies do. The Patent Office should not be an outlier.

In 2015, the Patent Office had a legitimate problem to solve

The Patent Office was an early adopter of electronic document systems. Their first systems worked by scanning paper documents to TIFF (a bitmap photograph format.)

When the Patent Office began to accept electronic uploads of patent applications (2004 or so), the Patent Office gave instructions that resulted in a reliable text-based PDF generated on the users computer, for upload.

<https://www.uspto.gov/sites/default/files/ebs/portal/efs/pdf-creation.pdf>

20 years ago, the Patent Office made a fateful choice: upload full-text PDFs, but flatten them to a bitmap, and then try to OCR. In other words, applicants *upload* PDFs that have the text in *perfect* form. Instead of maintaining that PDF in perfect full-text form, the Patent Office programmed its computers to flatten the text-rich PDF into bitmaps (photographs). Then the Patent Office has to OCR to reconstruct the characters *that flattening had discarded*.

Here's a patent application I filed a year ago, at 1600% magnification. On the left is the text-based PDF as I uploaded it. On the right is the same patent application after filing, as downloaded from the Patent Office's web site.



As you can see in the left, the characters in a text-based PDF are *perfect*. But in the right, they've been pixilated by the Patent Office's computers.

Good software design would say "accept text-based PDF as the input, and don't change it." That's what every court and agency does (including the Eastern District of Virginia, the Court of Appeals for the Federal Circuit, the Supreme Court, and the Patent Office's own Patent Trial and Appeal Board).

- We're as sure as we can be (as outsiders) that scraping text from a text-based PDF is no more complex than from a DOCX, and probably easier.
- We believe there's no advantage in flattening to bitmap: a text-based PDF is typically 1/6 to 1/10 the size of the bitmap PDF.
- By law, patent applications must be one column, text only (with tables, equations, and chemical formulae). As far as we know, patent applications present no difficulties in text scraping (and despite several queries, the Patent Office has provided no documentary evidence to the contrary).

To formulate a solution to the OCR problem, the PTO commissioned a study. The study concluded:

- In PDF, "The appearance of everything that each page contains is completely specified."
- PDF-to-text "takes the right approach towards achieving the objectives"
- a commercially-available PDF-to-text product largely solves the problem

Text2PTO Proof of Concept White Paper

Version 1.0



24 March 2015

American Environmental and Engineering Consultants (AEEC, LLC)
1925 Ballenger Ave, Suite 450,
Alexandria, VA 22314
<http://www.americanconsultants.com>
Phone: (703) 317-0800



1 Introduction

This white paper presents details about a Text2PTO prototype for extracting text, layout, and formatting information from PDF files that have text behind them. A proof-of-concept (POC) was conducted to design a solution that could accept incoming PDF files and extract text content along with formatting and layout information. This document is presented by AEEC's Application Architecture Software Engineering Team (AASET) to the United States Patent and Trademark Office (USPTO).

1.1 BACKGROUND

USPTO currently accepts patent applications through its Electronic Filing System (EFS). EFS accepts PDF documents during application submission. Applicants can use various tools to create PDFs for EFS submission. More than 45% of these submitted PDFs have text behind them. Due to the differences in the COTS or open source tools used by the applicant to generate the PDFs, the format and structure of the PDFs differ. Currently, USPTO relies on OCR to extract text from TIFF representations of these submitted PDFs. The OCR-extracted text and layout information is used to generate XML4IP documents.

3 Solution Analysis

3.1 PDF BRIEF INTRODUCTION

A PDF file encapsulates a complete description of a fixed-layout flat document, including the text, fonts, graphics, and other information needed to display it. The appearance of everything that each page contains is completely specified. The structure of a PDF file does not match the structure of the PDF document it describes. PDF documents are display-oriented and the specification is not built to address text extraction concerns. The underlying structure of a PDF is multi-layered and very complex. Elaborating on the intricacies of extracting text from a PDF is outside the scope of this document. However, additional details can be found by referring to the following articles:

http://partners.adobe.com/public/developer/tips/topic_tip31.html

http://www.planetpdf.com/developer/article.asp?ContentID=navigating_the_internal_struct&page=0

3.2 SELECTING A TOOL

As discussed in the previous section, text / format extraction from a PDF is a complex task. There are several tools in the market that have sought to solve this problem with varying degrees of success. Most of these tools do a good job extracting text from PDFs, but they lack reliability and consistency in extracting the document's format, layout, and structures. Developing a tool from scratch to extract text, format, and layout information from PDF documents would be a very complex task, and may not produce an acceptable output. Therefore, this prototype effort focuses instead on identifying a tool that could get as close as possible to our objective.

3.3 SOLUTION OVERVIEW

We followed a 3-step process to identify and develop a solution:

1. Identify format, layout, and structural elements of PDF documents to be extracted.
2. Conduct market research on tools that can extract the identified elements from PDFs.
3. Develop a Java-based solution around selected tools in order to:
 - a. Integrate the tool in the USPTO environment
 - b. Support batch processing
 - c. Output an XML document
 - d. Address shortcomings of the tool

http://en.wikipedia.org/wiki/Private_Use_Areas

- A custom character set and does not provide mapping between the character codes and Unicodes

http://blogs.adobe.com/insidepdf/2008/07/text_content_in_pdf_files.html

At this point, it is not clear if there is a resolution for the two scenarios above. The PDFxStream team has been notified about this and they are looking into it.

Math and Chemical Formulae

Though the prototype attempted to detect and extract math and chemical formulae, the solution is not complete. Please refer to section 5.3.3 for details.

List Processing

List detection is not built into PDFxStream and there are no indications it will be supported in the future. This needs to be custom built into the application.

5.9 CONCLUSION

Although the presented solution has some limitations, it takes the right approach towards achieving the objectives. Limitations may be addressed in the long term by extending the Java application and using future releases of PDFxStream to customize / enhance the product to suit USPTO's needs.

Recommendations:

- Obtain support from PDFxStream to fix issues with Vector Images and Special Characters
- Implement additional logic to handle Chemical / Math formula
- Implement custom logic to extract List and Superscript / Subscript information

The PDF standard guarantees the properties that matter:

- PDF is a voluntary consensus standard, designed for “exchange [of] electronic documents ... reliably, independent of the environment in which they were created or the environment in which they are viewed or printed”
- A text-based PDF has perfect characters
- A text-based PDF file, regardless of the software that generated it or that views it, is *guaranteed* to appear *identically* on all computers
- PDF is standardized as ISO 32000, a voluntary consensus standard
- Many vendors, some of whose products are free
- If you want to test that PDF documents are *perfect*, open almost any ICR letter in Adobe Acrobat.
 - Do View > Zoom > 1600%. You will see no pixels. Every character exists in a *perfect* form that captures every characteristic.
 - Go back to Zoom 100%, then do View > Zoom > Reflow. You will see that the document has characters and most of the paragraphs perfectly encoded. (Page breaks are sometimes handled correctly, sometimes not. There’s a switch setting that the Patent Office could recommend to take care of that.)
- Because PDF is so universally used, there are commercial products for “scraping” text out of text-based PDF documents.

ISO 32000-2:2020(E)

The standard guarantees perfect character-by-character fidelity—the file encodes the difference between the Latin letter X, the Greek letter X, the Cyrillic letter X, and the multiply symbol ×

Introduction

PDF is a voluntary consensus standard (19 participating members in standard committee). Dozens of implementations, many free

0.1 PDF

PDF enables users to exchange and view electronic documents easily and reliably, independent of the environment in which they were created or the environment in which they are viewed or printed.

At the core of PDF is an advanced imaging model derived from the PostScript®¹ page description language. This PDF Imaging Model enables the description of text and graphics in a device-independent and resolution-independent manner at a complete, precise and professional level. Unlike PostScript, which is a programming language, PDF is based on a structured binary file format that is optimised for high performance in interactive viewing.

PDF includes objects such as annotations and hypertext links that are not part of the page content itself but are useful for interactive viewing and document interchange. PDF also includes data structures such as tagged PDF, XMP and an associated files mechanism, that are useful for document management and content reuse.

PDF files can be created natively in PDF form, converted from other electronic formats. Since PDF supports a wide range of image and compression technologies, it is a suitable format for documents digitised from paper, microform, or other hard copy formats. Businesses, governments, libraries, archives and other institutions and individuals around the world use PDF to represent considerable bodies of important information. Since its introduction in 1993, aided by the explosive growth of the Internet, PDF has become widely used for the electronic exchange of documents.

There are several specific applications of PDF that have evolved in which limiting the use of some features of PDF while requiring the use of others, enhances the usefulness of PDF. The following International Standards address specialised uses of PDF:

- PDF/X (ISO 15930) is the industry standard for the intermediate representation of printed material in electronic prepress systems for conventional printing applications.
- PDF/A (ISO 19005) is the industry standard for the archiving of digital documents.
- PDF/UA (ISO 14289) is the industry standard for accessible PDF documents and processors.
- PDF/E (ISO 24517) provides a mechanism for representing engineering documents and exchanging engineering data.

PDF works great for interchange of text documents.

Every court and agency (U.S. and international) that we know of accepts its papers in PDF.

Every court and agency that we talked to issues its decisions in PDF, and gives those PDFs to legal publishers (Lexis, Westlaw, Bloomberg, etc.) in PDF form. The publishers scrape the text out of the PDFs. The entire legal system relies on the reliability of PDF.

Patent applications by law must be text only (no pictures). The only complexity allowed is tables. Court decisions are more complex and less uniform. PDF has every capability any patent office could ask for patent applications.

[Sustainability of Digital Formats:](#) [Planning for Library of Congress](#) [Collections](#)

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PDF/A Family, PDF for Long-term Preservation

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- [Quality and functionality factors](#)
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The Library of Congress has a discussion of multiple documents and their utility for archival document storage.

The LoC's discussion of PDF (specifically the PDF/A variant states the properties we would all want:

- long-term preservation
- voluntary consensus standard with wide range of participants in standard committee

Format Description Properties

- ID: fdd000318
- Short name: PDF/A_family
- Content categories: text
- Format Category: family, file-format, encoding
- Other facets: unitary, binary, structured, symbolic
- Last significant FDD update: 2020-12-31
- Draft status: Full

Identification and description

Full name	ISO 19005. Document management - Electronic document file format for long-term preservation
Description	PDF/A is a family of ISO standards for constrained forms of PDF (see PDF_family) intended to be suitable for long-term preservation of page-oriented documents for which PDF is already being used in practice. The PDF/A standards are developed and maintained by a working group with representatives from government, industry, and academia and active support from Adobe Systems Incorporated. The working group is WG 5 of Technical Committee ISO/TC 171 ,

The DOCX standard does not make the relevant promises, and therefore does not guarantee identical document display on different systems:

- DOCX has many “implementation defined” or “unspecified” behaviors that can change the way a document displays by merely moving it from one computer to another:
 - Different versions of Word—for Latin characters vs. Hebrew characters vs. Asian characters, Word for Windows vs. Word for Mac, Word 2023 vs. Word 2013—render/display the very same PDF file differently
 - The standard allows extensions and plugins—no guarantees possible
 - Office 365 exacerbates the problem: updates without notice, on Microsoft’s schedule
- **Zero** vendors conform to the DOCX standard: *even Microsoft concedes that standard conformance is not considered, and it allows Word to “vary from or extend the specification”*
- Patent Office ignores OMB Circular A-119, which directs agencies to adopt voluntary consensus standards such as PDF.

lesson: the DOCX standard is designed for editability, not uniformity, reproducibility, or archival use
ISO/IEC 29500-1:2012(E)

The DOCX standard expressly does NOT guarantee uniformity or reproducibility across all implementations (MS Word, Libre Office, Google Docs, etc.) only "within any given implementation."

4. Terms and Definitions

DOCX is not a voluntary consensus standard—it's a Microsoft captive standard. As far as we know, no non-Microsoft products use the DOCX standard as their native language or implement DOCX reliably.

For the purposes of this document, the following terms and definitions apply. Other terms are defined where they appear in *italic* typeface, on the left side of a syntax rule, or within subclauses of language-specific grammars (§17.16 and §18.17). Terms explicitly defined in this Part of ISO/IEC 29500 are not to be presumed to refer implicitly to similar terms defined elsewhere. [Note: This Part uses OPC-related terms, which are defined in ISO/IEC 29500-2. *end note*]

application — A consumer or producer.

behavior — External appearance or action.

behavior, implementation-defined — Unspecified behavior where each implementation is expected to document that behavior, which would thereby promote predictability and reproducibility **within any given implementation**. (This term is sometimes called "application-defined behavior".)

behavior, locale-specific — Behavior that depends on local conventions of nationality, culture, and language.

behavior, unspecified — Behavior where ISO/IEC 29500 makes no recommendations. (This term is sometimes called "application-dependent behavior".) [Note: To add an extension, an implementer must use the extensibility mechanisms described by ISO/IEC 29500 rather than trying to do so by giving meaning to otherwise unspecified behavior. *end note*]

byte — A sequence of 8 bits treated as a unit.

comment — A note that an author or reviewer attaches to content in a document. Although a consumer might choose to display comments, they are not considered part of the body of the document. A comment might include the text of the note, the comment author's name and initials, and date of creation, among other things.

In the body of the standard, the words "implementation-defined" or "unspecified" or synonyms are used literally hundreds of times.

The Library of Congress page relating to DOCX explains:

- Interoperability with non-Microsoft word processors is not reliable—if one opens a DOCX file in Libre Office, and stores the result as a DOCX, “a round-trip to an identical document should **never** be expected.”

[Digital Preservation Home](#) | [Digital Formats Home](#)

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DOCX Transitional (Office Open XML), ISO 29500:2008-2016, ECMA-376, Editions 1-5

Conversion between DOCX and ODT: Acknowledging the

medium, or *low*. The challenges are significant since the two formats use different underlying models. Although simple documents can be effectively converted, a round-trip to an identical document should never be expected. Display differences will be common after conversion, most of no semantic significance, but many resulting in different pagination or spacing. Among the

[MS-OI29500]: Office Implementation Information for ISO/IEC 29500 Standards Support

Article • 03/08/2023

Specifies information about how Microsoft Office implements ISO/IEC-29500 Office Open XML File Formats [ISO/IEC-29500:2012], including areas where additional detail may be of benefit to other implementers and areas where the product is known to vary from or extend the specification.

This page and associated content may be updated frequently. We recommend you subscribe to the [RSS feed](#) to receive update notifications.

Published Version

The list of departures from the standard is 936 pages.

 Expand table

Date	Protocol Revision	Revision Class	Downloads
4/16/2024	22.0	Major	PDF DOCX

[Click here to download a zip file of all PDF files for Word, Excel, and PowerPoint Standards Support.](#)

Previous Versions

 Expand table

Date	Protocol Revision	Revision Class	Downloads
2/20/2024	21.3	None	PDF DOCX
11/13/2023	21.3	Minor	PDF DOCX
8/15/2023	21.2	Minor	PDF DOCX
3/9/2023	21.1	Minor	PDF DOCX

SEVENTY THREE PATENT PRACTITIONERS

United States Patent and Trademark Office

re Setting and Adjusting Patent Fees During Fiscal Year 2020

Page 15 of 15

September 27, 2019

One of the 2019 NPRM comment letters https://www.uspto.gov/sites/default/files/documents/Comment_Seventy_Three_Patent_Practitioners_092719.pdf gave the PTO a tutorial on the problem, and listed several important examples of "implementation defined" or "unspecified" behaviors.

The same DOCX file can be rendered differently depending on the word processor, fonts installed, which font vendor supplied the font, whether the word processor chooses a vector form or bitmap form for the font, and add-ins for the word processor (especially for equations, pictures and drawings, and chemical formulae). Because a single word processor's rendering engine is used to display on screen, print on paper, and print-as-PDF, the applicant has a trustworthy what-you-see-is-what-you-get. But if that same DOCX is transmitted to the PTO, for the PTO to render using unidentified software and unidentified environment, the results will be different.

