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Presidential Documents

Title 3—

The President

Proclamation 9834 of December 21, 2018

To Take Certain Actions Under the African Growth and Opportunity Act and for Other Purposes

By the President of the United States of America

A Proclamation

1. In Proclamation 8468 of December 23, 2009, the President designated the Islamic Republic of Mauritania (Mauritania) as a beneficiary sub-Saharan African country for purposes of section 506A(a)(1) of the Trade Act of 1974, as amended (the ''Trade Act''), as added by section 111(a) of the African Growth and Opportunity Act (title I of Public Law 106–200, 114 Stat. 251).

2. Section 506A(a)(3) of the Trade Act (19 U.S.C. 2466a(a)(3)) authorizes the President to terminate the designation of a country as a beneficiary sub-Saharan African country for purposes of section 506A if he determines that the country is not making continual progress in meeting the requirements described in section 506A(a)(1) of the Trade Act.

3. Pursuant to section 506A(a)(3) of the Trade Act, I have determined that Mauritania is not making continual progress in meeting the requirements described in section 506A(a)(1) of the Trade Act. Accordingly, I have decided to terminate the designation of Mauritania as a beneficiary sub-Saharan African country for purposes of section 506A of the Trade Act, effective January 1, 2019.

4. On April 22, 1985, the United States and Israel entered into the Agreement on the Establishment of a Free Trade Area between the Government of the United States of America and the Government of Israel (the ''USIFTA''), which the Congress approved in section 3 of the United States-Israel Free Trade Area Implementation Act of 1985 (the ''USIFTA Act'') (19 U.S.C. 2112 note).

5. Section 4(b) of the USIFTA Act provides that, whenever the President determines that it is necessary to maintain the general level of reciprocal and mutually advantageous concessions with respect to Israel provided for by the USIFTA, the President may proclaim such withdrawal, suspension, modification, or continuance of any duty, or such continuance of existing duty-free or excise treatment, or such additional duties, as the President determines to be required or appropriate to carry out the USIFTA.

6. In order to maintain the general level of reciprocal and mutually advantageous concessions with respect to agricultural trade with Israel, on July 27, 2004, the United States entered into an agreement with Israel concerning certain aspects of trade in agricultural products during the period January 1, 2004, through December 31, 2008 (the ''2004 Agreement'').

7. In Proclamation 7826 of October 4, 2004, consistent with the 2004 Agreement, President Bush determined, pursuant to section 4(b) of the USIFTA Act, that, in order to maintain the general level of reciprocal and mutually advantageous concessions with respect to Israel provided for by the USIFTA, it was necessary to provide duty-free access into the United States through December 31, 2008, for specified quantities of certain agricultural products of Israel.

8. Each year from 2008 through 2017, the United States and Israel entered into agreements to extend the period that the 2004 Agreement was in force

for 1-year periods to allow additional time for the two governments to conclude an agreement to replace the 2004 Agreement.

9. To carry out the extension agreements, the President in Proclamation 8334 of December 31, 2008; Proclamation 8467 of December 23, 2009; Proclamation 8618 of December 21, 2010; Proclamation 8770 of December 29, 2011; Proclamation 8921 of December 20, 2012; Proclamation 9072 of December 23, 2013; Proclamation 9223 of December 23, 2014; Proclamation 9383 of December 21, 2015; Proclamation 9555 of December 15, 2016; and Proclamation 9687 of December 22, 2017, modified the Harmonized Tariff Schedule of the United States (''HTS'') to provide duty-free access into the United States for specified quantities of certain agricultural products of Israel, each time for an additional 1-year period.

10. On November 8, 2018, the United States entered into an agreement with Israel to extend the period that the 2004 Agreement is in force through December 31, 2019, and to allow for further negotiations on an agreement to replace the 2004 Agreement.

11. Pursuant to section 4(b) of the USIFTA Act, I have determined that it is necessary, in order to maintain the general level of reciprocal and mutually advantageous concessions with respect to Israel provided for by the USIFTA, to provide duty-free access into the United States through the close of December 31, 2019, for specified quantities of certain agricultural products of Israel, as provided in Annex I of this proclamation.

12. Section 915(b) of the Trade Facilitation and Trade Enforcement Act of 2015 (the ''TFTEA'') (19 U.S.C. 4454(b)) authorizes the President to provide preferential treatment for eligible articles imported directly from Nepal into the customs territory of the United States.

13. In Proclamation 9555 of December 15, 2016, the President determined, taking into account the factors specified in section 915(b)(1)(B) of the TFTEA, that Nepal met the eligibility requirements of that section. Accordingly, and after receiving advice from the United States International Trade Commission (the ''Commission'') in accordance with section 503(e) of the Trade Act (19 U.S.C. 2463(e)), the President determined to designate certain articles as eligible for duty-free treatment when imported from Nepal pursuant to section 915(c)(2)(A)(iv) of the TFTEA.

14. Pursuant to section 604 of the Trade Act (19 U.S.C. 2483), I have determined that it is appropriate to update the list of programs under which special tariff treatment may be provided, and the programs' corresponding symbols, found in general note 3(c)(i) of the HTS in order to reflect more clearly the tariff preference for certain products of Nepal and the symbol of that program.

15. Proclamation 8894 of October 29, 2012, implemented the United States-Panama Trade Promotion Agreement (the ''PATPA'') with respect to the United States. Section 201(a) of the United States-Panama Trade Promotion Agreement Implementation Act (the ''PATPA Act'') (Public Law 112–43, 125 Stat. 497, 501), authorizes the President to proclaim such modifications or continuation of any duty, such continuation of duty-free or excise treatment, or such additional duties, as the President determines to be necessary or appropriate to carry out or apply Article 3.28 of the PATPA, among other portions of that agreement.

16. Sections 500, 514, and 625 of the Tariff Act of 1930 (19 U.S.C. 1500, 1514, and 1625) grant U.S. Customs and Border Protection (''CBP'') authority to determine the tariff classification of articles that have entered, or will enter, the commerce of the United States. In 2017, CBP changed the classification of certain guayabera-style shirts subject to Article 3.28 of the PATPA.

17. In order to ensure the continuation of duty-free treatment for originating guayabera-style shirts subject to Article 3.28 of the PATPA, and in accordance with section 201 of the PATPA Act, I have determined that it is necessary and appropriate to modify the HTS to carry out the duty reductions previously proclaimed.

18. Proclamation 6821 of September 12, 1995, established a tariff-rate quota on certain tobacco and eliminated tariffs on certain other tobacco by adding additional U.S. note 5 and various subheadings to chapter 24 of the HTS. Additional U.S. note 5 to chapter 24 of the HTS provides that the tariff-rate quota applies to the aggregate quantity of tobacco entered, or withdrawn from warehouse for consumption, under enumerated HTS subheadings from specified countries or areas, except that the tariff-rate quota does not apply to smoking tobacco unless it is manufactured for use in cigarettes.

19. Proclamation 8771 of December 29, 2011, pursuant to the authority provided in section 1206(a) of the Omnibus Trade and Competitiveness Act of 1988 (the ''1988 Act'') (19 U.S.C. 3006(a)), modified the HTS to reflect amendments to the International Convention on the Harmonized Commodity Description and Coding System (the ''Convention'').

20. HTS subheading 2403.11.00, covering water pipe tobacco that is not used in cigarettes, was incorrectly added to the subheadings enumerated in additional U.S. note 5 to chapter 24. I have determined, in accordance with section 604 of the Trade Act, that a modification to the HTS is needed to correct this technical error.

21. In accordance with my direction, the United States Trade Representative announced in the *Federal Register* notice of September 21, 2018, 83 FR 47974 (the ''USTR Notice''), his determination to modify the action taken in the Section 301 Action: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation by imposing additional duties on products of China classified in the full and partial HTS subheadings set out in Annex A of that notice. The full and partial subheadings covered by the USTR Notice include HTS subheading 2009.89.60.

22. Subsequently, Proclamation 9813 of October 30, 2018, divided HTS subheading 2009.89.60 into two new subheadings, 2009.89.65 and 2009.89.70, in order to provide that several countries should no longer be treated as beneficiary developing countries with respect to one or more eligible articles for purposes of the Generalized System of Preferences. In order to maintain the scope of the modification to the Section 301 action announced in the USTR Notice, and in accordance with section 604 of the Trade Act, I have determined that it is necessary to modify U.S. note 20(f) to subchapter III of chapter 99 of the HTS.

23. The Miscellaneous Tariff Bill Act of 2018 (Public Law 115–239, 132 Stat. 2451), enacted on September 13, 2018, and effective October 13, 2018, created three headings in the HTS, 9902.01.15, 9902.01.16, and 9902.01.17, that refer to articles provided for in subheading 2009.89.60. As a result of the division of that subheading into two new subheadings in Proclamation 9813, those articles are now provided for in 2009.89.70. In accordance with section 604 of the Trade Act, I have determined that it is necessary to amend headings 9902.01.15, 9902.01.16, and 9902.01.17 of the HTS to reflect the correct new subheading.

24. On June 30, 2007, the United States signed the United States-Korea Free Trade Agreement (the ''KORUS''). The Congress approved the KORUS in section 101(a) of the United States-Korea Free Trade Agreement Implementation Act (the ''KORUS Act'') (Public Law 112–41, 125 Stat. 428).

25. Proclamation 8783 of March 6, 2012, implemented the KORUS with respect to the United States and, pursuant to section 201 of the KORUS Act, incorporated in the HTS the tariff modifications necessary or appropriate to carry out the staged reductions in duty that the President determined to be necessary or appropriate to carry out or apply Articles 2.3, 2.5, and 2.6 of the KORUS, and the schedule of duty reductions with respect to Korea set forth in Annex 2–B, Annex 4–B, and Annex 22–A of the KORUS.

26. Section 201(b) of the KORUS Act (125 Stat. 433) authorizes the President, subject to the consultation and layover requirements of section 104 (125 Stat. 431–32), to proclaim such modifications or continuation of any duty,

such modifications as the United States may agree to with Korea regarding the staging of any duty treatment set forth in Annex 2–B of the KORUS, such continuation of duty-free or excise treatment, or such additional duties, as the President determines to be necessary or appropriate to maintain the general level of reciprocal and mutually advantageous concessions with respect to Korea provided for by the KORUS.

27. The United States and Korea have agreed to modify the KORUS by modifying the staging of duty treatment for specific goods of Korea. I have determined that modification of the tariff treatment set forth in Proclamation 8783 is therefore necessary or appropriate to maintain the general level of reciprocal and mutually advantageous concessions with respect to Korea provided for by the KORUS, and to carry out the agreement with Korea modifying the staging of duty treatment for specific goods.

28. On June 13, 2018, in accordance with section 104 of the KORUS Act, the United States Trade Representative submitted a report to the Committee on Finance of the Senate and the Committee on Ways and Means of the House of Representatives that set forth the proposed modifications to the duties for specific goods of Korea under the KORUS. The consultation and layover period specified in section 104 expired on August 11, 2018.

29. Section 1206(a) of the 1988 Act (19 U.S.C. 3006(a)) authorizes the President to proclaim modifications to the HTS based on the recommendations of the Commission under section 1205 of the 1988 Act (19 U.S.C. 3005) if he determines that the modifications are in conformity with United States obligations under the Convention and do not run counter to the national economic interest of the United States.

30. In Proclamation 9771 of July 30, 2018, pursuant to the authority provided in section 1206(a) of the 1988 Act, the President modified the HTS to reflect a small number of amendments to the Convention.

31. In order to ensure the continuation of staged reductions in rates of duty for originating goods of Korea as provided in Proclamation 8783, under tariff categories that were modified in Proclamation 9771 to reflect the amendments to the Convention, I have determined that additional modifications to the HTS are necessary or appropriate.

32. Proclamation 7971 of December 22, 2005, implemented the United States-Morocco Free Trade Agreement (the ''USMFTA'') with respect to the United States and, pursuant to the United States-Morocco Free Trade Agreement Implementation Act (Public Law 108–302, 118 Stat. 1103) (the ''USMFTA Act''), incorporated in the HTS the tariff modifications and rules of origin necessary or appropriate to carry out the USMFTA.

33. Section 203 of the USMFTA Act (118 Stat. 1109–15) provides rules for determining whether goods imported into the United States originate in the territory of Morocco and thus are eligible for the tariff and other treatment contemplated under the USMFTA. Section 203(j)(2)(B)(i) of the USMFTA Act (118 Stat. 1115) authorizes the President to proclaim, as a part of the HTS, the rules of origin set out in the USMFTA, and to proclaim modifications to such previously proclaimed rules of origin, subject to the consultation and layover requirements of section 104 of the USMFTA Act (118 Stat. 1106).

34. The United States and Morocco have agreed to modify certain USMFTA rules of origin and to apply the modified rules to their bilateral trade. On November 21, 2017, in accordance with section 104 of USMFTA Act, the United States Trade Representative submitted a report to the Committee on Finance of the Senate and the Committee on Ways and Means of the House of Representatives that set forth the proposed modifications to specific textile and apparel rules of origin of the USMFTA incorporated in the HTS. The consultation and layover period specified in section 104 expired on January 20, 2018.

35. In order to reflect the agreement between the United States and Morocco related to USMFTA rules of origin, I have determined that it is necessary to modify the HTS.

36. Section 604 of the Trade Act (19 U.S.C. 2483) authorizes the President to embody in the HTS the substance of the relevant provisions of that Act, and of other acts affecting import treatment, and actions thereunder, including removal, modification, continuance, or imposition of any rate of duty or other import restriction.

NOW, THEREFORE, I, DONALD J. TRUMP, President of the United States of America, acting under the authority vested in me by the Constitution and the laws of the United States of America, including section 506A(a)(3) of the Trade Act (19 U.S.C. 2466a(a)(3)); section 4(b) of the USIFTA Act (19 U.S.C. 2112 note); section 201(a) of the PATPA Act (125 Stat. 501); section 1206(a) of the 1988 Act (19 U.S.C. 3006(a)); section 201(b) of the KORUS Act (125 Stat. 433); section 203(j) of the USMFTA Act (118 Stat. 1115); and section 604 of the Trade Act (19 U.S.C. 2483), do proclaim that:

(1) The designation of Mauritania as a beneficiary sub-Saharan African country for purposes of section 506A of the Trade Act is terminated, effective January 1, 2019.

(2) In order to reflect in the HTS that beginning January 1, 2019, Mauritania shall no longer be designated as a beneficiary sub-Saharan African country, general note 16(a) to the HTS is modified by deleting ''Islamic Republic of Mauritania'' from the list of beneficiary sub-Saharan African countries.

(3) The modification to the HTS set forth in paragraphs (1) and (2) of this proclamation shall be effective with respect to articles that are entered for consumption, or withdrawn from warehouse for consumption, on or after January 1, 2019.

(4) In order to implement United States tariff commitments under the 2004 Agreement through December 31, 2019, the HTS is modified as provided in Annex I of this proclamation.

(5) The modifications to the HTS set forth in Annex I of this proclamation shall be effective with respect to eligible agricultural products of Israel that are entered for consumption, or withdrawn from warehouse for consumption, on or after January 1, 2019.

(6) The provisions of subchapter VIII of chapter 99 of the HTS, as modified by Annex I of this proclamation, shall continue in effect through December 31, 2019.

(7) In order to reflect the tariff preference for certain products from Nepal, the HTS is modified by adding ''Nepal Preference Program.....NP'' after ''United States-Panama Trade Promotion Agreement Implementation Act.....PA'' in general note 3(c)(i). The modification set forth in this paragraph shall be effective with respect to goods that are entered for consumption, or withdrawn from warehouse for consumption, on or after January 1, 2019, and shall continue in effect through December 31, 2025.

(8) In order to provide for previously proclaimed duty-free treatment for originating guayabera-style shirts under the PATPA, the HTS is modified by deleting ''heading 6205 or 6206'' and by inserting in lieu thereof ''heading 6205, 6206, or 6211'' in U.S. note 41 to subchapter XXII of chapter 98. The modification set forth in this paragraph shall be effective with respect to goods that are entered for consumption, or withdrawn from warehouse for consumption, on or after January 1, 2019.

(9) In order to correct a technical error in the administration of a tobacco tariff-rate quota, additional U.S. note 5(a) to chapter 24 is modified by deleting ''2403.11.00''. The modification set forth in this paragraph shall be effective with respect to goods that are entered for consumption, or withdrawn from warehouse for consumption, on or after January 1, 2019.

(10) In order to maintain the scope of the modification of the Section 301 action, U.S. note 20(f) to subchapter III of chapter 99 of the HTS is modified by deleting ''2009.89.60'' and inserting ''2009.89.65'' and ''2009.89.70'' in numerical sequence. The modification set forth in this paragraph shall be effective with respect to goods that are entered for consumption, or withdrawn from warehouse for consumption, on or after November 1, 2018.

(11) In order to reflect modifications to certain HTS subheadings made in Proclamation 9813 and to provide the intended tariff treatment under the Miscellaneous Tariff Bill of 2018, headings 9902.01.15, 9902.01.16, and 9902.01.17 of the HTS are each amended by deleting ''subheading 2009.89.60'' and inserting ''subheading 2009.89.70'' in lieu thereof. The modification set forth in this paragraph shall be effective with respect to goods that are entered for consumption, or withdrawn from warehouse for consumption, on or after November 1, 2018.

