APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/111,635	05/19/2011	Devaprasad K. Nadgir	IN920110043US1	5901

58139	7590	09/21/2020

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ART UNIT	PAPER NUMBER
2165	

NOTIFICATION DATE	DELIVERY MODE
09/21/2020	ELECTRONIC

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PTOL-90A (Rev. 04/07)

UNITED STATES PATENT AND TRADEMARK OFFICE
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BEFORE THE PATENT TRIAL AND APPEAL BOARD
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Ex parte DEVAPRASAD K. NADGIR and
VIJAY C. TELUKAPALLI
_____

Appeal 2019-001485
Application 13/111,635
Technology Center 2100
_____

Before BRADLEY W. BAUMEISTER, JON M. JURGOVAN, and KARA
L. SZPONDOWSKI, *Administrative Patent Judges*.

BAUMEISTER, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 8–21, which constitute all of the pending claims.[1] Appeal Br. 4–24. These claims stand rejected under 35 U.S.C. § 101 as being directed to a judicial exception to patent-eligible subject matter without significantly more. Final Action mailed March 30, 2018 ("Final Act."), 3–7. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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[1] We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as International Business Machines Corporation. Appeal Brief filed July 13, 2018 ("Appeal Br."), 1.

CLAIMED SUBJECT MATTER

Appellant's Specification describes the present invention as follows:

> A method, system and computer program product for graphically displaying lifecycle information of a governed object in a service registry in combination with the policies associated with the lifecycle states. Properties (e.g., object type, current lifecycle state) are retrieved for a governed object. Additionally, lifecycle definitions for the current lifecycle state and one or more potential future lifecycle states associated with the governed object are retrieved. Furthermore, policy definitions that apply to the object type, the current lifecycle state and one or more potential future lifecycle states are retrieved. A table is then built that correlates the retrieved lifecycle definitions with the retrieved policy definitions. A graphical representation is generated detailing the current lifecycle state, transitions to the one or more potential future lifecycle states and the policy definitions that apply to each transition for the governed object based on the built table.

Abstract.

Appellant further explains on appeal,

> the claimed invention improves the processing efficiency of computing systems utilizing the service-oriented architecture by building a table that correlates the lifecycle definitions for the current lifecycle state and one or more potential lifecycle states with the policy definitions. As a result, a graphical representation may be generated that details the lifecycle states, including the next possible transitions and the policies that apply at each transition.

Appeal Br. 6.

Independent claim 8 illustrates the subject matter of the appealed claims.[2] We reproduce claim 8 with paragraph numbering added for clarity and emphasis added to the claim language that recites an abstract idea:

> 8. A computer program product embodied in a non-transitory computer readable storage medium for graphically displaying lifecycle information of a governed object in combination with policies associated with lifecycle states, the computer program product comprising the programming instructions for:
>
> [(a)] retrieving properties of said governed object from an object model of a configuration profile of a service registry container and from a governed objects module of said service registry container, wherein said properties comprise an object type and a current lifecycle state, wherein said object model stores information relating to properties of objects, wherein said governed objects module stores properties of objects in said service registry container that are governed;
>
> [(b)] retrieving lifecycle definitions from a lifecycle definitions module of said configuration profile of said service registry container for said current lifecycle state and one or more potential future lifecycle states associated with said governed object, wherein said lifecycle definitions module stores various states an object can transition through its life;
>
> [(c)] retrieving policy definitions from a policy definitions module of said configuration profile of said service registry container that apply to said object type, said current lifecycle state and said one or more potential future lifecycle states, wherein said policy definitions module stores policies or rules that are applied to objects;

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[2] Appellant argues various claims together as a group. Appeal Br. 4–11. We select independent claim 1 as representative of those claims that are not argued separately. *See* 37 C.F.R. § 41.37(c)(1)(iv) ("When multiple claims subject to the same ground of rejection are argued as a group or subgroup by appellant, the Board may select a single claim from the group or subgroup and may decide the appeal as to the ground of rejection with respect to the group or subgroup on the basis of the selected claim alone.").

[(d)] *building a table correlating said lifecycle definitions for said current lifecycle state and said one or more potential future lifecycle states with said policy definitions thereby determining relationships between lifecycle transitions and policy definitions*; and

[(e)] generating, by utilizing a governance lifecycle view adapter of said service registry container, a graphical representation detailing said current lifecycle state, transitions to said one or more potential future lifecycle states and said policy definitions that apply to each transition for said governed object using said table, wherein said graphical representation is accessible by a client application of an end user via an application programming interface.