2. The factual representations in the NPRM relating to two standards and portability of DOCX are incorrect

The PTO does not tell us what rendering engine will be used within the PTO. Will it be MS Word or some other rendering engine? The "viewer" software in Firefox, Internet Explorer, or Chrome, or the viewer in Google gmail, Word 2003, 2013, or 2016? For Mac or Windows? All behave differently. With DOCX, no amount of care by a practitioner can possibly ensure how the document will be interpreted by the PTO's rendering or conversion software. It is unreasonable to expect the filer to undertake to proofread, carefully, word-by-word, any specimen of the conversion result the PTO may provide just before the filing is finally submitted. Indeed, the very requirement to proofread the rendering (noted below in red text) is an admission by the PTO that it recognizes that DOCX is a shaky foundation for a legal document filing system (there's no such warning in today's system). For lengthy, complex specifications, the 60-minute timeout in EFS would preclude effective review. In the case of a timeout, the subsequent re-submission would still require the filer to review the entire conversion result from the beginning.

Standards ECMA-376 and ISO/IEC 29500 themselves disclaim the kind of interoperability that the PTO assumes. Some example sentences:

- "a software application should be accompanied by documentation that describes what subset of ECMA-376 it supports" ECMA-376 expressly states that there is no common set of features that are required to be implemented; all the standard guarantees is that *if* certain features are implemented, they will behave in a certain manner. A standard useful for an electronic filing system cannot rely on features that are optional in some implementations and unimplemented in others.
- "The application need not implement operations on all XML elements defined in ECMA-376." Some implementations of DOCX are permitted to have features that will cause errors in others.
- "A batch tool that reads a word-processing document and reverses the order of text characters in every paragraph with 'Title' style before saving it can be conforming even though ECMA-376 does not recommend this behavior. [A conforming word processor may] transform the title 'Office Open XML' into 'LMX nepO eciffO'. Its documentation

SEVENTY-THREE PATENT PRACTITIONERS

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should declare its effect on such paragraphs.” The ECMA standard *expressly allows* for entirely different renderings, so long as it’s documented.

- “These application descriptions should not be taken as limiting the ability of an application provider to create innovative applications. They are intended as a mechanism for labelling applications rather than for restricting their capabilities.” A standard useful for an electronic filing system can’t rely on features that are optional in some implementations and unimplemented in others.
- “[*Note: A possible application description would be a ‘standard’ application description for a wordprocessing application. This could be created by taking the intersection of the features available in common wordprocessing applications such as Word 2000, OpenOffice 2, WordPerfect, and iWork Pages. ... end note*]” ECMA-376 expressly states that there is no common set of features that are required to be implemented; all ECMA-376 guarantees is that *if* an implementer wants to implement a given feature, there is a format in which to implement it. There are very few behavioral guarantees.
- ECMA-376 leaves a number of features “implementation defined,” including whether and how to save any element that is under the control of a plug-in, how dates are rendered, how embedded pictures are rendered, whether numerical values are rendered with a “.” or a “,” as a decimal point, how fonts are chosen in rendering, line number spacing, and other characteristics. Documents copied from one DOCX program to another have no guarantee of being rendered consistently.
- A Microsoft blog¹⁷ writes “One of the great things about ISO/IEC 29500 is its extensibility mechanisms - implementers can extend the file format while remaining 100% compliant with the standard.” That statement is the admission—there is no uniform interoperability standard. ISO/IEC 29500 is a baseline, minimum functionality standard, not an interoperability standard that guarantees bilateral consistency between any two implementations. That may be a good feature for software developers, but it’s catastrophic for the use that the PTO contemplates. That bilateral interoperability is the whole point of the PDF standard.

As technically-trained lawyers, we don’t understand how any person could read ECMA-376 and not have immediately noticed the glaring deficiencies as a “standard” for legal documents.

One of the signatories of this letter was among the very first of the beta-testers of PTO’s system for DOCX filings. As implemented by the PTO, the practitioner would upload a DOCX file, and PTO would render the DOCX file in a human-readable PDF image format. As part of the e-filing process, the practitioner was expected to proofread the rendered image as provided by the PTO’s e-filing system. The notion was that the practitioner would be obliged to catch any instances of PTO’s system rendering the DOCX file differently from the way the practitioner’s word processor had rendered that same DOCX file. If, for example, some math equation or chemical formula had gotten corrupted in PTO’s system, the practitioner would be expected to catch this *prior to* clicking “submit.”

¹⁷ <https://blogs.msdn.microsoft.com/chrisrae/2010/10/06/where-is-the-documentation-for-offices-docxxlsxpptx-formats-part-2-office-2010/>

**The Patent Office's response to comments
in the August 2020 Final Rule:**

[not a single word, not even a paraphrase of the comment]

DOCX screws up law firms' workflow

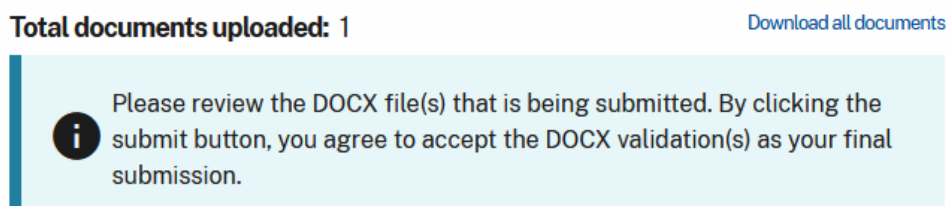
Remember Example 8, the \$8000 fee guy.

This is the feature of DOCX that irks him most.

- For decades, the way it was done was:
 - Often, the inventor writes the first draft of the application. Attorneys can't control the inventor's use of Word features. In the conversion to PDF, the word processor takes care of it, and it just works.
 - Attorney writes and finishes the patent application in the attorney's choice of word processor, prints the last version as text-based PDF—because this is all done on one computer, it is reliable.
 - Hands off the text-based PDF to a legal assistant
 - Assistant uploads the text-based PDF to the Patent Office, hits “submit”
 - Because all word processing is on one computer, and all motion from one computer to another is in PDF and PDF is guaranteed to be uniform, it all works
- Under DOCX filing:
 - Many advanced features used by sophisticated Word users (inventors or attorney) are rejected by the Patent Office's software. Attorney must review the inventor's draft for advanced Word features, and remove them (without introducing error).
 - If the attorney is using a word processor other than Microsoft Word, export from that word processor's native form to DOCX. But no software vendor makes it easy to assist a competitor—the “export to DOCX” features of Word Perfect, Libre Office, Google Docs, Apple Pages, etc. are not robust. These non-Microsoft processors generate a DOCX, but for even simple patent applications, the result is often substantially changed. So this requires a significant proofread. (The Patent Office's claim that these other processors “support” DOCX is true in a hyper-literal sense—but in any practical sense, it's not true.)
 - Hands off the DOCX to a legal assistant
 - Assistant uploads the DOCX to the Patent Office
 - Assistant downloads the tampered and “check” documents from the Patent Office
 - Hands them back to the attorney for review
 - Attorney has to do a detailed review—there is no predicting where the errors may be introduced.
 - **This review is not necessary in the existing PDF “reporting and recordkeeping” workflow.** It is *very* time consuming, and despite the issue raised in three prior ICRs, the PTO continues to book it at zero.
 - This review compares a DOCX *on the applicant's computer*, so it tells nothing about how the document will appear to the *PTO's* computer.
 - Then the attorney hands back the review to the assistant, who completes the upload
 - **Three** handoffs instead of **one**. No possibility of reliable review, because the DOCX document can appear differently on different computers.

Sources of burden

- Proofreading
 - After the Patent Office's DOCX system tampers with the applicant's uploaded DOCX (potentially introducing error, as in example 8), the DOCX system gives the applicant a "review copy" for review, with this instruction box to accept it as the authoritative version:



The Patent Office has **never** acknowledged any burden for this additional review, let alone requested clearance. The Office neither acknowledges nor requests it now.

- The Patent Office's "review" happens **on the applicant's computer**. That means that the "review" cannot reliably evaluate how **the Patent Office's computers** will receive/render the very same file.
- The Patent Office's system has a timeout of about 20 minutes. For applications of any length or complexity, the timeout precludes effective review.
- By requesting this additional review, the Patent Office's acknowledges that its DOCX requirement imposes substantial burden without any practical utility.
- "With DOCX, no amount of care by a practitioner can possibly ensure how the document will be interpreted by the Patent Office's rendering or conversion software." *Seventy-Three* letter, page 15.
- Microsoft changes Word with no advance notice, in ways that will break the Patent Office's software, and that will make review ineffective (it will be on the applicant's computer, which will have been updated, while the Patent Office's software is still stale). The Patent Office has never addressed those comments.
- Papers for error correction
 - As you see in Example 8, that can be substantial.
 - The Patent Office never stores the application *as uploaded by the applicant*. The best copy the Patent Office stores has already been document tampered (in the name of "validation" and "uniform format.") Proving that an error was introduced by the Patent Office will be *extremely* difficult.
- **Malpractice risk:** How does OMB value the burden of malpractice risk?
 - Defending suit, increased malpractice premiums.
 - Raised in public comment letters; no response from Patent Office.
- Comment letters give build-ups of burden ranging \$200 million per year to \$600 million per year. There's a list of those letters toward the end of this document. The Patent Office has never responded to those comments or disputed their showings, or offered any alternative estimate with any rationale or supporting record.

Procedural shortcutting

- During NPRM phase (NPRM in July 2019, final rule August 2020), the Patent Office claimed to have a clearance, but had made no filing.
 - During NPRM phase, Patent Office never made the “yearlong study” public—not even mentioned in the NPRM, cited for the first time in final rule. Not published. Kept secret, until we got it by FOIA in 2023
 - The Patent Office entirely ignored many comments, misparaphrased others to avoid fair response, or otherwise answered with only a *non sequitur*.
 - Not a word of mention in the Regulatory Impact Analysis.
- March 2021: original effective date. (Delayed nearly three years—proving that DOCX is not “necessary for the proper performance of the functions of the agency”)
- September 2020 to May 2021, triennial renewal of 0651-0032, ICR 202011-0651-006: public comment letters noted that the Patent Office had no clearance for the DOCX rule. In its May 2021 revised Supporting Statement, the PTO acknowledged that burden would arise, and admitted that it had no current clearance:

impacted by the new rule. Speculating further on any potential impact of the forthcoming non-DOCX filing surcharge on the 0031 and 0032 renewal applications at hand would be premature and not meaningful to the cause of estimating public burden currently created by those collections. 37 CFR 1.16(u) will require applicants to pay a \$400 surcharge if they opt to submit documents in non-DOCX format, but the rule will not create any additional paperwork or time burden for the public. Upon actual implementation of 37 CFR 1.16(u), the USPTO will notify OMB accordingly of any subsequent changes to the estimated public burden associated with collections 0031 and 0032.
- In September to December 2023, 0651-0089, ICR 202309-0651-002 estimated only the short-term burden of “adjusting existing ways to comply” during a transition period. The PTO evades the major burden in this information collection, “completing and reviewing” burden for proofreading and filing for correction of software errors.
 - The PTO estimated hourly burden at \$50 million per year. The Patent Office provided no rationale or record. \$50 million is credible estimate *but only for the interim “adjusting” burden, without considering proofreading and error correction.*
 - In our 30-day comment letter (Oct 27, 2023) we go through the Supporting Statement line by line, pointing out cases in which the Supporting Statement:
 - evades fair response via misparaphrase of the public comment
 - makes a statement that reflects sampling error: for example, the PTO’s claim to have seen no errors at 18 month publication is meaningless if the rule hasn’t been in effect for 18 months.
 - The Patent Office discards the applicant’s filing—the Patent Office cannot possibly test for its own errors.
 - relies on *non sequitur*, or “facts” that have no supporting evidence
 - statements that are simply false, and must have been known to be false
- January 17, 2024: the mandatory surcharge went into effect
- In this triennial renewal, ICR 202304-0651-001, the PTO again omits any discussion of the DOCX issue. It still isn’t cleared.

M. Unfunded Mandates Reform Act of 1995: The proposed changes set forth in this rulemaking do not involve a Federal intergovernmental mandate that will result in the expenditure by State, local, and tribal governments, in the aggregate, of 100 million dollars (as adjusted) or more in any one year, or a Federal private sector mandate that will result in the expenditure by the private sector of 100 million dollars (as adjusted) or more in any one year, and will not significantly or uniquely affect small governments. Therefore, no actions are necessary under the provisions of the Unfunded Mandates Reform Act of 1995. *See* 2 U.S.C. 1501 *et seq.*

N. National Environmental Policy Act: This rulemaking will not have any effect on the quality of the environment and is thus categorically excluded from review under the National Environmental Policy Act of 1969. *See* 42 U.S.C. 4321 *et seq.*

O. National Technology Transfer and Advancement Act: The requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) are not applicable because this rulemaking does not contain provisions which involve the use of technical standards.

P. Paperwork Reduction Act: The Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*) requires that the Office consider the impact of paperwork and other information collection burdens imposed on the public. This proposed rule involves information collection requirements which are subject to review by the OMB under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501–3549). The collection of information involved in this proposed rule has been reviewed and previously approved by OMB under control numbers 0651–0012, 0651–0016, 0651–0020, 0651–0021, 0651–0031, 0651–0032, 0651–0033, 0651–0059, 0651–0063, 0651–0064, 0651–0069, and 0651–0075.

Notwithstanding any other provision of law, no person is required to respond to nor shall any person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a currently valid OMB control number.

List of Subjects

37 CFR Part 1

Administrative practice and procedure, Biologics, Courts, Freedom of information, Inventions and patents, Reporting and recordkeeping requirements, Small businesses.

37 CFR Part 11

Administrative practice and procedure, Inventions and patents, Lawyers, Reporting and recordkeeping requirements.

37 CFR Part 41

Administrative practice and procedure, Inventions and patents, Lawyers, Reporting and recordkeeping requirements.

37 CFR Part 42

Administrative practice and procedure, Inventions and patents, Lawyers.

For the reasons set forth in the preamble, 37 CFR parts 1, 11, 41, and 42 are proposed to be amended as follows:

PART 1—RULES OF PRACTICE IN PATENT CASES

- 1. The authority citation for 37 CFR part 1 continues to read as follows:

Authority: 35 U.S.C. 2(b)(2), unless otherwise noted.

- 2. Section 1.16 is amended by:
 - a. Revising paragraphs (a) through (e);
 - b. Adding table headings in paragraphs (f) and (g);
 - c. Revising paragraph (h);
 - d. Adding a table heading in paragraph (i);
 - e. Revising paragraphs (j) and (k);
 - f. Adding a table heading in paragraph (l);
 - g. Revising paragraphs (m) through (s);
 - h. Adding a table heading in paragraph (t); and
 - i. Adding paragraph (u).

The revisions and additions read as follows:

§ 1.16 National application filing, search, and examination fees.

(a) Basic fee for filing each application under 35 U.S.C. 111 for an original patent, except design, plant, or provisional applications:

TABLE 1 TO PARAGRAPH (a)

By a micro entity (§ 1.29)	\$80.00
By a small entity (§ 1.27(a))	\$160.00
By a small entity (§ 1.27(a)) if the application is submitted in compliance with the Office electronic filing system (§ 1.27(b)(2))	\$80.00
By other than a small or micro entity	\$320.00

(b) Basic fee for filing each application under 35 U.S.C. 111 for an original design patent:

TABLE 2 TO PARAGRAPH (b)

By a micro entity (§ 1.29)	\$55.00
By a small entity (§ 1.27(a))	\$110.00
By other than a small or micro entity	\$220.00

(c) Basic fee for filing each application for an original plant patent:

TABLE 3 TO PARAGRAPH (c)

By a micro entity (§ 1.29)	\$55.00
By a small entity (§ 1.27(a))	\$110.00
By other than a small or micro entity	\$220.00

(d) Basic fee for filing each provisional application:

TABLE 4 TO PARAGRAPH (d)

By a micro entity (§ 1.29)	\$75.00
By a small entity (§ 1.27(a))	\$150.00
By other than a small or micro entity	\$300.00

(e) Basic fee for filing each application for the reissue of a patent:

TABLE 5 TO PARAGRAPH (e)

By a micro entity (§ 1.29)	\$80.00
By a small entity (§ 1.27(a))	\$160.00
By other than a small or micro entity	\$320.00

(f) * * *

TABLE 6 TO PARAGRAPH (f)

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(g) * * *

TABLE 7 TO PARAGRAPH (g)

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(h) In addition to the basic filing fee in an application, other than a provisional application, for filing or later presentation at any other time of each claim in independent form in excess of 3:

The public comment letters (esp. the "Seventy Three Practitioners" letter) pointed out that no clearance in the relevant time window had sought clearance for the DOCX rule (or for the CLE rule that was proposed in this same NPRM)

F. Executive Order 13132 (Federalism)

This rulemaking does not contain policies with federalism implications sufficient to warrant preparation of a Federalism Assessment under Executive Order 13132 (Aug. 4, 1999).