(12) In order to modify the staging of duty treatment for specific goods of Korea under the terms of general note 33 to the HTS:

(a) the tariff treatment set forth in Proclamation 8783 with respect to subheadings 8704.21.00, 8704.22.50, 8704.23.00, 8704.31.00, 8704.32.00, and 8704.90.00 is terminated, effective with respect to goods that are entered for consumption, or withdrawn from warehouse for consumption, on or after January 1, 2019;

(b) in the Rates of Duty 1–Special subcolumn of column 1 for subheadings 8704.21.00, 8704.22.50, 8704.23.00, 8704.31.00, 8704.32.00, and 8704.90.00, the rate of duty ''25% (KR)'' shall continue in effect through December 31, 2040; and

(c) effective with respect to goods that are entered for consumption, or withdrawn from warehouse for consumption, on or after January 1, 2041, subheadings 8704.21.00, 8704.22.50, 8704.23.00, 8704.31.00, 8704.32.00, and 8704.90.00 are hereby modified by inserting, in the Rates of Duty 1–Special subcolumn of column 1 in the parenthetical expression following the ''Free'' rate of duty, the symbol ''KR''.

(13) In order to provide for the continuation of previously proclaimed staged duty reductions in the Rates of Duty 1–Special subcolumn for originating goods of Korea under the KORUS that are classifiable in the provisions modified by Annex III of Proclamation 9771 and entered for consumption, or withdrawn from warehouse for consumption, on or after each of the dates specified in Proclamation 9771, the HTS is modified as follows:

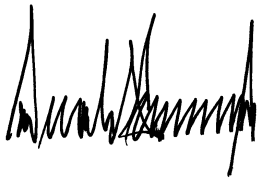
(a) effective January 1, 2019, the rate of duty in the HTS set forth in the Rate of Duty 1–Special subcolumn for each of the HTS subheadings enumerated in Annex II of this proclamation shall be modified by inserting in such subcolumn for each subheading the rate of duty specified for such subheading in the table column ''2019'' before the symbol ''KR'' in parentheses; and

(b) for each of the subsequent dated table columns, the rates of duty in such subcolumn for such subheadings set forth before the symbol ''KR'' in parentheses are deleted and the rates of duty for such dated table column are inserted in each enumerated subheading in lieu thereof.

(14) In order to implement agreed amendments to certain textile rules of origin under the USMFTA, general note 27 to the HTS is modified as set forth in Annex III of this proclamation. The modifications set forth in Annex III of this proclamation shall enter into effect on the first day of the month following the date the United States Trade Representative announces in a notice published in the *Federal Register* that Morocco has completed its applicable domestic procedures to give effect to corresponding modifications to be applied to goods of the United States.

(15) Any provisions of previous proclamations and Executive Orders that are inconsistent with the actions taken in this proclamation are superseded to the extent of such inconsistency.

IN WITNESS WHEREOF, I have hereunto set my hand this twenty-first day of December, in the year of our Lord two thousand eighteen, and of the Independence of the United States of America the two hundred and forty-third.



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ANNEX I

TEMPORARY EXTENSION OF CERTAIN PROVISIONS OF THE HARMONIZED TARIFF SCHEDULE OF THE UNITED STATES

Effective with respect to eligible agricultural products of Israel which are entered for consumption, or withdrawn from warehouse for consumption, on or after January 1, 2019, and through the close of December 31, 2019, subchapter VIII of chapter 99 of the Harmonized Tariff Schedule of the United States is hereby modified as follows:

1. U.S. note 1 to such subchapter is modified by striking "December 31, 2018," and by inserting in lieu thereof "December 31, 2019".

2. U.S. note 3 to such subchapter is modified by adding at the end of the "Applicable time period" column in the table "Calendar year 2019" and by adding at the end of the "Quantity (kg)" column opposite such year the quantity "466,000".

3. U.S. note 4 to such subchapter is modified by adding at the end of the "Applicable time period" column in the table "Calendar year 2019" and by adding at the end of the "Quantity (kg)" column opposite such year the quantity "1,304,000".

4. U.S. note 5 to such subchapter is modified by adding at the end of the "Applicable time period" column in the table "Calendar year 2019" and by adding at the end of the "Quantity (kg)" column opposite such year the quantity "1,534,000".

5. U.S. note 6 to such subchapter is modified by adding at the end of the "Applicable time period" column in the table "Calendar year 2019" and by adding at the end of the "Quantity (kg)" column opposite such year the quantity "131,000".

6. U.S. note 7 to such subchapter is modified by adding at the end of the "Applicable time period" column in the table "Calendar year 2019" and by adding at the end of the "Quantity (kg)" column opposite such year the quantity "707,000".

ANNEX II

TO PROVIDE STAGED REDUCTIONS IN CERTAIN RATES OF DUTY FOR PURPOSES OF THE UNITED STATES – KOREA FREE TRADE AGREEMENT

Effective with respect to goods of Korea, under the terms of general note 33 to the Harmonized Tariff Schedule of the United States (HTS), entered for consumption, or withdrawn from warehouse for consumption, as provided herein on January 1 of each of the successive years, for each of the enumerated subheadings of the HTS in the following table, the Rates of Duty 1-Special subcolumn is modified (i) by inserting in such subcolumn for each subheading the rate of duty specified for such subheading in the table column titled 2019 before the symbol "KR" in the parentheses, and (ii) for each of the subsequent dated table columns on January 1 in each year, the rates of duty in such subcolumn for such subheadings set forth before the symbol "KR" in parentheses are deleted and the rates of duty for such dated table column are inserted in each enumerated subheading in lieu thereof:

Subheading	2019	2020	2021
4412.33.26	1%	0.5%	Free
4412.33.32	1.6%	0.8%	Free
4412.33.57	1.6%	0.8%	Free
4412.34.26	1%	0.5%	Free
4412.34.32	1.6%	0.8%	Free
4412.34.57	1.6%	0.8%	Free

ANNEX III

TO MODIFY CERTAIN RULES OF ORIGIN FOR PURPOSES OF THE UNITED STATES – MOROCCO FREE TRADE AGREEMENT

Effective the first day of the month following the date announced by the United States Trade Representative in a notice published in the *Federal Register*, with respect to goods originating in the territory of Morocco, under the terms of general note 27 to the Harmonized Tariff Schedule of the United States (HTS), that are entered for consumption, or withdrawn from warehouse for consumption, general note 27 to the HTS is modified as follows:

The product specific rules for chapter 62 set forth in general note 27(h) to the HTS are modified by inserting the following new chapter rule immediately after chapter rule 3:

"**Chapter rule 4**: The products listed in this rule are read in conjunction with the product - specific rules set out in this note. For purposes of determining whether a good is originating, a product listed in this rule shall be considered originating, notwithstanding the origin of the input mentioned in the rule, provided the good meets any specified requirement, including any end use requirement:

(a) Women's or girls' cotton corduroy skirts and divided skirts classified in subheading 6204.52, of cotton corduroy fabrics classified in subheading 5801.22;

(b) Women's or girls' man-made fiber blouses, shirts and shirt-blouses classified in subheading 6206.40, of polyester corduroy fabrics classified in subheading 5801.32;

(c) Women's trousers classified in subheading 6204, of synthetic bi-stretch fabric containing 45 to 52 percent by weight of polyester, 45 to 52 percent by weight of rayon and 1 to 7 percent by weight of spandex, classified in subheading 5515.11;

(d) Women's trousers classified in subheading 6204, of woven fabric containing 60 to 68 percent by weight of polyester, 29 to 37 percent by weight of rayon and 1 to 7 percent by weight of spandex, classified in subheading 5515.11;

(e) Women's trousers classified in subheading 6204, of woven herringbone fabric containing 31 to 37 percent by weight of viscose rayon, 17 to 23 percent by weight of polyester, 17 to 23 percent by weight of cotton, 13 to 19 percent by weight of wool, 5 to 11 percent by weight of nylon and 1 to 6 percent by weight of spandex, classified in subheading 5408.33".

[FR Doc. 2019–00013

Filed 1–4–19; 8:45 am]

Billing code 7020–02–C

Presidential Documents

Executive Order 13855 of December 21, 2018

Promoting Active Management of America's Forests, Rangelands, and Other Federal Lands To Improve Conditions and Reduce Wildfire Risk

By the authority vested in me as President by the Constitution and the laws of the United States of America, it is hereby ordered as follows:

Section 1. *Policy.* It is the policy of the United States to protect people, communities, and watersheds, and to promote healthy and resilient forests, rangelands, and other Federal lands by actively managing them through partnerships with States, tribes, communities, non-profit organizations, and the private sector. For decades, dense trees and undergrowth have amassed in these lands, fueling catastrophic wildfires. These conditions, along with insect infestation, invasive species, disease, and drought, have weakened our forests, rangelands, and other Federal lands, and have placed communities and homes at risk of damage from catastrophic wildfires.

Active management of vegetation is needed to treat these dangerous conditions on Federal lands but is often delayed due to challenges associated with regulatory analysis and current consultation requirements. In addition, land designations and policies can reduce emergency responder access to Federal land and restrict management practices that can promote wildfire-resistant landscapes. With the same vigor and commitment that characterizes our efforts to fight wildfires, we must actively manage our forests, rangelands, and other Federal lands to improve conditions and reduce wildfire risk.

In recognition of these regulatory, policy, and coordinating challenges, the Secretary of the Interior and the Secretary of Agriculture (the Secretaries) each shall implement the following policies in their respective departments:

(a) Shared Management Priorities. The goal of Federal fire management policy for forests, rangelands, and other Federal lands shall be to agree on a set of shared priorities with Federal land managers, States, tribes, and other landowners to manage fire risk across landscapes.

(b) Coordinating Federal, State, Tribal, and Local Assets. Wildfire prevention and suppression and post-wildfire restoration require a variety of assets and skills across landscapes. Federal, State, tribal, and local governments should coordinate the deployment of appropriate assets and skills to restore our landscapes and communities after damage caused by fires and to help reduce hazardous fuels through active forest management in order to protect communities, critical infrastructure, and natural and cultural resources.

(c) Removing Hazardous Fuels, Increasing Active Management, and Supporting Rural Economies. Post-fire assessments show that reducing vegetation through hazardous fuel management and strategic forest health treatments is effective in reducing wildfire severity and loss. Actions must be taken across landscapes to prioritize treatments in order to enhance fuel reduction and forest-restoration projects that protect life and property, and to benefit rural economies through encouraging utilization of the by-products of forest restoration.

Sec. 2. *Goals.* (a) To protect communities and watersheds, to better prevent catastrophic wildfires, and to improve the health of America's forests, rangelands, and other Federal lands, the Secretaries shall each develop goals and implementation plans for wildfire prevention activities and programs in their respective departments. In the development of such goals and plans:

(i) The Secretary of the Interior shall review the Secretary's 2019 budget justifications and give all due consideration to establishing the following objectives for 2019, as feasible and appropriate in light of those budget justifications, and consistent with applicable law and available appropriations:

(A) Treating 750,000 acres of Department of the Interior (DOI)-administered lands to reduce fuel loads;

(B) Treating 500,000 acres of DOI-administered lands to protect water quality and mitigate severe flooding and erosion risks arising from forest fires;

(C) Treating 750,000 acres of DOI-administered lands for native and invasive species;

(D) Reducing vegetation giving rise to wildfire conditions through forest health treatments by increasing health treatments as part of DOI's offering for sale 600 million board feet of timber from DOI-administered lands; and

(E) Performing maintenance on public roads needed to provide access for emergency services and restoration work; and

(ii) The Secretary of Agriculture shall review the Secretary's 2019 budget justifications and give all due consideration to establishing the following objectives for 2019, as feasible and appropriate in light of those budget justifications, and consistent with applicable law and available appropriations:

(A) Treating 3.5 million acres of Department of Agriculture (USDA) Forest Service (FS) lands to reduce fuel load;

(B) Treating 2.2 million acres of USDA FS lands to protect water quality and mitigate severe flooding and erosion risks arising from forest fires;

(C) Treating 750,000 acres of USDA FS lands for native and invasive species;

(D) Reducing vegetation giving rise to wildfire conditions through forest health treatments by increasing health treatments as part of USDA's offering for sale at least 3.8 billion board feet of timber from USDA FS lands; and

(E) Performing maintenance on roads needed to provide access on USDA FS lands for emergency services and restoration work.

(b) For the years following establishment of the objectives in subsection (a) of this section, the Secretaries shall consider annual treatment objectives that meet or exceed those established in subsection (a) of this section, using the full range of available and appropriate management tools, including prescribed burns and mechanical thinning. The Secretaries shall also refine and develop performance metrics to better capture the risk reduction benefits achieved through application of these management tools.

(c) In conjunction with establishment of goals, and by no later than March 31, 2019, the Secretaries shall identify salvage and log recovery options from lands damaged by fire during the 2017 and 2018 fire seasons, insects, or disease.

Sec. 3. *Coordination and Efficient Processes.* Effective Federal agency coordination and efficient administrative actions and decisions are essential to improving the condition of America's forests, rangelands, and other Federal lands. To advance the policies set forth in this order and the goals set by the Secretaries, the Secretaries shall:

(a) Coordinate with the heads of all relevant Federal agencies to prioritize and promptly implement post-wildfire rehabilitation, salvage, and forest restoration;

(b) Streamline agency administrative and regulatory processes and policies relating to fuel reduction in forests, rangelands, and other Federal lands and forest restoration when appropriate by:

(i) Adhering to minimum statutory and regulatory time periods, to the maximum extent practicable, for comment, consultation, and administrative review processes related to active management of forests, rangelands, and other Federal lands, including management of wildfire risks;

(ii) Using all applicable categorical exclusions set forth in law or regulation for fire management, restoration, and other management projects in forests, rangelands, and other Federal lands when implementing the requirements of the National Environmental Policy Act (42 U.S.C. 4321 *et seq.*);

(iii) Consistent with applicable law, developing and using new categorical exclusions to implement active management of forests, rangelands, and other Federal lands; and

(iv) Immediately prioritizing efforts to reduce the time required to comply with consultation obligations under the Endangered Species Act of 1973 (16 U.S.C. 1531 *et seq.*).

Sec. 4. *Unmanned Aerial Systems.* To reduce fire and forest health risks as described in section 1 of this order, the Secretaries shall, in coordination with the Administrator of the Federal Aviation Administration, maximize appropriate use of unmanned aerial systems to accelerate forest management and support firefighting and post-fire rehabilitation in forests, rangelands, and other Federal lands.

Sec. 5. *Wildfire Strategy.* (a) In collaboration with Federal, State, tribal, and local partners, the Secretaries shall jointly develop, by December 31, 2020, a strategy to support local Federal land managers in project decision-making and inform local fire management decisions related to forests, rangelands, and other Federal lands, thereby protecting habitats and communities, and reducing risks to physical infrastructure.

(b) In developing the strategy described in subsection (a) of this section, the Secretaries shall:

(i) Identify DOI- and USDA FS-administered lands with the highest probability of catastrophic wildfires, as well as areas on those lands where there is a high probability that wildfires would threaten people, structures, or other high-value assets, in order to direct and prioritize actions to meet land management goals and to protect communities;

(ii) Examine the costs and challenges relating to management of DOI- and USDA FS-administered lands, including costs associated with wildfire suppression, implementation of applicable statutory requirements, and litigation;

(iii) Review land designations and policies that may limit active forest management and increase the risk of catastrophic wildfires;

(iv) Consider market conditions as appropriate when preparing timber sales, including biomass and biochar opportunities, and encourage export of these or similar forest-treatment products to the maximum extent permitted by law, in order to promote active forest management, mitigate wildfire risk, and encourage post-fire forest restoration;

(v) Develop recommended actions and incentives to expand uses, markets, and utilization of forest products resulting from restoration and fuel reduction projects in forests, rangelands, and other Federal lands, including biomass and small-diameter materials;

(vi) Assess how effectively Federal programs and investments support forest-product infrastructure and market access;

(vii) Identify and assess methods, including methods undertaken pursuant to section 3(b)(iv) of this order, to more effectively and efficiently streamline consultation under the Endangered Species Act;

(viii) In conjunction with the Administrator of the Environmental Protection Agency, identify methods to reduce interagency regulatory barriers, improve alignment of Federal, State, and tribal policy, and identify redundant policies and procedures to promote efficiencies in implementing

the Clean Water Act of 1972 (33 U.S.C. 1251 *et seq.*), Clean Air Act (42 U.S.C. 7401 *et seq.*), and other applicable Federal environmental laws; and

(ix) Develop procedures and guidance to facilitate timely compliance with the National Environmental Policy Act.

Sec. 6. *Collaborative Partnerships.* To reduce fuel loads, restore watersheds, and improve forest, rangeland, and other Federal land conditions, and to utilize available expertise and efficiently deploy resources, the Secretaries shall expand collaboration with States, tribes, communities, non-profit organizations, and the private sector. Such expanded collaboration by the Secretaries shall, at a minimum, address:

(a) Supporting road activities needed to maintain forest, rangeland, and other Federal land health and to mitigate wildfire risk by expanding existing or entering into new Good Neighbor Authority agreements, consistent with applicable law; and

(b) Achieving the land management restoration goals set forth in section 2 of this order and reducing fuel loads by pursuing long-term stewardship contracts, including 20-year contracts, with States, tribes, non-profit organizations, communities, and the private sector, consistent with applicable law.

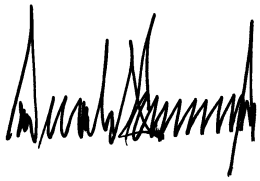
Sec. 7. *General Provisions.* (a) Nothing in this order shall be construed to impair or otherwise affect:

(i) the authority granted by law to an executive department or agency, or the head thereof; or

(ii) the functions of the Director of the Office of Management and Budget relating to budgetary, administrative, or legislative proposals.