THE EXAMINER'S DETERMINATIONS

The Examiner determines that claim 8 "describe[s] the concept of retrieving information of a specific content, analyzing the retrieved information, and displaying the result of the analysis, which corresponds to concepts identified as abstract ideas by the courts." Final Act. 4 (citing *Electric Power Group, LLC v. Alstom S.A.*, 830 F.3d 1350 (Fed. Cir. 2016)).

The Examiner further determines that "[claim 8] does not include additional elements that are sufficient to amount to significantly more than the judicial exception because the additional elements[,] when considered both individually and as an ordered combination[,] do not amount to significantly more than the abstract idea." Final Act. 5. According to the Examiner, the additional limitations of "a non-transitory computer readable storage medium," "a client application," and "assorted 'module[s]'" "are recited at a high level of generality and are recited as performing generic

computer functions routinely used in computer applications." *Id.* (alteration in original).

Appellant presents various arguments, which we address in the Analysis section, below. In so doing, the Board conducts a limited *de novo* review of the appealed rejections for error based upon the issues identified by Appellant, and in light of the arguments and evidence produced thereon. *Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential).

PRINCIPLES OF LAW

A. SECTION 101

Inventions for a "new and useful process, machine, manufacture, or composition of matter" generally constitute patent-eligible subject matter. 35 U.S.C. § 101. However, the U.S. Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: "[l]aws of nature, natural phenomena, and abstract ideas" are not patentable. *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014).

In determining whether a claim falls within an excluded category, we are guided by the Court's two-step framework, described in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66 (2012), and *Alice*, 573 U.S. at 217–18 (citing *Mayo*, 566 U.S. at 75–77). In accordance with that framework, we first determine what concept the claim is "directed to." *See Alice*, 573 U.S. at 219 ("On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.,* the use of a third party to mitigate settlement risk."); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) ("Claims 1 and 4 in petitioners' application explain the basic concept of hedging, or protecting against risk.").

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as "molding rubber products" (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); "tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores" (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1853))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

If the claim is "directed to" an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, where "we must examine the elements of the claim to determine whether it contains an 'inventive concept' sufficient to 'transform' the claimed abstract idea into a patent-eligible application." *Alice*, 573 U.S. at 221 (internal quotation marks omitted). "A claim that recites an abstract idea must include 'additional features' to ensure 'that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].'" *Id.* (alterations in original) (quoting *Mayo*, 566 U.S. at 77). "[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention." *Id.*

B. USPTO SECTION 101 GUIDANCE

In January 2019, the U.S. Patent and Trademark Office ("USPTO") published revised guidance on the application of 35 U.S.C. § 101. 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) ("2019 Guidance"), *updated by* USPTO, *October 2019*

Update: Subject Matter Eligibility (available at https://www.uspto.gov/sites/
default/files/documents/peg_oct_2019_update.pdf) ("October 2019
Guidance Update"); *see also* October 2019 Patent Eligibility Guidance
Update, 84 Fed. Reg. 55942 (Oct. 18, 2019) (notifying the public of the
availability of the October 2019 Guidance Update). "All USPTO personnel
are, as a matter of internal agency management, expected to follow the
guidance." 2019 Guidance, 84 Fed. Reg. at 51; *see also* October 2019
Guidance Update at 1.

Under the 2019 Guidance, we first look to whether the claim recites
the following:

> (1) any judicial exceptions, including certain groupings of abstract
> ideas (i.e., mathematical concepts, certain methods of organizing
> human activities such as a fundamental economic practice, or mental
> processes); and
>
> (2) additional elements that integrate the judicial exception into a
> practical application (*see* MPEP §§ 2106.05(a)–(c), (e)–(h)).

2019 Guidance, 84 Fed. Reg. at 52–55.

Only if a claim (1) recites a judicial exception and (2) does not
integrate that exception into a practical application, do we then look to
whether the claim:

> (3) adds a specific limitation beyond the judicial exception that is not
> "well-understood, routine, [and] conventional" in the field (*see* MPEP
> § 2106.05(d)); or

(4) simply appends well-understood, routine, conventional activities

previously known to the industry, specified at a high level of

generality, to the judicial exception.