G. Executive Order 13175 (Tribal Consultation)

This rulemaking will not: (1) Have substantial direct effects on one or more Indian tribes, (2) impose substantial direct compliance costs on Indian tribal governments, or (3) preempt tribal law. Therefore, a tribal summary impact statement is not required under Executive Order 13175 (Nov. 6, 2000).

H. Executive Order 13211 (Energy Effects)

This rulemaking is not a significant energy action under Executive Order 13211 (May 18, 2001) because this final rulemaking is not likely to have a significant adverse effect on the supply, distribution, or use of energy. Therefore, a Statement of Energy Effects is not required under Executive Order 13211.

I. Executive Order 12988 (Civil Justice Reform)

This rulemaking meets applicable standards to minimize litigation, eliminate ambiguity, and reduce burden as set forth in sections 3(a) and 3(b)(2) of Executive Order 12988 (Feb. 5, 1996).

J. Executive Order 13045 (Protection of Children)

This rulemaking does not concern an environmental risk to health or safety that may disproportionately affect children under Executive Order 13045 (Apr. 21, 1997).

K. Executive Order 12630 (Taking of Private Property)

This rulemaking will not affect a taking of private property or otherwise have taking implications under Executive Order 12630 (Mar. 15, 1988).

L. Congressional Review Act

Under the Congressional Review Act provisions of the Small Business Regulatory Enforcement Fairness Act of 1996 (5 U.S.C. 801 *et seq.*), prior to issuing any final rule, the United States Patent and Trademark Office will submit a report containing the rule and other required information to the United States Senate, the United States House of Representatives, and the Comptroller General of the Government Accountability Office. The changes in this Final Rule are expected to result in an annual effect on the economy of \$100 million or more, a major increase in costs or prices, or significant adverse

effects on competition, employment, investment, productivity, innovation, or the ability of United States-based enterprises to compete with foreign-based enterprises in domestic and export markets. Therefore, this Final Rule is a “major rule” as defined in 5 U.S.C. 804(2).

M. Unfunded Mandates Reform Act of 1995

The changes set forth in this rulemaking do not involve a federal intergovernmental mandate that will result in the expenditure by state, local, and tribal governments, in the aggregate, of \$100 million (as adjusted) or more in any one year, or a federal private sector mandate that will result in the expenditure by the private sector of \$100 million (as adjusted) or more in any one year, and will not significantly or uniquely affect small governments. Therefore, no actions are necessary under the provisions of the Unfunded Mandates Reform Act of 1995. *See* 2 U.S.C. 1501 *et seq.*

N. National Environmental Policy Act

This rulemaking will not have any effect on the quality of the environment and is thus categorically excluded from review under the National Environmental Policy Act of 1969. *See* 42 U.S.C. 4321 *et seq.*

O. National Technology Transfer and Advancement Act

The requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) are not applicable because this rulemaking does not contain provisions that involve the use of technical standards.

P. Paperwork Reduction Act

The Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*) requires that the Office consider the impact of paperwork and other information collection burdens imposed on the public. This Final Rule involves information collection requirements that are subject to review by the OMB under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501–3549). The collection of information involved in this Final Rule have been reviewed and previously approved by the OMB under control numbers 0651–0012, 0651–0016, 0651–0020, 0651–0021, 0651–0031, 0651–0032, 0651–0033, 0651–0059, 0651–0063, 0651–0064, 0651–0069, and 0651–0075. In addition, updates to the aforementioned information collections as a result of this Final Rule have been submitted to the OMB as non-substantive change requests.

Notwithstanding any other provision of law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information has a currently valid OMB control number.

List of Subjects*37 CFR Part 1*

Administrative practice and procedure, Biologics, Courts, Freedom of information, Inventions and patents, Reporting and recordkeeping requirements, Small businesses.

37 CFR Part 11

Administrative practice and procedure, Inventions and patents, Lawyers, Reporting and recordkeeping requirements.

37 CFR Part 41

Administrative practice and procedure, Inventions and patents, Lawyers, Reporting and recordkeeping requirements.

37 CFR Part 42

Administrative practice and procedure, Inventions and patents, Lawyers.

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- d. Adding a heading to the table in paragraph (i);
- e. Revising paragraphs (j) and (k);
- f. Adding a heading to the table in paragraph (l);
- g. Revising paragraphs (m) through (s);
- h. Adding a heading to the table in paragraph (t); and
- i. Adding paragraph (u).

The revisions and additions read as follows:

§ 1.16 National application filing, search, and examination fees.

(a) Basic fee for filing each application under 35 U.S.C. 111 for an original patent, except design, plant, or provisional applications:

board adjustment fees and current fees, the “current fees” column displays the fees that are in effect as of January 2018.

Alternative 4: Baseline (Current Fee Schedule)

The Office considered a no-action alternative. This alternative would retain the status quo, meaning that the Office would continue the small and micro entity discounts that Congress provided in section 10 of the Act and maintain fees as of January 2018.

This approach would not provide sufficient aggregate revenue, based on the assumptions found in the FY 2021 Budget, to accomplish the Office’s rulemaking goals as set forth in Part III of this Final Rule or the Strategic Plan. IT improvement, progress on backlog and pendency, and other improvement activities would continue, but at a significantly slower rate, as increases in core patent examination costs that are necessary to implement the strategic objective to issue highly reliable patents—such as increasing the time examiners are provided to work on each application—crowd out funding for other improvements. Likewise, without a fee increase, the USPTO would deplete its operating reserves, leaving the Office vulnerable to fiscal and economic events. This would expose core operations to unacceptable levels of financial risk and would position the Office to have to return to making inefficient, short-term funding decisions.

The fee schedule for Alternative 4: Baseline (Current Fee Schedule) is available at <https://www.uspto.gov/FeeSettingAndAdjusting> in the document entitled “Final Regulatory Flexibility Analysis Tables.”

Alternatives Specified by the RFA

The RFA provides that an agency should also consider four specified “alternatives” or approaches, namely: (1) Establishing different compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) clarifying, consolidating, or simplifying compliance and reporting requirements under the rule for small entities; (3) using performance rather than design standards; and (4) exempting small entities from coverage of the rule, or any part thereof (5 U.S.C. 604(c)). The USPTO discusses each of these specified alternatives or approaches below and describes how this Final Rule is adopting these approaches.

Differing Requirements

As discussed above, the changes in this Final Rule would continue existing

fee discounts for small and micro entities that take into account the reduced resources available to them as well as offer new discounts when applicable under AIA authority. Specifically, micro entities would continue to receive a 75 percent reduction in patent fees under this proposal and non-micro, small entities would continue to pay 50 percent of the fee.

This Final Rule sets fee levels but does not set or alter procedural requirements for asserting small or micro entity status. To pay reduced patent fees, small entities must merely assert small entity status to pay reduced patent fees. The small entity may make this assertion by either checking a box on the transmittal form, “Applicant claims small entity status,” or by paying the basic filing or basic national small entity fee exactly. The process to claim micro entity status is similar in that eligible entities need only submit a written certification of their status prior to or at the time a reduced fee is paid. This Final Rule does not change any reporting requirements for any small or micro entity. For both small and micro entities, the burden to establish their status is nominal (making an assertion or submitting a certification), and the benefit of the fee reductions (50 percent for small entities and 75 percent for micro entities) is significant.

This Final Rule makes the best use of differing requirements for small and micro entities. It also makes the best use of the redesigned fee structure, as discussed further below.

Clarification, Consolidation, or Simplification of Requirements

This Final Rule pertains to setting or adjusting patent fees. Any compliance or reporting requirements in this rule are *de minimis* and necessary to implement lower fees. Therefore, any clarifications, consolidations, or simplifications to compliance and reporting requirements for small entities are not applicable or would not achieve the objectives of this rulemaking.

Performance Standards

Performance standards do not apply to the Final Rule.

Exemption for Small and Micro Entities

The final patent fee schedule maintains a 50 percent reduction in fees for small entities and a 75 percent reduction in fees for micro entities. The Office considered exempting small and micro entities from paying increased patent fees but determined that the USPTO would lack statutory authority for this approach. Section 10(b) of the

Act provides that “fees set or adjusted under subsection (a) for filing, searching, examining, issuing, appealing, and maintaining patent applications and patents *shall* be reduced by 50 percent [for small entities] and *shall* be reduced by 75 percent [for micro entities]” (emphasis added). Neither the AIA nor any other statute authorizes the USPTO simply to exempt small or micro entities, as a class of applicants, from paying increased patent fees.

C. Executive Order 12866 (Regulatory Planning and Review)

This Final Rule has been determined to be economically significant for purposes of Executive Order 12866 (Sept. 30, 1993). The Office has developed an RIA as required for rulemakings deemed to be economically significant. The complete RIA is available at <https://www.uspto.gov/FeeSettingAndAdjusting>.

D. Executive Order 13563 (Improving Regulation and Regulatory Review)

The Office has complied with Executive Order 13563 (Jan. 18, 2011). Specifically, the Office has, to the extent feasible and applicable: (1) Made a reasoned determination that the benefits justify the costs of this Final Rule; (2) tailored this Final Rule to impose the least burden on society consistent with obtaining the regulatory objectives; (3) selected a regulatory approach that maximizes net benefits; (4) specified performance objectives; (5) identified and assessed available alternatives; (6) involved the public in an open exchange of information and perspectives among experts in relevant disciplines, affected stakeholders in the private sector, and the public as a whole, and provided online access to the rulemaking docket; (7) attempted to promote coordination, simplification, and harmonization across government agencies and identified goals designed to promote innovation; (8) considered approaches that reduce burdens and maintain flexibility and freedom of choice for the public; and (9) ensured the objectivity of scientific and technological information and processes.

E. Executive Order 13771 (Reducing Regulation and Controlling Regulatory Costs)

This Final Rule is not subject to the requirements of Executive Order 13771 (Jan. 30, 2017) because this Final Rule involves a transfer payment.

Though some components of the 2020 rule legitimately “involve a transfer payment,” several components (including the DOCX rule, and the CLE rule curbed in 2023) did not.

functioning and a DOCX version was later filed within a certain time period.

Response: The current policy regarding significant unplanned electronic business system outages is available at: <https://www.federalregister.gov/documents/2018/08/30/2018-18897/filing-patent-applications-electronically-during-designated-significant-outages-of-the-united-states>. The USPTO will post a notice on its website in the event of a designated significant unplanned electronic business system outage and indicate the dates during which the alternative electronic filing means are available due to such an outage. An application filed via the alternative electronic means during a designated significant unplanned electronic business system outage will be considered to have been filed by the USPTO's electronic filing system and thus will not incur the non-DOCX surcharge or the fee required by section 10(h) of the AIA for a patent application not filed by the USPTO's electronic filing system.

Comment 50: One commenter stated that PDF format is the best and safest format for ensuring that no text becomes garbled or otherwise corrupted by the USPTO system.

Response: There have been cases where an applicant submitted PDF documents that have been corrupted or garbled that were traced back to specific PDF creation software. By submitting in text format, the extra step to convert to

Response: DOCX is a word-processing file format that is part of Office Open XML (OOXML), an XML-based open standard approved by the Ecma International® consortium and subsequently by the ISO/IEC joint technical committee.

For more information about the OOXML standard, please see:

- ECMA-376 at <http://www.ecma-international.org/publications/standards/Ecma-376.htm>
- ISO/IEC 29500 at <https://www.iso.org/committee/45374/x/catalogue/>
- NIST votes for US. Approval of OOXML at <https://www.nist.gov/news-events/news/2008/03/nist-votes-us-approval-modified-office-open-xml-standard>

The USPTO conducted a yearlong study of the feasibility of processing text in PDF documents. The results showed that searchable text data is available in some PDFs, but the order and accuracy of the content could not be preserved. With DOCX, the Office is able to use the text directly and pass it on to USPTO downstream systems, which results in increased data accuracy and a more streamlined patent process.

PDFs are not immune to viruses or hidden malware. However, the USPTO filing system is equipped with malware and virus detection.

DOCX is supported by many popular word-processing applications, such as Microsoft Word, Google Docs, Pages, and LibreOffice.

a word processor. The commenter expressed concerns about how to rectify such a situation and stated that knowing that there is a problem and being able to fix the problem in a timely manner may be two completely different things.

Response: If there is an instance in which an error occurs, the EBC should be contacted for investigation at 1-866-217-9197 (toll-free), 571-272-4100 (local), or ebc@uspto.gov. The EBC is open from 6:00 a.m. to 12:00 midnight ET, Monday through Friday.

Comment 54: A few commenters noted that the USPTO places the responsibility on the practitioner to check the generated PDF for accuracy. One commenter wanted to confirm that the authoritative document will be the USPTO-generated PDF rather than the DOCX that was submitted. Another commenter felt that USPTO-generated PDFs remove the applicant's ability to control accuracy, and applicants who choose to guarantee accuracy by filing a self-generated PDF should not be penalized with increased fees.

Response: The authoritative document will be the PDF that the USPTO systems generate from the DOCX. The filer has always been responsible for the accuracy of the documents being submitted. According to surveys conducted by the USPTO, the majority of applicants use word-processing software, such as Microsoft Office and LibreOffice, which can produce a DOCX file.

The "yearlong study" makes no such finding that "order and accuracy [of TEXT as opposed to drawings] could not be preserved," and especially not for patent applications. (Complex and free-form docs, like newspaper display ads, present problems. Patent applications, which must be a single column, do not.) This is at best misleading. An inference of outright fabrication would be justified.

The "yearlong study" never mentions DOCX--the suggestion that it made a finding "With DOCX, the Office is..." is at best misleading.

Comment 51: One commenter wrote that PDF files are easier to manage when filing, are better for long-term archival use, can be generated in text-searchable form, will not require fragmented filings using both PDF and DOCX files, carry fewer concerns with respect to malware and viruses, and carry no licensing concerns. The commenter expressed that the DOCX file format is intended for facile editing and by design is not suited for archival purposes, will require fragmented filing with different file formats, will require archiving of files in multiple file formats, carries increased risk of malware and viruses, is no better than other editable file formats, and carries some uncertainty regarding licensing status.

validated and converted to PDF by USPTO systems in a consistent manner. The USPTO continuously performs rigorous testing to ensure that document integrity is preserved. To date, the Office has not received notifications of any issues resulting from the filing of applications in DOCX format. If there is an instance in which an error occurs, the EBC should be contacted for investigation at 1-866-217-9197 (toll-free), 571-272-4100 (local), or ebc@uspto.gov. The EBC is open from 6:00 a.m. to 12:00 midnight ET, Monday through Friday.

Comment 53: One commenter asked about a situation in which the USPTO's rendering engine has changed the result relative to what the practitioner saw on

generate PDF documents for the uploaded DOCX files. At this time, applicants are encouraged to review the PDF documents before submission. The step of applicants reviewing their self-generated PDF is being replaced with their review of the USPTO-generated PDF document. The amount of time required by an applicant to review the self-generated PDF is comparable to the time to review the USPTO-generated PDF.