(b) This order shall be implemented consistent with applicable law and subject to the availability of appropriations.

(c) This order is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person.



THE WHITE HOUSE,
December 21, 2018.

[FR Doc. 2019–00014
Filed 1–4–19; 8:45 am]
Billing code 3295–F9–P

Rules and Regulations

Federal Register

Vol. 84, No. 4

Monday, January 7, 2019

This section of the FEDERAL REGISTER contains regulatory documents having general applicability and legal effect, most of which are keyed to and codified in the Code of Federal Regulations, which is published under 50 titles pursuant to 44 U.S.C. 1510.

The Code of Federal Regulations is sold by the Superintendent of Documents.

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 679

[Docket No. 170816769–8162–02]

RIN 0648–XG714

Fisheries of the Exclusive Economic Zone Off Alaska; Pacific Cod by Catcher Vessels Using Hook-and-Line Gear in the Western Regulatory Area of the Gulf of Alaska

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Temporary rule; closure.

SUMMARY: NMFS is prohibiting directed fishing for Pacific cod by catcher vessels using hook-and-line gear in the Western Regulatory Area of the Gulf of Alaska (GOA). This action is necessary to prevent exceeding the A season allowance of the 2019 Pacific cod total allowable catch apportioned to catcher vessels using hook-and-line gear in the Western Regulatory Area of the GOA.

DATES: Effective 0000 hours, Alaska local time (A.l.t.), January 1, 2019, through 1200 hours, A.l.t., June 10, 2019.

FOR FURTHER INFORMATION CONTACT: Josh Keaton, 907–586–7228.

SUPPLEMENTARY INFORMATION: NMFS manages the groundfish fishery in the GOA exclusive economic zone according to the Fishery Management Plan for Groundfish of the Gulf of Alaska (FMP) prepared by the North Pacific Fishery Management Council under authority of the Magnuson-Stevens Fishery Conservation and Management Act. Regulations governing fishing by U.S. vessels in accordance with the FMP appear at subpart H of 50 CFR part 600 and 50 CFR part 679. Regulations governing sideboard protections for GOA groundfish fisheries appear at subpart B of 50 CFR part 680.

The A season allowance of the 2019 Pacific cod total allowable catch (TAC) apportioned to catcher vessels using hook-and-line gear in the Western Regulatory Area of the GOA is 36 metric tons (mt), as established by the final 2018 and 2019 harvest specifications for groundfish of the GOA (83 FR 8768, March 1, 2018).

In accordance with § 679.20(d)(1)(i), the Administrator, Alaska Region, NMFS (Regional Administrator) has determined that the A season allowance of the 2019 Pacific cod TAC apportioned to catcher vessels using hook-and-line gear in the Western Regulatory Area of the GOA is necessary to account for the anticipated incidental catch in other fisheries. Therefore, the Regional Administrator is establishing a directed fishing allowance of 0 mt and is setting aside the remaining 36 mt as bycatch to support other anticipated groundfish fisheries. In accordance with § 679.20(d)(1)(iii), the Regional Administrator finds that this directed fishing allowance has been reached. Consequently, NMFS is prohibiting directed fishing for Pacific cod by catcher vessels using hook-and-line gear in the Western Regulatory Area of the GOA. After the effective date of this closure the maximum retainable amounts at § 679.20(e) and (f) apply at any time during a trip.

Classification

This action responds to the best available information recently obtained from the fishery. The Assistant Administrator for Fisheries, NOAA (AA), finds good cause to waive the requirement to provide prior notice and opportunity for public comment pursuant to the authority set forth at 5 U.S.C. 553(b)(B) as such requirement is impracticable and contrary to the public interest. This requirement is impracticable and contrary to the public interest as it would prevent NMFS from responding to the most recent fisheries data in a timely fashion and would delay the directed fishing closure of Pacific cod by catcher vessels using hook-and-line gear in the Western Regulatory Area of the GOA. NMFS was unable to publish a notice providing time for public comment because the most recent, relevant data only became available as of December 21, 2018.

The AA also finds good cause to waive the 30-day delay in the effective date of this action under 5 U.S.C. 553(d)(3). This finding is based upon the reasons provided above for waiver of prior notice and opportunity for public comment.

This action is required by § 679.20 and is exempt from review under Executive Order 12866.

Authority: 16 U.S.C. 1801 *et seq.*

Dated: December 31, 2018.

Samuel D. Rauch III,

Deputy Assistant Administrator for Regulatory Programs, National Marine Fisheries Service.

[FR Doc. 2018–28472 Filed 12–31–18; 4:15 pm]

BILLING CODE 3510–22–P

Notices

Federal Register

Vol. 84, No. 4

Monday, January 7, 2019

This section of the FEDERAL REGISTER contains documents other than rules or proposed rules that are applicable to the public. Notices of hearings and investigations, committee meetings, agency decisions and rulings, delegations of authority, filing of petitions and applications and agency statements of organization and functions are examples of documents appearing in this section.

DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

[Docket No. PTO–P–2018–0053]

2019 Revised Patent Subject Matter Eligibility Guidance

AGENCY: United States Patent and Trademark Office, Commerce.

ACTION: Examination Guidance; Request for comments.

SUMMARY: The United States Patent and Trademark Office (USPTO) has prepared revised guidance (2019 Revised Patent Subject Matter Eligibility Guidance) for use by USPTO personnel in evaluating subject matter eligibility. The 2019 Revised Patent Subject Matter Eligibility Guidance revises the procedures for determining whether a patent claim or patent application claim is directed to a judicial exception (laws of nature, natural phenomena, and abstract ideas) under Step 2A of the USPTO's Subject Matter Eligibility Guidance in two ways. First, the 2019 Revised Patent Subject Matter Eligibility Guidance explains that abstract ideas can be grouped as, *e.g.,* mathematical concepts, certain methods of organizing human activity, and mental processes. Second, this guidance explains that a patent claim or patent application claim that recites a judicial exception is not ''directed to'' the judicial exception if the judicial exception is integrated into a practical application of the judicial exception. A claim that recites a judicial exception, but is not integrated into a practical application, is directed to the judicial exception under Step 2A and must then be evaluated under Step 2B (inventive concept) to determine the subject matter eligibility of the claim. The USPTO is seeking public comment on its subject matter eligibility guidance, and particularly the 2019 Revised Patent Subject Matter Eligibility Guidance.

DATES:

Applicable Date: The 2019 Revised Patent Subject Matter Eligibility Guidance is effective on January 7, 2019. The 2019 Revised Patent Subject Matter Eligibility Guidance applies to all applications, and to all patents resulting from applications, filed before, on, or after January 7, 2019.

Comment Deadline Date: Written comments must be received on or before March 8, 2019.

ADDRESSES: Comments must be sent by electronic mail message over the internet addressed to: *Eligibility2019@uspto.gov.*

Electronic comments submitted in plain text are preferred, but also may be submitted in ADOBE® portable document format or MICROSOFT WORD® format. Comments not submitted electronically should be submitted on paper in a format that facilitates convenient digital scanning into ADOBE® portable document format. The comments will be available for viewing via the USPTO's internet website (*http://www.uspto.gov*). Because comments will be made available for public inspection, information that the submitter does not desire to make public, such as an address or phone number, should not be included in the comments.

FOR FURTHER INFORMATION CONTACT: June E. Cohan, Senior Legal Advisor, at 571–272–7744 or Carolyn Kosowski, Senior Legal Advisor, at 571–272–7688, both with the Office of Patent Legal Administration.

SUPPLEMENTARY INFORMATION: Patent subject matter eligibility under 35 U.S.C. 101 has been the subject of much attention over the past decade. Recently, much of that attention has focused on how to apply the U.S. Supreme Court's framework for evaluating eligibility (often called the *Alice/Mayo* test).[1] Properly applying the *Alice/Mayo* test in a consistent manner has proven to be difficult, and has caused uncertainty in this area of the law. Among other things, it has become difficult in some cases for inventors, businesses, and other patent stakeholders to reliably and predictably determine what subject matter is patent-eligible. The legal uncertainty surrounding Section 101 poses unique challenges for the USPTO, which must ensure that its more than 8500 patent examiners and administrative patent judges apply the *Alice/Mayo* test in a manner that produces reasonably consistent and predictable results across applications, art units and technology fields.

Since the *Alice/Mayo* test was announced and began to be extensively applied, the courts and the USPTO have tried to consistently distinguish between patent-eligible subject matter and subject matter falling within a judicial exception. Even so, patent stakeholders have expressed a need for more clarity and predictability in its application. In particular, stakeholders have expressed concern with the proper scope and application of the ''abstract idea'' exception. Some courts share these concerns, for example as demonstrated by several recent concurrences and dissents in the U.S. Court of Appeals for the Federal Circuit (''Federal Circuit'') calling for changes in the application of Section 101 jurisprudence.[2] Many stakeholders, judges, inventors, and practitioners across the spectrum have argued that something needs to be done to increase clarity and consistency in how Section 101 is currently applied.

To address these and other concerns, the USPTO is revising its examination procedure with respect to the first step of the *Alice/Mayo* test[3] (Step 2A of the USPTO's Subject Matter Eligibility Guidance as incorporated into the Manual of Patent Examining Procedure (''MPEP'') 2106)[4] by: (1) Providing groupings of subject matter that is considered an abstract idea; and (2) clarifying that a claim is not ''directed to'' a judicial exception if the judicial exception is integrated into a practical application of that exception.

[1] *Alice Corp. Pty. Ltd.* v. *CLS Bank Int'l,* 573 U.S. 208, 217–18 (2014) (citing *Mayo Collaborative Servs.* v. *Prometheus Labs., Inc.,* 566 U.S. 66 (2012)).

[2] *See, e.g., Interval Licensing LLC,* v. *AOL, Inc.,* 896 F.3d 1335, 1348 (Fed. Cir. 2018) (Plager, J., concurring in part and dissenting in part); *Smart Sys. Innovations, LLC* v. *Chicago Transit Auth.,* 873 F.3d 1364, 1377 (Fed. Cir. 2017) (Linn, J., dissenting in part and concurring in part); *Berkheimer* v. *HP Inc.,* 890 F.3d 1369, 1376 (Fed. Cir. 2018) (Lourie, J., joined by Newman, J., concurring in denial of rehearing en banc).

[3] The first step of the *Alice/Mayo* test is to determine whether the claims are ''directed to'' a judicial exception. *Alice,* 573 U.S. at 217 (citing *Mayo,* 566 U.S. at 77).

[4] All references to the MPEP in the 2019 Revised Patent Subject Matter Eligibility Guidance are to the Ninth Edition, Revision 08–2017 (rev. Jan. 2018), unless otherwise indicated.

Section I of this 2019 Revised Patent Subject Matter Eligibility Guidance explains that the judicial exceptions are for subject matter that has been identified as the ''basic tools of scientific and technological work,'' [5] which includes ''abstract ideas'' such as mathematical concepts, certain methods of organizing human activity, and mental processes; as well as laws of nature and natural phenomena. Only when a claim recites a judicial exception does the claim require further analysis in order to determine its eligibility. The groupings of abstract ideas contained in this guidance enable USPTO personnel to more readily determine whether a claim recites subject matter that is an abstract idea.

Section II explains that the USPTO has set forth a revised procedure, rooted in Supreme Court caselaw, to determine whether a claim is ''directed to'' a judicial exception under the first step of the *Alice/Mayo* test (USPTO Step 2A).

Section III explains the revised procedure that will be applied by the USPTO. The procedure focuses on two aspects of Revised Step 2A: (1) Whether the claim recites a judicial exception; and (2) whether a recited judicial exception is integrated into a practical application. Only when a claim recites a judicial exception and fails to integrate the exception into a practical application, is the claim ''directed to'' a judicial exception, thereby triggering the need for further analysis pursuant to the second step of the *Alice/Mayo* test (USPTO Step 2B). Finally, if further analysis at Step 2B is needed (for example to determine whether the claim merely recites well-understood, routine, conventional activity), this 2019 Revised Patent Subject Matter Eligibility Guidance explains that the examiner or administrative patent judge will proceed in accordance with existing USPTO guidance as modified in April 2018.[6]

The USPTO is seeking public comment on its subject matter eligibility guidance, and particularly the 2019 Revised Patent Subject Matter Eligibility Guidance. The USPTO is determined to continue its mission to provide predictable and reliable patent rights in accordance with this rapidly evolving area of the law. The USPTO's ultimate goal is to draw distinctions between claims to principles in the abstract and claims that integrate those principles into a practical application. To that end, the USPTO may issue further guidance, or modify the current guidance, in the future based on its review of the comments received, further experience of the USPTO and its stakeholders, and additional judicial actions. Implementation of examination guidance on eligibility is an iterative process and may continue with periodic supplements. The USPTO invites the public to submit suggestions on eligibility-related topics to address in future guidance supplements as part of their comments on the USPTO's subject matter eligibility guidance.

Impact on Examination Procedure and Prior Examination Guidance: This 2019 Revised Patent Subject Matter Eligibility Guidance supersedes MPEP 2106.04(II) (Eligibility Step 2A: Whether a Claim Is Directed to a Judicial Exception) to the extent it equates claims ''reciting'' a judicial exception with claims ''directed to'' a judicial exception, along with any other portion of the MPEP that conflicts with this guidance. A chart identifying portions of the MPEP that are affected by this guidance will be available for viewing via the USPTO's internet website (*http://www.uspto.gov*). This 2019 Revised Patent Subject Matter Eligibility Guidance also supersedes all versions of the USPTO's ''Eligibility Quick Reference Sheet Identifying Abstract Ideas'' (first issued in July 2015 and updated most recently in July 2018). Eligibility-related guidance issued prior to the Ninth Edition, R–08.2017, of the MPEP (published Jan. 2018) should not be relied upon. However, any claim considered patent eligible under prior guidance should be considered patent eligible under this guidance.

This guidance does not constitute substantive rulemaking and does not have the force and effect of law. The guidance sets out agency policy with respect to the USPTO's interpretation of the subject matter eligibility requirements of 35 U.S.C. 101 in view of decisions by the Supreme Court and the Federal Circuit. The guidance was developed as a tool for internal USPTO management and does not create any right or benefit, substantive or procedural, enforceable by any party against the USPTO. Rejections will continue to be based upon the substantive law, and it is those rejections that are appealable to the Patent Trial and Appeal Board (PTAB) and the courts. All USPTO personnel are, as a matter of internal agency management, expected to follow the guidance. Failure of USPTO personnel to follow the guidance, however, is not, in itself, a proper basis for either an appeal or a petition.

I. Groupings of Abstract Ideas

The Supreme Court has held that the patent eligibility statute, Section 101, contains an implicit exception for ''[l]aws of nature, natural phenomena, and abstract ideas,'' which are ''the basic tools of scientific and technological work.'' [7] Yet, the Court has explained that ''[a]t some level, all inventions embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas,'' and has cautioned ''to tread carefully in construing this exclusionary principle lest it swallow all of patent law.'' [8]

Since the *Alice* case, courts have been ''compare[ing] claims at issue to those claims already found to be directed to an abstract idea in previous cases.'' [9] Likewise, the USPTO has issued guidance to the patent examining corps about Federal Circuit decisions applying the *Alice/Mayo* test, for instance describing the subject matter claimed in the patent in suit and noting whether or not certain subject matter has been identified as an abstract idea.[10]

[5] *Mayo,* 566 U.S. at 71 (''Phenomena of nature, though just discovered, mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work'' (quoting *Gottschalk* v. *Benson,* 409 U.S. 63, 67 (1972)).

[6] USPTO Memorandum of April 19, 2018, ''Changes in Examination Procedure Pertaining to Subject Matter Eligibility, Recent Subject Matter Eligibility Decision (*Berkheimer* v. *HP, Inc.*)'' (Apr. 19, 2018), *available at https://www.uspto.gov/sites/default/files/documents/memo-berkheimer-20180419.PDF* [hereinafter ''USPTO *Berkheimer* Memorandum'']. Continued

[7] *Alice Corp.,* 573 U.S. at 216 (internal citation and quotation marks omitted); *Mayo,* 566 U.S. at 71.

[8] *Id.* (internal citation and quotation marks omitted).

[9] *See Enfish, LLC* v. *Microsoft Corp.,* 822 F.3d 1327, 1334 (Fed. Cir. 2016); *see also Amdocs (Israel) Ltd.* v. *Openet Telecom, Inc.,* 841 F.3d 1288, 1294 (Fed. Cir. 2016) (''[T]he decisional mechanism courts now apply [to identify an abstract idea] is to examine earlier cases in which a similar or parallel descriptive nature can be seen—what prior cases were about, and which way they were decided.'').