2019 Guidance, 84 Fed. Reg. at 56.

ANALYSIS

Step 2A, Prong 1

Under step 2A, prong 1, of the 2019 Guidance, we first look to whether the claim recites any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activities such as a fundamental economic practice, or mental processes). 84 Fed. Reg. at 52–54.

Limitation (d) recites "building a table correlating said lifecycle definitions for said current lifecycle state and said one or more potential future lifecycle states with said policy definitions thereby determining relationships between lifecycle transitions and policy definitions." Building a correlation table, as claimed, can be performed by a human creating a table of observed correlations between lifecycle states. As such, limitation (d) recites an evaluation or judgment that can be performed in the human mind, possibly with the aid of pencil and paper.

The 2019 Guidance expressly recognizes mental processes, such as evaluations and judgments that can be performed in the human mind, as constituting patent-ineligible abstract ideas. 2019 Guidance, 84 Fed. Reg. at 52. The "mental processes" judicial exception also includes concepts that can be performed by a human with a pen and paper as well as those that can be performed entirely in the mind. *See* October 2019 PEG Update at 9

("A claim that encompasses a human performing the step(s) mentally with the aid of a pen and paper recites a mental process") (emphasis omitted).

For these reasons, limitation (d) recites a judicial exception to patent-eligible subject matter (an abstract idea) under step 2A, prong 1, of the 2019 Guidance.

Step 2A, Prong 2

Under step 2A, prong 2, of the 2019 Guidance, we next analyze whether claim 8 recites additional elements that individually or in combination integrate the judicial exception into a practical application. 2019 Guidance, 84 Fed. Reg. at 53–55. The 2019 Guidance provides exemplary considerations that are indicative of an additional element or combination of elements integrating the judicial exception into a practical application, such as an additional element reflecting an improvement in the functioning of a computer or an improvement to other technology or technical field. *Id.* at 55; MPEP § 2106.05(a).

Appellant asserts that the Examiner's reliance on *Electric Power Group* is misplaced because, "[t]he claimed invention is not simply directed to retrieving information of a specific content, analyzing the retrieved information and displaying a result of the analysis." Appeal Br. 4. According to Appellant, "the claimed invention[, instead,] is directed to utilizing fewer computing resources to identify the next possible lifecycle state for the service or logical objects[,] as well as the policies that would apply to such transitions by the end user. *Id.* In support of this assertion, Appellant reproduces the entire language of claim 8. *Id.* at 4–5.

Appellant's assertion is unpersuasive because the recitation of the entire claim language does not constitute an argument on the merits, much

less provide persuasive evidence that the invention entails using fewer computing resources. *See* 37 C.F.R. § 41.37(c)(1)(iv) ("[a] statement [that] merely points out what a claim recites will not be considered an argument for separate patentability of the claim.").

Appellant additionally argues, "[t]he claimed invention is directed to building a table correlating the lifecycle definitions for the current lifecycle state and the one or more potential future lifecycle states with the policy definitions[,] thereby determining relationships between lifecycle transitions and policy definitions." Appeal Br. 5. This argument is unpersuasive because, as explained in section 2A, prong 1, above, the step of correlating the lifecycle states with policy definitions constitutes the underlying abstract idea, itself. *See BSG Tech LLC v. BuySeasons, Inc.*, 899 F.3d 1281, 1290 (Fed. Cir. 2018) ("It has been clear since *Alice* that a claimed invention's use of the ineligible concept to which it is directed cannot supply the inventive concept that renders the invention 'significantly more' than that ineligible concept."); *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1151 (Fed. Cir. 2016) ("[A] claim for a new abstract idea is still an abstract idea.") (emphasis omitted); *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1168 (Fed. Cir. 2018) ("What is needed is an inventive concept in the non-abstract application realm.").

Appellant further argues, "the claimed invention is not simply directed to retrieving information of a specific content, analyzing the retrieved information[,] and displaying a result of the analysis" because

> the claimed invention is directed to generating a graphical representation detailing the current lifecycle state, transitions to the one or more potential future lifecycle states and the policy definitions that apply to each transition for the governed object

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> based on the built table as opposed to merely displaying retrieved information. For example, the graphical representation details the relationships between the lifecycle transitions and policy definitions <u>by correlating</u> the lifecycle definitions for the current lifecycle state and the one or more future lifecycle states with the policy definitions. This is not information that is simply retrieved.

Appeal Br. 5–6.