As a part of the DOCX intake process, preliminary validation is performed on DOCX documents at the time of upload. The system immediately detects and supplies the applicant with useful error and warning messages, allowing for adjustments to patent applications early

December 2023 Supporting Statement

In its December 2023 Supporting Statement for 202309-0651-002, <https://www.reginfo.gov/public/do/DownloadDocument?objectID=135781702> the Patent Office claims that DOCX presents information correctly, “in a manner that is independent of software, hardware, and operating system:”

Like the PDF standard, DOCX presents documents, including text and formatting, in a manner that is independent of software, hardware, or operating system. A particular operating system will have its own process for interpreting and showing those text and format elements. However, the DOCX file is itself a stable carrier for the textual elements of the document. The open standard means that anyone has access to the information

Response:

The USPTO has not experienced the issue raised by commenters. The DOCX file acts as an effective vehicle for sending the structured text to the USPTO. Like the PDF standard, DOCX presents documents, including text and formatting, in a manner that is independent of software, hardware, or operating systems. If you experience any issues

There is no statement in any standards document or any other source to support a claim that a DOCX is presented in an “independent” manner.

- Perhaps the PTO means that if one reads the sentences hyper-literally to refer only to “text,” and ignores the other content that governs correctness of a patent application. In that case, while not literally false, the PTO’s statement is materially misleading.
- If the sentence is read at face value, it’s just not true.
- In either case, the PTO breached its obligation of candor to the tribunal.
- The earliest that significant error checking is possible is 18-month publication. The bulk of that publication will not begin until July **2025**.

The PTO claims:

response:

The USPTO made the decision to encourage submissions of applicant files via DOCX format in order to leverage the structured text and not rely upon the OCR process of the PDF conversion. This decision was reached based on internal IT considerations and initiatives, external sources, and industry practices, not solely based on any one study. The USPTO referenced the study in its Patent Fee Rule as part of responses to comments received (88 FR at 46957).

None of these materials were made available to the public during NPRM notice-and-comment, and none have been included in the record of any ICR. The PTO’s “yearlong study” was not mentioned in the NPRM, and was not made available during the NPRM comment period. One copy was produced by FOIA; it is still is not available to the public. Though requested by FOIA two years ago, the Patent Office has produced none of the other documents implied here. The PTO relies on secret documents.

Additional gotchas

- The Patent Office's DOCX software doesn't accept the "standard"
 - The standard allows multiple features to be combined: chemical formulas inside tables, equations inside quote fields, equations in specific fonts, etc. The PTO's DOCX software won't allow these combinations—some yield error messages, sometimes the PTO appears to accept and then screws it up.
 - Word provides a number of features that patent attorneys use to reduce the likelihood of error: bookmarks, cross references, fields, merge fields, and the like. The PTO's DOCX software gives error messages and refuses to accept patent applications that use these standard features.
 - The PTO's filing system sometimes renders Greek letters (among other characters) as a box □--Greek letters are common in the scientific notation used in patent applications.
 - For wide tables and wide chemical formulae, past practice was to put the wide tables on landscape pages, and rotate them by 90° in the PDF. That's easy for PDF submissions. But the PTO's DOCX filing system refuses to accept the document. We have reported this error several times over several years. The PTO has not fixed it, and we have not figured out a work-around.
 - The PTO has no published document that gives a full explanation for which parts of the "standard" are accepted by the PTO's DOCX filing system, which are rejected, or anything else about the PTO's implementation of DOCX, and no description of work-arounds. From an applicant's point of view, the PTO's DOCX filing system is completely random.
- The PTO's rationale for DOCX filing is that "DOCX is a standard." But the PTO doesn't implement the standard. Implementing only the easy part of a standard is not standard conforming.
- A detailed explanation of standard DOCX features that are rejected by PTO's software is in our 60-day letter for 202309-0651-002
<https://www.reginfo.gov/public/do/DownloadDocument?objectID=135639300> at pages 6-7 and Exhibit 4 at pages 83-94.
- Detailed lists of procedural defects in April 29 letter and October 2023 letter for 202309-0651-002 at
<https://www.reginfo.gov/public/do/DownloadDocument?objectID=136723102>

Document tampering

- PTO software uploads the document from the user, then tampers with it before storing it. The stated rationales are uniformity of format, and “validation.”
 - The PTO’s document tampering introduces error, and erases the audit trail so there’s *no possibility whatsoever* of seeking correction
 - In Example 8, the \$8000 in extra claim fees, the problem arose because the PTO converts “new line” characters (↵) to paragraph characters (¶). Perhaps it appeared innocuous, but because of the complexity of the DOCX standard and the variability of DOCX documents, it’s impossible to predict all the cases. Any kind of document tampering will necessarily introduce error.
 - In some cases, if a patent claim uses a number (such as “2” in “2 inches”) the Patent Office’s document tampering misinterprets the meaning of “2” and starts renumbering paragraphs.
- The PTO discards the copy the applicant uploads. The only copy that’s stored is the PTO’s tampered “validated” copy.
 - Violates Federal Records Act. The record that should be the “of record” copy is tampered with, and the original is discarded.
 - Violates Federal Rule of Evidence 1002, the “original document” rule.
 - The PTO must follow courts and other agencies, and take a “hands off” approach—the document that the applicant uploads **must** be **the** “of record” copy, for all purposes

Public burden estimates

Public comment letters have given detailed work-ups of burden, ranging from \$200 million to \$600 million (assuming an apples-to-apples comparison, in which proofreading yields the same level of reliability as PDF). Several of these estimates have been given to the Patent Office on multiple occasions. The Patent Office has never even *acknowledged* any of these estimates, let alone disagreed with them:

- David Boundy, estimating \$200 million
 - November 30, 2020, ICR 202011-0651-001, 30-day letter at <https://www.reginfo.gov/public/do/DownloadDocument?objectID=107472802> at pages 3-5
 - August 7, 2023, ICR 202309-0651-002, 60-day letter at <https://www.reginfo.gov/public/do/DownloadDocument?objectID=135639300> at PDF pages 111-113
- Brad Forrest, estimating \$200 million
 - November 30, 2020, ICR 202011-0651-001, 30-day letter at <https://www.reginfo.gov/public/do/DownloadDocument?objectID=107472802> at pages 31-39
 - December 29, 2020, ICR 202011-0651-001, 30-day letter at <https://www.reginfo.gov/public/do/DownloadDocument?objectID=107472602> PDF pages 12-20
 - August 7, 2023, ICR 202309-0651-002, 60-day letter at <https://www.reginfo.gov/public/do/DownloadDocument?objectID=135639300> at PDF pages 99-107
- Carl Oppedahl, on behalf of One Hundred Seven Patent Practitioners, estimating \$600 million
 - August 6, 2023, ICR 202309-0651-002, 60-day comment letter at <https://www.reginfo.gov/public/do/DownloadDocument?objectID=135640900>, at pages 6-10 works up a total of \$600 million.
- Kilpatrick Townsend & Stockton, estimated \$600 to \$700 million per year
 - August 2023, 60-day letter in ICR 202309-0651-002 <https://www.reginfo.gov/public/do/DownloadDocument?objectID=135640600> at page 2-3

The Patent Office has never disagreed. Instead, the PTO has simply ignored these two specific elements of burden. The PTO has *never* acknowledged the proofreading and error correction burden, let alone disagreed with the public's estimates.

Questions to ask the agency

- In 1992, 1999, and 2012, Congress amended the Patent Act to make Patent Office “more like a business.” Congress gave the Patent Office lots of exemptions from Title 5. For example:
 - Other federal bonuses capped at 10%, with a handful allowed at 20%. For Patent Office, SES officers eligible for 50% bonuses. 35 U.S.C. § 3(b)(2)(B)
 - The Patent Office keeps its own fee collections. Fees do not flow into the general treasury, and are not subject to appropriations oversight. 35 U.S.C. § 42(b) and (c).
- Bonuses are set by a “Performance Review Committee” that does not observe private sector rules for independent members of compensation committees. *E.g.*, 88 Fed. Reg. 52131 (Aug. 7, 2023) (all members but one are PTO executives setting their own bonuses); 86 Fed. Reg. 49001 (Sep. 1, 2021) (zero outside members).
- Speculation: what contracts has the PTO entered relating to DOCX? What *quid pro quo* to the agency? To individuals?
- Toward that end, I filed a FOIA request in 2021 for all information underlying the DOCX rule. FOIA Request F-21-00169 (Jul. 12, 2021).
 - The PTO promised a rolling production of 500 pages per month. The PTO made one production in January 2023 (six months late), and another in November 2023. The communications with OMB relating to the Paperwork Reduction Act were blank-sheet redacted, in violation of § 3507(e)(2).
 - I followed up with a request for all documents underlying the “yearlong study.” FOIA Request F-22-00092 (March 28, 2022). Two years later, the PTO has produced **zero** documents.
- Is there a coverup?

Public comments and articles

- At 2019-2020 NPRM phase:
 - *Seventy-Three Patent Practitioners*,
https://www.uspto.gov/sites/default/files/documents/Comment_Seventy_Three_Patent_Practitioners_092719.pdf
 - Carl Oppedahl,
https://www.uspto.gov/sites/default/files/documents/Comment_Carl_Oppedahl_081219.pdf
- 2020 triennial ICR for 0651-0032
 - there were **fifty-four** letters, mostly on this topic
 - In this Supporting Statement, the PTO avoided the DOCX issue by stating it would be “premature” to consider burden of DOCX filing
- At 2023 ICR 202309-0651-002 for a new information collection, limited to transition costs for DOCX, and leaving the core “completing and reviewing” burden for this triennial ICR
 - there were **fifteen** letters, all specific to DOCX
 - Especially relevant, **if you read only one**: 60-day letter of *152 Patent Practitioners*,
<https://www.reginfo.gov/public/do/DownloadDocument?objectID=135639300>
which gives an extended tutorial on the technology issues, and the 30-day letter
<https://www.reginfo.gov/public/do/DownloadDocument?objectID=136723102>
which discusses the pattern of misleading non-responses to comments in the PTO’s Supporting Statement
 - The two letters of Carl Oppedahl are both well-researched,
<https://www.reginfo.gov/public/do/DownloadDocument?objectID=135640200> and
<https://www.reginfo.gov/public/do/DownloadDocument?objectID=135640900>
- Articles:
 - Julie Burke, *The Trains, Planes and Automobiles of Correcting DOCX-Related Errors*, (Mar. 19, 2024), <https://ipwatchdog.com/2024/03/19/trains-planes-automobiles-correcting-docx-related-errors/id=174452/>
 - Julie Burke, *USPTO Flexes Its AIA Powers To Make Retroactive Substantive MPEP Policy Changes* (Mar. 23, 2023)
<https://ipwatchdog.com/2023/03/23/uspto-flexes-aia-powers-make-retroactive-substantive-mpep-policy-changes/id=158222/> and *Recent MPEP Changes Complicate the Sticky Wicket of Restriction Thickets* (Mar. 14, 2023)
<https://ipwatchdog.com/2023/03/14/recent-mpep-changes-complicate-sticky-wicket-restriction-thickets/id=157729/> both relate to the MPEP guidance issue in our 30-day letter

New England Intellectual Property, LLC

291 Main Street
West Newbury, MA 01985
978-363-1700
rbaker@newenglandip.com
www.newenglandip.com

May 15, 2024

Nicholas A. Fraser and Jason Grimes
Office of Information and Regulatory Affairs
Office of Management and Budget
725 17th St. NW
Washington, D.C.

Re: **ICR 202304-0651-001 (control number 0651-0032), Initial Patent Applications, 30-day notice at 89 Fed. Reg. 21495 (Mar. 28, 2024)**

Dear Mr. Fraser and Mr. Grimes:

Thank you for talking with David Boundy, Bradley Forrest, and me last week. In our conversation, you asked about the Patent Office's "auxiliary PDF" modification to the DOCX rule. I started to answer, but there was insufficient time to provide my comments. As a result, I would like to present my thoughts on this subject.

The auxiliary PDF proposal has never received the thorough vetting that this proposal deserves. The Patent Office has never run a rulemaking notice-and-comment for this modified information collection, only a "stealth" comment period for ICR 202309-0651-002.¹ In 2023, the Patent Office ran notices in the Federal Register to permit an auxiliary PDF, but only "until further notice," with no request for comment, no commitments to correctness in the processing of

¹ ICR 202309-0651-002: 60-day notice at 88 Fed. Reg. 37039 (Jun. 6, 2023), 30-day notice at 88 Fed. Reg. 66414 (Sep. 27, 2023)

applicants' filings, and no commitment to long-term availability of correction. Without the proper rulemaking procedure, the shortcomings of this proposal have not been properly vetted.

The biggest issue with the auxiliary PDF proposal is that there is no legal framework to determine how this auxiliary PDF will be handled in the future. In the example used in our presentation last Wednesday, the change of a number from 0.2 to 10.2 is so subtle that it is unlikely to be detected in a human proofreading. As such, it may be many years until the error is detected in litigation. At this point, the defendant will assert that they relied on the erroneous number in the DOCX version and the plaintiff will assert that the auxiliary PDF should control. The courts will be left without a fair resolution and will have to choose harm on one of two innocent victims of the USPTO software error².

It has been hinted by the USPTO that the DOCX version will be definitive for their purposes, but this only applies to patent prosecution before the USPTO³. It may be imagined that the USPTO will treat the auxiliary PDF as an Appendix, as is used in some patent prosecution. In these cases, the Appendix can be used in US prosecution to support future changes during prosecution. It is unclear if the USPTO will use the auxiliary PDF as prior art if the error is useful in a rejection of an unrelated patent application. In short, there are lots of unanswered questions surrounding the auxiliary PDF.

One of the USPTO's Federal Register Notices⁴ warns that the auxiliary PDF is deleted from the official record after a period of time (87 Fed. Reg. 25227 at col. 1-2)⁵. This is in violation of the Federal Records Act, 44 U.S.C. § 3301(a)(1), which requires agencies to retain

² Because the legal effect of the auxiliary PDF is so uncertain, applicants are left with essentially the same burden as without -- a detailed character-by-character proofread is the only way to achieve the same level of reliability as PDF filing. The auxiliary PDF just moves the burden from one place to another: it doesn't reduce it.

³ When filing through PatentCenter, the Patent Office's computer system requires the applicant to surrender any claim that the Patent Office's tampered DOCX is incorrect through clicking through a pop-up warning. The legal weight of this disclaimer will not be known until it is litigated.

⁴ In *Filing Patent Applications in DOCX Format*, 87 Fed. Reg. 25226 (Apr. 28, 2022), default retention period for the auxiliary PDF was specified at three years; an applicant must file a separate petition for indefinite storage. For applicants, the pre-2019 default was indefinite storage of the PDF original filing. Indefinite storage is essential: a reliable copy may be essential to litigation as late as 26 years after filing the application.

⁵ The Patent Office also warns that it will generate its own document-tampered DOCX file (misnamed the "validated" DOCX), and rely on it, and discard the DOCX uploaded by the applicant. *Id.*

originals, not “defac[e], alter[], corrupt[], [or] delet[e]” a record, and then discard the original. 44 U.S.C. § 3106.

One of the Patent Office’s notices in the Federal Register, *Submitting Patent Applications in Structured Text Format and Reliance on the Text Version as the Source or Evidentiary Copy*, 86 Fed. Reg. 29571 (Jun. 2, 2021), set a rather draconian policy: “Applicants should not expect to have a request to correct the electronic record granted if the request ... is filed more than one year after submission [of the patent application]” (86 Fed. Reg. 29572 at col. 1). This one-year deadline has never been rescinded, and it apparently applies to corrections based on the auxiliary PDF. The Office has never explained how applicants can review, let alone correct, the electronic record before a patent issues at about 3-5 years, or (for about 80% of patent applications) publishes at 18 months. This one-year limit was never mentioned in the NPRM or final rule. The Patent Office has never sought comment or observed any of the other procedures of the Paperwork Reduction Act for this one-year limit on corrections.

When a U.S. application serves as a basis for foreign filing under various treaties, it seems doubtful that the auxiliary PDF will be acceptable in most foreign jurisdictions. U.S. law has a unique feature that makes the auxiliary PDF useful (if burdensome) *under U.S. law*—a U.S. patent application can incorporate other documents by reference, and future corrections may be based on those incorporations. However, no other (major) country recognizes incorporation by reference. So the auxiliary PDF seems unlikely to support the kind of correction that the Patent Office contemplates in a way that will allow correction for purposes of other jurisdictions. In other words, the loss of patent rights imposed by the Patent Office is likely unrecoverable in most other countries.

The only purpose for the auxiliary PDF is to backstop errors in the Patent Office’s handling of the DOCX file. When paired with an auxiliary PDF, the DOCX lacks practical utility and is unnecessarily duplicative. The auxiliary PDF allows proofreading of the Patent Office’s processing of a DOCX—but does so via a 100-to-1 disproportionate shift of burden to the public. Terms of clearance should clear collection of the auxiliary PDF and not the DOCX. The auxiliary PDF is just a mechanism to shift costs back to the public, rather than absorbing the costs the PTO creates for itself.

As industry leaders, we do not feel that the auxiliary PDF is a viable solution to the problems created by the PTO's DOCX information collection.

Sincerely,

A handwritten signature in blue ink, appearing to read 'RAB', with a stylized flourish extending from the end.

Richard A. Baker, Jr.

New England Intellectual Property, LLC

291 Main Street
West Newbury, MA 01985
978-363-1700
rbaker@newenglandip.com
www.newenglandip.com

May 30, 2024

Nicholas A. Fraser and Jason Grimes
Office of Information and Regulatory Affairs
Office of Management and Budget
725 17th St. NW
Washington, D.C.

Re: **ICR 202304-0651-001 (control number 0651-0032), Initial Patent Applications, 30-day notice at 89 Fed. Reg. 21495 (Mar. 28, 2024)**

Dear Mr. Fraser and Mr. Grimes:

Thank you for your consideration of my May 15th letter and for your question.

Even if the USPTO maintains the PDF version of the submitted patent application in perpetuity and declares it to be “evidentiary,” there are still two major sources of burden that have to be estimated and booked.

A patent is only as valuable as its ability to be enforced. Some patents are high stakes with hundreds of millions of dollars at stake, thousands of jobs, and the fate of one company or the other. For small companies, survival is often tied to patents—patents are often the only securitizable asset to obtain startup capital and are often essential to the preservation of a new market niche against free-riding by market incumbents. As I will explain below, the “evidentiary PDF” proposal does close to nothing to attenuate uncertainty in enforcement. That post-issue uncertainty forces the burden onto applicants to re-create certainty during agency proceedings. Any patent attorney will assure you that a large fraction of the work in a patent application is

taking steps to reduce uncertainty confounders—this would simply be another task on that list. To achieve the same level of certainty as applicants had with the PDF *status quo ante* will require essentially the same extensive proofreading and error correction as all the past letters have explained—mid-nine figures.

There are two important legal factors.

First, the USPTO has no authority to promulgate regulations that have any effect after a patent issues. The USPTO’s primary rulemaking statute, 35 U.S.C. § 2(b)(2)(A), only allows the USPTO to promulgate regulations to govern proceedings in the Office. Courts regularly deny any post-issue effect to USPTO regulations. The USPTO has no authority to displace the text of the patent itself by simply declaring something else to be “authoritative” or “evidentiary.”

Second, competitors are entitled to rely on the text of issued patents. Because the patent owner is the only party with the ability to detect and correct ambiguities, the risk of non-correction falls on the patent owner. The Federal Circuit held that “the PTO [has] no authority to correct the claims retroactively,” a “certificate of correction is only effective for causes of action arising after it was issued,” “major errors are subject only to correction by the PTO” (not by courts), and a court has no authority to correct any significant error that could have been corrected by certificate of correction. *Novo Industries, L.P. v. Micro Molds Corp.*, 350 F.3d 1348, 1356-57 (Fed. Cir. 2003). Though it’s always possible that courts would treat this kind of USPTO-created error differently than the *Novo* facts, until that happens, the law is certainly clear enough to put applicants on notice that the consequences of the USPTO’s error in an issued patent almost certainly fall on the applicant, unless and until the applicant undertakes proofreading and error correction. Because of the asymmetric risk (not to mention the malpractice risk for an attorney that skips this step), that proofreading has to happen for every patent, not just the ones where the USPTO actually introduces an error.

All the evidentiary PDF proposal does is create a permissive structure for the correction of patents; it does nothing to reduce the burden of proofreading every application to find the errors, and the burden of filing the paperwork to actually seek the correction. Because the evidentiary PDF proposal does nothing (at least nothing legally reliable) to reduce the risk during

the time between the issue of the patent and the issue of the certificate of correction, that burden of proofreading and correction has to be undertaken before the patent issues.

Likewise, the PTO offers no procedural mechanism to do the proofreading. The first time the applicant has a copy of the text that will be used in the published patent is upon issuance. There's no way to do the proofreading until it's too late.

In the example used in our May 8 presentation, the change of a number from 0.2 to 10.2 is so subtle that it could well have gone undetected. If the error remains when a patent is to be enforced (typically by licensing, sometimes by litigation), one party will assert that they relied on the PTO's published text, and the other will assert that the evidentiary PDF should control. On the case law as it stands today, even the proponents of the evidentiary PDF proposal acknowledge that it only gives "a little better chance," far from certainty. As a practical matter, the evidentiary PDF proposal does nothing to reduce the legal obligation of careful proofreading and error correction at the earliest possible time. That's a nine-figure burden, and the PTO has to book it.

The second source of burden in the evidentiary PDF proposal is that it opens the door to gaming the system by deliberately submitting different documents in an attempt to avoid full examination.

It should be facially obvious that any proposal to have two legally effective versions of the same file is bad public policy and an invitation for expensive problems in the future.

A third issue with the evidentiary PDF proposal is that the USPTO, in the June 6, 2023, Federal Register Notice, states that the acceptance of the PDF version "is being extended until further notice." This implies that the auxiliary PDF solution is temporary and that the USPTO can end this program at any time without following the rulemaking process. To go the extra step—from simply retaining the auxiliary PDF to promoting it to "evidentiary" is a non-procedural rule that requires full notice-and-comment rulemaking. The evidentiary PDF proposal has never been exposed to an information collection procedure, and without that, no one can rely on it in either direction. 44 U.S.C. § 3512. At the very least, the evidentiary PDF proposal should go through the full rulemaking and information collection clearance process.

Thank you again for considering our concerns,

Sincerely,

A handwritten signature in blue ink, appearing to read 'RAB', with a stylized flourish extending from the end.

Richard A. Baker, Jr.

PTAAARMIGAN

PATENT AND TRADEMARK ATTORNEYS, AGENTS AND APPLICANTS FOR RESTORATION AND
MAINTENANCE OF INTEGRITY IN GOVERNMENT

MAILING: P.O. Box 590372, NEWTON MA 02459
E-MAIL: PTAAARMIGAN@PTAAARMIGAN.ORG

June 4, 2024

Via Email [Nicholas A. Fraser@omb.eop.gov](mailto:Nicholas.A.Fraser@omb.eop.gov);

Nicholas A. Fraser and Justin Grimes
Office of Information and Regulatory Affairs
Office of Management and Budget
725 17th St. NW
Washington, D.C.

Re: ICR 202304-0651-001 (control number 0651-0032), *Initial Patent Applications*, 30-day notice at 89 Fed. Reg. 21495 (Mar. 28, 2024)

Dear Mr. Fraser and Mr. Grimes—

This is a reply to your email of May 28 asking whether the USPTO’s June 2023 guidance “achieves the same thing as if it was designated as the evidentiary copy.” That also begs the question, whether the “auxiliary PDF is permanent and is evidentiary copy forever” variant on the USPTO’s DOCX information collection can be cleared. I promised it to you yesterday, but it’s a group letter that took longer to put together than I expected.

The answer is that neither the “evidentiary PDF” nor the USPTO’s June 6, 2023 guidance significantly reduce burden of DOCX filing. As Mr. Baker put it in his letter of May 30, “It should be facially obvious that any proposal to have two legally effective versions of the same file is bad public policy and an invitation for expensive problems in the future.”

Mr. Baker’s letter of May 30 (and his follow-up email of June 1, with the Oklahoma case attached) explained the two factors that, in combination, mean that the “evidentiary PDF” proposal doesn’t work at its end point: (a) when a printed patent has errors, courts tend to lay the consequences on the patent owner, and do not require the competitor/infringer to read past the text of the issued patent to resolve the error. (b) The USPTO has no authority to make any promise of “evidentiary” status post-issue, or to promise how other countries’ patent offices will treat errors created by the USPTO. Because of those two features, ***patents are uniquely intolerant of error***, and the “evidentiary PDF” proposal gives essentially no relief from the proofreading and error correction burden. That burden was estimated in the letters of ICR 202309-0651-002, at \$200 million to \$600 million per year (see letters of Boundy, Oppedahl, and Cretsinger). Having the “evidentiary PDF” sitting silently in the file, while the USPTO prepares the legally-effective patent from an unreliable DOCX, doesn’t reduce burden at all.

This letter will explain why the “evidentiary PDF” proposal also leaves in place much of the burden at the start point, at the time of filing.

PTAAARMIGAN is a not-for-profit § 501(c)(4) social welfare organization, that educates and advocates on behalf of patent and trademark attorneys, agents, and applicants.

I. Background facts

To understand the full implications of both the base DOCX proposal and the “evidentiary PDF” variant, and why both are flawed, it helps to have all the basic facts laid out. In order to get your successor up to speed, here is a consolidated exposition of the relevant facts.

Many of the people in our group were software engineers earlier in our careers. We developed a two-page “user requirements specification” and have attached it as an exhibit to this letter. It might be useful to review that first, before you review this list.

- The PDF standard is a voluntary consensus standard (OMB Circular A-119). The very first sentence of the PDF standard, ISO standard 32000-2:2020, states the central design goal: “PDF enables users to exchange and view electronic documents easily and reliably, independent of the environment in which they were created or the environment in which they are viewed or printed.” In contrast, the DOCX standard is designed for editing, not for archival or interchange purposes. In order to allow editing on different users’ computers with different software installed, the DOCX standard (ISO 29500) leaves many dozens of characteristics as “implementation defined” or “unspecified.” In its Supporting Statement for ICR 202309-0651-002, the USPTO claimed “DOCX presents documents, including text and formatting, in a manner that is independent of software, hardware, or operating system.” The USPTO gave no “supporting record” for this statement. The DOCX standard makes no such promise (indeed, it promises the opposite), and empirical evidence that many users have brought to the USPTO’s attention (see our handout to you of May 8) show that the USPTO’s representations to you are unequivocally false.
- Many patent applications are initially drafted by the client or inventor, not the patent attorney. The client/inventor does things their way, making full use of the features of whatever word processor they use. The constraints of the USPTO’s “Quick Start Guide” aren’t known to this person.
- As the Patent Office acknowledged, about 20% of filers do not use a DOCX-based word processor (Libre Office, Word 2003, Word Perfect, Apple Pages, Google Docs, etc.) These word processors have features to export DOCX files, but that feature tends to be low reliability. The DOCX file often loses meaning-significant formatting information, equations, special symbols, and the like.
- The applicant has to generate a DOCX file and a PDF file simultaneously. Whatever word processor the applicant is using, generating two files that are supposed to be identical is error-prone—if the phone rings during the process, the user might introduce a discrepancy between the two versions.
- Many patent attorneys want the inventor to review *the exact document* that will be filed as the patent application. Historically, that’s been done by giving the inventor a PDF—it’s guaranteed to be the same on all computers. But review of the *exact document* is

simply impossible if a DOCX appears differently on the inventor's computer, the attorney's computer, and the PTO's computer, and if the USPTO changes what's uploaded before storing it.

- The USPTO's DOCX intake software does not accept all DOCX files that conform to the ISO standard. The USPTO has never disclosed what software it uses, so we assume that it's a home-grown DOCX scraper. In order to reduce its own costs, the USPTO skipped out on implementing the full standard. Inventors and patent attorneys use word processing features that reduce error, such as bookmarks, style-ref cross-references to automatically copy of text from one place to another, automated cross-references to ensure consistent references to outline section numbers, landscape pages, and the like. The USPTO's DOCX intake software didn't implement these. Instead of accepting the full range of the standard, the USPTO's DOCX intake software gives error messages and refuses to accept perfectly "standard" DOCX files. So the user has to do hand-editing to "dumb down" the patent application, or simply give up use of error-proofing features. In either case, the USPTO forces a change from "existing recordkeeping practices" and forces applicants to introduce risk of error.
- The USPTO does not store the applicant's uploaded DOCX. Instead, the USPTO mangles it in the name of "validation" and forcing the DOCX into a uniform format. This step introduces errors. We don't know exactly what the USPTO does today. however, in the past, the USPTO would replace "new line" characters (↵) with "paragraph" characters (¶). This introduces errors of paragraph numbering, etc. Changes make automated file compare difficult. The Federal Records Act and Federal Rule of Evidence 1002 and basic principles of reliable software engineering require that agencies store the *original* version of documents; the USPTO's DOCX intake software doesn't.
- The USPTO's DOCX intake software attempts to "validate" the patent application, but gets fooled, and won't accept valid patent applications. For example, it requires a page with the word "CLAIMS" at the top. Some attorneys used to use the page heading "C L A I M S" Or sometimes there's a typo, "CLIAMS" A warning makes sense. But the USPTO's DOCX intake software implemented these as hard errors.
- The USPTO makes this DOCX available for review, but that review *occurs on the user's computer*. The problem is that a DOCX file appears differently on different computers, depending on software versions installed, add-ons for equations, and the like. Therefore, that review tells nothing about how *the USPTO's computer* will read or understand the very same DOCX file. (The USPTO books no additional time for this review, and offers no other acknowledgment that any burden even exists.)
- During that review, the USPTO's computers have a 30-minute timeout. If the review takes more than 30 minutes (either because of the detail or because the phone rings), the timeout will log the user out of the system.
- The USPTO stores that mangled DOCX for its own processing, and discards the user's upload. The USPTO scrapes the text out of the mangled DOCX, and that's the text that

will be used for examination and printing. The user's original upload is not stored in any form.

- ISO approved standard 29500 for DOCX. But Microsoft doesn't *implement* the standard (see Microsoft's 900-page list of departures from the standard (<https://msopenspecs.azureedge.net/files/MS-OI29500/%5bMS-OI29500%5d.pdf>, linked in the May 8 handout, page 39). Microsoft continues to evolve its implementation of DOCX. Microsoft has indicated that in a few years, it will stop offering desktop Office, and will only offer software-as-a-service Office 365. In the future, Microsoft will be able to (and almost certainly will) make changes that introduce new features into DOCX files that are not accepted by the USPTO's DOCX intake software. The way the USPTO implements DOCX intake and the way Microsoft implements DOCX creation are on a collision course.
- The USPTO likewise does not store the auxiliary PDF that the user uploads. Instead, the version that the USPTO proposes as "evidentiary" is a USPTO-generated version that has been flattened to a fairly-low-resolution halftoned bitmap (just a picture of pixels, with no text stored—it's so poor that it can't be reliably OCR'ed). The USPTO will discard the original uploaded PDF. That flattened version of the applicant's PDF will be stored permanently but never practically used by the USPTO unless and until the applicant relies on it to seek correction. The USPTO's acknowledgment receipt does not acknowledge the applicant's uploaded PDF; it gives a signature (fingerprint or hash) of the flattened file, so if the USPTO makes an error, there's no way to prove that a replacement that might be offered later is the *same*. Any full-text content of the applicant's PDF file won't be available to the applicant from the USPTO's copy because, as part of the USPTO's transformation of the applicant's uploaded PDF, the USPTO flattened that content away.
- The USPTO's last word on the subject (June 2021) is that corrections of USPTO errors would only be permitted for a year. We assume that the "evidentiary PDF" proposal envisions that the USPTO will run a Federal Register notice that (a) the evidentiary PDF option will be available permanently, not "until further notice," and (b) the applicant can seek correction up to the end of the patent's life, and (c) that error correction must use the normal mechanisms for correction, and the USPTO will bear none of the burden of seeking the errors it introduced or self-correcting them.
- Under the "evidentiary PDF" proposal, the burden of proofreading and filing the papers to obtain corrections will still fall entirely on the applicant. Given that the USPTO flattens the applicant's uploaded PDF file, and the "evidentiary PDF" is *not* the file that the applicant uploaded, the applicant must also proofread the flattened PDF file. Again, it is entirely the applicant's burden.
- The USPTO has never put the "evidentiary PDF" proposal up for notice-and-comment under either the Administrative Procedure Act or the Paperwork Reduction Act. In ICR 202011-0651-006, the USPTO's Supporting Statement states it would be "premature" to seek any clearance for any variant of any DOCX proposal. In ICR 202309-0651-002, the USPTO only estimated "adjusting existing ways to comply" burden, and ignored

proofreading and error correction burden. The public has provided the same estimates multiple times, most recently in ICR 202309-0651-002 (see letters of Boundy, Oppedahl, and Cretsinger), and those estimates run \$200 million to \$600 million per year. In this ICR 202304-0651-001, the USPTO doesn't mention DOCX at all, let alone offer estimates for comment. The USPTO has never offered any estimates of its own, and has never identified any analytical flaw in the public's estimates of nine-figure burden.