[10] *See, e.g.,* 2014 Interim Guidance on Subject Matter Eligibility, 79 FR 74618, 74628–32 (Dec. 16, 2014) (discussing concepts identified as abstract ideas); July 2015 Update: Subject Matter Eligibility (Jul. 30, 2015), at 3–5, *available at https://www.uspto.gov/sites/default/files/documents/ieg-july-2015-update.pdf* (same); USPTO Memorandum of May 19, 2016, ''Recent Subject Matter Eligibility Decisions (*Enfish, LLC* v. *Microsoft Corp.* and *TLI Communications LLC* v. *A.V. Automotive, LLC*),'' at 2 (May 19, 2016), *available at https://www.uspto.gov/sites/default/files/documents/ieg-may-2016_enfish_memo.pdf* [hereinafter, ''USPTO *Enfish* Memorandum''] (discussing the abstract idea in *TLI Communications LLC* v. *A.V. Automotive, LLC,* 823 F.3d 607 (Fed. Cir. 2016)); USPTO Memorandum of November 2, 2016, ''Recent Subject Matter Eligibility Decisions,'' at 2 (Nov. 2, 2016), *available at https://www.uspto.gov/sites/default/files/documents/McRo-Bascom-Memo.pdf* [hereinafter, ''USPTO *McRo* Memorandum''] (discussing how the claims in *McRO, Inc.* v. *Bandai Namco Games America Inc.,* 837 F.3d 1299 (Fed. Cir. 2016), were directed to an improvement instead of an abstract idea); USPTO Memorandum of April 2, 2018, ''Recent Subject Matter Eligibility Decisions'' (Apr. 2, 2018), *available at https://www.uspto.gov/sites/default/files/documents/memo-recent-sme-ctdec-20180402.PDF* [hereinafter

While that approach was effective soon after *Alice* was decided, it has since become impractical. The Federal Circuit has now issued numerous decisions identifying subject matter as abstract or non-abstract in the context of specific cases, and that number is continuously growing. In addition, similar subject matter has been described both as abstract and not abstract in different cases.[11] The growing body of precedent has become increasingly more difficult for examiners to apply in a predictable manner, and concerns have been raised that different examiners within and between technology centers may reach inconsistent results.

The USPTO, therefore, aims to clarify the analysis. In accordance with judicial precedent and in an effort to improve consistency and predictability, the 2019 Revised Patent Subject Matter Eligibility Guidance extracts and synthesizes key concepts identified by the courts as abstract ideas to explain that the abstract idea exception includes the following groupings of subject matter, when recited as such in a claim limitation(s) (that is, when recited on their own or per se):

(a) Mathematical concepts—mathematical relationships, mathematical formulas or equations, mathematical calculations;[12]

(b) Certain methods of organizing human activity—fundamental economic principles or practices (including hedging, insurance, mitigating risk); commercial or legal interactions (including agreements in the form of contracts; legal obligations; advertising, marketing or sales activities or behaviors; business relations); managing personal behavior or relationships or interactions between people (including social activities, teaching, and following rules or instructions);[13] and

(c) Mental processes—concepts performed in the human mind[14] (including an observation, evaluation, judgment, opinion).[15]

''USPTO *Finjan* Memorandum''] (discussing how the claims in *Finjan Inc.* v. *Blue Coat Systems, Inc.,* 879 F.3d 1299 (Fed. Cir. 2018), and *Core Wireless Licensing, S.A.R.L.* v. *LG Electronics, Inc.,* 880 F.3d 1356 (Fed. Cir. 2018), were directed to improvements instead of abstract ideas); USPTO *Berkheimer* Memorandum at 2 (discussing the abstract idea in *Berkheimer*); MPEP 2106.04(a) (reviewing cases that did and did not identify abstract ideas).

[11] *E.g.,* compare *TLI Commc'ns,* 823 F.3d at 611, with *Enfish,* 822 F.3d at 1335, and *Visual Memory LLC* v. *NVIDIA Corp.,* 867 F.3d 1253, 1258 (Fed. Cir. 2017). While computer operations such as ''output of data analysis . . . can be abstract,'' *Credit Acceptance Corp.* v. *Westlake Servs.,* 859 F.3d 1044, 1056 (Fed. Cir. 2017), ''software-based innovations can [also] make 'non-abstract improvements to computer technology' and be deemed patent-eligible subject matter at step 1 [of the *Mayo/Alice* test],'' *Finjan,* 879 F.3d at 1304 (*quoting Enfish,* 822 F.3d at 1335). Indeed, the Federal Circuit has held that ''improvements in computer-related technology'' and ''claims directed to software'' are not ''inherently abstract.'' *Enfish,* 822 F.3d at 1335; *see also Visual Memory,* 867 F.3d at 1258. These developments in the caselaw can create complications for the patent-examination process. For example, claims in one application could be deemed to be abstract, whereas slightly different claims directed to the same or similar subject matter could be determined to reflect a patent eligible ''improvement.'' Alternatively, claims in one application could be found to be abstract, whereas claims to the same or similar subject matter in another application, containing additional or different embodiments in the specification, could be deemed eligible as not directed to an abstract idea. In other words, the finding that the subject matter claimed in a prior patent was ''abstract'' as claimed may not determine whether similar subject matter in another application, claimed somewhat differently or supported by a different disclosure, is directed to an abstract idea and therefore patent ineligible.

[12] *Bilski* v. *Kappos,* 561 U.S. 593, 611 (2010) (''The concept of hedging . . . reduced to a mathematical formula . . . is an unpatentable abstract idea[.]''); *Diamond* v. *Diehr,* 450 U.S. 175, 191 (1981) (''A mathematical formula as such is not accorded the protection of our patent laws'') (citing *Benson,* 409 U.S. 63); *Parker* v. *Flook,* 437 U.S. 584, 594 (1978) (''[T]he discovery of [a mathematical formula] cannot support a patent unless there is some other inventive concept in its application.''); *Benson,* 409 U.S. at 71–72 (concluding that permitting a patent on the claimed invention ''would wholly pre-empt the mathematical formula and in practical effect would be a patent on the algorithm itself''); *Mackay Radio & Telegraph Co.* v. *Radio Corp. of Am.,* 306 U.S. 86, 94 (1939) (''[A] scientific truth, or the mathematical expression of it, is not patentable invention[.]''); *SAP America, Inc.* v. *InvestPic, LLC,* 898 F.3d 1161, 1163 (Fed. Cir. 2018) (holding that claims to a ''series of mathematical calculations based on selected information'' are directed to abstract ideas); *Digitech Image Techs., LLC* v. *Elecs. for Imaging, Inc.,* 758 F.3d 1344, 1350 (Fed. Cir. 2014) (holding that claims to a ''process of organizing information through mathematical correlations'' are directed to an abstract idea); *Bancorp Servs., LLC* v. *Sun Life Assurance Co. of Can. (U.S.),* 687 F.3d 1266, 1280 (Fed. Cir. 2012) (identifying the concept of ''managing a stable value protected life insurance policy by performing calculations and manipulating the results'' as an abstract idea).

[13] *Alice,* 573 U.S. at 219–20 (concluding that use of a third party to mediate settlement risk is a ''fundamental economic practice'' and thus an abstract idea); *id.* (describing the concept of risk hedging identified as an abstract idea in *Bilski* as ''a method of organizing human activity''); *Bilski,* 561 U.S. at 611–612 (concluding that hedging is a ''fundamental economic practice'' and therefore an abstract idea); *Bancorp,* 687 F.3d at 1280 (concluding that ''managing a stable value protected life insurance policy by performing calculations and manipulating the results'' is an abstract idea); *Inventor Holdings, LLC* v. *Bed Bath & Beyond, Inc.,* 876 F.3d 1372, 1378–79 (Fed. Cir. 2017) (holding that concept of ''local processing of payments for remotely purchased goods'' is a ''fundamental economic practice, which *Alice* made clear is, without more, outside the patent system.''); *OIP Techs., Inc.* v. *Amazon.com, Inc.,* 788 F.3d 1359, 1362–63 (Fed. Cir. 2015) (concluding that claimed concept of ''offer-based price optimization'' is an abstract idea ''similar to other 'fundamental economic concepts' found to be abstract ideas by the Supreme Court and this court''); *buySAFE, Inc.* v. *Google, Inc.,* 765 F.3d. 1350, 1355 (Fed. Cir. 2014) (holding that concept of ''creating a contractual relationship—a 'transaction performance guaranty' '' is an abstract idea); *In re Comiskey,* 554 F.3d 967, 981 (Fed. Cir. 2009) (claims directed to ''resolving a legal dispute between two parties by the decision of a human arbitrator'' are ineligible); *Ultramercial, Inc.* v. *Hulu,* LLC, 772 F.3d 709, 715 (Fed Cir. 2014) (holding that claim ''describe[ing] only the abstract idea of showing an advertisement before delivering free content'' is patent ineligible); *In re Ferguson,* 558 F.3d 1359, 1364 (Fed Cir. 2009) (holding methods ''directed to organizing business or legal relationships in the structuring of a sales force (or marketing company)'' to be ineligible); *Credit Acceptance,* 859 F.3d 1044 at 1054 (''The Board determined that the claims are directed to the abstract idea of 'processing an application for financing a purchase.' . . . We agree.''); *Interval Licensing,* 896 F.3d at 1344–45 (concluding that ''[s]tanding alone, the act of providing someone an additional set of information without disrupting the ongoing provision of an initial set of information is an abstract idea,'' observing that the district court ''pointed to the nontechnical human activity of passing a note to a person who is in the middle of a meeting or conversation as further illustrating the basic, longstanding practice that is the focus of the [patent ineligible] claimed invention.''); *Voter Verified, Inc.* v. *Election Systems & Software, LLC,* 887 F.3d 1376, 1385 (Fed. Cir. 2018) (finding the concept of ''voting, verifying the vote, and submitting the vote for tabulation,'' a ''fundamental activity'' that humans have performed for hundreds of years, to be an abstract idea); *In re Smith,* 815 F.3d 816, 818 (Fed. Cir. 2016) (concluding that ''[a]pplicants' claims, directed to rules for conducting a wagering game'' are abstract).

[14] If a claim, under its broadest reasonable interpretation, covers performance in the mind but for the recitation of generic computer components, then it is still in the mental processes category unless the claim cannot practically be performed in the mind. *See Intellectual Ventures I LLC* v. *Symantec Corp.,* 838 F.3d 1307, 1318 (Fed. Cir. 2016) (''[W]ith the exception of generic computer-implemented steps, there is nothing in the claims themselves that foreclose them from being performed by a human, mentally or with pen and paper.''); *Mortg. Grader, Inc.* v. *First Choice Loan Servs. Inc.,* 811 F.3d. 1314, 1324 (Fed. Cir. 2016) (holding that computer-implemented method for ''anonymous loan shopping'' was an abstract idea because it could be ''performed by humans without a computer''); *Versata Dev. Grp.* v. *SAP Am., Inc.,* 793 F.3d 1306, 1335 (Fed. Cir. 2015) (''Courts have examined claims that required the use of a computer and still found that the underlying, patent-ineligible invention could be performed via pen and paper or in a person's mind.''); *CyberSource Corp.* v. *Retail Decisions, Inc.,* 654 F.3d 1366, 1375, 1372 (Fed. Cir. 2011) (holding that the incidental use of ''computer'' or ''computer readable medium'' does not make a claim otherwise directed to process that ''can be performed in the human mind, or by a human using a pen and paper'' patent eligible); *id.* at 1376 (distinguishing *Research Corp. Techs.* v. *Microsoft Corp.,* 627 F.3d 859 (Fed. Cir. 2010), and *SiRF Tech., Inc.* v. *Int'l Trade Comm'n,* 601 F.3d 1319 (Fed. Cir. 2010), as directed to inventions that ''could not, as a practical matter, be performed entirely in a human's mind''). Likewise, performance of a claim limitation using generic computer components does not necessarily preclude the claim limitation from being in the mathematical concepts grouping, *Benson,* 409 U.S. at 67, or the certain methods of organizing human activity grouping, *Alice,* 573 U.S. at 219–20.

[15] *Mayo,* 566 U.S. at 71 (''[M]ental processes[ ] and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work' '' (quoting *Benson,* 409 U.S. at 67)); *Flook,* 437 U.S. at 589 (same); *Benson,* 409 U.S. at 67, 65 (noting that the claimed ''conversion of [binary-coded decimal] numerals to pure binary numerals can be done mentally,'' *i.e.,* ''as a person

Claims that do not recite matter that falls within these enumerated groupings of abstract ideas should not be treated as reciting abstract ideas, except as follows: In the rare circumstance in which a USPTO employee believes a claim limitation that does not fall within the enumerated groupings of abstract ideas should nonetheless be treated as reciting an abstract idea, the procedure described in Section III.C for analyzing the claim should be followed.

II. ''Directed To'' a Judicial Exception

The Supreme Court has long distinguished between principles themselves (which are not patent eligible) and the integration of those principles into practical applications (which are patent eligible).[16] Similarly, in a growing body of decisions, the Federal Circuit has distinguished between claims that are ''directed to'' a judicial exception (which require further analysis to determine their eligibility) and those that are not (which are therefore patent eligible).[17] For example, an improvement in the functioning of a computer or other technology or technological field may render a claim patent eligible at step one of the *Alice/Mayo* test even if it recites an abstract idea, law of nature, or natural phenomenon.[18] Moreover, recent Federal Circuit jurisprudence has indicated that eligible subject matter can often be identified either at the first or the second step of the *Alice/Mayo* test.[19] These revised patent examination procedures are designed to more accurately and consistently identify claims that recite a practical application of a judicial exception (and thus are not ''directed to'' a judicial exception), thereby increasing predictability and consistency in the patent eligibility analysis. This analysis is performed at USPTO Step 2A, and incorporates certain considerations that have been applied by the courts at step one and at step two of the *Alice/Mayo* framework, given the recognized overlap in the steps depending on the facts of any given case.

In accordance with judicial precedent, and to increase consistency in examination practice, the 2019 Revised Patent Subject Matter Eligibility Guidance sets forth a procedure to determine whether a claim is ''directed to'' a judicial exception under USPTO Step 2A. Under the procedure, if a claim recites a judicial exception (a law of nature, a natural phenomenon, or an abstract idea as grouped in Section I, above), it must then be analyzed to determine whether the recited judicial exception is integrated into a practical application of that exception. A claim is not ''directed to'' a judicial exception, and thus is patent eligible, if the claim as a whole integrates the recited judicial exception into a practical application of that exception. A claim that integrates a judicial exception into a practical application will apply, rely on, or use the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception.

III. Instructions for Applying Revised Step 2A During Examination

Examiners should determine whether a claim satisfies the criteria for subject matter eligibility by evaluating the claim in accordance with the criteria discussed in MPEP 2106, *i.e.,* whether the claim is to a statutory category (Step 1) and the *Alice/Mayo* test for judicial exceptions (Steps 2A and 2B). The procedure set forth herein (referred to as ''revised Step 2A'') changes how examiners should apply the first step of the *Alice/Mayo* test, which determines whether a claim is ''directed to'' a judicial exception.

As before, Step 1 of the USPTO's eligibility analysis entails considering whether the claimed subject matter falls within the four statutory categories of

would do it by head and hand.''); *Synopsys, Inc.* v. *Mentor Graphics Corp.,* 839 F.3d 1138, 1139, (Fed. Cir. 2016) (holding that claims to the mental process of ''translating a functional description of a logic circuit into a hardware component description of the logic circuit'' are directed to an abstract idea, because the claims ''read on an individual performing the claimed steps mentally or with pencil and paper''); *Mortg. Grader,* 811 F.3d. at 1324 (concluding that concept of ''anonymous loan shopping'' is an abstract idea because it could be ''performed by humans without a computer''); *In re BRCA1 & BRCA2-Based Hereditary Cancer Test Patent Litig.,* 774 F.3d 755, 763 (Fed. Cir. 2014) (concluding that concept of ''comparing BRCA sequences and determining the existence of alterations'' is an ''abstract mental process''); *In re Brown,* 645 F. App'x. 1014, 1017 (Fed. Cir. 2016) (non-precedential) (claim limitations ''encompass the mere idea of applying different known hair styles to balance one's head. Identifying head shape and applying hair designs accordingly is an abstract idea capable, as the Board notes, of being performed entirely in one's mind'').

[16] *See, e.g., Alice,* 573 U.S. at 217 (explaining that ''in applying the § 101 exception, we must distinguish between patents that claim the 'buildin[g] block[s]' of human ingenuity and those that integrate the building blocks into something more'' (quoting *Mayo,* 566 U.S. at 89) and stating that *Mayo* ''set forth a framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts''); *Mayo,* 566 U.S. at 80, 84 (noting that the Court in *Diehr* found ''the overall process patent eligible because of the way the additional steps of the process integrated the equation into the process as a whole,'' but the Court in *Benson* ''held that simply implementing a mathematical principle on a physical machine, namely a computer, was not a patentable application of that principle''); *Bilski,* 561 U.S. at 611 (''*Diehr* explained that while an abstract idea, law of nature, or mathematical formula could not be patented, 'an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.' '' (quoting *Diehr,* 450 U.S. at 187) (emphasis in original)); *Diehr,* 450 U.S. at 187, 192 n.14 (explaining that the process in *Flook* was ineligible not because it contained a mathematical formula, but because it did not provide an application of the formula); *Mackay Radio,* 306 U.S. at 94 (''While a scientific truth, or the mathematical expression of it, is not patentable invention, a novel and useful structure created with the aid of knowledge of scientific truth may be.''); *Le Roy* v. *Tatham,* 55 U.S. (14 How.) 156, 175 (1852) (''The elements of the [natural phenomena] exist; the invention is not in discovering them, but in applying them to useful objects.'').

[17] *See, e.g.,* MPEP 2106.06(b) (summarizing *Enfish, McRO,* and other cases that were eligible as improvements to technology or computer functionality instead of abstract ideas); USPTO *Finjan* Memorandum (discussing *Finjan,* and *Core Wireless*); USPTO Memorandum of June 7, 2018, ''Recent Subject Matter Eligibility Decision: *Vanda Pharmaceuticals Inc.* v. *West-Ward Pharmaceuticals,'' available at https://www.uspto.gov/sites/default/files/documents/memo-vanda-20180607.PDF* [hereinafter ''USPTO *Vanda* Memorandum'']; *BASCOM Glob. Internet Servs., Inc.* v. *AT&T Mobility LLC,* 827 F.3d 1341, 1352 (Fed. Cir. 2016) (concluding that claims could be eligible if ordered combination of limitations ''transform the abstract idea . . . into a particular, practical application of that abstract idea.''); *Arrhythmia Research Tech., Inc.* v. *Corazonix Corp.,* 958 F.2d 1053, 1056–57 (Fed. Cir. 1992) (''As the jurisprudence developed, inventions that were implemented by the mathematically-directed performance of computers were viewed in the context of the practical application to which the computer-generated data were put.''); *CLS Bank Int'l* v. *Alice Corp. Pty. Ltd.,* 717 F.3d 1269, 1315 (Fed. Cir. 2013) (Moore, J., joined by Rader, C.J., and Linn and O'Malley, JJ., dissenting in part) (''The key question is thus whether a claim recites a sufficiently concrete and practical application of an abstract idea to qualify as patent-eligible.''), *aff'd,* 573 U.S. 208 (2014).

[18] *See, e.g., McRO,* 837 F.3d at 1316; *Enfish,* 822 F.3d at 1336; *Core Wireless,* 880 F.3d at 1362.

[19] *See, e.g., Vanda Pharm. Inc.* v. *West-Ward Pharm. Int'l Ltd.,* 887 F.3d 1117, 1134 (Fed. Cir. 2018) (''If the claims are not directed to a patent ineligible concept at step one, we need not address step two of the inquiry.''); *Rapid Litig. Mgmt. Ltd.* v. *CellzDirect, Inc.,* 827 F.3d 1042, 1050 (Fed. Cir. 2016) (holding that claimed invention is patent eligible because it is not directed to a patent-ineligible concept under step one or is an inventive application of the patent-ineligible concept under step two); *Enfish,* 822 F.3d at 1339 (noting that eligibility determination can be reached either because claims not directed to an abstract idea under step one or recite a concrete improvement under step two); *McRO,* 837 F.3d at 1313 (recognizing that the ''court must look to the claims as an ordered combination'' in determining patentability ''[w]hether at step one or step two of the *Alice* test''); *Amdocs,* 841 F.3d at 1294 (observing that recent cases ''suggest that there is considerable overlap between step one and step two, and in some situations [the inventive concept] analysis could be accomplished without going beyond step one''). *See also Ancora Techs.* v. *HTC Am.,* 908 F.3d 1343, 1349 (Fed. Cir. 2018) (noting, in accord with the ''recognition of overlaps between some step one and step two considerations,'' that its conclusion of eligibility at step one is ''indirectly reinforced by some of [its] prior holdings under step two'').

patentable subject matter identified by 35 U.S.C. 101: Process, machine, manufacture, or composition of matter. The 2019 Revised Patent Subject Matter Eligibility Guidance does not change Step 1 or the streamlined analysis, which are discussed in MPEP 2106.03 and 2106.06, respectively. Examiners may continue to use a streamlined analysis (Pathway A) when the patent eligibility of a claim is self-evident.

Step 2A of the 2019 Revised Patent Subject Matter Eligibility Guidance is a two-prong inquiry. In Prong One, examiners evaluate whether the claim recites a judicial exception.[20] This prong is similar to procedures in prior guidance except that when determining if a claim recites an abstract idea, examiners now refer to the subject matter groupings of abstract ideas in Section I instead of comparing the claimed concept to the USPTO's prior ''Eligibility Quick Reference Sheet Identifying Abstract Ideas.''

- If the claim recites a judicial exception (*i.e.,* an abstract idea enumerated in Section I of the 2019 Revised Patent Subject Matter Eligibility Guidance, a law of nature, or a natural phenomenon), the claim requires further analysis in Prong Two.
- If the claim does not recite a judicial exception (a law of nature, natural phenomenon, or subject matter within the enumerated groupings of abstract ideas in Section I), then the claim is eligible at Prong One of revised Step 2A. This concludes the eligibility analysis, except in the rare circumstance described below.[21]
- In the rare circumstance in which an examiner believes a claim limitation that does not fall within the enumerated groupings of abstract ideas should nonetheless be treated as reciting an abstract idea, the procedure described in Section III.C for analyzing the claim should be followed.

In Prong Two, examiners evaluate whether the claim recites additional elements that integrate the exception into a practical application of that exception. This prong adds a more detailed eligibility analysis to step one of the *Alice/Mayo* test (USPTO Step 2A) than was required under prior guidance.

- If the recited exception is integrated into a practical application of the exception, then the claim is eligible at Prong Two of revised Step 2A. This concludes the eligibility analysis.
- If, however, the additional elements do not integrate the exception into a practical application, then the claim is directed to the recited judicial exception, and requires further analysis under Step 2B (where it may still be eligible if it amounts to an ''inventive concept'').[22]

The following discussion provides additional detail on this revised procedure.

A. Revised Step 2A

1. Prong One: Evaluate Whether the Claim Recites a Judicial Exception

In Prong One, examiners should evaluate whether the claim recites a judicial exception, *i.e.,* an abstract idea, a law of nature, or a natural phenomenon. If the claim does not recite a judicial exception, it is not directed to a judicial exception (Step 2A: NO) and is eligible. This concludes the eligibility analysis. If the claim does recite a judicial exception, then it requires further analysis in Prong Two of Revised Step 2A to determine whether it is directed to the recited exception, as explained in Section III.A.2 of the 2019 Revised Patent Subject Matter Eligibility Guidance.

For abstract ideas, Prong One represents a change as compared to prior guidance. To determine whether a claim recites an abstract idea in Prong One, examiners are now to: (a) Identify the specific limitation(s) in the claim under examination (individually or in combination) that the examiner believes recites an abstract idea; and (b) determine whether the identified limitation(s) falls within the subject matter groupings of abstract ideas enumerated in Section I of the 2019 Revised Patent Subject Matter Eligibility Guidance. If the identified limitation(s) falls within the subject matter groupings of abstract ideas enumerated in Section I, analysis should proceed to Prong Two in order to evaluate whether the claim integrates the abstract idea into a practical application. When evaluating Prong One, examiners are no longer to use the USPTO's ''Eligibility Quick Reference Sheet Identifying Abstract Ideas,'' which has been superseded by this document.

In the rare circumstance in which an examiner believes a claim limitation that does not fall within the enumerated groupings of abstract ideas should nonetheless be treated as reciting an abstract idea, the procedure described in Section III.C for analyzing the claim should be followed.

For laws of nature and natural phenomena, Prong One does not represent a change. Examiners should continue to follow existing guidance to identify whether a claim recites one of these exceptions,[23] and if it does, proceed to Prong Two of the 2019 Revised Patent Subject Matter Eligibility Guidance in order to evaluate whether the claim integrates the law of nature or natural phenomenon into a practical application.

2. Prong Two: If the Claim Recites a Judicial Exception, Evaluate Whether the Judicial Exception Is Integrated Into a Practical Application

In Prong Two, examiners should evaluate whether the claim as a whole integrates the recited judicial exception into a practical application of the exception. A claim that integrates a judicial exception into a practical application will apply, rely on, or use the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception. When the exception is so integrated, then the claim is not directed to a judicial exception (Step 2A: NO) and is eligible. This concludes the eligibility analysis. If the additional elements do not integrate the exception into a practical application, then the claim is directed to the judicial exception (Step 2A: YES), and requires further analysis under Step 2B (where it may still be eligible if it amounts to an inventive concept), as explained in Section III.B of the 2019 Revised Patent Subject Matter Eligibility Guidance.

Prong Two represents a change from prior guidance. The analysis under Prong Two is the same for all claims reciting a judicial exception, whether the exception is an abstract idea, a law of nature, or a natural phenomenon.

Examiners evaluate integration into a practical application by: (a) Identifying whether there are any additional elements recited in the claim beyond

[20] This notice does not change the type of claim limitations that are considered to recite a law of nature or natural phenomenon. For more information about laws of nature and natural phenomena, including products of nature, see MPEP 2106.04(b) and (c).

[21] Even if a claim is determined to be patent eligible under section 101, this or any other step of the eligibility analysis does not end the inquiry. The claims must also satisfy the other conditions and requirements for patentability, for example, under section 102 (novelty), 103 (nonobviousness), or 112 (enablement, written description, definiteness). *Bilski,* 561 U.S. at 602. Examiners should take care not to confuse or intermingle patentability requirements of these separate sections with patent eligibility analysis under section 101.

[22] *See, e.g., Amdocs,* 841 F.3d at 1300, 1303; *BASCOM,* 827 F.3d at 1349–52; *DDR Holdings, LLC* v. *Hotels.com,* L.P., 773 F.3d 1245, 1257–59 (Fed. Cir. 2014); USPTO *Berkheimer* Memorandum; *see also Rapid Litig.,* 827 F.3d at 1050 (holding that claimed invention is patent eligible because it is not directed to a patent-ineligible concept under step one or is an inventive application of the patent-ineligible concept under step two).

[23] *See* MPEP 2106.04(b)–(c).

the judicial exception(s); and (b) evaluating those additional elements individually and in combination to determine whether they integrate the exception into a practical application, using one or more of the considerations laid out by the Supreme Court and the Federal Circuit, for example those listed below. While some of the considerations listed below were discussed in prior guidance in the context of Step 2B, evaluating them in revised Step 2A promotes early and efficient resolution of patent eligibility, and increases certainty and reliability. Examiners should note, however, that revised Step 2A specifically excludes consideration of whether the additional elements represent well-understood, routine, conventional activity. Instead, analysis of well-understood, routine, conventional activity is done in Step 2B. Accordingly, in revised Step 2A examiners should ensure that they give weight to all additional elements, whether or not they are conventional, when evaluating whether a judicial exception has been integrated into a practical application.

In the context of revised Step 2A, the following exemplary considerations are indicative that an additional element (or combination of elements) [24] may have integrated the exception into a practical application:

- An additional element reflects an improvement in the functioning of a computer, or an improvement to other technology or technical field; [25]
- an additional element that applies or uses a judicial exception to effect a particular treatment or prophylaxis for a disease or medical condition; [26]
- an additional element implements a judicial exception with, or uses a judicial exception in conjunction with, a particular machine or manufacture that is integral to the claim; [27]
- an additional element effects a transformation or reduction of a particular article to a different state or thing; [28] and
- an additional element applies or uses the judicial exception in some other meaningful way beyond generally linking the use of the judicial exception to a particular technological environment, such that the claim as a whole is more than a drafting effort designed to monopolize the exception.[29]

This is not an exclusive list, and there may be other examples of integrating the exception into a practical application.

The courts have also identified examples in which a judicial exception has not been integrated into a practical application:

- An additional element merely recites the words ''apply it'' (or an equivalent) with the judicial exception, or merely includes instructions to implement an abstract idea on a computer, or merely uses a computer as a tool to perform an abstract idea; [30]
- an additional element adds insignificant extra-solution activity to the judicial exception; [31] and
- an additional element does no more than generally link the use of a judicial exception to a particular technological environment or field of use.[32]

It is critical that examiners consider the claim as a whole when evaluating whether the judicial exception is meaningfully limited by integration into a practical application of the exception. Some elements may be enough on their own to meaningfully limit an exception, but other times it is the combination of elements that provide the practical application. When evaluating whether an element (or combination of elements) integrates an exception into a practical application, examiners should give careful consideration to both the element and how it is used or arranged in the claim as a whole. Because revised Step 2A does not evaluate whether an additional element is well-understood, routine, conventional activity, examiners are reminded that a claim that includes conventional elements may still integrate an exception into a practical application, thereby satisfying the subject matter eligibility requirement of Section 101.[33]

[24] USPTO guidance uses the term ''additional elements'' to refer to claim features, limitations, and/or steps that are recited in the claim beyond the identified judicial exception. Again, whether an additional element or combination of elements integrate the exception into a practical application should be evaluated on the claim as a whole.

[25] For example, a modification of internet hyperlink protocol to dynamically produce a dual-source hybrid web page. See MPEP 2106.05(a) for more information concerning improvements in the functioning of a computer or to any other technology or technical field, including a discussion of the exemplar provided herein, which is based on *DDR Holdings,* 773 F.3d at 1258–59. See also USPTO *Finjan* Memorandum (discussing *Finjan* and *Core Wireless*).

[26] For example, an immunization step that integrates an abstract idea into a specific process of immunizing that lowers the risk that immunized patients will later develop chronic immune-mediated diseases. *See, e.g., Classen Immunotherapies, Inc.* v. *Biogen IDEC,* 659 F.3d 1057, 1066–68 (Fed. Cir. 2011). *See also Vanda Pharm. Inc.* v. *West-Ward Pharm. Int'l Ltd.,* 887 F.3d 1117, 1135 (Fed. Cir. 2018) (holding claims to the practical application of the natural relationships between iloperidone, CYP2D6 metabolism, and QTc prolongation to treat schizophrenia, not merely the recognition of those relationships, to be patent eligible at *Mayo/Alice* step 1 (USPTO Step 2A)), and USPTO *Vanda* Memorandum (discussing *Vanda*).

[27] For example, a Fourdrinier machine (which is understood in the art to have a specific structure comprising a headbox, a paper-making wire, and a series of rolls) that is arranged in a particular way that uses gravity to optimize the speed of the machine while maintaining quality of the formed paper web. See MPEP 2106.05(b) for more information concerning use of a judicial exception with, or in conjunction with, a particular machine or manufacture, including a discussion of the exemplar provided herein, which is based on *Eibel Process Co.* v. *Minnesota & Ontario Paper Co.,* 261 U.S. 45, 64–65 (1923).

[28] For example, a process that transforms raw, uncured synthetic rubber into precision-molded synthetic rubber products by using a mathematical formula to control operation of the mold. See MPEP 2106.05(c) for more information concerning transformation or reduction of a particular article to a different state or thing, including a discussion of the exemplar provided herein, which is based on *Diehr,* 450 U.S. at 184.

[29] For example, a combination of steps including installing rubber in a press, closing the mold, constantly measuring the temperature in the mold, and automatically opening the press at the proper time, all of which together meaningfully limited the use of a mathematical equation to a practical application of molding rubber products. See MPEP 2106.05(e) for more information on this consideration, including a discussion of the exemplar provided herein, which is based on *Diehr,* 450 U.S. at 184, 187. See also USPTO *Finjan* Memorandum (discussing *Finjan* and *Core Wireless*).

[30] For example, a limitation indicating that a particular function such as creating and maintaining electronic records is performed by a computer, without specifying how. See MPEP 2106.05(f) for more information concerning mere instructions to apply a judicial exception, including a discussion of the exemplar provided herein, which is based on *Alice,* 573 U.S. at 222–26. *See also Benson,* 409 U.S. 63 (holding that merely implementing a mathematical principle on a general purpose computer is a patent ineligible abstract idea); *Credit Acceptance Corp.* v. *Westlake Services,* 859 F.3d 1044 (Fed. Cir. 2017) (using a computer as a tool to process an application for financing a purchase).

[31] For example, a mere data gathering such as a step of obtaining information about credit card transactions so that the information can be analyzed in order to detect whether the transactions were fraudulent. See MPEP 2106.05(g) for more information concerning insignificant extra-solution activity, including a discussion of the exemplar provided herein, which is based on *CyberSource,* 654 F.3d at 1375. *See also Mayo,* 566 U.S. at 79 (concluding that additional element of measuring metabolites of a drug administered to a patient was insignificant extra-solution activity, which was insufficient to confer patent eligibility); *Flook,* 437 U.S. at 590 (step of adjusting an alarm limit based on the output of a mathematical formula was ''post-solution activity'' and did not render method patent eligible).

[32] For example, a claim describing how the abstract idea of hedging could be used in the commodities and energy markets, or a claim limiting the use of a mathematical formula to the petrochemical and oil-refining fields. See MPEP 2106.05(h) concerning generally linking use of a judicial exception to a particular technological environment or field of use, including a discussion of the exemplars provided herein, which are based on *Bilski,* 561 U.S. at 612, and *Flook,* 437 U.S. at 588–90. Thus, the mere application of an abstract method of organizing human activity in a particular field is not sufficient to integrate the judicial exception into a practical application.

[33] Of course, such claims must also satisfy the other conditions and requirements of patentability, for example, under section 102 (novelty), 103 (nonobviousness), and 112 (enablement, written description, definiteness). *Bilski,* 561 U.S. at 602.

B. Step 2B: If the Claim Is Directed to a Judicial Exception, Evaluate Whether the Claim Provides an Inventive Concept

It is possible that a claim that does not ''integrate'' a recited judicial exception is nonetheless patent eligible. For example the claim may recite additional elements that render the claim patent eligible even though a judicial exception is recited in a separate claim element.[34] Along these lines, the Federal Circuit has held claims eligible at the second step of the *Alice/Mayo* test (USPTO Step 2B) because the additional elements recited in the claims provided ''significantly more'' than the recited judicial exception (*e.g.,* because the additional elements were unconventional in combination).[35] Therefore, if a claim has been determined to be directed to a judicial exception under revised Step 2A, examiners should then evaluate the additional elements individually and in combination under Step 2B to determine whether they provide an inventive concept (*i.e.,* whether the additional elements amount to significantly more than the exception itself). If the examiner determines that the element (or combination of elements) amounts to significantly more than the exception itself (Step 2B: YES), the claim is eligible, thereby concluding the eligibility analysis. If the examiner determines that the element and combination of elements does not amount to significantly more than the exception itself, the claim is ineligible (Step 2B: NO) and the examiner should reject the claim for lack of subject matter eligibility.