This argument is unpersuasive because it does not respond to the Examiner's basis of rejection. The Examiner did not take the position that claim 8 merely recites displaying retrieved information. *See generally* Final Act. Rather, the Examiner takes the position that claim 8 recites retrieving data, analyzing the data by performing the recited correlations, and displaying the result of the analysis. Final Act. 4–5 (citing *Electric Power Group* for the proposition that merely "collecting information, analyzing it, and displaying certain results of the collection and analysis" to be patent ineligible).

We agree with the Examiner that claim 8 merely entails collecting information (*see* the retrieving steps of limitations (a) through (c)), analyzing the information (limitation (d)), and displaying certain results of the collection and analysis (*see* the graphical-representation generating step of limitation (e)). Furthermore, Appellant's argument essentially acknowledges claim 8 entails collecting information, analyzing it, and displaying certain results of the collection and analysis. Appeal Br. 5–6.

Moreover, limitation (e)'s final step of generating a graphical representation does not add significantly more to the abstract idea of building a correlation table because the step of generating graphical

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representations of the lifecycle states, transitions, and policy definitions

merely constitutes insignificant post-solution activity:

> An example of post-solution activity is an element that is not integrated into the claim as a whole, e.g., a printer that is used to output a report of fraudulent transactions, which is recited in a claim to a computer programmed to analyze and manipulate information about credit card transactions in order to detect whether the transactions were fraudulent.

MPEP § 2106.05(g).

> Appellant argues,

> the current representation of lifecycle states in State Adaptive Choreography Language (SACL) and policies are in a disjoint and disconnected manner thereby making it difficult for the end user to predict the next possible lifecycle states as well as the policies that apply to each next possible transition. By not being able to predict the next possible states as well as the policies that apply to each next possible transition, such service oriented environments suffer from inefficiencies in which the policies or rules that apply to the service objects or logical objects from service documents in future lifecycle states may not be easily identified by the end user. As a result, the end user would waste time and computing resources in attempting to identify the next possible lifecycle state for these service or logical objects[,] as well as the policies that would apply to such transitions.

> The claimed invention addresses such a technical problem with a technical solution by providing the means for graphically displaying lifecycle information of a governed object in a service registry in combination with the policies associated with the lifecycle states thereby allowing the end user to identify the next possible lifecycle state for these service or logical objects as well as the policies that would apply to such transitions. . . . As a result, less time is wasted and fewer computing resources are utilized in attempting to identify the next possible lifecycle state

> for these service or logical objects[,] as well as the policies that
> would apply to such transitions by the end user.

Appeal Br. 9–10 (citing Spec. 11:9–18); *see also* Appeal Br. 11–19 (where

Appellant similarly argues, the claimed invention is directed to an

improvement in computer capabilities).

These arguments are unpersuasive because improving the ease with

which a user can identify state information visually does not constitute an

improvement in computer capabilities or a technical solution to a technical

problem. Rather, this improvement entails using a computer to enable a user

to work more efficiently. Our reviewing court held that where an "invention

makes the *trader* faster and more efficient, not the computer . . . [, it] is not a

technical solution to a technical problem." *Trading Techs. Int'l v. IBG LLC*,

921 F.3d 1084, 1090 (Fed. Cir. 2019); *see also id*. at 1093 (claims are

abstract where "they recite a purportedly new arrangement of generic

information that assists traders in processing information more quickly").

Appellant again reproduces the entirety of claim 8, this time

emphasizing language of limitations (a) through (c) that recites retrieving the

various data used in the table-building step of limitation (d). Appeal Br. 19–

20. Appellant asserts that this claim language provides evidence that the

claim integrates the recited abstract idea into a practical application. *Id.*

at 19.

This argument is unpersuasive because the data-retrieving steps of

limitations (a) through (c) merely constitute insignificant pre-solution

activity.

> An example of pre-solution activity is a step of gathering data for
> use in a claimed process, *e.g.,* a step of obtaining information
> about credit card transactions, which is recited as part of a
> claimed process of analyzing and manipulating the gathered

information by a series of steps in order to detect whether the transactions were fraudulent.

MPEP § 2106.05(g).

Appellant also argues that "[f]or the Board to conclude that Appellants' claimed invention is directed to non-statutory subject matter would run counter to [Congress's intent] that any new and useful process, machine, manufacture or compositions of matter under the sun that is made by man is the proper subject matter of a patent." Appeal Br. 24 (citing MPEP § 2106). This argument is unpersuasive because it ignores the limitations that the judiciary has placed on the scope of patent-eligible subject matter.