- The relevant statute (35 U.S.C. § 254) is absolutely clear that correction will have no effect for some situations, only for “causes thereafter arising.” We see no plausible mechanism that corrects all errors for all purposes back to the time the USPTO created them.
- Normally, it's the applicant's burden to make the record clear; it's not an infringer's burden to figure out ambiguities. The normal inclination for courts is that ambiguities are resolved against the party that had the opportunity to repair the ambiguity, and that inclination is especially strong in patents (as the example in Mr. Baker's email of May 31 demonstrated).
- The statute only gives the USPTO the authority to govern how the record is interpreted “in the Office,” § 2(b)(2)(A), not by courts. The USPTO has attempted in the past to tell courts how to treat the record, and the courts have declined the USPTO's invitation. *E.g.*, *Hill-Rom Co. v. Kinetic Concepts, Inc.*, 209 F.3d 1337, 1341 n. 1 (Fed. Cir. 2000). So, we won't really know what it means for the PDF to be the “evidentiary copy” in cases where it differs from the USPTO's typesetting until the issue gets litigated. In the meantime, applicants must operate on the worst-case assumption.
- Many U.S. patent applications form the basis for international filings under international treaties. These treaties specify that a first-country filing has the same effect as if it were filed in the second country on the first-country's date, under the second country's law. In other words, correctness of initial U.S. filing will be measured under the lowest common denominator of Chinese law, Japanese law, Korean law, German law, U.K. law, etc. Other countries' law tends to be even stricter than U.S. law. For example, to our knowledge, none of these treaties or national laws recognize appendices, incorporation by reference, or auxiliary documents. Further, national patent offices share patent documents using an agreed internal electronic form, which will be derived from the USPTO's scrape of the DOCX file, errors and all. We see no plausible theory under which the USPTO's “evidentiary PDF” proposal provides any reasonable assurance that the “evidentiary PDF” will displace that electronic document share, or will in any other way be treated as “evidentiary” by any other countries' patent offices, let alone all other. The U.S. Patent Office has no authority to make promises on behalf of other countries. Until there's an international treaty or cross-recognition protocol, during U.S. phase, patent applicants must operate on the worst-case assumptions to make sure that international rights are not compromised due to USPTO error. None of the USPTO's Federal Register notices or information collection paperwork have even acknowledged these international implications, let alone offered a reliable path.

- We phoned a number of courts and agencies to learn their practices for publication of their decisions, and we called legal publishers to see what form they receive. *All* the information we received (including from the USPTO itself) was the same: tribunals make their decisions available to publishers as PDFs. The USPTO’s needs for patent application intake is exactly the same as legal publishers’ need for intake of decisions for publication (in fact, the USPTO’s are somewhat simpler, because of limits on format of patent applications, 37 C.F.R. § 1.52). PDF works reliably for *all* decision publishers. The USPTO has never suggested that their needs are any different.
- During 2019 notice-and-comment, the public suggested that “PDF/A” (the “archival” variant of PDF) would serve the USPTO’s needs *better* than DOCX. The USPTO’s “response” was only to evade.

II. The “evidentiary PDF” and June 2023 guidance proposals assume a counterfactual

The “evidentiary PDF” proposal assumes a counterfactual—that the USPTO accepts all DOCX files. The USPTO doesn’t. The USPTO claims that the reason DOCX is a useful filing format is that it’s a “standard”—but that’s one of the representations that the USPTO has made to you that is true only in a hyper-literal-but-misleading sense. True, ISO approved a standard. But Microsoft doesn’t *implement* the standard (see Microsoft’s 900-page list of departures from the standard (<https://msopenspecs.azureedge.net/files/MS-OI29500/%5bMS-OI29500%5d.pdf>, linked in the May 8 handout, page 39). More importantly, the USPTO’s DOCX intake software doesn’t *accept* the standard. Instead, the USPTO accepts only a small subset of the ISO standard. When a patent application uses “standard” features that the USPTO hasn’t implemented, the USPTO gives an error message and refuses to accept the upload. Files that are refused (therefore showing that the USPTO’s DOCX intake software is incompatible with “existing reporting and recordkeeping practices,” § 3506(c)(3)(E)) arise from many sources:

- Many patent applications are written largely by the inventor/client (several tens of thousands per year). We can’t control what they do, what features they use, or what plug-in extensions they use (especially for technical subject matter). Many of the DOCX files we get from clients use sophisticated Word features. The USPTO hasn’t implemented many of these features in its DOCX intake software; they generate error messages.
- Patent attorneys tend to be technologically savvy, which means they’re sophisticated users of Word and use features that the USPTO doesn’t accept. For these attorneys, the deficiencies of the USPTO’s DOCX intake software affect 100% of filings. For example, in my patent applications, I use many bookmarks, cross-references, and the like to ensure that all the parts stay consistent as I edit a document. These features are important to prevent substantive errors. It works great when I file in PDF. However, when I try to upload to the USPTO DOCX system, I get many error messages, and the USPTO refuses to accept my filing. I have tried “dumbing down” my DOCXs. I found that the handwork took more than \$400 worth of time, and replacing the automatically generated (and therefore guaranteed-correct) features with hand-typed replacements was the risk of

error that just isn't worth \$400. Because patent attorneys tend to be technologically sophisticated, my experience is broadly shared.

- DOCX files output from Word Perfect, Libre Office, and Google Docs tend to have these features that the USPTO won't accept. According to the USPTO's own estimate, about 20% of filers don't use Word and are therefore exposed to this risk.
- The threshold for "too sophisticated for the USPTO's systems" is pretty low: even landscape pages for wide tables cause the USPTO's systems to refuse acceptance (it works fine in PDF—just turn the page sideways so that all pages in a file are in portrait layout).
- The diagnostic messages given by the USPTO's DOCX intake software are non-informative. The error message is often only a few words, with an inscrutable code—entirely cryptic. Further, the USPTO's DOCX intake software *never* tells *where* the offending feature is and *never* tells what to do about it. Often, it's some invisible field. We've had reports on our attorney email lists of people spending *hours* trying to find the problem. As often as not, the attorney gives up and files in PDF.
- Ironically, the most disadvantaged patent applications are the most technologically- and commercially important.

The upshot is that there will always be situations with no viable DOCX path, and PDF filing will be the only option. At a guess, we estimate this at about 5% where there is *no* DOCX path, not even theoretically. We estimate that for 20% of all applications, no DOCX path (even with "evidentiary PDF") makes sense on a cost-benefit balance-of-risks analysis. The USPTO cannot estimate the number of such cases because their existence is hidden—the applicant gives up trying to file in DOCX and just reverts to PDF. In its 0651-0089 Supporting Statement, the USPTO told you, "The USPTO is simply not seeing the unreliability asserted by the commenter." That's sample bias, not data. In its Federal Register notices and Supporting Statements, the USPTO has consistently misreported the error reports from the public, or has reported them in sentences that are true in only a hyper-literal reading but misleading under a normal reading. When the USPTO tells you there's no practical problem, that's an Information Quality problem, not data.

III. The "evidentiary PDF" and June 2023 guidance leave many burdens unaddressed

"Evidentiary PDF" reduces some problems (which tend to be the low-impact ones) and leaves others untouched (which tend to be the high-impact ones). Almost by definition, "evidentiary PDF" acknowledges that the USPTO cannot reliably scrape data out of a DOCX. (In contrast, there are several reliable off-the-shelf software products for scraping text out of PDFs that the USPTO could use.) We've brought that proofreading and error correction burden to the USPTO's attention multiple times; they continue to book it at zero. Your email suggests that the USPTO continues to do so. Making something possible doesn't make it free or easy. Here are the various failure points that continue to create proofreading and error correction burdens:

- For users who don't use Word, the "export to DOCX" feature simply isn't reliable. There's no commercial value for a software vendor to *export* reliably (import yes, export no). See the Library of Congress page in our May 8 handout at page 38. The USPTO's survey estimated that using non-Word word processors accounts for about 20% of filers. Our observation is that 20% is concentrated among small entities. This will be a source of errors. True, the "evidentiary PDF" proposal makes it easier to correct errors. Still, it does nothing to reduce the proofreading burden to identify those errors and does little to reduce the burden of preparing the papers to ask the USPTO to make the correction. Proofreading and error correction are a burden that must be estimated and booked, even for the "evidentiary PDF" and June 2023 guidance variant proposals.
- Microsoft updates Word frequently. Microsoft has announced that as the future mandatory migration path will be Office 365, the Software-as-a-Service offering, which will be updated even more frequently, with even less notice. When Microsoft changes Word in a way that adds new content to DOCX files, the USPTO will be caught flat-footed and, for several days or weeks, won't be able to handle patent applications correctly. Again, the "evidentiary PDF" proposal is no remedy at all if the USPTO's DOCX software won't even accept the application—or accepts it with errors. The only alternative is to pay the \$400 penalty fee.
- For users of Word, if the applicant is using one of the features on Microsoft's 900-page list of departures from the standard (<https://msopenspecs.azureedge.net/files/MS-OI29500/%5bMS-OI29500%5d.pdf>, linked in the May 8 handout, page 39), there's no guarantee that the USPTO can handle it correctly. If the USPTO's DOCX intake software refuses to accept an application, neither the "evidentiary PDF" proposal nor the June 2023 guidance accomplishes anything. Again, the only alternative is to pay the \$400 penalty fee.
- Often, the attorney prosecuting the application is not the one who wrote the application. The later attorney may not realize that there are discrepancies between the evidentiary PDF and the USPTO's version. So, from a liability point of view, when the later attorney takes over mid-stream, does that later attorney have to compare the evidentiary PDF to the USPTO's record? Is that now a required part of the intake for a transferred case? Is it something that all later attorneys should do when responding to an Office Action for a case they didn't write? Maybe even for ones where there's no change of attorney?
- Suppose after a patent has been issued, an attorney now notices a discrepancy between the evidentiary PDF and the issued patent. What's the process, and what's the estimated burden of resolving the issue? During NPRM, ICR 202011-0651-006, and ICR 202309-0651-002, and this ICR, the USPTO estimated this all at zero.
- Suppose a defendant charged with patent infringement checks the record and finds that the issued patent does not match the evidentiary PDF. Can the defendant use that discrepancy to invalidate the patent? Why didn't the patent owner have a duty to seek correction? If the USPTO has given this meaningful thought, it hasn't been disclosed in any request for public comment.

- The recordkeeping to make sure that the PDF and the DOCX reflect identical versions is genuinely difficult. If the phone rings or there's some similar distraction while preparing the final copies for filing, there's a real risk of introduced error. And over time, there's no ready software tool for coupling files to ensure the applicant's recordkeeping is accurate. If you need a numerical estimate, I'll poll my colleagues. I personally catch myself making analogous errors several times a year. I have checklists and processes to catch them. But most attorneys don't have the education in error-resistant engineering that I do and won't do things like I do. Errors will get through, and version skew will create real problems.
- The USPTO's DOCX intake software changes the input and introduces errors. That introduced error is the most likely explanation for the "Example 8 \$8000 fee" example (see May 8 handout, pages 12-27). As any software engineer will tell you, as long as the USPTO changes its inputs (thereby violating the Federal Records Act and Federal Rules of Evidence), they're going to introduce errors. High-reliability software starts with storing the user's input *exactly* as received (see our "requirements spec" attachment). The "evidentiary PDF" variant won't change the applicant's burden to detect and correct these errors. "Evidentiary PDF" makes it easier to prove the need for correction but does little to reduce the burden of detecting and filing the paperwork to correct the USPTO's errors.
- A DOCX file has no single meaning—the ISO standard says so (see the May 8 handout at pages 36-39). Every implementation can do something different with the same file and claim to be "correct." So, there's really no reference standard and no way to prove that the USPTO's computers were in "error." The "evidentiary PDF" proposal provides a reference standard to calibrate against, but that just creates the burden of proofreading and filing the paperwork to get the correction made. The USPTO charges different fees for USPTO-created errors vs. applicant-created errors (35 U.S.C. § 254 vs. § 255). The applicant will still have to convince the USPTO that their rendering of the DOCX was "mistake incurred though the fault of the Patent and Trademark Office," § 254—which can't be done because the ISO standard is so loose that there's no uniform definition of "correct." In Example 8 of our May 8 handout, you can see the overwhelming burden of proof the USPTO puts on applicants who attempt to show, when fees are at issue, that the error was the USPTO's.
- Every computer professional knows the acronym GIGO—garbage in, garbage out. Unreliable input guarantees unreliable output. It's like a squishy toy—the USPTO can move the error from one place to another, but the USPTO can never get unreliability and errors out of a system if the USPTO starts with unreliable input.

As you note, after the patent issues, what the USPTO calls the "evidentiary PDF" will be available as a reference standard for error correction during litigation. But the errors are still there. Because the USPTO transforms the applicant's original PDF file, there may also be errors in the evidentiary PDF. And litigators will litigate. It's hard to estimate the burden for a low-probability-high-severity event, but having been a litigator earlier in my career, I can say with

great certainty that the cost of even one of these fights will be greater than the annual savings that the USPTO claims for itself.

The “evidentiary PDF” is at best a necessary element in establishing a discrepancy between the PDF and the DOCX. But it is not a sufficient condition, because it keeps the entire burden on the applicant to do the proofreading and to request correction. The USPTO has not yet told us what will be required in a grantable petition to correct (*i.e.*, how burdensome it will be to seek correction), and the USPTO also has not committed to the ultimate effect of a grantable petition—and lacks authority to do so. The relevant statute is absolutely clear that correction will only have “thereafter arising” go-forward effect, and does not correct errors back to the time the USPTO created the error. How can the USPTO guarantee that corrections will be binding immediately for all purposes, including pre-grant publication, examination, grant, and all downstream and derivative records and tools? Simple—the USPTO can’t. That leaves the burden on the applicant to carefully proofread, and to call for corrections at every step.

The bottom line is that the USPTO is using the evidentiary PDF as a camouflage for the inherent unreliability of DOCX. The evidentiary PDF variant is only a diversion from the core issue—DOCX’s unreliability—and instead burdens applicants with a significant amount of additional work during and after intra-USPTO proceedings.

IV. The copy that the USPTO proposes to designate as the “evidentiary PDF” is not the *original*—the USPTO’s implementation of the “evidentiary PDF” *increases* burden

The USPTO accepts an uploaded auxiliary PDF—but immediately transforms it by flattening it to a halftoned bitmap, throwing away the full-text form. (a) That makes the evidentiary PDF *really* difficult to proofread—it can only be proofread by eye, not by machine. (b) It makes it impossible to do a fingerprint (hash-value) check to confirm that the document one downloads later is the same as the document uploaded. (c) It violates the Federal Records Act.

The USPTO might contend that the evidentiary PDF maintains the same content as the applicant's original PDF, with the only difference being the format (the evidentiary PDF being an unreadable version of the original). However, this assumption demands that applicants trust that no other transformations have occurred and that the flattening process did not introduce errors. Due to this transformation, applicants are compelled to verify the evidentiary PDF against their original PDF file, imposing a significant additional burden.

The “evidentiary PDF” proposal and June 2023 guidance both mean that the applicant has *two* proofreading burdens, to proofread the USPTO’s mangled DOCX and the flattened PDF. And the final proofread, of the issued patent against the flattened bitmap PDF, must be by eye, not by computer, because the USPTO threw away the text-based form.

V. For many patent applications, proofreading during intra-PTO pendency is impossible

For about 15% of applications, while the application is pending, it's absolutely impossible to get a meaningful copy of what the USPTO thinks it received. 35 U.S.C. § 122(b)(2)(B)(i) permits an applicant to request that applications not publish before they are issued. For those applications, the USPTO makes nothing available that reflects what the USPTO thinks it received. The USPTO makes available an XML file, but that XML has so much junk in it that it's not useful in any practical sense for proofreading.

For these applications, the examiner will be looking at one thing (and potentially raising rejections), and the applicant will be looking at a different thing. There's already plenty of talking past each other because of things one knows and the other doesn't; this will be a total train wreck.

The "evidentiary PDF" and June 2023 guidance variants offer no reduction to this problem.

VI. The USPTO's only estimates for cost savings concede that the cost shift is disproportionate

The only estimate the USPTO has ever given for its cost savings is \$3.15 per application (in the NPRM). Multiplied out by the number of responses, the USPTO's cost savings are well under \$1 million per year.

In contrast, under the "evidentiary PDF" and June 2023 variants, patent applications will still require *careful* proofreading. The public's estimate for the proofreading, to achieve a *ceteris paribus* comparison to the *status quo ante* reliability of PDF filing, are in the ICR 202309-0651-002 comment letters (\$200 million to \$600 million). The USPTO has never challenged either these estimates or any of the underlying methodology.

VII. The PTO has a legitimate need for full-text filings—most applicants *file them today* as PDFs

We fully agree with the USPTO that there's a legitimate problem that needs a legitimate solution. The USPTO needs a reliable intake of full-text documents. The issue is whether the USPTO should do what every other agency and legal publisher does—accept full-text PDFs, under a voluntary consensus standard—or whether the USPTO should build its own software to accept a highly irregular, poorly controlled form, DOCX. We have suggested several times that the documents that applicant file today—full-text PDFs—should be a near-complete solution to the USPTO's needs, if the USPTO would simply stop flattening them to bitmaps. We have also suggested that PDF/A—the "archival" variant of PDF—is a complete solution to both the PTO's needs and the public's. The USPTO has never disputed either conclusion or any of the underlying assumptions.

We have no doubt that the USPTO's sunk costs for its DOCX intake software are *very* large. DOCX is a *fantastically* complicated way to do a task that's much simpler in PDF, as the USPTO's own contractor found (see the May 8 handout at pages 29-32). The DOCX standard is several times the size of the PDF standard (I uploaded both DOCX standards at https://www.reginfo.gov/public/do/PRAViewDocument?ref_nbr=202309-0651-002 PDF is designed for precisely the purpose the USPTO wants, PDF is the form that every court—and the USPTO itself—uses to publish their decisions, and all the legal publishers have reliable PDF text intakes. We have no direct insight into the USPTO's software internals, only our intuitions as software engineers (one trained at Michigan and MIT, one with a PhD in computer science from NYU, another with a PhD in physics, another with a software engineering career before switching to law) based on external observation. But we can tell a lot as outsiders—Congress didn't have to have on-site inspectors to recognize that Boeing's engineering wasn't up to snuff. We are as sure as we can be that if the USPTO replaces its DOCX intake software with an intake from text-based PDF, the USPTO can switch to a solution that largely relies on commercially available or open-source software components and services. We are reasonably sure that the USPTO's costs will be *better* two years from now if they give up the DOCX wild goose chase and do this job the same way every other agency does. Our understanding of the law is that it's the USPTO's burden to show otherwise—we've raised this issue repeatedly, and the USPTO's response to comments has either mischaracterized the comment or answered with a *non sequitur*.

The USPTO claims to have relied on “internal IT considerations and initiatives, external sources, and industry practices,” but they've produced none of it publicly. For every document we've obtained by FOIA, the USPTO's characterization has been either materially misleading or outright false. The law requires OMB to withhold clearance until the USPTO puts its documents up for public vetting as a “supporting record.” § 3506(c)(3). The USPTO has refused to do so on multiple occasions.

This is an information collection with a really low impact on the agency, under \$1 million per year. And now they're asking you to approve nine figures of burden in an ICR they didn't publish for comment, based on hidden documents, after years of avoiding fair response to public comments. As far as we can tell, their only argument is sunk costs. Please don't reward misbehavior.

VIII. Further rulemaking and information collection procedure is required

The USPTO has never proposed the “evidentiary PDF” or June 2023 proposal for comment. In fact, the USPTO's public statements have been to the contrary. For example, in June 2021 (after the conclusion of the last triennial review of 0651-0032 in May 2021), the USPTO stated that the ability to correct would only last one year, Patent and Trademark Office, *Submitting Patent Applications in Structured Text Format and Reliance on the Text Version as the Source or Evidentiary Copy*, 86 Fed. Reg. 29571, 29571 col. 3 to 29572 (Jun. 2, 2021). We see no change to that one-year limit on the right to seek correction. The evidentiary PDF doesn't do any good if the right to seek correction lasts only one year.

IX. Conclusion

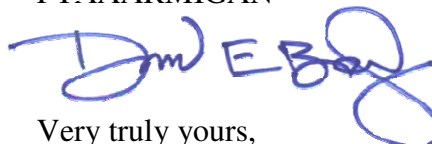
This ICR should not approve the burden the USPTO has never put up for public comment and didn't request now. This is a nine-figure rule. It ought not be negotiated in a secret overtime period by a half-dozen people just because the USPTO skipped out on the required procedure during regulation play. If the USPTO wants a clearance, please ask them to do what every other agency does—start at the beginning with a 60-day notice that gives honest burden estimates that cover the full spectrum of burden and a fully disclosed supporting record that allows public vetting and a Supporting Statement that gives *candid* answers to the public comment letters, and support everything with a record that meets Information Quality guidelines. This is not a big deal for the agency—they delayed implementation for three years, and now the cost for them to accept the worst form of PDF is under \$1 million annually. We conjecture that the USPTO will derive all the benefits and impose none of the costs if they switch to text-form PDF as the submission form, perhaps even PDF/A (the archival form).

A § 1320.12(f) rescission would be appropriate. The \$400 penalty fee should be rescinded so applicants can file in any form they find convenient.

We may be reached at the address below, if you have any questions.

Very truly yours,

PTAAARMIGAN



Very truly yours,

Exhibit A

**A “requirements specification” given to USPTO
staff in January 2023**

Agenda for DOCX discussion

Correctness first. Every computer engineering student is taught that correctness may (nearly) never be compromised for “efficiency” or cost.

- a. This is especially true here—the law of new matter makes post-filing correction of errors nearly impossible. A patent application or patent could become worthless because of a textual change (no matter how small) introduced by the filing system.

1. Principle 1: The file that the applicant uploads must be the authoritative document.

- a. No wiggle room. No changes, no “validation” if that means change or replacement. The applicant’s uploaded bits are authoritative, and must be retained indefinitely.
- b. These are legal documents, evidence for litigation. The best evidence rule applies.
- c. Humans are not well-equipped to review for small changes—any scheme that changes the input in subtle ways and asks for human review is an inherently flawed design.
- d. Inevitably, the best-engineered system will still run into errors. When the same file is uploaded months or years later (either during intra-PTO examination or during litigation), the upload must give exactly the same checksum. No modification on the fly.
- e. The system must be designed to minimize the path between file upload and authoritative archival storage, in order to minimize the chance for screw-up.

2. Principle 2: What You See Is What I Get. The file specification (perhaps ISO standard) for the authoritative file must guarantee that anyone, anywhere, any time, that opens or prints the authoritative document will see the same rendering in content and visual layout.

- a. Litigation parties must be left with no ambiguity about exactly what was filed—small ambiguities will become big litigation issues.
- b. DOCX documents appear different when opened on:
 - i. Microsoft Word, Libre Office, Google Docs, Mac Pages, the PTO’s DOCX filing system, and the PTO’s FOIA system.
 - ii. English text written in non-Latin-alphabet editions of Word (Word for Israel, Japan, etc.) screws up when opened in the American edition of Word.
 - iii. Microsoft Word for Windows, Word for Mac, different releases of Word, the same version of Word on computers with different plugins and other software installed
- c. The PTO estimated that 20% of users use word processors that don’t generate DOCX

3. Standards matter—but only if the guarantees of the standard match up to the correctness needs of the application.

- a. Principle 2 implies that a usefully-applicable standard is one that is designed to ensure portability and uniform reproducibility. A standard that is designed to adapt the document to each computer it’s opened on, that has a great many “implementation defined” parameters, or that is designed to encourage extensions and plug-ins, is not a useful standard for this purpose.
- b. If the PTO justifies its choice based on a “standard,” the PTO must implement the *entire* standard. Standards are two-sided agreements. The PTO can’t implement part of a standard that’s convenient for the PTO, and forbid the part that’s convenient for the public. The PTO can enforce valid *regulations*, e.g., 37 C.F.R. § 1.52(b)(2) (nonscript type fonts, single column, etc.), but may not rule out “standard” features just because they’re hard to implement.

Within those three principles, all options are on the table.

4. Legal requirements. Any implementation must meet the requirements of the Paperwork Reduction Act. Rulemaking must observe the procedures of the Administrative Procedure Act, Paperwork Reduction Act, Regulatory Flexibility Act, and Executive Order 12866.

5. For preparation, it will be helpful to review three of the public comment letters. All three explain technological flaws in the PTO's DOCX proposal; the Oppedahl letter is most detailed. The Seventy-Three letter and Boundy letter explain legal process errors.

- Carl Oppedahl, [Comment letter \(Aug. 12, 2019\)](#)—this letter explains several attempts to file patent applications using the PTO's DOCX filing system. In the Final Rule notice in the Federal Register, the PTO stated "To date, the Office has not received notifications of any issues resulting from the filing of applications in DOCX format." This representation was submitted to the Office of Management and Budget and to the Small Business Administration for their *ex parte* proceedings to review the rule just before publication in the Federal Register.
- Seventy-Three Patent Practitioners, [Comment letter \(Sep. 27, 2019\)](#) explains technological failures, costs, and legal process failures.
- David Boundy, [comment letter \(Nov. 30, 2020\)](#), presents two cost workups for the DOCX rule. Both total about \$200 million per year. (The PTO was required to generate similar estimates, under Executive Order 12866, the Paperwork Reduction Act, and the Regulatory Flexibility Act—to date, the PTO has not done so for any of the three.) In the PTO's [response to OMB of May 25, 2021](#), the PTO conceded that it had not observed the procedural requirements of the Paperwork Reduction Act, and has no plans to commence compliance.

6. A way forward: Standard ISO 14289-1:2014 appears to be a good starting point for further discussion. It's popularly known as "PDF/UA" for "universal accessibility." To our knowledge, PDF/UA satisfies all criteria for all parties:

- a. The document text is presented in logical reading order. The document's logical structure and organization is organized into sections, paragraphs, lists, tables and so on.
- b. Problematic content is prohibited, including illogical headings, the use of color/contrast to convey information, inaccessible JavaScript, etc.
- c. Our initial investigations suggest that PDF/UA meets Principle 1. PDF/UA has been a feature of free and low-cost PDF writers for many years. Microsoft included an accessible PDF writer in Word 2016.
- d. PDF/UA has the portability, and identical appearance guarantee of PDF, thereby satisfying our Principle 2.
- e. It's an ISO Standard, an extension layered on top of PDF 1.7. The U.S. Government Access Board (the agency that implements the Rehabilitation Act) [recommends PDF/UA-1 as one of several "appropriate standard\[s\]" for full accessibility](#). We conjecture that the PTO's needs are largely coextensive with this accessibility and archiving standard.
- f. We conjecture that the PTO could contract with the vendors of free or low-cost PDF writers to ensure that their output meets any criteria the PTO needs.

Standard 19005 for PDF/A, for "archival", may have desirable properties as well. Public comment letters suggested both PDF/A and PDF/UA. The PTO has never published any document that suggests bona fide consideration of either alternative.

PTAAARMIGAN

PATENT AND TRADEMARK ATTORNEYS, AGENTS AND APPLICANTS FOR RESTORATION AND
MAINTENANCE OF INTEGRITY IN GOVERNMENT

MAILING: P.O. Box 590372, NEWTON MA 02459
E-MAIL: PTAAARMIGAN@PTAAARMIGAN.ORG

September 5, 2024

Via Email

Nicholas A. Fraser
Office of Information and Regulatory Affairs
Office of Management and Budget
725 17th St. NW
Washington, D.C.

Re: ICR 202304-0651-001 (control number 0651-0032), *Initial Patent Applications*, 30-day notice at 89 Fed. Reg. 21495 (Mar. 28, 2024)

Dear Mr. Fraser—

This is a follow-up to earlier letters about a proposal by the U.S. Patent and Trademark Office to penalize those who file patent applications in PDF form, and instead require filing of patent applications in DOCX, with a \$400 penalty for PDF. Three new facts are relevant.

We understand that the USPTO no longer seeks approval of the information collection as originally proposed in the 2019 NPRM, 2020 Final Rule, or January 2024 60-day notice. We understand that the USPTO has modified its ask, to treat the “auxiliary PDF” as the evidentiary or authoritative copy. The USPTO has never requested comment on that variant, and this letter raises new facts. PTAAARMIGAN therefore requests that you consider these comments, even though submitted outside the regular order.

We understand the current state of play to be as follows:

- The USPTO has never published anything in the Federal Register—let alone a rulemaking—to implement the “evidentiary PDF” proposal (perhaps a *sub silentio* confession that the USPTO knows it has no such authority, see the *Loper Bright* discussion below).
- The USPTO’s last definitive statement in the Federal Register on the “authoritative” or “evidentiary” copy is “the USPTO considers the validated **DOCX file(s)** submitted by the applicant to be the authoritative document and that applicants may rely on the validated DOCX file(s) as the source or evidentiary copy of the application to make any corrections to the documents in the application file.” *Filing Patent Applications in DOCX Format*, Notice, 87 Fed. Reg. 25226, 25227 (Apr. 28, 2022). The USPTO has never stated in the Federal Register that the PDF would be “authoritative” or “evidentiary.”
- The most recent Federal Register notice, *Extension of the Option for Submission of a PDF with a Patent Application Filed in DOCX Format*, 88 Fed. Reg. 37036 (June 6, 2023)

observes none of the requirements for rulemaking or information collection, and makes none of the relevant commitments. The June 2023 notice states that the USPTO is “extending the option” to *file* an auxiliary PDF, but the USPTO pointedly avoids any promise about what the USPTO will *do* with that auxiliary PDF, and avoids any promise of legal effect. The USPTO has never promised in the Federal Register that the auxiliary PDF will be treated as “authoritative” or “evidentiary,” never promised to attribute any legal significance to it (beyond mere “option to submit”), never promised any legal effect extending throughout the 26-year life of a patent (including post-issue). The USPTO only says that the “option” to *file* will exist “until further notice”—a commitment to nothing.

- The USPTO’s most recent statement on retention of the PDF was a commitment to destroy the PDF three years after a patent is granted. *Filing Patent Applications in DOCX Format*, 87 Fed. Reg. 25226, 25227 (Fed. Reg. Apr. 28, 2023). But the economically-important part of a patent’s life is post-issue licensing and enforcement until the patent expires, plus the six year statute of limitations. Patent owners require that the USPTO preserve all federal records, to ensure they’re available to correct USPTO mistakes for 26 years from filing.¹ The June 2023 Notice only makes a short-term promise, with no permanent commitment to *retain* the PDF, and no commitment to any legal status for the auxiliary PDF.

With that background, here are the three new facts that have arisen since the close of the ICR 202304-0651-001 comment period, and how they apply to the “evidentiary PDF” proposal.

1. *Loper Bright*. For the “evidentiary PDF” proposal to provide any meaningful effect to patent owners, the USPTO would have to bind courts to credit secondary evidence (the auxiliary PDF) over the issued patent. But as far as we know, the USPTO has no such authority. Without that authority, the “evidentiary PDF” proposal solves nothing.

Before the Supreme Court’s recent decision in *Loper Bright Enterprises v. Raimondo*, 144 S. Ct. 2244 (2024), if an agency made a plausible claim to have authority for a rule, courts would defer. After *Loper Bright*, that is no longer true. The USPTO’s main rulemaking statute, 35 U.S.C. § 2(b)(2), “does not authorize the Patent Office to issue ‘substantive’ rules.” *Cooper Technologies Co. v. Dudas*, 536 F. 3d 1330, 1336 (Fed. Cir. 2008). We know of no statute—§ 2 or any other—that would authorize the USPTO to govern the post-issue life of patents. We know of no plausible statutory basis for the USPTO to require courts to place “authoritative” or “evidentiary” weight on the “auxiliary PDF,” *even if the USPTO acted by full regulation*, rather than guidance.

For decades, it’s been the opposite. In the event of any ambiguity, typo, or similar error, courts put the risk of error on the patent owner, and construe against the drafter. “As courts have recognized since the requirement that one’s invention be distinctly claimed became part of the patent law in 1870, [courts have construed patent documents] to guard against unreasonable

¹ This is a case showing why APA notice and comment and § 1320.9 comment periods are so essential—if the USPTO had followed the requisite procedures, it would have avoided a mistake that brings into question the agency’s subject matter competence and respect for the rule of law.

advantages to the patentee and disadvantages to others arising from uncertainty as to their [respective] rights.” [Athletic Alternatives, Inc. v. Prince Mfg., Inc.](#), 73 F. 3d 1573, 1581 (Fed. Cir. 1996). In another recent example, [Sipco, LLC v. Jasco Products Co.](#), Case No. CIV-19-709-PRW (W.D. Okla. 2024), the USPTO examiner required the applicant to stipulate to a limit on enforceability of the patent. But the examiner’s proposal had a typo—a number was off by one. The applicant adopted the examiner’s suggestion, *verbatim*. Nonetheless, the *Sipco* court bound the patent owner to *the examiner’s mistake*—even though the correct number was entirely obvious in context—and rendered the patent unenforceable in its entirety.

We know of no law that would give a patent owner any lenity for a USPTO mistake in rendering a DOCX—the most likely outcome is that the cost of USPTO error will fall entirely on the patent owner. Courts recognize that patent applicants control the record, and competitors have to make decisions based on that record, so as between them, the consequence of the error must fall on the patent owner. Courts do not require competitors to identify and read past typos or similar errors in patents. Courts have been very clear that it is the patent applicant’s burden to provide requisite notice, so typos, ambiguities, and disagreements between two documents (the DOCX from which the USPTO prepares the issued patent vs. the auxiliary PDF, for example) will (in most cases) be resolved against the patent owner. We know of no basis on which the USPTO would have authority to tip that balance the other way in favor of some “evidentiary copy” that disagrees with the patent document itself. *Loper Bright* virtually eliminates any possible argument the USPTO might have.

Until it’s tested in court, the USPTO’s “evidentiary PDF” proposal reduces burden by essentially zero. Even under the “evidentiary PDF” proposal, every patent applicant that files in DOCX must do the proofreading and error correction described in the public comment letters. Burden estimates for proofreading and error correction are basically unaffected by the “auxiliary PDF” proposal, as explained in the public comment letters for ICRs 202011-0651-006 and 202309-0651-002 (each of these estimates assumes a *ceteris paribus* baseline where reliability and enforceability of future DOCX patents parallels past PDF patents):

- David Boundy, [objectID=107472802](#) at pages 4-5; estimates total \$200 million/yr.
- Brad Forrest, [objectID=135639300](#) at pages 99-107; estimates total \$200 million/yr.
- Carl Oppedahl on behalf of 107 co-signatories, [objectID=135640900](#) at page 9; estimates total \$600 million/yr.
- Dr. Cathy Cretsinger, [objectID=136718302](#), at pages 7-8; estimates total \$600 million/yr.

To date, the USPTO has not responded to these estimates in either an NPRM or ICR comment period, except to (falsely) state that DOCX is as reliable as PDF. That contention is false, as new fact 2 demonstrates.

2. New update to Microsoft’s definition of DOCX. Two weeks ago, Microsoft published an update to its definition of DOCX format, describing “extensions.” https://learn.microsoft.com/en-us/openspecs/office_standards/ms-docx/b839fe1f-e1ca-4fa6-8c26-5954d0abbccd “Extensions” in a software product are new features above the features required by a standard. By definition, extensions are software behaviors that are outside the standard. By definition, software that uses the extension will generate output data that can’t be read as input by

other software (such as the USPTO’s DOCX intake software). Extensions are used strategically by vendors with monopoly power—extensions make it nearly impossible for customers to migrate to competing products, and create constant costs for competitors who must scramble to catch up.

Microsoft’s August update to the “extensions” document is characterized as “major” and “Significantly changed the technical content”—dozens of other changes since 2009 have also been “major.” Microsoft introduces these extensions into Office unpredictably (for example, Microsoft updates Office 365 on the fly with no notice to the public). Unless the USPTO has somehow gotten on the advance notice list so that the USPTO can update its DOCX intake software before Microsoft releases them, it’s inevitable that the USPTO’s DOCX intake software will fall behind Microsoft’s. That will translate into errors when the USPTO encounters patent applications created with updated versions of Word. Further, a change to an extension could mean that a DOCX file that renders one way today will render differently a year from now. In litigation, where differences are tested, that unreliability of the evidentiary record will create chaos.

Microsoft’s “extensions” document proves our point—DOCX is a foundation of shifting sand, not a voluntary consensus, uniform, reliable, or unvarying interoperability standard for reliable exchange of documents between different computers. DOCX is not designed to, and makes no promises that it will, guarantee uniform meaning of a data file for the 26 year life of a patent. The USPTO claims in its [0651-0089 Supporting Statement](#), “DOCX presents documents, including text and formatting, in a manner that is independent of software, hardware, or operating system” (Responses 2 and 7). The USPTO has never provided any “record supporting” that claim, 44 U.S.C. § 3506(c)(3), has never explained away the contrary statements in the standard document itself², and the multiple software errors the public comment letters. This “extensions” document proves that Microsoft makes no attempt to preserve uniformity and consistency across “software, hardware, or operating system” or time. The extensions document shows that the USPTO’s claims in its Supporting Statements are simply false.

3. New empirical experience with DOCX filing. A number of patent attorneys use non-DOCX word processors in their day-to-day work—Word Perfect, Libre Office, Word 2003, Hebrew- and Asian-character versions of Word, Apple pages, and others. (The USPTO estimated this proportion at nearly 20%. 85 Fed. Reg. at 46947, col. 2). Since the \$400 penalty went into effect in January, those filers have gathered further empirical evidence that DOCX files generated by non-DOCX word processors simply don’t work when submitted to the USPTO, in violation of the USPTO’s obligation to provide systems “consistent and compatible, to the maximum extent practicable, with the existing reporting and recordkeeping practices” (§ 3506(c)(3)(E)). Of the

² A number of “implementation dependent” features that would prevent reliable exchange of documents between different hardware, software, and operating systems were given in the very first round of comment letters, [Seventy Three Patent Practitioners](#), at pages 14-19, and several subsequent letters. The USPTO has *never* responded to this comment or acknowledged the existence of the 100-or-so “implementation defined” features in the DOCX standard document.

many fact patterns discussed on the attorney email lists over the last two months, some are particularly anomalous:

- A DOCX exported from a non-Microsoft word processor sometimes does not meet the USPTO’s requirements for form—in the last two months, users have reported that the USPTO’s DOCX intake system gives a warning of faulty line spacing, font, and the like.
 - First, some word processors export DOCX files with invisible control codes or other “stuff” in them. These files are accepted by Word (so it seems to be correct and within the standard), but draws an error message from the USPTO’s DOCX intake software. Sometimes the USPTO error message gives a partial diagnosis (“Remove content control codes”), but no location. Sometimes the USPTO error messages just notes that the application has some feature that the USPTO doesn’t know how to handle—but doesn’t identify specifically what the problem is, or where it’s located. So these exported DOCX files—which appear to be correct—can’t be filed as patent applications.³
 - Second, some of the “requirements” enforced by the USPTO’s software exist only in subregulatory guidance—they were never adopted with rulemaking formality, and shouldn’t be enforced in any event. But the USPTO enforces them anyway.
 - Third, the USPTO’s DOCX software apparently has bugs—to all appearances, the file as observable on the user’s computer complies with the USPTO’s requirements, so when the software reports a spurious “warning” or displays a rendering that differs, there’s nothing that can be done to respond to an erroneous diagnosis

The “auxiliary PDF” proposal offers essentially no reduction in burden to those who use a non-DOCX word processor—it makes the showings easier to correct USPTO error, but offers no reduction in burden to detect or correct them. (The USPTO has pointedly refused to book proofreading or error correction burden at anything above zero, so even if there were some reduction, the USPTO can’t claim that “auxiliary PDF” reduces it.)

- After any of the errors of the preceding bullet, when the USPTO sends a “notice to file corrected application papers,” the applicant then refiles *identically the same PDF* a week later. On second submission, the *identical* PDF document is now accepted. This is “unnecessarily duplicative.” § 3506(c)(3)(B). If the auxiliary PDF is “evidentiary,” then it should be “evidentiary” for all purposes.
- Some patent application filings must include (a) an exact copy of an earlier-filed application (to establish the right to the filing date of that earlier application), (b) a “preliminary amendment” (to correct typos, idiomatic translations, substantive changes to the claims, etc.), and (c) a substitute specification that engrosses the amendments into the

³ As earlier comment letters noted, the USPTO’s DOCX intake software doesn’t accept the DOCX standard. It accepts only a cramped and poorly-defined subset. Applicants can only determine what is acceptable on a hit-and-miss basis. The USPTO can’t claim that its proposal is justified because “DOCX is a standard” and then not implement the full standard—the USPTO’s “heads I win, tails you lose” approach to standards is not just a violation of Circular A-119, it’s just plain dishonest.

earlier-filed application. The USPTO’s application submission software *only accepts this substitute specification in PDF*—no set of checkboxes allows submission of a substitute specification in DOCX format. Even though *the application* as filed is in DOCX (as provided by the regulation), and the USPTO’s software only permits PDF filing, the USPTO nonetheless imposes the \$400 fee because the *substitute specification* is in PDF instead of DOCX. That’s not what the text of the regulation says.

The USPTO issued a [“clarification” guidance document](#) in May—but (i) it’s only a guidance document, not an amendment to the regulation, (ii) the “clarification” changes the rules, it doesn’t clarify ambiguity in the regulation (applications and preliminary amendments are in two entirely different things under different control numbers) (iii) the USPTO did not include this guidance document in its request for clearance, (iv) the USPTO enforces this guidance document retroactively, and (v) the USPTO suggests filing the preliminary amendment at least a day later (which adds about a half hour of administrative time).

We know of no good-faith explanation for the USPTO’s imposition of the fee outside the situations covered by the regulation.

- The added complexity of filing two copies of the same document (the DOCX and auxiliary PDF) increases the risk of error. This isn’t a theoretical risk—it has actually happened. On July 25, an in-house patent professional asked the attorney email lists for advice for how to correct an error—outside counsel had filed a DOCX and PDF that mismatched. Complexity breeds error. The “auxiliary PDF” proposal doesn’t reduce burden (as discussed above), it just creates new problems.

In past Supporting Statements, the USPTO claims “The USPTO is simply not seeing the unreliability asserted by the commenter.” That’s sample bias, not data. When an upload fails, the user abandons the attempt, and tries something else. The USPTO won’t “see” that failure. The USPTO’s claimed inability to “see” gives zero information about the existence of the software problem, but a good deal of information about the USPTO’s commitment to information quality.

Public comment letters acknowledged the USPTO’s legitimate need—patent documents should be filed in a form that has robust full text. PDF/A as the one and only filing format meets the needs of both the USPTO and the public, and avoids all the problems of the “auxiliary PDF” variant proposal. “A” in “PDF/A” is for “archival.” PDF/A is a standardized variant of PDF (ISO 19005, currently 19005-4), that limits the features that can be used in a PDF to only those suitable for long-term archiving. External references, hotlinks, etc. are excluded, and all information necessary to rendering the content and appearance must be embedded in the file. (DOCX has no such variant—every DOCX file depends on its surrounding environment, at the very least for fonts, rules for geographic conventions for dates and punctuation, etc., and the DOCX standards documents outline about 100 features that are “implementation dependent,” such that uniformity cannot be guaranteed.) The USPTO has never responded to public comments suggesting PDF/A—except to misparaphrase the comments in order to *evade* a direct answer. The USPTO’s public responses on the issue suggest that the USPTO’s mind is so closed that no consideration or investigation of PDF/A has ever been initiated. The USPTO has certainly never given any explanation that reflects a moment’s fact-gathering or thought.

The USPTO receives several times more post-application filings than initial applications—and these will continue to be received in PDF. If the USPTO builds robust intake software to intake PDF/A for all phases of a patent’s life, that solves the USPTO’s document receipt problem for the entire life of a patent application, not just initial application filings. Based on what we know as software engineers, we are reasonably sure that PDF/A intake software will be simpler and more robust than DOCX, and will reduce the USPTO’s costs for a far-larger proportion of the USPTO’s information collections.

Evasion of rulemaking formalities. The USPTO has never requested public comment on any “evidentiary PDF” proposal—it’s simply been announced as *fait accompli*—and it changes month to month. The silences in the USPTO’s notices support an inference that the USPTO is intentionally evading the procedures that govern rulemaking, perhaps in the hope that the USPTO’s silence can paper over the technological impossibility of the USPTO’s DOCX proposal. The best explanations of the technical issues and pattern of evading rulemaking procedure in past comment letters include these:

- Letter of 152 Patent Practitioners, [objectID=135639300](#)—technological mismatches between DOCX and practical needs of the public at pages 2-12. These technological misstatements can only persist because of the USPTO’s procedural failures to offer a § 3506(c)(3) “record,” failure to genuinely respond to comments, and failure to observe information quality principles of “reproducibility” and “objectivity.”
- Letter of Carl Oppedahl, [objectID=135640200](#)—explaining the origins and evolution of the DOCX standard within standards organizations, and Microsoft’s subsequent evolution of Word. The USPTO’s claim that “DOCX is a standard” may be true, but it’s irrelevant if the standard doesn’t purport to require the properties relevant to solving the problem.
- Letter of 123 Patent Professionals, [objectID=136723102](#)—cataloging the USPTO’s procedural shortcutting, evasions, and falsified certifications.

We hope that the USPTO will withdraw the DOCX proposal voluntarily. If not, we urge that OMB to require the USPTO to provide a careful and complete response to all these comments. The seven letters bulleted in this letter demonstrate that the USPTO’s say-so cannot be taken at face value--OMB should strictly require a § 3506(c)(3) “record supporting” all contentions. We believe that no such response is possible, and we suggest that the appropriate disposition of the DOCX information collection (37 C.F.R. § 1.16(u)) is a § 1320.12(f) disapproval and order to rescind.

We may be reached at the address below, if you have any questions.

Very truly yours,

PTAAARMIGAN
David E. Boundy