While many considerations in Step 2A need not be reevaluated in Step 2B, examiners should continue to consider in Step 2B whether an additional element or combination of elements:

- Adds a specific limitation or combination of limitations that are not well-understood, routine, conventional activity in the field, which is indicative that an inventive concept may be present; or
- simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception, which is indicative that an inventive concept may not be present.[36]

For this reason, if an examiner had previously concluded under revised Step 2A that, *e.g.,* an additional element was insignificant extra-solution activity, they should reevaluate that conclusion in Step 2B. If such reevaluation indicates that the element is unconventional or otherwise more than what is well-understood, routine, conventional activity in the field, this finding may indicate that an inventive concept is present and that the claim is thus eligible.[37] For example, when evaluating a claim reciting an abstract idea such as a mathematical equation and a series of data gathering steps that collect a necessary input for the equation, an examiner might consider the data gathering steps to be insignificant extra-solution activity in revised Step 2A, and therefore find that the judicial exception is not integrated into a practical application.[38] However, when the examiner reconsiders the data gathering steps in Step 2B, the examiner could determine that the combination of steps gather data in an unconventional way and therefore include an ''inventive concept,'' rendering the claim eligible at Step 2B.[39] Likewise, a claim that does not meaningfully integrate a judicial exception into a practical application of the exception sufficient to pass muster at Step 2A, may nonetheless include additional subject matter that is unconventional and thus an ''inventive concept'' at Step 2B.[40]

C. Treating a Claim Limitation That Does Not Fall Within the Enumerated Groupings of Abstract Ideas as Reciting an Abstract Idea

In the rare circumstance in which an examiner believes a claim limitation that does not fall within the enumerated groupings of abstract ideas should

[34] *See, e.g., Diehr,* 450 U.S. at 187 (''Our earlier opinions lend support to our present conclusion that a claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula, computer program, or digital computer.''); *id.* at 185 (''Our conclusion regarding respondents' claims is not altered by the fact that in several steps of the process a mathematical equation and a programmed digital computer are used.'').

[35] *See, e.g., Amdocs,* 841 F.3d at 1300, 1303; *BASCOM,* 827 F.3d at 1349–52; *DDR Holdings,* 773 F.3d at 1257–59.

[36] In accordance with existing guidance, an examiner's conclusion that an additional element (or combination of elements) is well understood, routine, conventional activity must be supported with a factual determination. For more information concerning evaluation of well-understood, routine, conventional activity, see MPEP 2106.05(d), as modified by the USPTO *Berkheimer* Memorandum.

[37] *Mayo,* 566 U.S. at 82 (''[S]imply appending conventional steps, specified at a high level of generality, to laws of nature, natural phenomena, and abstract ideas cannot make those laws, phenomena, and ideas patentable.''); *but see id.* at 85 (''[T]he claimed process included not only a law of nature but also several unconventional steps (such as inserting the receptacle, applying heat to the receptacle externally, and blowing the air into the furnace) that confined the claims to a particular, useful application of the principle.'' (discussing the old English case, *Neilson* v. *Harford,* Webster's Patent Cases 295 (1841))).

[38] *See supra* note 34; *see also OIP Techs.,* 788 F.3d at 1363 (finding that gathering statistics generated based on customer testing for input to a pricing calculation ''fail[s] to 'transform' the claimed abstract idea into a patent-eligible invention'').

[39] *Compare Flook,* 437 U.S. at 585–86 (holding claimed method of updating alarm limits to be ineligible because: ''In essence, the method consists of three steps: an initial step which merely measures the present value of the process variable (*e.g.,* the temperature); an intermediate step which uses an algorithm to calculate an updated alarm-limit value; and a final step in which the actual alarm limit is adjusted to the updated value. The only difference between the conventional methods of changing alarm limits and that described in respondent's application rests in the second step—the mathematical algorithm or formula.''); *with Exergen Corp.* v. *Kaz USA, Inc.,* 725 F. App'x 959, 966 (Fed. Cir. 2018) (holding claimed body temperature detector to be eligible because: ''Here, the patent is directed to the measurement of a natural phenomenon (core body temperature). Even if the concept of such measurement is directed to a natural phenomenon and is abstract at step one, the measurement method here was not conventional, routine, and well-understood. Following years and millions of dollars of testing and development, the inventor determined for the first time the coefficient representing the relationship between temporal-arterial temperature and core body temperature and incorporated that discovery into an unconventional method of temperature measurement.'').

[40] *Compare Berkheimer,* 881 F.3d at 1370 (holding independent claim 1 to be ineligible at *Alice* step 2: ''The[ ] conventional limitations of claim 1, combined with limitations of analyzing and comparing data and reconciling differences between the data, fail to transform the abstract idea into a patent-eligible invention. The limitations amount to no more than performing the abstract idea of parsing and comparing data with conventional computer components'') (internal quotation marks and citation omitted); *with id.* (concluding that dependent claims 4–7 may be eligible: ''Claims 4–7, in contrast, contain limitations directed to the arguably unconventional inventive concept described in the specification. Claim 4 recites 'storing a reconciled object structure in the archive without substantial redundancy.' The specification states that storing object structures in the archive without substantial redundancy improves system operating efficiency and reduces storage costs. It also states that known asset management systems did not archive documents in this manner. Claim 5 depends on claim 4 and further recites 'selectively editing an object structure, linked to other structures to thereby effect a one-to-many change in a plurality of archived items.' The specification states one-to-many editing substantially reduces effort needed to update files because a single edit can update every document in the archive linked to that object structure. This one-to-many functionality is more than 'editing data in a straightforward copy-and-paste fashion,' as characterized by the district court. According to the specification, conventional digital asset management systems cannot perform one-to-many editing because they store documents with numerous instances of redundant elements, rather than eliminate redundancies through the storage of linked object structures. Claims 6–7 depend from claim 5 and accordingly contain the same limitations. These claims recite a specific method of archiving that, according to the specification, provides benefits that improve computer functionality. . . . [T]here is at least a genuine issue of material fact in light of the specification regarding whether claims 4–7 archive documents in an inventive manner that improves these aspects of the disclosed archival system.'') (internal quotation marks and citations omitted).

nonetheless be treated as reciting an abstract idea (''tentative abstract idea''), the examiner should evaluate whether the claim as a whole integrates the recited tentative abstract idea into a practical application as explained in Section III.A.2. If the claim as a whole integrates the recited tentative abstract idea into a practical application, the claim is not directed to a judicial exception (Step 2A: NO) and is eligible (thus concluding the eligibility analysis). If the claim as a whole does not integrate the recited tentative abstract idea into a practical application, then the examiner should evaluate the additional elements individually and in combination to determine whether they provide an inventive concept as explained in Section III.B. If an additional element or combination of additional elements provides an inventive concept as explained in Section III.B (Step 2B: YES), the claim is eligible (thus concluding the eligibility analysis). If the additional element or combination of additional elements does not provide an inventive concept as explained in Section III.B (Step 2B: NO), the examiner should bring the application to the attention of the Technology Center Director. Any rejection in which a claim limitation, which does not fall within the enumerated abstract ideas (tentative abstract idea), is nonetheless treated as reciting an abstract idea must be approved by the Technology Center Director (which approval will be indicated in the file record of the application), and must provide a justification [41] for why such claim limitation is being treated as reciting an abstract idea.[42]

D. Compact Prosecution

Regardless of whether a rejection under 35 U.S.C. 101 is made, a complete examination should be made for every claim under each of the other patentability requirements: 35 U.S.C. 102, 103, 112, and 101 (utility, inventorship and double patenting) and non-statutory double patenting.[43] Compact prosecution, however, does not mandate that the patentability requirements be analyzed in any particular order.

Dated: December 20, 2018.

Andrei Iancu,

Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office.

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[41] Such justification may include, for example, an explanation of why the element contains subject matter that, per se, invokes eligibility concerns similar to those expressed by the Supreme Court with regard to the judicial exceptions. *See supra* note 5.

[42] Similarly, in the rare circumstance in which a panel of administrative patent judges (or panel majority) believes that a claim reciting a tentative abstract idea should be treated as reciting an abstract idea, the matter should be brought to the attention of the PTAB leadership by a written request for clearance.

[43] *See* MPEP 2103 *et seq.* and 2106(III).

DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

[Docket No. PTO–P–2018–0059]

Examining Computer-Implemented Functional Claim Limitations for Compliance With 35 U.S.C. 112

AGENCY: United States Patent and Trademark Office, Commerce.

ACTION: Examination guidance; request for comments.

SUMMARY: This guidance will assist United States Patent and Trademark Office (USPTO) personnel in the examination of claims in patent applications that contain functional language, particularly patent applications where functional language is used to claim computer-implemented inventions. Part I of this guidance addresses issues related to the examination of computer-implemented functional claims having means-plus-function limitations. Part II of this guidance addresses written description and enablement issues related to the examination of computer-implemented functional claims that recite only the idea of a solution or outcome to a problem but fail to recite details of how the solution or outcome is accomplished.

DATES:

Applicable Date: The Computer-Implemented Functional Claim Limitations Guidance is effective on January 7, 2019. The Computer-Implemented Functional Claim Limitations Guidance applies to all applications, and to all patents resulting from applications, filed before, on or after January 7, 2019.

Comment Deadline Date: Written comments must be received on or before March 8, 2019.

ADDRESSES: Comments must be sent by electronic mail message over the internet addressed to: *112Guidance2019@uspto.gov.*

Electronic comments submitted in plain text are preferred, but also may be submitted in ADOBE® portable document format or MICROSOFT WORD® format. Comments not submitted electronically should be submitted on paper in a format that facilitates convenient digital scanning into ADOBE® portable document format. The comments will be available for viewing via the USPTO's internet website (*http://www.uspto.gov*). Because comments will be made available for public inspection, information that the submitter does not desire to make public, such as an address or phone number, should not be included in the comments.

FOR FURTHER INFORMATION CONTACT: Nicole D. Haines, Senior Legal Advisor, at 571–272–7717 or Jeffrey R. West, Senior Legal Advisor, at 571–272–2226, both with the Office of Patent Legal Administration.

SUPPLEMENTARY INFORMATION: The patent examination process must ensure that: (1) The claims of an application have proper written description and enablement support under 35 U.S.C. 112(a) [1] in the disclosure of the application, and (2) functional limitations (*i.e.,* claim limitations that define an element in terms of the function it performs without reciting the structure, materials, or acts that perform the function) are properly treated as means (or step) plus function limitations under 35 U.S.C. 112(f), and are sufficiently definite under 35 U.S.C. 112(b), as appropriate. These requirements are particularly relevant to computer-implemented functional claims.

The U.S. Court of Appeals for the Federal Circuit (''Federal Circuit'') has recognized a problem with broad functional claiming without adequate structural support in the specification. *Williamson* v. *Citrix Online, LLC,* 792 F.3d 1339, 1349 (Fed. Cir. 2015) (en banc) (overruling the Federal Circuit's previous application of a ''strong'' presumption that claim limitations lacking the word ''means'' are not subject to § 112(f) to address the resulting ''proliferation of functional claiming untethered to [§ 112(f)] and free of the strictures set forth in the statute''); *Function Media, LLC* v. *Google, Inc.,* 708 F.3d 1310, 1319 (Fed. Cir. 2013) (''Section [112(f)] is intended

[1] Section 4 of the Leahy-Smith America Invents Act (AIA) designated pre-AIA 35 U.S.C. 112, ¶ ¶ 1 through 6, as 35 U.S.C. 112(a) through (f), effective as to applications filed on or after September 16, 2012. *See* Public Law 112–29, 4(c), 125 Stat. 284, 296 (2011). AIA 35 U.S.C. 112(a) and pre-AIA 35 U.S.C. 112, ¶ 1 are collectively referred to in this notice as 35 U.S.C. 112(a); AIA 35 U.S.C. 112(b) and pre-AIA 35 U.S.C. 112, ¶ 2 are collectively referred to in this notice as 35 U.S.C. 112(b); and AIA 35 U.S.C. 112(f) and pre-AIA 35 U.S.C. 112, ¶ 6 are collectively referred to in this notice as 35 U.S.C. 112(f).

to prevent . . . pure functional claiming.' '' (citing *Aristocrat Techs. Australia Pty Ltd.* v. *Int'l Game Tech.,* 521 F.3d 1238, 1333 (Fed. Cir. 2008))); *Ariad Pharm., Inc.* v. *Eli Lilly and Co.,* 598 F.3d 1336, 1349 (Fed. Cir. 2010) (en banc) (discussing the problem of functional claims defining a genus that ''simply claim a desired result . . . without describing species that achieve that result''). In the context of another statutory requirement, 35 U.S.C. 101, the Federal Circuit has also criticized improper functional claiming. *Elec. Power Grp., LLC* v. *Alstom S.A.,* 830 F.3d 1350, 1351 (Fed. Cir. 2016) (observing that ''the claims do not go beyond requiring the collection, analysis, and display of available information in a particular field, stating those functions in general terms, without limiting them to technical means for performing the functions that are arguably an advance over conventional computer and network technology''); *see also Intellectual Ventures I LLC* v. *Symantec Corp.,* 838 F.3d 1307, 1327 (Fed. Cir. 2016) (Mayer, J., concurring) (stating, ''[s]oftware patents typically . . . describe, in intentionally vague and broad language, a particular goal or objective [of the software]''). Problems with functional claiming, *i.e.,* when a claim is purely functional in nature rather than reciting with any specificity how the claimed function is achieved, can be effectively addressed using long-standing, well-understood principles under 35 U.S.C. 112. Thus, the USPTO is providing further guidance on the application of 35 U.S.C. 112 requirements during examination.

Part I of this guidance focuses on claim interpretation under 35 U.S.C. 112(f) and compliance with the definiteness requirement of 35 U.S.C. 112(b), for example as discussed in the Federal Circuit decisions in *Williamson,* 792 F.3d 1339, and *Aristocrat,* 521 F.3d 1328. Part II of this guidance focuses on the requirements of 35 U.S.C. 112(a) relative to written description and enablement, for example as discussed in the Federal Circuit decision in *Vasudevan Software, Inc.* v. *MicroStrategy, Inc.,* 782 F.3d 671 (Fed. Cir. 2015). [2]

I. Review of Issues under 35 U.S.C. 112(f) and 112(b) Related to Examination of Computer-Implemented Functional Claim Limitations: In its en banc decision in the *Williamson* case, the Federal Circuit recognized that some of its prior opinions established a heightened bar to overcoming the presumption that a limitation expressed in functional language without using the word ''means'' is not subject to 35 U.S.C. 112(f) and concluded that such a heightened burden is unjustified. *Williamson,* 792 F.3d at 1349 (explaining that characterizing the presumption as strong ''has shifted the balance struck by Congress in passing [35 U.S.C. 112(f)] and has resulted in a proliferation of functional claiming untethered to [§ 112(f)] and free of the strictures set forth in the statute''). Instead,

> [t]he standard is whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure. When a claim term lacks the word ''means,'' the presumption [that 35 U.S.C. 112(f) does not apply] can be overcome and [§ 112(f)] will apply if the challenger demonstrates that the claim term fails to recite sufficiently definite structure or else recites function without reciting sufficient structure for performing that function. The converse presumption remains unaffected: use of the word ''means'' creates a presumption that § 112[f] applies.

Id. (internal citations and quotation marks omitted).

A. Claim Interpretation: One of the first steps in examining claims is determining the broadest reasonable interpretation (BRI) of the claim. In determining the BRI, examiners should establish the meaning of each claim term consistent with the specification as it would be interpreted by one of ordinary skill in the art, including identifying and construing functional claim limitations. If a claim limitation recites a term and associated functional language, the examiner should determine whether the claim limitation invokes 35 U.S.C. 112(f). Application of 35 U.S.C. 112(f) is driven by the claim language, not by applicant's intent or mere statements to the contrary included in the specification or made during prosecution. Examiners will apply 35 U.S.C. 112(f) to a claim limitation if it meets the 3-prong analysis set forth in the Manual of Patent Examining Procedure (9th ed. Rev. 08.2017, Jan. 2018) (referred to herein as ''MPEP''), § 2181, subsection I. At a high level, the 3-prong analysis includes evaluating whether: The claim limitation uses the term ''means'' (or ''step'') or a generic placeholder, the term is modified by functional language, and the term is not modified by sufficient structure, material or acts for performing the function.[3]

A claim limitation is presumed to invoke 35 U.S.C. 112(f) when it explicitly uses the term ''means'' and includes functional language. The presumption that 35 U.S.C. 112(f) applies is overcome when the limitation further includes the structure necessary to perform the recited function. *See* MPEP § 2181, subsection I. By contrast, a claim limitation that does not use the term ''means'' will trigger the presumption that 35 U.S.C. 112(f) does not apply. Even in the face of this presumption, the examiner should nonetheless consider whether the presumption is overcome.

The USPTO's examination practice regarding the presumption that 35 U.S.C. 112(f) does not apply to a claim limitation that does not use the term ''means'' is based on the Federal Circuit's standard set forth in *Williamson.* The presumption that 35 U.S.C. 112(f) does not apply is overcome when ''the claim term fails to 'recite sufficiently definite structure' or else recites 'function without reciting

[2] As is existing practice, examiners may also issue ''Requirements for Information'' pursuant to 37 CFR 1.105. This notice does not affect current practice regarding ''Requirements for Information,'' which remains a tool examiners can use to help resolve, among other things, issues regarding compliance with § 112 during examination. *See, e.g.,* MPEP 704.10–14. For example, an examiner may request information about written description support, continuation in part support, issues related to § 112(f), or enablement issues, among other things. *See, e.g.,* MPEP 704.11(a)(K), (R), (S)(2)–(3).

[3] The full text reads as follows: ''[E]xaminers will apply 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph to a claim limitation if it meets the following 3-prong analysis: (A) the claim limitation uses the term 'means' or 'step' or a term used as a substitute for 'means' that is a generic placeholder (also called a nonce term or a non-structural term having no specific structural meaning) for performing the claimed function; (B) the term 'means' or 'step' or the generic placeholder is modified by functional language, typically, but not always linked by the transition word 'for' (*e.g.,* 'means for') or another linking word or phrase, such as 'configured to' or 'so that'; and (C) the term 'means' or 'step' or the generic placeholder is not modified by sufficient structure, material, or acts for performing the claimed function.'' MPEP 2181, subsection I.

sufficient structure for performing that function.'" MPEP § 2181, subsection I (quoting *Williamson,* 792 F.3d at 1348). Instead of using ''means'' in such cases, a substitute term can act as a generic placeholder for the term ''means'' where that term would not be recognized by one of ordinary skill in the art as being sufficiently definite structure for performing the claimed function. The following are examples of non-structural generic placeholders that may invoke 35 U.S.C. 112(f): ''mechanism for,'' ''module for,'' ''device for,'' ''unit for,'' ''component for,'' ''element for,'' ''member for,'' ''apparatus for,'' ''machine for,'' or ''system for.'' *See, e.g.,* MPEP § 2181, subsection I.A; *Welker Bearing Co.,* v. *Ph.D., Inc.,* 550 F.3d 1090, 1096 (Fed. Cir. 2008); *Mass. Inst. of Tech.* v. *Abacus Software,* 462 F.3d 1344, 1354 (Fed. Cir. 2006); *Personalized Media Commc'ns, LLC* v. *Int'l Trade Comm'n,* 161 F.3d 696, 704 (Fed. Cir. 1998); *Mas-Hamilton Grp.* v. *LaGard, Inc.,* 156 F.3d 1206, 1214–15 (Fed. Cir. 1998). This list is not exhaustive, and similar generic placeholders may invoke 35 U.S.C. 112(f). Note that there is no fixed list of generic placeholders that always result in 35 U.S.C. 112(f) interpretation, and likewise there is no fixed list of words that always avoid 35 U.S.C. 112(f) interpretation. Every case will turn on its own unique set of facts.

Even when a claim limitation uses the term ''means'' or a generic placeholder for the term ''means,'' a limitation will not invoke 35 U.S.C. 112(f) if there is a structural modifier that further describes the term ''means'' or the generic placeholder. *Compare Greenberg* v. *Ethicon Endo-Surgery, Inc.,* 91 F.3d 1580, 1583 (Fed. Cir. 1996) (concluding that the term ''detent mechanism'' did not invoke pre-AIA 35 U.S.C. 112, sixth paragraph because the modifier ''detent'' denotes a type of structural device with a generally understood meaning in the mechanical arts), *with Mass. Inst. of Tech.,* 462 F.3d at 1354 (concluding that the term ''colorant selection mechanism'' did invoke pre-AIA 35 U.S.C. 112, sixth paragraph because the modifier ''colorant selection'' does not connote sufficient structure to a person of ordinary skill in the art). To determine whether a word, term, or phrase coupled with a function denotes structure, examiners should check whether: (1) The specification provides a description sufficient to inform one of ordinary skill in the art that the term denotes structure; (2) general and subject matter specific dictionaries provide evidence that the term has achieved recognition as a noun denoting structure; and (3) the prior art provides evidence that the term has an art-recognized structure to perform the claimed function. *See* MPEP § 2181, subsection I, for more guidance on generic placeholders.

At issue in *Williamson* was whether a ''distributed learning control module'' limitation in claims directed to a distributed learning system should be interpreted as a means-plus-function limitation. *See Williamson,* 792 F.3d at 1347. The Federal Circuit concluded that ''the 'distributed learning control module' limitation fails to recite sufficiently definite structure and that the presumption against means-plus-function claiming is rebutted.'' *Id.* at 1351. In support, the Federal Circuit determined that: ''the word 'module' does not provide any indication of structure because it sets forth the same black box recitation of structure for providing the same specified function as if the term 'means' had been used''; ''[t]he prefix 'distributed learning control' does not impart structure into the term 'module' ''; and ''the written description fails to impart any structural significance to the term.'' *Id.* at 1350–51.

In view of *Williamson,* examiners should apply the applicable presumption and the 3-prong analysis to interpret a computer-implemented functional claim limitation in accordance with 35 U.S.C. 112(f) as appropriate, including determining if the claim sets forth sufficient structure for performing the recited function. A determination that a claim is being interpreted according to 35 U.S.C. 112(f) should be expressly stated in the examiner's Office action. In response to the Office action, if applicant does not want to have the claim limitation interpreted under 35 U.S.C. 112(f), applicant may: (1) Present a sufficient showing to establish that the claim limitation recites sufficient structure to perform the claimed function so as to avoid interpretation under 35 U.S.C. 112(f); or (2) amend the claim limitation in a way that avoids interpretation under 35 U.S.C. 112(f) (*e.g.,* by reciting sufficient structure to perform the claimed function).

The BRI of a claim limitation that is subject to 35 U.S.C. 112(f), ''is the structure, material or act described in the specification as performing the entire claimed function and equivalents to the disclosed structure, material or act.'' MPEP § 2181. Thus, if the claim limitation is being interpreted under 35 U.S.C. 112(f), the specification must be consulted to determine the corresponding structure, material, or act for performing the claimed function. *See* MPEP § 2181, subsection I, for more guidance on interpreting claim limitations that are subject to 35 U.S.C. 112(f). Generally, the BRI given to a claim term that is not subject to 35 U.S.C. 112(f) is its plain meaning unless limited by a special definition or disavowal of claim scope set forth in the specification which must be clear and unmistakable (note that changing the plain meaning of a claim term by setting forth a special definition or disavowal of claim scope is uncommon). MPEP § 2111.01, subsections I, IV. The plain meaning is the ordinary and customary meaning given to the term by those of ordinary skill in the art at the time of the effective filing date, evidenced by, for example, the words of the claims themselves, the specification, drawings, and prior art. *Id. See,* MPEP 2111, *et. seq.,* for detailed guidance on the application of the BRI during examination.

B. Indefiniteness under 35 U.S.C. 112(b): For a computer-implemented 35 U.S.C. 112(f) claim limitation, the specification must disclose an algorithm for performing the claimed specific computer function, or else the claim is indefinite under 35 U.S.C. 112(b). *See Net MoneyIN, Inc.* v. *VeriSign, Inc.,* 545 F.3d 1359, 1367 (Fed. Cir. 2008). In cases ''involving a special purpose computer-implemented means-plus-function limitation, '[the Federal Circuit] has consistently required that the structure disclosed in the specification be more than simply a general purpose computer or microprocessor' and that the specification must disclose an algorithm for performing the claimed function.'' *Noah Sys., Inc.* v. *Intuit Inc.,* 675 F.3d 1302, 1312 (Fed. Cir. 2012) (quoting *Aristocrat,* 521 F.3d at 1333). Thus, the corresponding structure for performing the specific computer function is not simply a general purpose computer by itself but a special purpose computer as programmed to perform the disclosed algorithm. *In re Aoyama,* 656 F.3d 1293, 1297 (Fed. Cir. 2011) (''[W]hen the disclosed structure is a computer programmed to carry out an algorithm, 'the disclosed structure is not the general purpose computer, but rather that special purpose computer programmed to perform the disclosed algorithm.' '' (quoting *WMS Gaming, Inc.* v. *Int'l Game Tech.,* 184 F.3d 1339, 1349 (Fed. Cir. 1999))). An algorithm is defined, for example, as ''a finite sequence of steps for solving a logical or mathematical problem or performing a task.'' Microsoft Computer Dictionary (5th ed., 2002). Applicant may ''express that algorithm in any understandable

terms including as a mathematical formula, in prose, or as a flow chart, or in any other manner that provides sufficient structure.'' *Finisar Corp.* v. *DirecTV Grp., Inc.,* 523 F.3d 1323, 1340 (Fed. Cir. 2008) (internal citation omitted).

Special purpose computer-implemented 35 U.S.C. 112(f) claim limitations will be indefinite under 35 U.S.C. 112(b) when the specification fails to disclose an algorithm to perform the claimed function. For example, in *Advanced Ground Information Systems, Inc.* v. *Life360, Inc.,* 830 F.3d 1341 (Fed. Cir. 2016), the Federal Circuit determined that the term ''symbol generator'' is a computer-implemented means-plus-function limitation and that ''[t]he specifications of the patents-in-suit do not disclose an operative algorithm for the claim elements reciting 'symbol generator.' '' *Id.* at 1348–49. The Federal Circuit upheld the district court's determination that the term ''symbol generator'' is indefinite, observing that ''although the district court recognized that the specification describes, in general terms, that symbols are generated based on the latitude and longitude of the participants, it nonetheless determined that the specification fails to disclose an algorithm or description as to how those symbols are actually generated.'' *Id.* at 1349 (internal quotation marks and alterations omitted). *See also, Blackboard, Inc.* v. *Desire2Learn, Inc.,* 574 F.3d 1371, 1382–83 (Fed. Cir. 2009) (concluding that the description of a server computer's ''access control manager'' software feature was insufficient disclosure of corresponding structure to support the computer-implemented ''means for assigning'' limitation because ''what the patent calls the 'access control manager' is simply an abstraction that describes the function of controlling access to course materials . . . [b]ut how it does so is left undisclosed.''); *Aristocrat,* 521 F.3d at 1334–35 (explaining that ''the [patent's] description of the embodiments is simply a description of the outcome of the claimed functions, not a description of the structure, *i.e.,* the computer programmed to execute a particular algorithm'').

Moreover, the requirement for the disclosure of an algorithm cannot be avoided by arguing that one of ordinary skill in the art is capable of writing software to convert a general purpose computer to a special purpose computer to perform the claimed function. *See EON Corp. IP Holdings LLC* v. *AT&T Mobility LLC,* 785 F.3d 616, 623 (Fed. Cir. 2015) (disagreeing ''that a microprocessor can serve as sufficient structure for a software function if a person of ordinary skill in the art could implement the software function[,]'' noting that ''we have repeatedly and unequivocally rejected this argument: a person of ordinary skill in the art plays no role whatsoever in determining whether an algorithm must be disclosed as structure for a functional claim element''); *Blackboard,* 574 F.3d at 1385 (explaining that ''[t]he fact that an ordinarily skilled artisan might be able to design a program to create an access control list based on the system users' predetermined roles goes to enablement[,]'' whereas ''[t]he question before us is whether the specification contains a sufficiently precise description of the 'corresponding structure' to satisfy [pre-AIA] section 112, paragraph 6, not whether a person of skill in the art could devise some means to carry out the recited function'').

Special purpose computer-implemented 35 U.S.C. 112(f) claim limitations are also indefinite under 35 U.S.C. 112(b) when the specification discloses an algorithm but the algorithm is not sufficient to perform the entire claimed function(s). *See Noah,* 675 F.3d at 1319 (holding that ''[c]omputer-implemented means-plus-function claims are indefinite unless the specification discloses an algorithm to perform the function associated with the limitation[,]'' and that ''[w]hen the specification discloses an algorithm that only accomplishes one of multiple identifiable functions performed by a means-plus-function limitation, the specification is treated as if it disclosed no algorithm.''). The sufficiency of the algorithm is determined in view of what one of ordinary skill in the art would understand as sufficient to define the structure and make the boundaries of the claim understandable. For example, in *Williamson,* the Federal Circuit found that the term ''distributed learning control module'' is a means-plus-function limitation that performs three specialized functions (*i.e.,* ''receiving,'', ''relaying,'' and ''coordinating''), which ''must be implemented in a special purpose computer.'' *Williamson,* 792 F.3d at 1351–52. The Federal Circuit explained that ''[w]here there are multiple claimed functions, as we have here, the [specification] must disclose adequate corresponding structure to perform all of the claimed functions.'' *Id.* Yet the Federal Circuit determined that the specification ''fails to disclose any structure corresponding to the 'coordinating' function.'' *Id.* at 1354. Specifically, the Federal Circuit found no ''disclosure of an algorithm corresponding to the claimed 'coordinating' function,'' concluding that the figures in the specification relied upon by patentee as disclosing the required algorithm, instead describe ''a presenter display interface'' and not an algorithm corresponding to the claimed ''coordinating'' function. *Id.* at 1353–54. Accordingly, the Federal Circuit affirmed the district court's judgment that claims containing the ''distributed learning control module'' limitation are invalid for indefiniteness under 35 U.S.C. 112(b). *Id.* at 1354.

Similarly, in *Media Rights Technologies, Inc.* v. *Capital One Financial Corp.,* 800 F.3d 1366, 1374 (Fed. Cir. 2015), the Federal Circuit determined that the term ''compliance mechanism'' is a means-plus-function limitation that performs four computer-implemented functions (*i.e.,* ''controlling data output by diverting a data pathway; monitoring the controlled data pathway; managing an output path by diverting a data pathway; and stopping the play of media content''). The Federal Circuit determined ''that the specification fails to adequately disclose the structure to perform all four of [the 'compliance mechanism's'] functions'' and affirmed the district court's decision that the ''compliance mechanism'' limitation is indefinite. *Id.* at 1375. Specifically, the Federal Circuit found that ''the specification fails to disclose an operative algorithm for both the 'controlling data output' and 'managing output path' functions[,]'' which ''both require diverting a data pathway[,]'' because the recited C++ source code in the specification ''only returns various error messages'' and ''does not, accordingly, explain how to perform the diverting function[.]'' *Id.* at 1374–75. ''Additionally, the specification does not disclose sufficient structure for the 'monitoring' function[,]'' because the disclosed ''set of rules . . . which the 'copyright compliance mechanism' applies to monitor the data pathway to ensure there is no unauthorized recording of electronic media . . . provides no detail about the rules themselves or how the 'copyright compliance mechanism' determines whether the rules are being enforced.'' *Id.* at 1375. *See* MPEP § 2181, subsection II(B), for additional guidance on evaluating description necessary to support computer-implemented 35 U.S.C. 112(f) claim limitations.

A computer-implemented functional claim may also be indefinite when the 3-prong analysis for determining whether the claim limitation should be interpreted under 35 U.S.C. 112(f) is inconclusive because of ambiguous words in the claim. After taking into

consideration the language in the claims, the specification, and how those of ordinary skill in the art would understand the language in the claims in light of the disclosure, the examiner should make a determination regarding whether the words in the claim recite sufficiently definite structure that performs the claimed function. If the applicant disagrees with the examiner's interpretation of the claim limitation, the applicant has the opportunity during the application process to present arguments, and amend the claim if needed, to clarify whether § 112(f) applies.

When a claim containing a computer-implemented 35 U.S.C. 112(f) claim limitation is found to be indefinite under 35 U.S.C. 112(b) for failure to disclose sufficient corresponding structure (*e.g.,* the computer and the algorithm) in the specification that performs the entire claimed function, it will also lack written description under 35 U.S.C. 112(a). *See* MPEP § 2163.03, subsection VI. Examiners should further consider whether the disclosure contains sufficient information regarding the subject matter of the claims as to enable one skilled in the pertinent art to make and use the full scope of the claimed invention in compliance with the enablement requirement of 35 U.S.C. 112(a). *See* MPEP § 2161.01, subsection III and MPEP § 2164.08.

II. Review of Issues under 35 U.S.C. 112(a) Related to Examination of Computer-Implemented Functional Claim Limitations: Even if a claim is not construed as a means-plus-function limitation under 35 U.S.C. 112(f), computer-implemented functional claim language must still be evaluated for sufficient disclosure under the written description and enablement requirements of 35 U.S.C. 112(a). As explained in further detail below, a specification must describe the claimed invention in sufficient detail (*e.g.,* by disclosure of an algorithm) to establish that the applicant had possession of the claimed invention as of the application filing date. Additionally, any analysis of whether a particular claim is supported by the disclosure in an application requires a determination of whether that disclosure, when filed, contained sufficient information regarding the subject matter of the claims as to enable one skilled in the pertinent art to make and use the claimed invention. This enablement requirement of 35 U.S.C. 112(a) is separate and distinct from the written description requirement, *Ariad,* 598 F.3d at 1341, and serves the purpose of ''ensur[ing] that the invention is communicated to the interested public in a meaningful way,'' MPEP § 2164.

A. Written Description Requirement of 35 U.S.C. 112(a): At issue in *Vasudevan* was whether the patent specification provided sufficient written description support for a limitation of the asserted claims. *Vasudevan,* 782 F.3d at 681–83. The Federal Circuit explained that ''[t]he test for the sufficiency of the written description 'is whether the disclosure of the application relied upon reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date.' '' *Id.* at 682 (quoting *Ariad,* 598 F.3d at 1351). The Federal Circuit emphasized that ''[t]he written description requirement is not met if the specification merely describes a 'desired result.' '' *Vasudevan,* 782 F.3d at 682 (quoting *Ariad,* 598 F.3d at 1349). Thus, in applying this standard to the computer-implemented functional claim at issue, the Federal Circuit stated that ''[t]he more telling question is whether the specification shows possession by the inventor of how [the claimed function] is achieved.'' *Vasudevan,* 782 F.3d at 683.

In order to satisfy the written description requirement set forth in 35 U.S.C. 112(a), the specification must describe the claimed invention in sufficient detail such that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention at the time of filing. For instance, the specification must provide a sufficient description of an invention, not an indication of a result that one might achieve. The level of detail required to satisfy the written description requirement varies depending on the nature and scope of the claims and on the complexity and predictability of the relevant technology. Information that is well known in the art need not be described in detail in the specification. However, sufficient information must be provided to show that the inventor had possession of the invention as claimed. *See* MPEP § 2163, subsection II(A)(2).

The analysis of whether the specification complies with the written description requirement calls for the examiner to compare the scope of the claim with the scope of the description to determine whether applicant has demonstrated possession of the claimed invention. *Id.; see also Reiffin* v. *Microsoft Corp.,* 214 F.3d 1342, 1345 (Fed. Cir. 2000) (''The purpose of [the written description requirement] is to ensure that the scope of the right to exclude, as set forth in the claims, does not overreach the scope of the inventor's contribution to the field of art as described in the patent specification''); *LizardTech Inc.* v. *Earth Resource Mapping Inc.,* 424 F.3d 1336, 1345 (Fed. Cir. 2005) (''Whether the flaw in the specification is regarded as a failure to demonstrate that the applicant possessed the full scope of the invention recited in [the claim] or a failure to enable the full breadth of that claim, the specification provides inadequate support for the claim under [§ 112(a)]''); *cf. id.* (''A claim will not be invalidated on [§] 112 grounds simply because the embodiments of the specification do not contain examples explicitly covering the full scope of the claim language.''). While ''[t]here is no special rule for supporting a genus by the disclosure of a species,'' the Federal Circuit has stated that ''[w]hether the genus is supported *vel non* depends upon the state of the art and the nature and breadth of the genus.'' *Hynix Semiconductor Inc.* v. *Rambus Inc.,* 645 F.3d 1336, 1352 (Fed. Cir. 2011); *id.* (further explaining that ''so long as disclosure of the species is sufficient to convey to one skilled in the art that the inventor possessed the subject matter of the genus, the genus will be supported by an adequate written description.''). *See also Rivera* v. *Int'l Trade Comm'n,* 857 F.3d 1315, 1319–21 (Fed. Cir. 2017) (affirming the Commission's findings that ''the specification did not provide the necessary written description support for the full breadth of the asserted claims,'' where the claims were broadly drawn to a ''container . . . adapted to hold brewing material'' while the specification disclosed only a ''pod adapter assembly'' or ''receptacle'' designed to hold a ''pod'').

Computer-implemented inventions are at times disclosed and claimed in terms of their functionality. For computer-implemented functional claims, the determination of the sufficiency of the disclosure will require an inquiry into the sufficiency of both the disclosed hardware and the disclosed software (*i.e.,* ''how [the claimed function] is achieved,'' *Vasudevan,* 782 F.3d at 683), due to the interrelationship and interdependence of computer hardware and software. When examining computer-implemented, software-related claims, examiners should determine whether the specification discloses the computer and the algorithm(s) that achieve the claimed function in sufficient detail that one of ordinary skill in the art can reasonably conclude that the inventor possessed the claimed subject matter at the time of filing. An algorithm is defined, for example, as ''a finite sequence of steps for solving a logical or

mathematical problem or performing a task.'' Microsoft Computer Dictionary (5th ed., 2002). Applicant may ''express that algorithm in any understandable terms including as a mathematical formula, in prose, or as a flow chart, or in any other manner that provides sufficient structure.'' *Finisar,* 523 F.3d at 1340 (internal citation omitted). It is not enough that one skilled in the art could theoretically write a program to achieve the claimed function, rather the specification itself must explain how the claimed function is achieved to demonstrate that the applicant had possession of it. *See, e.g., Vasudevan,* 782 F.3d at 682–83. If the specification does not provide a disclosure of the computer and algorithm(s) in sufficient detail to demonstrate to one of ordinary skill in the art that the inventor possessed the invention that achieves the claimed result, a rejection under 35 U.S.C. 112(a) for lack of written description must be made. *See* MPEP § 2161.01, subsection I.

For example, in *Vasudevan,* the Federal Circuit evaluated ''whether the specification shows possession by the inventor of how accessing disparate databases is achieved.'' *Vasudevan,* 782 F.3d at 683. The defendant in district court argued that ''the specification does not show that the inventor had possession of the ability to access 'disparate databases' '' because ''the specification describes a result, but does not show how to achieve the result.'' *Id.* at 682. On appeal, however, the Federal Circuit found that expert testimony given in the district court raises ''a genuine issue of material fact on whether the specification shows how to achieve the functionality of accessing disparate databases.'' *Id.* at 683. The expert had opined that specific portions of the specification explain ''that serialized files can be used to correlate parameters from two databases,'' and that ''those correlation parameters can be used to identify data in one database that is correlated to data in another.'' *Id.* The Federal Circuit ruled that this expert opinion raises a genuine issue of fact as to whether the inventor has possession of an invention that achieved the claimed result. *Id.* MPEP § 2161.01, subsection I and MPEP § 2163 contain additional information on determining whether there is adequate written description support for computer-implemented functional claim limitations.

B. Enablement Requirement of 35 U.S.C. 112(a): At issue in *Vasudevan* was also whether the patent specification enabled a person of skill in the art to make and use the claimed invention. *Vasudevan,* 782 F.3d at 683–85. The Federal Circuit explained that ''[a] claim is sufficiently enabled even if 'a considerable amount of experimentation' is necessary, so long as the experimentation 'is merely routine, or if the specification in question provides a reasonable amount of guidance with respect to the direction in which the experimentation should proceed.' '' *Id.* at 684 (quoting *In re Wands,* 858 F.2d 731, 737 (Fed. Cir. 1988)). ''On the other hand, if 'undue experimentation' is needed, the claims are invalid.'' *Id.* ''In determining whether experimentation is undue, *Wands* lists a number of factors to consider: 'They include (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims.' '' *Id.*

To satisfy the enablement requirement of 35 U.S.C. 112(a), the specification must teach those skilled in the art how to make and use the full scope of the claimed invention without undue experimentation. All questions of enablement under 35 U.S.C. 112(a) are evaluated against the claimed subject matter with the focus of the examination inquiry being whether everything within the scope of the claim is enabled. Accordingly, examiners should determine what each claim recites and what subject matter is encompassed by the claim when the claim is considered as a whole, not when its parts are analyzed individually. *See* MPEP § 2161.01, subsection III, and MPEP § 2164.08.

Not everything necessary to practice the invention need be disclosed. *Trs. of Bos. Univ.* v. *Everlight Elecs. Co., LTD.,* 896 F.3d 1357, 1364 (Fed. Cir. 2018) (explaining that while ''the specification must enable the full scope of the claimed invention[,]'' ''[t]his is not to say that the specification must expressly spell out every possible iteration of every claim.''). For instance, '' 'a specification need not disclose what is well known in the art.' '' *Id.* (quoting *Genentech, Inc.* v. *Novo Nordisk A/S,* 108 F.3d 1361, 1366 (Fed. Cir. 1997)); *see also AK Steel Corp.* v. *Sollac & Ugine,* 344 F.3d 1234, 1244 (Fed. Cir. 2003). This is of particular importance with respect to computer-implemented inventions due to the high level of skill in the art and the similarly high level of predictability in generating programs to achieve an intended result without undue experimentation. However, applicant cannot rely on the knowledge of one skilled in the art to supply information that is required to enable the novel aspect of the claimed invention when the enabling knowledge is in fact not known in the art. *See* MPEP § 2161.01, subsection III, and MPEP § 2164.08.

The Federal Circuit has repeatedly held that the specification must teach those skilled in the art how to make and use the full scope of the claimed invention without undue experimentation. *See Trs. of Bos. Univ.,* 896 F.3d at 1364 (" 'The scope of enablement . . . is that which is disclosed in the specification plus the scope of what would be known to one of ordinary skill in the art without undue experimentation.' '' (quoting *Nat'l Recovery Techs., Inc.* v. *Magnetic Separation Sys., Inc.,* 166 F.3d 1190, 1196 (Fed. Cir. 1999))). For example, in *Sitrick* v. *Dreamworks, LLC,* 516 F.3d 993 (Fed. Cir. 2008), the claims at issue were directed to ''integrating'' or ''substituting'' a user's audio signal or visual image into a pre-existing video game or movie. *Id.* at 995–97. While the claims covered both video games and movies, the specification only taught the skilled artisan how to substitute and integrate user images into video games. *Id.* at 1000. The Federal Circuit held that the specification ''did not enable the full scope of the asserted claims'' because ''one skilled in the art could not take the disclosure in the specification with respect to substitution or integration of user images in video games and substitute a user image for a pre-existing character image in movies without undue experimentation.'' *Id.*

With respect to the breadth of a claim, the relevant concern is whether the scope of enablement provided to one skilled in the art by the disclosure is commensurate with the scope of protection sought by the claims. In making this determination, examiners should consider (1) how broad the claim is with respect to the disclosure and (2) whether one skilled in the art could make and use the entire scope of the claimed invention without undue experimentation. *See* MPEP § 2161.01, subsection III, and MPEP § 2164.08. A rejection for lack of enablement must be made when the specification does not enable the full scope of the claim. For more information regarding the enablement requirement, see MPEP §§ 2164.01 through 2164.08.

Dated: December 20, 2018.

Andrei Iancu,

Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office.

[FR Doc. 2018–28283 Filed 1–4–19; 8:45 am]

BILLING CODE 3510–16–P

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Docket No. ER19–665–000]

Supplemental Notice That Initial Market-Based Rate Filing Includes Request for Blanket Section 204 Authorization: FirstLight CT Housatonic LLC

This is a supplemental notice in the above-referenced proceeding of FirstLight CT Housatonic LLC's application for market-based rate authority, with an accompanying rate tariff, noting that such application includes a request for blanket authorization, under 18 CFR part 34, of future issuances of securities and assumptions of liability.

Any person desiring to intervene or to protest should file with the Federal Energy Regulatory Commission, 888 First Street NE, Washington, DC 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211 and 385.214). Anyone filing a motion to intervene or protest must serve a copy of that document on the Applicant.

Notice is hereby given that the deadline for filing protests with regard to the applicant's request for blanket authorization, under 18 CFR part 34, of future issuances of securities and assumptions of liability, is January 15, 2019.

The Commission encourages electronic submission of protests and interventions in lieu of paper, using the FERC Online links at *http://www.ferc.gov.* To facilitate electronic service, persons with internet access who will eFile a document and/or be listed as a contact for an intervenor must create and validate an eRegistration account using the eRegistration link. Select the eFiling link to log on and submit the intervention or protests.

Persons unable to file electronically should submit an original and 5 copies of the intervention or protest to the Federal Energy Regulatory Commission, 888 First Street NE, Washington, DC 20426.

The filings in the above-referenced proceeding are accessible in the Commission's eLibrary system by clicking on the appropriate link in the above list. They are also available for electronic review in the Commission's Public Reference Room in Washington, DC. There is an eSubscription link on the website that enables subscribers to receive email notification when a document is added to a subscribed docket(s). For assistance with any FERC Online service, please email *FERCOnlineSupport@ferc.gov.* or call (866) 208–3676 (toll free). For TTY, call (202) 502–8659.

Dated: December 26, 2018.

Nathaniel J. Davis, Sr.,

Deputy Secretary.

[FR Doc. 2018–28482 Filed 1–4–19; 8:45 am]

BILLING CODE 6717–01–P

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Docket No. ER19–667–000]

Supplemental Notice That Initial Market-Based Rate Filing Includes Request for Blanket Section 204 Authorization: FirstLight MA Hydro LLC

This is a supplemental notice in the above-referenced proceeding of FirstLight MA Hydro LLC's application for market-based rate authority, with an accompanying rate tariff, noting that such application includes a request for blanket authorization, under 18 CFR part 34, of future issuances of securities and assumptions of liability.

Any person desiring to intervene or to protest should file with the Federal Energy Regulatory Commission, 888 First Street, NE, Washington, DC 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211 and 385.214). Anyone filing a motion to intervene or protest must serve a copy of that document on the Applicant.

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Dated: December 26, 2018.

Nathaniel J. Davis, Sr.,

Deputy Secretary.

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BILLING CODE 6717–01–P

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Docket No. ER19–666–000]

Supplemental Notice That Initial Market-Based Rate Filing Includes Request for Blanket Section 204 Authorization: FirstLight CT Hydro LLC

This is a supplemental notice in the above-referenced proceeding of FirstLight CT Hydro LLC's application for market-based rate authority, with an accompanying rate tariff, noting that such application includes a request for blanket authorization, under 18 CFR part 34, of future issuances of securities and assumptions of liability.

Any person desiring to intervene or to protest should file with the Federal Energy Regulatory Commission, 888 First Street NE, Washington, DC 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211 and 385.214). Anyone filing a motion to intervene or protest must serve a copy of that document on the Applicant.

Notice is hereby given that the deadline for filing protests with regard to the applicant's request for blanket authorization, under 18 CFR part 34, of future issuances of securities and

assumptions of liability, is January 15, 2019.

The Commission encourages electronic submission of protests and interventions in lieu of paper, using the FERC Online links at *http://www.ferc.gov.* To facilitate electronic service, persons with internet access who will eFile a document and/or be listed as a contact for an intervenor must create and validate an eRegistration account using the eRegistration link. Select the eFiling link to log on and submit the intervention or protests.

Persons unable to file electronically should submit an original and 5 copies of the intervention or protest to the Federal Energy Regulatory Commission, 888 First Street NE, Washington, DC 20426.

The filings in the above-referenced proceeding are accessible in the Commission's eLibrary system by clicking on the appropriate link in the above list. They are also available for electronic review in the Commission's Public Reference Room in Washington, DC. There is an eSubscription link on the website that enables subscribers to receive email notification when a document is added to a subscribed docket(s). For assistance with any FERC Online service, please email *FERCOnlineSupport@ferc.gov,* or call (866) 208–3676 (toll free). For TTY, call (202) 502–8659.

Dated: December 26, 2018.

Nathaniel J. Davis, Sr.,

Deputy Secretary.

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BILLING CODE 6717–01–P

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Docket No. ER19–680–000]

Supplemental Notice That Initial Market-Based Rate Filing Includes Request for Blanket Section 204 Authorization: CS Berlin Ops, Inc.

This is a supplemental notice in the above-referenced proceeding of CS Berlin Ops, Inc.'s application for market-based rate authority, with an accompanying rate tariff, noting that such application includes a request for blanket authorization, under 18 CFR part 34, of future issuances of securities and assumptions of liability.

Any person desiring to intervene or to protest should file with the Federal Energy Regulatory Commission, 888 First Street NE, Washington, DC 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211 and 385.214). Anyone filing a motion to intervene or protest must serve a copy of that document on the Applicant.

Notice is hereby given that the deadline for filing protests with regard to the applicant's request for blanket authorization, under 18 CFR part 34, of future issuances of securities and assumptions of liability, is January 15, 2019.

The Commission encourages electronic submission of protests and interventions in lieu of paper, using the FERC Online links at *http://www.ferc.gov.* To facilitate electronic service, persons with internet access who will eFile a document and/or be listed as a contact for an intervenor must create and validate an eRegistration account using the eRegistration link. Select the eFiling link to log on and submit the intervention or protests.

Persons unable to file electronically should submit an original and 5 copies of the intervention or protest to the Federal Energy Regulatory Commission, 888 First Street NE, Washington, DC 20426.

The filings in the above-referenced proceeding are accessible in the Commission's eLibrary system by clicking on the appropriate link in the above list. They are also available for electronic review in the Commission's Public Reference Room in Washington, DC. There is an eSubscription link on the website that enables subscribers to receive email notification when a document is added to a subscribed docket(s). For assistance with any FERC Online service, please email *FERCOnlineSupport@ferc.gov* or call (866) 208–3676 (toll free). For TTY, call (202) 502–8659.

Dated: December 26, 2018.

Nathaniel J. Davis, Sr.,

Deputy Secretary.

[FR Doc. 2018–28475 Filed 1–4–19; 8:45 am]

BILLING CODE 6717–01–P

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Docket No. ER19–669–000]

Supplemental Notice That Initial Market-Based Rate Filing Includes Request for Blanket Section 204 Authorization; Northfield Mountain LLC

This is a supplemental notice in the above-referenced proceeding of Northfield Mountain LLC's application for market-based rate authority, with an accompanying rate tariff, noting that such application includes a request for blanket authorization, under 18 CFR part 34, of future issuances of securities and assumptions of liability.

Any person desiring to intervene or to protest should file with the Federal Energy Regulatory Commission, 888 First Street NE, Washington, DC 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211 and 385.214). Anyone filing a motion to intervene or protest must serve a copy of that document on the Applicant.

Notice is hereby given that the deadline for filing protests with regard to the applicant's request for blanket authorization, under 18 CFR part 34, of future issuances of securities and assumptions of liability, is January 15, 2019.

The Commission encourages electronic submission of protests and interventions in lieu of paper, using the FERC Online links at *http://www.ferc.gov.* To facilitate electronic service, persons with internet access who will eFile a document and/or be listed as a contact for an intervenor must create and validate an eRegistration account using the eRegistration link. Select the eFiling link to log on and submit the intervention or protests.

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Dated: December 26, 2018.

Nathaniel J. Davis, Sr.,

Deputy Secretary.

[FR Doc. 2018–28474 Filed 1–4–19; 8:45 am]

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