For these reasons, Appellant does not persuade us that claim 8 is directed to an improvement in the function of a computer or to any other technology or technical field. MPEP § 2106.05(a). Nor does Appellant persuasively demonstrate that claim 8 is directed to a particular machine or transformation, or that claim 8 adds any other meaningful limitations for the purposes of the analysis under Section 101. MPEP §§ 2106.05(b), (c), (e). Accordingly, Appellant does not persuade us that claim 8 integrates the recited abstract ideas into a practical application within the meaning of the 2019 Guidance. *See* 2019 Guidance, 84 Fed. Reg. at 52–55.

Step 2B

Under step 2B of the 2019 Guidance, we next analyze whether claim 8 adds any specific limitations beyond the judicial exception that, either alone or as an ordered combination, amount to more than "well-understood, routine, conventional" activity in the field. 84 Fed. Reg. at 56; MPEP § 2106.05(d).

Appellant argues that the Examiner failed to perform a factual determination as to whether the claim limitations of Appellant's claimed invention is routine, conventional and well-understood, as required by our reviewing court. Appeal Br. 7 (citing *Berkheimer v. HP Inc.*, 890 F.3d 1369, 1374 (Fed. Cir. 2018)). Appellant subsequently reiterates,

> The Examiner has failed to perform a factual determination as to whether the additional elements recited in independent claims 8 and 15, such as the object model, the governed objects module, the lifecycle definitions module, the policy definitions module, etc. . . . [were] routine, conventional[,] and well-understood that were previously engaged in by those in the field of the present invention.

Reply Brief filed Dec. 11, 2018 ("Reply Br."), 5 (*citing Berkheimer*).

This argument is unpersuasive for reasons beyond the fact that Appellant fails to provide persuasive evidence for why any of the claims' additional elements are allegedly other than well-understood, routine, and conventional. *See generally* Appeal Br.; Reply Br. Specifically, Appellant effectively acknowledges that the use of object models, as well as object and policy definitions, was routine. *See* Spec. 1–3 (wherein the Background Section of the Specification discussing the existing state of Service Oriented Architecture); *see also* Appeal Br. 7–10 (wherein Appellant acknowledges that service oriented architecture was known and that Appellant's invention entails retrieving and correlating the data from known memories or data storage "modules" so that the information can be represented in a graphical display that aids an end user in identifying future lifecycle states).

Appellant also argues that the non-conventional nature of the additional elements is evidenced by the fact that "the Examiner has not cited to any prior art reference that discusses the concept of building a table that

correlates the lifecycle definitions for the current lifecycle state and one or more potential lifecycle states with the policy definitions." Appeal Br. 22; *see also id.* at 7 (where Appellant repeats this argument).

This argument is unpersuasive because "[t]he 'novelty' of any element or steps in a process, or even of the process itself, is of no relevance in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter." *Diehr*, 450 U.S. at 188–89. A novel and nonobvious claim directed to a purely abstract idea is, nonetheless, patent ineligible. *Mayo*, 566 U.S. at 90; *see also Flook*, 437 U.S. at 594–95 (holding claims to "a new and presumably better method for calculating alarm limit values," of undisputed usefulness, to be directed to patent-ineligible subject matter); *see also Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 591 (2013) ("Groundbreaking, innovative, or even brilliant discovery does not by itself satisfy the § 101 inquiry.").

Furthermore, Appellant's Specification does not indicate that consideration of these conventional elements as an ordered combination adds any significance beyond the additional elements, as considered individually. Rather, Appellant's Specification indicates that the invention is directed to an abstract idea that is made more efficient with generic computer components—generating "a graphical representation . . . that illustrates the current lifecycle state, next lifecycle states, possible transitions[,] and constraints represented as policy assertions on the transitions." Spec. 6.

For these reasons, we determine that claim 8 does not recite additional elements that, either individually or as an ordered combination, amount to

significantly more than the judicial exception within the meaning of the 2019 Guidance. 84 Fed. Reg. at 52–55; MPEP § 2106.05(d).

Accordingly, we sustain the Examiner's rejection of claim 8 under 35 U.S.C. § 101 as being directed to a judicial exception to patent-eligible subject matter. We, likewise, sustain the 101 rejection of claims 9–21, either because Appellant does not argue these claims separately or for the reasons set forth above. Appeal Br. 24.

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/ Basis	Affirmed	Reversed
8–21	101	Eligibility	8–21	

TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED