

UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

CRUSOE ENERGY SYSTEMS, LLC

Petitioner

v.

UPSTREAM DATA INC.

Patent Owner

Case PGR2023-00052

Patent No. 11,574,372

**PATENT OWNER'S PRELIMINARY RESPONSE
FOR POST GRANT REVIEW**

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PATENT OWNER EXHIBIT LIST

Exhibit No.	Description
2001	Declaration of Mr. Yakov Zolotorev in Support of Motion for Pro Hac Vice Admission
2101	Declaration of Dr. Fengqi You
2102	Declaration of Vernon Kasdorf (Exhibit 1004 in PGR2023-00039)
2103	Declaration of Dr. Fengqi You (Exhibit 2001 in PGR2023-00039)

I. INTRODUCTION

This is Petitioner’s second-string attack on the ’372 patent. No doubt realizing the weakness of its prior art and § 101 challenge (co-pending PGR2023-00039), Petitioner now burdens the Board with a spaghetti bowl of § 112 allegations, none of which have merit. The first ground comprises indefiniteness arguments based on claim interpretations that Petitioner itself repeatedly admits are incorrect. To conjure these constructions Petitioner first expressly ignores the intrinsic evidence and then demonstrates that, when the specification is considered, its constructions are wrong. These contortions are necessary so that Petitioner can create confusion in support of its legally unsound “alternative constructions” theory. The written description challenge in the second ground simply ignores portions of the specification that disprove Petitioner’s arguments. Petitioner’s overreach continues in the third ground. Petitioner argues that the term “controller” is functional even though it is universally recognized as a known class of structures and not a nonce word. In fact, Petitioner was required by 37 C.F.R. § 42.104(b)(3) to identify this term as functional in its first petition but did not, underscoring the baselessness of the third ground. Moreover, Petitioner advances yet another unsupported legal theory to stretch its 35 U.S.C. § 112, ¶ 6 arguments from the four dependent claims that recite “controller” to eleven claims that do not include this limitation.

II. '372 PATENT

A. Overview of '372 Patent

The '372 patent claims priority to provisional application 62/456,380, filed on February 8, 2017. EX1001. The patent “relates to blockchain mining at an oil or gas facility.” *Id.*, 1:6-7. The '372 patent explains that “[i]n upstream production of oil and gas, natural gas may be produced ... as a by-product of oil production, for example from an oil well.” *Id.*, 6:51-54. This form of natural gas is referred to as undesirable casinghead gas, casing gas or simply raw gas. *Id.*, 4:62-63, 8:66-9:3.

The prior art knew some ways to utilize casinghead gas. For example, it was known to consume it as “on-site fuel for equipment or for instrumentation pressure.” EX1001, 6:56-58. If there was a significant gas volume beyond what could be consumed onsite, gas could be sold to market through a connection to a pipeline network or liquified for transportation. *Id.*, 6:59-64. If a grid connection was available, casinghead gas could be used to generate electricity for sale to the power grid. *Id.*, 6:63-67.

However, gas “may be located at a remote oil and gas site” that lacks “accessible infrastructure such as an external pipeline network (sales line) or external power grid to sell into” and may be “hundreds of kilometers outside of the nearest town.” *Id.*, 7:46-49, 8:20-23. In such cases “it may not be economically feasible” to take the gas or electricity to market, “for example due to significant

capital expense required or when the volume of gas is insufficient to pay out the investment.” *Id.*, 7:49-54, 8:11-23. As is known in the art, the gas is “stranded.” *Id.*, 7:54-56; EX2102¹, ¶31.

In such cases, a common solution is to vent or flare (burn) the stranded gas. EX1001, 1:11-13, 7:61-8:10. However, this solution creates greenhouse gas emissions, wastes the potential energy of the gas, requires capital expenditure, and may pose health risks. *Id.*

The novel solution taught by the ’372 patent used stranded gas to power portable blockchain mining devices instead of flaring the gas. *Id.*, 2:18-24.

“A blockchain is a form of database, which may be saved as a distributed ledger in a network of nodes that maintains a continuously-growing list of records called blocks.” *Id.*, 11:45-47. “The administration of BITCOIN currency is currently the primary use for blockchain technology.” *Id.*, 11:57-60. “Maintaining a blockchain database is referred to as mining, which refers to the distributed computational review process performed on each block of data in a block-chain.” *Id.*, 13:5-7. “Those involved in BITCOIN mining are rewarded for their effort with newly created BITCOINs and transaction fees.” *Id.*, 13:9-13.

¹ Exhibits 2102 and 2103 cited herein are also cited in PGR2023-00039 as Exhibits 2001 and 1004, respectively.

Blockchain mining (also referred to as crypto mining) differs from many other types of computing as it is “intentionally designed to be resource-intensive and difficult so that the number of blocks found each day by miners remains steady.” *Id.*, 13:29-33, 13:44-48. This intentionally energy-intensive problem comprises “a cryptographic hashing algorithm.” *Id.*, 13:49-52. Since the energy cost of crypto mining is the primary operating cost, the prior art mines were located primarily in places with low-cost hydroelectric power such as China or the Pacific Northwest in the United States. *Id.*, 14:4-20; EX1009, 105; EX2102, ¶36.

Decentralizing blockchain mining away from hydroelectric power to make use of stranded gas at remote oil and gas production facilities required innovative solutions disclosed in the '372 patent. For example, unlike existing crypto mines which could depend on reliable power sources (e.g., a hydroelectric power plant), the '372 patent's bitcoin mine had to solve the problem of variable casehead gas production. EX2102, ¶37. The '372 patent discloses solving this problem by, for example, the mining controller modulating the mining power load (also referred to as the hashrate) in real time to respond “to variations in a supply or production rate of natural gas.” EX1001, 17:61-18:15; EX2102, ¶37. In addition, crypto mining power levels may be adjusted to a daily minimum or maximum gas production rate as different strategies to mitigate the variable production. EX1001, 18:34-19:13; EX2102, ¶37.

B. Level of Ordinary Skill in the Art

This Petition and related declaration propose two alternative levels of ordinary skill in the art, where the second alternative does not require any formal education or any experience in the field of oil or gas production. While Patent Owner disagrees with the Petition's treatment of the level of ordinary skill in the art, the Patent Owner and Dr. You applied Petitioner's articulation and confirmed the analysis detailed below would not change based on disagreements over the level of ordinary skill in the art. EX2101, ¶¶16-17.

III. CLAIM CONSTRUCTION

Various issues relating to the meaning of certain claim terms challenged by Petitioner as indefinite or subject to 35 U.S.C. § 112, ¶ 6 are addressed below. In addition, Patent Owner addressed claim construction of terms proposed for construction by Petitioner in co-pending PGR2023-00039. PGR2023-00039, Paper 6 at 4-9.

IV. BOARD SHOULD NOT INSTITUTE ON ANY GROUNDS UNDER 35 U.S.C. § 112(A), 112(B) OR 112(F)

A. Ground 1 (indefiniteness under 35 U.S.C. § 112(b))

1. Petitioner Does Not Apply Correct Legal Framework

While paying lip service to the legal standard articulated by the Supreme Court in *Nautilus*, Petitioner's actual analysis is premised on an incorrect and outdated pre-*Nautilus* framework. Petition, 10-12. Section 112 requires "that a

patent’s claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910 (2014). However, Petitioner erroneously relies on a pre-*Nautilus* decision in *Ex Parte Miyazaki*, 89 U.S.P.Q.2d 1207 (BPIA 2008), 2008 WL 5105055 at *5, which held that during patent prosecution indefiniteness rejections were proper “if a claim is amenable to two or more plausible claim constructions.” See Petition at 10 (citing *Miyazaki*), 12 (arguing indefiniteness because “multiple different interpretations of the term ‘blockchain mining devices’ are possible”).

The *Miyazaki* court explained that it was adopting a *lower* standard for indefiniteness rejections: “we adopt this lower threshold standard of ambiguity for indefiniteness for claims during prosecution in keeping with the USPTO’s broadest reasonable interpretation standard for claim construction.” 2008 WL 5105055 at *6. However, since 2018 (ten years after *Miyazaki*) the Patent Office no longer applies BRI (broadest reasonable interpretation) to claim construction: “In 2018, the office revised 37 C.F.R. §§ 42.100(b) and 42.200(b) to change the claim construction standard used in post-grant trial proceedings to review a claim of a patent, or a claim proposed in a motion to amend, from the broadest reasonable construction standard to the same claim construction standard that would be used to construe the claim in a civil action under 5 U.S.C. § 282(b)—that is, in a district

court.” *Approach to Indefiniteness Under 35 U.S.C. § 112 in AIA Post-Grant Proceedings*, USPTO Memorandum, Jan. 6, 2021 at 4 (hereinafter, the “Jan. 6, 2021 Memorandum”).

Accordingly, the BRI rationale underpinning *Miyazaki*’s lower threshold for indefiniteness rejections was abrogated by the PTAB’s 2018 shift to the *Phillips* claim construction standard in post-issuance proceedings. *See* 37 C.F.R. § 42.100(b). Moreover, the Jan. 6, 2021 Memorandum changed the PTAB’s prior “long-standing approach for assessing indefiniteness” to the *Nautilus* standard: “the Board shall follow *Nautilus* in AIA post-grant proceedings.” *Id.* at 2, 5. Therefore, Petitioner’s reliance on pre-*Nautilus* authority like *Miyazaki* is misplaced; nor should the Board be guided by PTAB indefiniteness decisions predating the Jan. 6, 2021 Memorandum.

Petitioner’s theory that “multiple different interpretations” of a claim term indicate indefiniteness also is contrary to Federal Circuit precedent. *See, e.g.,* Petition, 12 (“multiple different interpretations” render a claim term indefinite.) The Federal Circuit has expressly rejected this approach and reversed a district court’s conclusion that a term was indefinite if it could be “reasonably construed... to mean one of two things.” *Nevro Corp. v. Boston Scientific Corporation*, 955 F.3d 35, 40-41 (Fed. Cir. 2020). The Federal Circuit held that “[t]he test is not merely whether a claim is susceptible to different interpretations.” *Id.* at 41 (emphasis

added). Rather, the test is what *Nautilus* stated: “whether the claims, viewed in light of the specification and prosecution history, ‘inform those skilled in the art about the scope of the invention with reasonable certainty.’” *Id.*, citing *Nautilus*, 572 U.S. at 910.

Petitioner also misinterprets the Federal Circuit’s *Interval Licensing* decision. Petition, 10-11. In that case the Federal Circuit analyzed the Supreme Court’s *Nautilus* decision and recognized that “[t]he claims, when read in light of the specification and the prosecution history, must provide objective boundaries for those of skill in the art.” *Interval Licensing LLC v. AOL Inc.*, 766 F.3d 1364, 1371 (Fed. Cir. 2014). In reaching this conclusion, the Federal Circuit cited several portions of *Nautilus*, including footnote 8, which it characterized in a parenthetical as “indicating that there is an indefiniteness problem if the claim language ‘might mean several different things and ‘no informed and confident choice is available among the contending definitions.’”” *Id.* As indicated in *Interval Licensing*, the quote in *Nautilus* footnote 8 comes from a district court decision. *Id.* However, the Supreme Court cited this decision as an example of “lower court confusion” under the *old* indefiniteness standard rather than any part of the *new* standard. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 911, fn. 8 (2014). Accordingly, contrary to Petitioner, *Interval Licensing*’s mention of *Nautilus* footnote 8 cannot be read as a new or additional indefiniteness test. Rather, as the Federal Circuit

affirmed in the subsequent *Nevro* decision discussed above, indefiniteness is guided by *Nautilus* and there is no “multiple different interpretations” standard. 955 F.3d at 40-41.

The faulty “alternative constructions” legal theory of indefiniteness is the only basis of Ground 1. It not only frames Petitioner’s arguments but was likewise expressly applied by Petitioner’s expert: “I understand that, if a claim term is amenable to two or more plausible constructions, any claim containing that term is indefinite.” EX1024, ¶ 18. This renders his opinions unreliable as a matter of law. *See Nature Simulation Systems Inc. v. Autodesk, Inc.*, 50 F.4th 1358, 1363-64 (Fed. Cir. 2022) (Reversing determination of indefiniteness where District Court applied an incorrect legal standard based on approach suggested by defendant’s expert.) The Board should not institute this legally flawed and factually unsupported ground.

2. “Blockchain Mining Devices”

As set forth below, Petitioner has presented no credible evidence that this term is indefinite under *any* legal framework, whether *Nautilus* or the incorrect framework advocated by Petitioner.

**a. “Blockchain Mining Devices” is Not Indefinite
Because Intrinsic Evidence Provides Reasonable
Certainty**

The '372 patent claims read in light of the specification inform a POSITA about the scope of the invention with reasonable certainty. *Nautilus*, 572 U.S. at 910. For example, claim 1 recites that blockchain mining devices are connected to a generator and comprise a mining processor and a network interface connected to receive and transmit data through the internet to a network that stores or has access to a blockchain database. EX1001, 19:59-65; EX2101, ¶31. The specification teaches that “each blockchain mining device 12 may be composed of suitable components” including “a network interface” and “one or a plurality of mining processors.” EX1001, 15:21-25. The use of the word “each” informs a POSITA that there may be more than one blockchain mining device but each comprises mining processor(s) and a network interface, consistent with the independent claims. EX2101, ¶31.

The specification further informs a POSITA that a blockchain mining device illustrated in, *e.g.*, Fig. 4, can comprise a number of additional components, such as a power meter 72, a step-down transformer 80, “a controller 86, network equipment 88 such as a modem and a network switch.” EX1001, 16:32-39, *see also* 17:23-29; EX2101, ¶32. This is “an example layout” with components that “may make up a mining device 12.” EX1001, 16:32-33.

An exemplary system may also include a “portable enclosure 98 suitable for transporting blockchain mining device 12 between locations” where “[t]he blockchain mining device 12 may be located in a portable enclosure 98, for example an intermodal transport container as shown.” EX1001, 15:41-47; EX2101, ¶33. A containerized version of a blockchain mining device is illustrated in Fig. 6. *Id.* An enclosure is not recited in the independent claims but there are dependent claims, e.g., claim 17, directed to this aspect of the invention. EX1001, claim 17; EX2101, ¶33.

Petitioner argues that “it is unclear whether the blockchain mining device includes the mining server (e.g., spondooliestech SP35 servers), the controller, the cooling system, the intermodal transport container, or a subset thereof.” Petition, 13. Contrary to Petitioner, there is no lack of clarity in the claims or the specification. The plain claim language of the independent claims informs a POSITA that a blockchain mining device comprises a mining processor and a specialized network interface that communicates with a blockchain database. EX1001, claim 1; EX2101, ¶34. Thus, to the extent Petitioner’s term “mining server” refers to the recited “mining processor,” the claim language does require each blockchain mining device to have a mining processor. EX1001, claim 1. To the extent Petitioner has something else in mind for “mining server,” the claim language does not require it. In fact, Petitioner’s argument glosses over the

inconvenient fact that the term “mining server” appears nowhere in the claims or specification of the ’372 patent. Therefore, any confusion Petitioner has regarding that term is of Petitioner’s own making. Dependent claims recite additional blockchain mining device components such as a controller and a cooling system (*e.g.*, claim 16), and a container (*e.g.*, claim 20) but these are not required by the independent claims. Thus, in each instance the claim language is clear as to what the blockchain mining device includes. EX2101, ¶34.

This conventional claiming structure delineates the scope of the invention for each claim with reasonable certainty. EX2101, ¶35. Contrary to Petitioner, it is not at all “unclear” what the blockchain mining device comprises in each claim. For example, it is clear that the blockchain mining device in independent claim 1 is not required to have a controller or to be housed in an intermodal transport container, though the claim would cover that configuration if all the claim requirements are satisfied. *Id.* When a dependent claim recites a container then it is required. *Id.* Likewise, where a dependent claim recites a controller (*e.g.*, claim 16), a POSITA understands that the metes and bounds of that claim include this limitation while the independent claims are not so limited. *Id.*

b. Petitioner’s “Alternative” Constructions Ignore Claim Language and Rely on Extrinsic Evidence

In view of the clarity provided by the intrinsic record, a POSITA would not consider either of the two supposed “different interpretations” proposed by

Petitioner. Petition, 12; EX2101, ¶36. In fact, as further discussed below, Petitioner has manufactured these “interpretations” of its own faulty construction in co-pending PGR2023-00039 to create ambiguity where there is none.

First, Petitioner’s “interpretations” are of its own claim construction rather than the claim language informed by the specification. Petition, 11-12. However, that construction (proposed by Petitioner in PGR2023-00039) - “any computing device that is capable of performing blockchain mining without regard to processor speed or power” - is incorrect because it conflates a “blockchain mining device” with a mere processor (“any computing device”) and adds an unsupported limitation “without regard to processor speed or power.” EX2101, ¶37; PGR2023-00039 Paper 6 (POPR) at 4-7. Accordingly, Petitioner’s indefiniteness theory is flawed because its “alternative interpretations” are of its incorrect claim construction rather than the claim language in view of the specification as required by *Nautilus*.

The contrived nature of these two new constructions of Petitioner’s previous construction is evident from the fact that its expert did not mention any ambiguity when opining regarding the meaning of “blockchain mining devices” in PGR2023-00039. EX2103, ¶¶49-50. Nor did he express any concern regarding which meaning of this claim term (or of Petitioner’s construction) was applicable in opining that this limitation was allegedly met in the prior art. *See e.g.*, EX2103,

¶¶102-103. Like its expert, Petitioner was also entirely confident in construing this limitation and locating it in the prior art in that petition.

Second, Petitioner’s “alternative interpretations” of its own construction are divorced from the intrinsic record discussed above. Petitioner’s first “alternative” is “a plurality of mining servers (*e.g.*, spondooliestech SP35 servers) housed together (*e.g.*, in a portable shipping container).” Petition, 12. Notably, this “interpretation” or “construction” recites extrinsic terminology such as “mining servers” and “spondooliestech SP35 servers.”

In fact, Petitioner does not even attempt to justify its “first construction” as based on the intrinsic record. Rather, Petitioner relies on EX1006, a document describing an alleged prior art system called CryptoKube, as its sole source of support for “mining server,” “spondooliestech SP35 servers,” and “mobile data center” (a term Petitioner uses in its “second construction”). Petition, 12-14. This approach flips claim construction on its head because it ignores the intrinsic evidence in favor of a construction based on extrinsic evidence. *See Personalized Media Commc'ns, LLC v. Apple Inc.*, 952 F.3d 1336, 1340 (Fed. Cir. 2020) (“When construing claim terms, we first look to, and primarily rely on, the intrinsic evidence, including the claims themselves, the specification, and the prosecution history of the patent, which is usually dispositive.”); *Ruckus Wireless, Inc. v. Innovative Wireless Solutions, LLC*, 824 F.3d 999, 1003 (Fed. Cir. 2016) (“Legal

error arises when a court relies on extrinsic evidence that contradicts the intrinsic record.”).

Moreover, the “housed together (e.g., in a portable shipping container)” language appears nowhere in the independent claims but is the subject matter of certain dependent claims such as claim 16. EX2101, ¶40. On the other hand, the “first construction” omits elements of the claimed “blockchain mining devices” that *are* recited in the independent claims such as a specialized network interface that communicates with a blockchain database. EX1001, 19:59-65; EX2101, ¶41.

For these reasons, a POSITA would dismiss this first “interpretation” or “construction” because it:

- recites terms not used in claims or specification;
- is overinclusive (reciting elements from dependent claims);
- is underinclusive (ignoring express claim language in independent claims);
- is “interpreting” an incorrect claim construction rather than the actual claim language in view of the specification. EX2101, ¶41.

c. Petitioner’s “First Construction” Violates *Nautilus*

Petitioner’s effort to contrive an alternative “first construction” is contrary to *Nautilus*’s holding that “a patent’s claims [are] viewed in light of the specification and prosecution history.” *Nautilus*, 572 U.S. at 910. Aside from extrinsic evidence,

Petitioner relies on dependent claims 16 and 17 to support the “first construction.” Petition, 14-15. However, Petitioner then shows that this “construction” is *contrary* to the specification: “both the specification and prosecution history demand the second construction.” Petition, 16. Thus, Petitioner exposes a fundamental flaw in how it arrives at the “first construction” – it takes two dependent claims and deliberately analyzes them *in isolation* from the specification and prosecution history to fit its flawed “alternative constructions” legal theory. Petition, 14-15.

Unsurprisingly, Petitioner misinterprets these claims because it willfully disregards the intrinsic record. Claim 16 recites “a controller is connected to operate a cooling system to maintain the blockchain mining devices within a predetermined operating range of temperature.” EX1001, claim 16. As established above, the specification describes embodiments of blockchain mining devices where “each” device comprises a network interface and one or more mining processors and may further comprise a controller. *See e.g.*, EX1001, 15:21-25, 16:32-39. The controller “may be connected to at least a thermistor 90 (temperature sensor) within the mining device 12, to allow the controller 86 to control the ventilation and chilling loads.” EX1001, 17:3-6. These disclosures inform a POSITA that claim 16 is directed to blockchain mining devices of claim 1 that further comprise a temperature-regulating controller and cooling system. EX2101, ¶43.

In view of the specification’s teachings, a POSITA would understand that the indefinite article “a” in front of “controller” and “cooling system” in claim 16 is referring to “one or more” such controllers and cooling systems to service their respective blockchain mining devices. EX2101, ¶44. Because claim 16 depends on claim 1 which is a comprising-type open-ended claim, interpreting “a” as “one or more” is also consistent with the general legal standard. *See Convolve, Inc. v. Compaq Computer Corp.*, 812 F.3d 1313, 1321 (Fed. Cir. 2016) (“This court has repeatedly emphasized that an indefinite article ‘a’ or ‘an’ in patent parlance carries the meaning of ‘one or more’ in open-ended claims containing the transitional phrase ‘comprising.’”) (internal citations omitted).

Therefore, contrary to Petitioner’s interpretation, the claim language in view of the specification does not require “the plurality of blockchain mining devices to share the same cooling system.” Petition, 15. A POSITA would understand that claim 16 includes configurations where each blockchain mining device has its own controller (as illustrated in Fig. 4) and cooling system, though sharing of controllers and cooling systems is also possible. EX2101, ¶45.

Because Petitioner’s premise – that claim 16 requires a single shared cooling system – is incorrect, its conclusion is also in error. There is simply no requirement in claim 16 that “the plurality of mining servers are housed together, for example, in a modular shipping container” even if “mining servers” (a term not used in the

claims) was equated, *arguendo*, to the claimed “blockchain mining devices.”

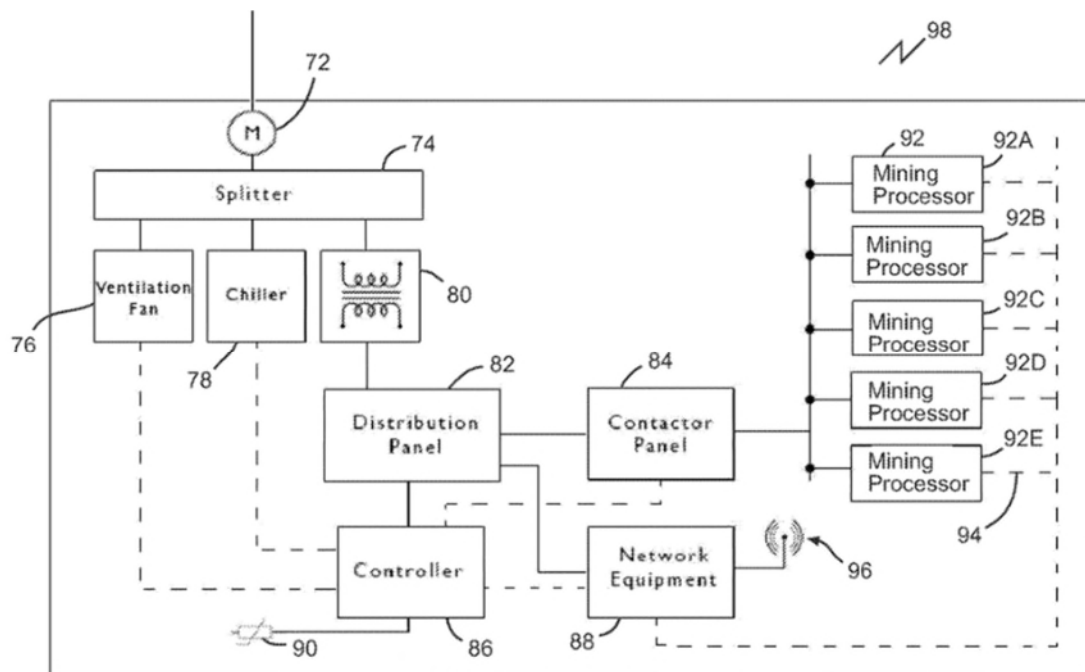
Petition, 15; EX2101, ¶46.

Dependent claim 17 also does not support Petitioner’s “first construction.” This claim depends on claim 1 and requires that “the blockchain mining devices are housed in a portable enclosure that is structured to one or more of form a skid or be mounted on a trailer.” EX1001, claim 17. As with claim 16, a POSITA would interpret the indefinite article “a” in “a portable enclosure” as “one or more.” EX2101, ¶47. This is consistent with the specification’s teaching that “each blockchain mining device” comprises “a network interface” and “one or a plurality of mining processors,” as recited in the independent claims, and that an exemplary device may further be housed in a “portable enclosure 98.” EX1001, 15:21-25, 15:41-47; EX2101, ¶47. Thus, contrary to Petitioner, the intrinsic record informs a POSITA that claim 17 is not limited to housing multiple blockchain mining devices in a single enclosure. Rather, the claim is directed to configurations where blockchain mining devices are housed in one or more enclosures. EX2101, ¶47.

As claims 16 and 17 are not limited to a single shared controller or cooling system for all of the blockchain mining devices (claim 16) or the same enclosure (claim 17), a POSITA would not conclude that the blockchain mining devices recited in those claims are mere “mining servers” housed in the same enclosure as alleged by Petitioner. EX2101, ¶48. While “mining server” is not a claim term,

Petitioner's example of a spondooliestech SP 35 mining server in a CryptoKube Bitcoin miner (Petition, 14; EX1006) indicates that Petitioner incorrectly conflates two separate claim terms – blockchain mining device and mining processor. EX2101, ¶48.

This needless confusion is entirely of Petitioner's own making. As established above, the claim language and the specification teach that a blockchain mining device comprises one or more mining processors as well as other components such as a specialized network interface, controller, cooling system and others. *See e.g.*, EX1001, 16:32-39, 17:23-29, claims 1, 16; EX2101, ¶49. The mining processor(s) in a blockchain mining device are “adapted to mine transactions” (claim 1) and are disclosed in the specification as having various embodiments and components. EX1001, 17:9-22. For example, “[e]ach mining processor may have a power supply, a controller board and mining circuitry, such as an ASIC circuit.” EX1001, 17:9-12. The relationship between a blockchain mining device (in this embodiment the system within enclosure 98) and its mining processors 92 is illustrated in Fig. 4:



EX1001, Fig. 4; EX2101, ¶49.

Thus, the claims and specification consistently teach that blockchain mining devices and mining processors are distinct. EX2101, ¶50. Petitioner’s only reason for substituting “mining servers” –an apparent reference to mining processors – for the blockchain mining devices recited in claims 16 and 17 is its misreading of the scope and meaning of those claims.

Claim 8 is the only other dependent claim discussed by Petitioner in connection with its “first construction.” Petition, 15. This claim recites “[t]he system of claim 1 in which the generator and blockchain mining devices are located adjacent to the facility.” EX1001, claim 8. Petitioner argues, without explanation, that claim 8 “may be interpreted to support either construction” because “a POSITA would not have understood with reasonable clarity whether

claim 8’s reference to ‘blockchain mining devices [being] located adjacent to the facility’ means that (1) a plurality of mining servers are located adjacent to the facility, or (2) a plurality of mobile data centers are located adjacent to the facility.” Petition, 15. The plain claim language is directed to “blockchain mining devices,” and not “mining servers” or “mobile data centers” which are figments of Petitioner’s contrived constructions. Accordingly, when read in view of the claim language and specification, there is no ambiguity that it is blockchain mining devices and not something else that’s located adjacent to the facility. EX2101, ¶51.

d. Petitioner’s “Second Construction” is Incorrect.

Petitioner’s “second construction” – “a plurality of mobile data centers, each containing a plurality of mining servers” – is also flawed. Petition, 16. As an initial matter, it is contrary to the independent claim language which (1) does not include a “mobile” limitation; (2) does not recite “data centers;” and (3) does not require that each blockchain mobile device comprise a plurality of mining processors (assuming that Petitioner’s “mining server” is equivalent to claimed mining processors). EX1001, claim 1; EX2101, ¶52.

A POSITA would not understand blockchain mining devices to comprise merely generic data centers. EX2101, ¶53. As explained in the ’372 patent and known in the art, blockchain mining differs from many other types of computing in that it is “intentionally designed to be resource-intensive and difficult so that the

number of blocks found each day by miners remains steady.” EX1001, 13:29-33, 13:44-48; EX2101, ¶53. This is unlike typical computational loads (such as those running in a conventional data center) which are typically designed to be as efficient and computationally economical as possible. This intentionally energy-intensive problem comprises “a cryptographic hashing algorithm.” EX1001, 13:49-52. This distinct, computationally-heavy nature of blockchain mining requires blockchain mining devices to comprise specially adapted mining processors as recited in the claims and discussed in the specification. EX1001, claim 1, 17:9-22; EX2101, ¶53.

In view of these teachings, a POSITA would disagree with Petitioner that “the specification teaches that the term ‘blockchain mining device’ is interchangeable with the term ‘data center.’” Petition, 17; EX2101, ¶54. Petitioner’s only specification citation is the statement that “[t]he blockchain mining device may be replaced by a suitable mining device or data center.” EX1001, 4:55-56; Petition, 17. However, this statement is distinguishing between one type of device (the blockchain mining device) and other devices (*e.g.*, a suitable data center) which may be used to “replace” the first device. Given the well-known differences between blockchain mining and generic data center compute loads, it is clear to a POSITA that the specification in this instance is not equating a blockchain mining device with a generic data center. EX2101, ¶54.

Rather, the word “suitable” indicates that in some embodiments a data center specially adapted for blockchain mining could replace a blockchain mining device. EX2101, ¶54.

Accordingly, contrary to Petitioner’s second “construction,” a POSITA would not replace the claim term “bitcoin mining devices” with generic “data centers.” EX2101, ¶55. This understanding is further supported by the prosecution history. As acknowledged by Petitioner, during prosecution the applicant distinguished the claimed bitcoin mining devices from a prior art “generic gas-powered data center.” EX1002, 222.² The applicant argued that “[b]lockchain mining is not synonymous with regular data center processing and cannot be compared as such” because “blockchain mining is known to be energy-intensive... more so than traditional data-processing.” EX1002, 222. Given these differences, the applicant argued that a POSITA would not have combined Belady’s data center with Gleifchauf’s method of blockchain mining because Gleifchauf “teaches a system that carries out difficult and energy-intensive calculations.” EX1002, 223. These statements further confirm to a POSITA that, contrary to Petitioner, the term

² The Belady-837 reference discussed during prosecution is EX1017. It is addressed in detail in Patent Owner’s POPR in co-pending PGR2023-00039.

“blockchain mining device” is *not* interchangeable with a generic “data center.”

Petition, 17; EX2101, ¶55.

In view of the prosecution history, Petitioner is mistaken that the applicant “relied on the requirement of multiple ‘blockchain mining devices’ to distinguish over prior art containing a single data center.” Petition, 18. The applicant amended the claims to “clarify that there are plural blockchain mining devices.” EX1002, 218. However, contrary to Petitioner’s misinterpretation of the prosecution history, the applicant did not rely on the plurality of blockchain mining devices to distinguish the prior art. EX1002, 222-223. Rather, as explained above, the applicant argued that a POSITA would not have combined Belady’s generic data center with a bitcoin mining system because of the known energy-intensive nature of bitcoin mining.

For these reasons, there is no support for Petitioner’s core argument that “while the dependent claims support the first construction (plurality of mining servers housed together within a single data center), both the specification and the prosecution history support the second construction (multiple data centers, each housing a plurality of mining servers).” Petition, 19. The dependent claims referenced by Petitioner (*e.g.*, claims 16 and 17) do not support Petitioner’s “first construction.” The intrinsic record does not support Petitioner’s “second construction.”

e. Claims and Specification are Consistent

As established above, there is no “inconsistency” between the specification and the claims with regard to “blockchain mining devices.” Independent claims such as claim 1 recite that blockchain mining devices are connected to a generator and comprise a mining processor and a network interface connected to receive and transmit data through the internet to a network that stores or has access to a blockchain database. EX1001, claim 1; EX2101, ¶56. The specification is fully consistent, teaching that “each blockchain mining device 12 may be composed of suitable components” including “a network interface” and “one or a plurality of mining processors.” EX1001, 15:21-25. Dependent claims add requirements such as controllers (*e.g.*, claim 16) or enclosures (*e.g.*, claim 17) and these embodiments of blockchain mining devices are consistent in the specification. EX1001, 16:32-39, 17:23-29, 15:41-47; EX2101, ¶56.

In re Cohn, 438 F.2d 989 (CCPA 1971) is inapposite. Petition, 19-20. In that case there was an “inexplicable inconsistency” where the claims were directed to sealing an oxide surface with an alkali silicate to obtain an opaque appearance while the specification stated that an opaque finish was *not* obtained with an alkali silicate. 434 F.2d at 993. These diametrically opposed teachings in the claims and the specification resulted in indefiniteness. *Id.* Nothing of the sort exists in the ’372

patent because, as established above, the claims and the specification are entirely consistent in describing blockchain mining devices.

Moreover, when discussing *Cohn*, Petitioner mischaracterizes its argument when it states that “the claims of the ’372 patent apparently require the first construction,” implying that its “first construction” is supported by all claims. Petition, 20. Petitioner’s actual argument is that only dependent claims 16 and 17 somehow “require” or “support” its “first construction.” Petition, 14-15, 19-20. However, as shown above, these dependent claims do not support Petitioner’s constructions because they are not limited to the same controller or cooling system for all of the blockchain mining devices (claim 16) or the same enclosure (claim 17).

For these reasons, Petitioner’s allegation that “the specification does not provide sufficient guidance about the meaning of the claimed system comprising multiple blockchain mining devices” is incorrect. Petition 20-21. Instead of following the guidance of the intrinsic record, Petitioner has conjured up two unsupported constructions based on its flawed original claim construction in PGR2023-00039. Its theory amounts to an assertion that a POSITA would not know which of these two incorrect constructions applies. However, as established above, when the ’372 patent claims are read in light of the specification, they

inform a POSITA with reasonable certainty about the scope and meaning of “blockchain mining devices.” *Nautilus*, 572 U.S. at 910.

3. “Mining Processor”

When the claim language is considered in view of the specification as directed by *Nautilus*, a POSITA has reasonable certainty regarding “mining processor.” First, the claim language informs a POSITA that the claimed blockchain mining devices each have a mining processor which is (1) connected to the claimed network interface; (2) “adapted to mine transactions associated with the blockchain database;” and (3) “communicate with the blockchain database.” EX1001, claim 1; EX2101, ¶58. The specification is fully consistent, explaining that mining processor 92 performs “mining activity” or “hashrate,” described in the ’372 patent and known to a POSITA as computational power that is being used to mine transactions on a proof-of-work blockchain. EX1001, 17:54-55, 18:6-9, 13:21-36, 13:49-58; EX2101, ¶58.

The specification notes that “[e]ach mining processor 92 may have a variety of configurations,” but generally comprises mining circuitry, a power supply and a controller board. EX1001, 17:9-11. Embodiments of mining circuitry in a mining processor comprise a CPU, GPU, FPGA, and ASIC. EX1001, 17:12-15; EX2101, ¶59. These mining circuitry components may be grouped in hash boards where “each board has numerous chips that is *[sic]* doing the hashing.” EX1001, 17:15-

17. Moreover, “[e]ach mining processor 92 may be positioned on racks or shelving units.” EX1001, 17:21-22. These examples of various embodiments of a mining processor provide further detail and are familiar to a POSITA. EX2101, ¶59. Thus, the claims and the specification provide a consistent and reasonably certain description of what a mining processor is and what it does. EX2101, ¶59.

Nevertheless, Petitioner asserts that “mining processor” is indefinite “for essentially the same reasons” as “blockchain mining devices.” Petition, 21. Accordingly, Petitioner is incorrect for essentially the reasons discussed above for that limitation. Once again, Petitioner conjures up two competing constructions: “(1) a mining server (e.g., a spondooliestech SP35 server) containing a plurality of application-specific integrated circuits (ASICs), or (2) an individual chip within the mining server (e.g., an ASIC inside of a spondooliestech SP35 server).” Petition, 21. Petitioner does not acknowledge that it (and its expert) previously construed this term as “any processor that is capable of performing blockchain mining without regard to processor speed or power” in co-pending IPR2023-00039. *See* EX2103, ¶51. Petitioner does not explain how its current constructions relate to its prior construction, or whether the claims are definite under its prior construction. Nor does Petitioner demonstrate how either of its new constructions is supported by intrinsic evidence. This once again demonstrates that Petitioner has made up the new constructions to create uncertainty where there is none.

Once again Petitioner’s constructions and arguments recite elements (“spondooliestech SP35 server”) and terminology (“mining server”) found in a document describing the alleged prior art CryptoKube system rather than the ’372 patent. *See* EX1006, 4 (“the CryptoKube can be filled with Spondoolies-Tech SP35 servers.”). This reliance on extrinsic evidence is contrary to established canons of claim construction. *See Ruckus Wireless*, 824 F.3d at1003.

Moreover, as with “blockchain mining devices,” Petitioner’s argument hinges on its erroneous interpretation of claim 17, namely that this dependent claim requires a plurality of blockchain mining devices to be housed within the same portable enclosure. *Petition*, 21-22, 14-15. However, as already established, the intrinsic record informs a POSITA that claim 17 is not so limited. Rather, the claim is directed to configurations where blockchain mining devices are housed in one *or more* enclosures. EX2101, ¶62.

Without this erroneous interpretation of claim 17, the rest of Petitioner’s argument falls apart. Because claim 17 is not limited to a single enclosure with multiple blockchain mining devices, there is no support for Petitioner’s conclusion that “blockchain mining devices” in that claim refers to “mining servers,” *Petition*, 21. While Petitioner’s argument is not easy to parse, in this instance it again appears to use the term “mining servers” as a synonym for “mining processors.” *Id.* Petitioner also must assume that only mining processors (and not blockchain

mining devices) can be within the same enclosure, though this assumption is not expressed in the Petition. However, as demonstrated above, “blockchain mining devices” and “mining processors” are distinct claim elements. See EX1001, claim 1. Moreover, because claim 17 is not limited to a single enclosure, there is no reason for a POSITA to think that, contrary to the entire intrinsic record, “blockchain mining devices” are the same thing as “mining processors.” EX2101, ¶63.

The next elements in Petitioner’s chain of “inference[s]” are premised on the same incorrect assumptions regarding claim 17 and fail for the same reasons: “If the term ‘blockchain mining devices’ refers to the mining servers, then the term ‘mining processor’ cannot also mean mining servers. By inference, the term ‘mining processor’ should refer to a chip inside the mining server.” Petition, 22. “Inferences” divorced from intrinsic evidence cannot substitute for proper analysis under *Nautilus*. As already established, the terms “blockchain mining devices” and “mining processors” are already distinct in the claims and the specification. Therefore, there is no need to rename “mining processor” as some other component to avoid conflation with “blockchain mining devices.” EX2101, ¶64.

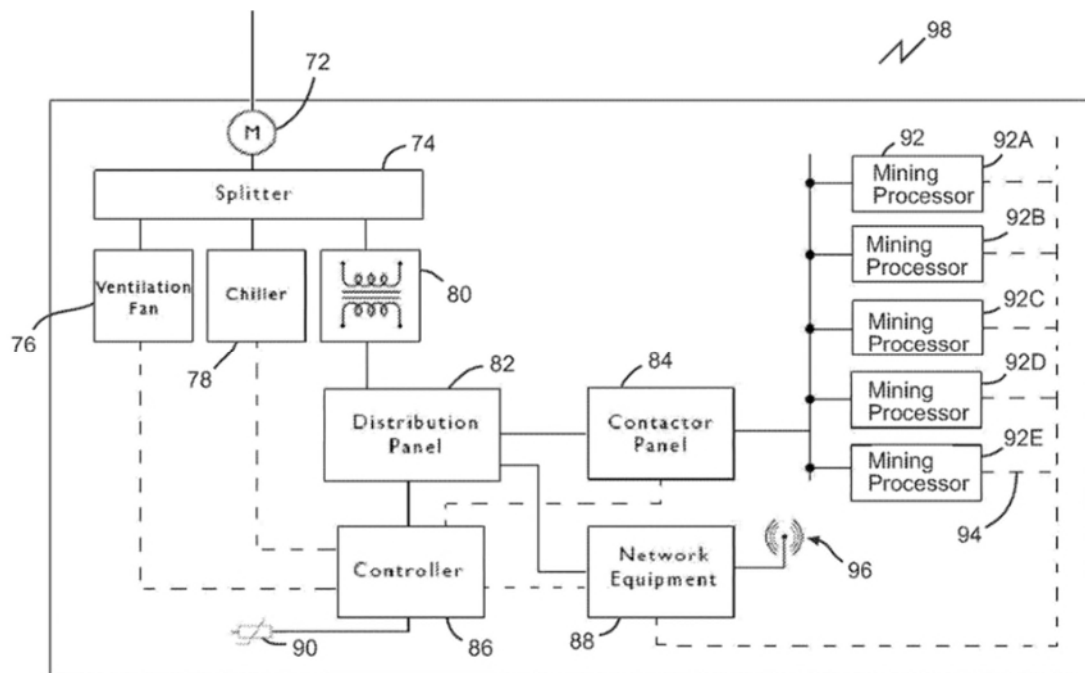
Accordingly, a POSITA would see no reason to believe that by some flawed “inference” a “mining processor” is necessarily “an individual chip inside the mining server” under Petitioner’s second construction. Petition, 21-22.

Petitioner expends much effort to demonstrate why its own incorrect conclusion regarding the meaning of “mining processor” is contrary to the specification. Petition, 21-22. This is yet another vivid demonstration that Petitioner’s indefiniteness theory is contrary to *Nautilus*’s holding that “a patent’s claims [are] viewed in light of the specification and prosecution history.” *Nautilus*, 572 U.S. at 910. To arrive at its constructions Petitioner first deliberately ignores the specification and then, unsurprisingly, proves that its constructions are incorrect when the specification is considered. However, even here Petitioner goes astray.

Petitioner correctly notes that the specification describes embodiments of a mining processor comprising, for example, an ASIC mining processor with “the hash boards (each board has numerous chips that is *[sic]* doing the hashing), a controller (to communicate with the network and optimize the mining processors chip frequency and fans for cooling), and a power supply.” EX1001, 17:15-20. However, based on this teaching, a POSITA would *not* conclude that “the specification requires the term ‘mining processor’ to mean a mining server” and not “a chip (or a circuit or a hash board) contained within a mining server.” Petition, 22. A POSITA would understand that this disclosure is exemplary and a “variety of configurations” are possible as stated in the ’372 patent. EX1001, 9-10; EX2101, ¶66. Indeed, Petitioner’s prior construction in co-pending PGR2023-00039 (“any processor that is capable of performing blockchain mining without

regard to processor speed or power”) did not exclude single chip mining processors.

Petitioner makes a separate argument that the claims are indefinite because “the specification teaches that “[t]he mining processor comprises a plurality of mining processors,” “without any attempt to explain the difference.” Petition, 23, *citing* EX1001, 3:16-17. This argument makes little sense. The specification illustrates an exemplary blockchain mining device 12 in Fig. 4, describing it as comprising “one or more mining processors 92 such as processors 92A-E” (EX1001, 16:39):



Thus, the specification teaches that a blockchain mining device may include a single mining processor 92 or it may comprise a set of processors such as 92A-E. EX2101, ¶68; *see also* EX1001, 15:21-25 (“The blockchain mining device 12 may

have... one or a plurality of mining processors 92 (92A-92E for example.”) In view of these teachings a POSITA would understand the phrase referenced by Petitioner to indicate that the mining processor may in fact be a set of such processors operating together to mine blockchain transactions as illustrated in Fig. 4. EX2101, ¶68.

Therefore, there is simply no basis for Petitioner’s argument that a POSITA would have “no idea” as to how a mining processor could comprise several mining processors. EX2101, ¶69. It is telling that the “no idea” statement is based solely on Petitioner’s expert whose declaration tracks the Petition verbatim. EX1024, ¶62. Yet, this same expert previously had no difficulty in construing “mining processor” and never expressed any doubt about its meaning. *See* EX2103, ¶51. The same expert also opined that mining processors were “necessarily” present in the prior art. EX2103, ¶104. These opinions are difficult to square with Petitioner’s present views on indefiniteness.

4. “Adapted to Mine Transactions”

This term is reasonably certain when considered in view of the specification as directed by *Nautilus*. 572 U.S. at 910. The full limitation recites “mining processors... adapted to mine transactions associated with the blockchain database. EX1001, claim 1. As discussed above, the specification explains that mining processor 92 performs “mining activity” or “hashrate,” described in the ’372 patent

and known to a POSITA as computational power used to mine transactions on a proof-of-work blockchain. EX1001, 17:54-55, 18:6-9, 13:21-36, 13:49-58; EX2101, ¶71. Using Bitcoin as an example of blockchain transactions, the specification further explains that “[m]ining is the process of adding transaction records to BITCOIN™’s public ledger of past transactions.” EX1001, 13:22-23. More generally, “[m]ining requires computational effort in the form of CPU cycles... to run a cryptographic hashing algorithm associated with the particular blockchain layout.” EX1001, 13:49-52. From these descriptions a POSITA understands that “min[ing] transactions” in the claims refers to running algorithms which typically are specific for each kind of blockchain (e.g., Bitcoin) to generate transactions in that blockchain. EX2101, ¶71. This is a common meaning of “mining transactions” in the art of blockchain mining, familiar to a POSITA. *Id.*

As also explained in the specification, mining processors can have different kinds of mining circuitry such as a CPU, GPU, FPGA, and ASIC. EX1001, 17:12-15; EX2101, ¶72. A POSITA understands that some types of mining circuitry, such as a CPU, are designed to run software programs; other types, such as an ASIC (application-specific integrated circuit), comprise hardware logic to perform specific functions, though there may also be software programmable elements. EX2101, ¶72. Accordingly, if a mining processor has at least some programmable mining circuitry (*e.g.*, a CPU), then it is adapted to mine transactions because it is

programmed to run mining algorithms, *e.g.*, programmed to run Bitcoin’s cryptographic hashing algorithms. *Id.* In the case of a mining processor with hardware-implemented logic (*e.g.*, an ASIC), it is adapted to mine transactions because it is designed to run mining algorithms. *Id.* The Spondoolies-Tech SP35 device mentioned by Petitioner is an example of an ASIC-based mining processor configured to mine transactions with mining circuitry comprising algorithms implemented in logic. EX1006; EX2101, ¶72.

In the context of the ’372 patent claims and specification, a POSITA understands “programmed to” and “designed to” as synonyms of “configured to” which denotes that the mining processor is set up to mine blockchain transactions. Therefore, the meaning of “adapted to mine transactions” is clear – the mining processor is configured to perform mining transactions by running mining algorithms, whether through programming, logic design or combination thereof, depending on the type of mining circuitry. EX2101, ¶73. This is consistent with how “adapted to” is used in claim language: “In common parlance, the phrase ‘adapted to’ is frequently used to mean ‘made to,’ ‘designed to,’ or ‘configured to.’” *Aspex Eyewear, Inc. v. Marchon Eyewear, Inc.*, 672 F.3d 1335, 1349 (Fed. Cir. 2012).

Petitioner simply ignores the specification’s teachings when it declares that “a POSITA would have no idea which adaptations were needed to make a

functioning system, much less which adaptations would result in an infringing system and which would not.” Petition, 24-25. Unlike the district court case cited by Petitioner (*Animal Care Sys., Inc. v. Hydropac/Lab Prod., Inc.*, No. 13-CV-00143-MSK-BNB, 2015 WL 535566, *9- *11 (D. Colo. 2015)) where the specification lacked any explanation, the ’372 specification provides a detailed description disclosing to a POSITA that mining transactions requires a processor with blockchain mining circuitry configured with mining algorithms such as a cryptographic hashing algorithm. EX1001, 13:49-52; EX2101, ¶74. Accordingly, an infringing system comprises mining processors with circuitry configured to run mining algorithms (*e.g.*, CPUs programmed to do so or ASICs with logic embodying the algorithms). EX2101, ¶74.

The prosecution history does not support Petitioner’s argument. Petition, 25. The applicant argued that “[b]lockchain mining is not synonymous with regular data center processing and cannot be compared as such” because “blockchain mining is known to be energy-intensive... more so than traditional data-processing.” EX1002, 222. The specification explains that “[m]ining may be intentionally designed to be resource-intensive and difficult.” EX1001, 13:29-31. This is because “[m]ining requires computational effort in the form of CPU cycles... to run a cryptographic hashing algorithm.” EX1001, 13:49-52. Thus, a POSITA understands that mining is different from regular data center processing

because mining algorithms are intentionally designed to be compute and energy intensive – unlike generic data centers running efficient computational loads.

EX2101, ¶75.

Accordingly, contrary to Petitioner, applicant’s argument was not directed to “any specific hardware change to a generic computer.” Petition, 25. Rather, the argument concerned the substantial difference in energy requirements between processors mining blockchain transactions and processors executing general computational loads. EX2101, ¶76.

Petitioner does not explain how its assertion that “any generic computer with a CPU can mine digital currency” has any bearing on the definiteness of the phrase at issue. Petition, 25. As explained above, the specification lists CPUs as one possible type of mining circuitry in a mining processor when it is configured to run mining algorithms such as a cryptographic hashing algorithm. EX2101, ¶77.

However, in practical terms a “generic computer with a CPU” comprising a PC, as suggested by Petitioner, is unlikely to serve as a mining processor in the ’372 invention context. As Petitioner concedes, “Bitcoin-brand digital currency can no longer be profitably mined with a standard PC.” Petition, 26. The computationally and energy-intensive operations required for practical and profitable blockchain mining typically require specialized equipment such as mining processors with ASIC hash boards. EX1001, 17:9-22; EX2101, ¶77. For this reason a POSITA

would think it unlikely that blockchain mining devices connected to remote sources of flare gas contemplated by the '372 invention would comprise generic PCs. *Id.*

Finally, Petitioner also alludes to “generic computers” that “control various aspects of the system” in the MAGS system and professes confusion as to whether these computers “infringe.” Petition, 26; EX1014. The answer is simple and well-known to Petitioner – there are *no* mining processors adapted to mine transactions in MAGS because it is a gas capture and conversion system which has nothing to do with blockchain mining. See EX1013, 1014; EX2101, ¶78. For this reason Petitioner and its expert in co-pending PGR2023-00039 relied on MAGS for the generator limitations but combined it with the Polivka cryptocurrency miner for all mining-related limitations. See EX2103, ¶¶290-324. This demonstrates that Petitioner was not confused regarding the scope of “adapted to mine transactions” when it filed the PGR2023-00039 petition.

B. Ground 2 (written description under 35 U.S.C. § 112(a))

1. “Blockchain Mining Devices”

This term is supported by written description. In the specification, “blockchain mining device” is also described as a “mining device.” For example, the specification refers to the embodiment illustrated in Fig. 4 as a “blockchain mining device 12” (EX1001, 17:23-25) and “a mining device 12.” EX1001, 16:32-

33. The Abstract teaches that “[p]ortable mining devices may be hooked up to a casinghead gas supply at a remote, isolated oil facility.”³ EX1001, Abstract. A POSITA understands that “portable mining devices” in the Abstract refers to plural blockchain mining devices 12 when these are mounted in a “portable enclosure 98 suitable for transporting blockchain mining device 12 between locations” such as a skid, trailer or container. EX1001, 15:41-46; EX2101, ¶80. The specification further teaches that a blockchain mining device 12 is connected to a casinghead 15 via generator 28 and other oil well equipment which allows the generator to power device 12. EX1001, 8:40-48, Figs. 1-3; EX2101, ¶80.

Thus, the sentence describing “portable mining devices...” in the Abstract refers to a plurality of blockchain mining devices that are connected at remote oil well caseheads. EX2101, ¶81. In a footnote Petitioner asserts that “portable mining devices” in the Abstract is a “different term” without any reasoning or indication of what this “other term” may be. However, as established above, the specification teaches that portable mining devices are blockchain mining devices. EX2101, ¶¶81.

Moreover, in describing an exemplary blockchain mining device in Fig. 4, the specification teaches that “*each* blockchain mining device 12” may be

³ The Abstract was part of the original specification. See EX1002, 642.

composed of suitable components such as a network interface and mining processors. EX1001, 15:21-25 (emphasis added). Use of the term “each” informs a POSITA that, as disclosed in the Abstract, more than one blockchain mining device 12 is contemplated. EX2101, ¶82. Notably, this language in column 15 tracks the claim language which likewise recites “blockchain mining devices *each* have a mining processor” and a network interface. EX1001, claim 1 (emphasis added). These teachings further inform a POSITA that the claimed plural blockchain mining devices are described in the specification. EX2101, ¶82.

Petitioner also makes a conclusory argument that “[n]or does the specification explain how multiple ‘blockchain mining devices’ can be connected to the same system, or how to modulate the power load level of multiple ‘blockchain mining devices.’” Petition, 28. To the extent these two assertions are relevant to written description, they are incorrect. The specification teaches that “blockchain mining device 12 is connected to the generator 28, for example connected to receive electricity from or be powered by the generator 28.” EX001, 8:42-44. Moreover, depending on power needs, the generator may be powered by an engine connected to multiple wellheads as illustrated in Fig. 3. EX1001, 2:62-3:2; 10:45-63, Fig. 3. EX2101, ¶83. A POSITA would know that multiple blockchain mining devices can be connected to the generator in view of the

specification's teaching of ensuring a sufficient gas supply to the combustion engine powering the generator. EX2101, ¶83.

With regard to modulating the power load, the specification teaches doing so “for example, by increasing or decreasing the mining activity, or hashrate, of the mining processor 92.” EX1001, 17:51-55. If there are multiple mining processors, this may be accomplished by “increasing or decreasing the number of mining processors 92 that are actively engaged in mining, such as powering down one or more mining processors 92.” EX1001, 17:55-60. Since power modulation is done on a per-processor level and each blockchain mining device comprises a mining processor, the specification's teachings are applicable to any number of blockchain mining devices. EX2101, ¶84.

Petitioner is correct that the original claim 13 did not expressly recite a plurality of blockchain mining devices. EX1002, 687. However, the applicant stated that claim 13 was an “example” of supporting disclosure, not that it was the sole disclosure. EX1002, 218. Given the specification's teachings discussed above, the amendment to independent claims 1 and 24 to recite plural “blockchain mining devices” was well supported. Petitioner is incorrect, however, in once again characterizing this amendment as overcoming a prior art rejection. Petition, 27. As discussed above, Petitioner's arguments regarding a lack of motivation to combine Belady-837 and Gleifchauf focused on the energy-intensive nature of blockchain

mining rather than plural or single blockchain mining devices. EX1002, 222-23; EX2101, ¶55.

C. Ground 3 (indefiniteness under 35 U.S.C § 112(f))

1. “Controller” Denotes a Known Class of Structures

Petitioner’s claim that the “controller” recited in certain dependent claims is “a black box that does not connote any specific structure” is unsound for the reasons established below. Petition, 29. Therefore, Petitioner has not overcome the presumption that the collection of claim limitations it lumps together under the “controller” rubric does not invoke 35 U.S.C. § 112, ¶6. *MTD Products Inc. v. Iancu*, 933 F.3d 1336, 1341 (Fed. Cir. 2019) (“[W]e begin by asking whether the claim limitation employs the word ‘means.’ If it does not, we apply a rebuttable presumption that the term conveys sufficiently definite structure and is not subject to § 112, ¶ 6.”) (citation omitted).

As the Federal Circuit explained in *MTD Products*, “[o]ne way to demonstrate that a claim limitation fails to recite sufficiently definite structure is to show that, although not employing the word ‘means,’ the claim limitation uses a similar nonce word that can operate as a substitute for ‘means.’” *Id.* (internal quotation marks omitted). Nonce words are “black box recitations” or “abstractions.” *Id.*, citing *Zeroclick, LLC v. Apple Inc.*, 891 F.3d 1002, 1008 (Fed. Cir. 2018); see also *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1350

(“module” is a nonce term where it “sets forth the same black box recitation of structure for providing the same specified function as if the term ‘means’ had been used.”).

“In each case, a critical question is whether the claim term is used in common parlance or by persons of skill in the pertinent art to designate structure, including either a particular structure or a class of structures.” *MTD Products*, 933 F.3d at 1341 (internal quotation marks and citation omitted). In making this determination, in addition to consulting the intrinsic record, courts routinely rely on dictionaries to illuminate whether a term is understood as a structure or a class of structures. For example, in *Apex v. Raritan Computer, Inc.*, 325 F.3d 1364 (Fed. Cir. 2003), the Federal Circuit considered a dictionary definition of “circuit” and concluded that “[i]n light of this definition, it is clear that the term ‘circuit,’ by itself connotes some structure. In the absence of any more compelling evidence of the understanding of one of ordinary skill in the art, the presumption that § 112, ¶ 6 does not apply is determinative.” 325 F.3d at 1373.

Thus, in *Apex* even “some structure” was sufficient to foreclose the application of § 112, ¶ 6 to the term at issue. As noted in *MTD Products*, this was the case even though it was “understood... as a very broad term.” 933 F.3d at 1342, *citing Apex*, 325 F.3d at 1374.

Here, Petitioner’s own evidence demonstrates that “controller” connotes a class of structures to a POSITA. For example, Wiley Electrical and Electronics Engineering Dictionary, EX1027, provides several definitions of which the most relevant is “a circuit, mechanism, device, or system, which monitors one or more variables, and automatically makes the necessary adjustments in order to maintain operation within the specified parameters.” EX1027, 3; EX2101, ¶86.

A POSITA recognizes that this definition describes a typical industrial process controller which is a known class of devices that monitor and adjust process parameters. EX2101, ¶87. This definition is more relevant to the ’372 patent than the most generic definition cited by Petitioner because the claimed controller is described in the claims and specification as monitoring variables (e.g., daily gas production rate in claim 15 or temperature in claim 16) and making adjustments (e.g., limiting power load level in claim 15, operating a cooling system in claim 16) to maintain operation within the specified parameters. *See e.g.*, EX1001, claims 13-16, 17:1-6, 17:61-64; EX2101, ¶87.

Moreover, the specification discloses a remotely accessible PLC (programmable logic controller) as an exemplary controller. EX1001, 17:1-2. PLCs are a known class of structures commonly used to monitor and adjust parameters in

industrial applications.⁴ EX2101, ¶88. For example, in co-pending PGR2023-00039 Petitioner and its expert identified a PLC as the “controller” in the CryptoKube reference. *See* EX2103, ¶126. CryptoKube’s intended use was for “industrial bitcoin miner or investor,” further illustrating that the “pertinent art” comprises industrial blockchain mining. EX1006, 1-2; EX2101, ¶88. Thus, the

⁴ For example, NIST (National Institute for Standards and Technology) provides the following explanation of a PLC: “A solid-state control system that has a user-programmable memory for storing instructions for the purpose of implementing specific functions such as I/O control, logic, timing, counting, three mode (PID) control, communication, arithmetic, and data and file processing;” and “[a] small industrial computer originally designed to perform the logic functions executed by electrical hardware (relays, switches, and mechanical timer/counters). PLCs have evolved into controllers with the capability of controlling complex processes, and they are used substantially in SCADA systems and DCS. PLCs are also used as the primary controller in smaller system configurations. PLCs are used extensively in almost all industrial processes.” EX2101, ¶88, fn.2, *citing*

https://csrc.nist.gov/glossary/term/programmable_logic_controller.

claim language and specification inform a POSITA that the '372 controller is an industrial process controller.⁵ EX2101, ¶88.

⁵ Petitioner alleges that the specification is “confusing” because it “contradictorily teaches that the claimed ‘controller’ is responsible for modulating the mining activity of the mining processor, but it is technically performed by a different control structure within the mining processor itself.” Petition, 36-37, *citing* EX1001, 17:51-55, 18:6-7, 17:9-21. While Petitioner may be confused, a POSITA would not be. The power load of the blockchain mining device is modulated by controller 86 which is indisputably an embodiment of the claimed controller as conceded by Petitioner. EX1001, 17:51-55, 17:61-64; EX2101, ¶88, fn. 3. The specification also teaches that a mining processor has a controller board which functions to “communicate with the network and optimize the mining processors chip frequency and fans for cooling.” EX1001, 17:9-21. In the preferred embodiment described in column 17, this component is responsible for control within the mining processor while controller 86 exercises system-wide control. EX2101, ¶88, fn. 3. This is not a “contradiction” and does not change the fact that controller 86 is understood by a POSITA as an industrial process type controller such as the expressly disclosed PLC. EX1001, 17:1-2; EX2101, ¶88, fn. 3.

Likewise, Petitioner cites the IEEE Standard Dictionary of Electrical and Electronics Terms as allegedly “defining controller as ‘[a] device that regulates the state of a system.’” Petition, 33, *citing* EX1027, 4. However, Petitioner omits the rest of this definition which reads in full: “A device that regulates the state of a system by comparing a signal from a sensor located in the system with a predetermined value and adjusting its output to achieve the predetermined value.” EX1027, 4. This full definition is consistent with the claimed controller and describes a known class of structures, that of industrial process controllers.⁶ EX2101, ¶89.

Petitioner cites another definition that illustrates its failure to address the “pertinent art” as directed by the Federal Circuit. *MTD Products*, 933 F.3d at 1341. Petitioner asserts that controller may mean “[a] functional unit in a computer system that controls one or more units of the peripheral equipment.” Petition, 33, *citing* EX1027, 4. However, this definition is directed to generic “computer systems” with peripheral equipment (*e.g.*, printer) controllers rather than the claimed blockchain mining devices. EX2101, ¶90. A POSITA would not

⁶ In fact, the IEEE Standard Dictionary of Electrical and Electronics Terms describes this definition as derived from “electrical pipe heating systems,” a type of an industrial system. EX1027, 4; EX2101, ¶89, fn. 4.

understand monitoring daily gas production rate in claim 15 or temperature in claim 16, and making adjustments (*e.g.*, limiting power load level in claim 15, operating a cooling system in claim 16) to maintain operation within the specified parameters to be performed by a computer peripheral controller. *See e.g.*, EX1001, claims 13-16, 17:3-6, 17:61-64; EX2101, ¶90.

Thus, rather than a “black box,” the *relevant* dictionary definitions demonstrate that a POSITA understands the claimed controllers as a class of structures (industrial process controllers) that monitor variables and make adjustments to maintain desired operating parameters. EX2101, ¶91.

In this regard, Petitioner’s assertion that controller “could potentially have many meanings as the invention spans a variety of technical arts, and the ‘controller’ is claimed to potentially perform both electrical and mechanical functions” is unsupported. While the ’372 patent’s controller certainly performs actions that can be characterized as “electrical” (*e.g.*, modulating power loads) or “mechanical” (*e.g.*, operating a cooling system”), it is still a known class of structures in the pertinent art that monitors variables and makes adjustments to keep operations within set parameters. EX2101, ¶91. The existence of other, non-relevant, definitions of this term (*e.g.*, controller for computer peripherals) only further illustrates that a POSITA can distinguish between classes of structure in different contexts.

Petitioner’s related assertion that “[c]ontroller,’ by itself, can connote multiple structural meanings to a POSITA that are not necessarily congruent of a class of structures,” (Petition, 32), is yet another example of Petitioner’s failure to consider the meaning in the pertinent art as opposed to what the term may mean in non-pertinent art. *MTD Products*, 933 F.3d at 1341. This tentative and hedging language (“not necessarily congruent...”) cannot overcome the presumption against application of 35 U.S.C. § 112, ¶6. Petitioner’s faulty approach is demonstrated by Petitioner’s consideration of controller “by itself” rather than in the specific context of the ’372 invention. Likewise, the statement that controller is “not necessarily congruent of a class of structures” is made without reference to the specific context of the ’372 patent. That there may not “necessarily” be one known class of structures corresponding to a term when used in different fields of art does not bear on whether the term comprises a known class of structures in a *pertinent* field, as it does here.

At best Petitioner’s argument amounts to an assertion that “controller” is a broad term. However, “a very broad term” can be sufficiently structural. *MTD Products*, 933 F.3d at 1342, *citing Apex*, 325 F.3d at 1374. Moreover, as established above, this term in the ’372 patent is used in “common parlance or by persons of skill in the pertinent art” to designate a specific class of structures. *MTD Products*, 933 F.3d at 1341.

This is in contrast to the cases cited by Petitioner. In *Intex Recreation Corp. v. Team Worldwide Corp.*, PGR2019-00015, Paper 41, (PTAB. Apr. 29, 2020), the Board found that “the term ‘pressure controlling assembly’ is not used in common parlance as a term for a specific structure.” *Id.* at 44. Important to the Board’s analysis was testimony describing the claimed “pressure controlling assembly” as unique to the invention which the Board felt “cannot be reconciled” with the term designating structure in common parlance of the pertinent art. *Id.* at 39. There is no such evidence here because “controller” describes a commonly known class of structures in the pertinent art.

Similarly, in *MTD Products*, the Federal Circuit credited the Board’s finding that “mechanical control assembly” did “not have an established meaning in the art.” 933 F.3d at 1343-44. Here, as established above, “controller” in the ’372 patent *does* have an established meaning in the pertinent art. In *Williamson*, the term “module” was “a well-known nonce word” and there was no evidence that a POSITA understood it to identify structure in the pertinent art. 792 F.3d at 1350-51. On the contrary, as already established, a POSITA understands the ’372 controller as a class of structures. Moreover, as discussed below, “controller” is not a nonce word.

2. “Controller” is Not a Nonce Word

Petitioner cites no cases finding that “controller” is a black box or a nonce word. In fact, while the Federal Circuit has not considered this term, the Board and at least eight lower court decisions have found that “controller” is structural. In IPR2015-01803 the Board determined that “controller” in the limitation “a controller to enable data transmission between the data storage units and the computer unit” did not invoke 35 U.S.C. § 112, ¶6, stating that “we are persuaded by Patent Owner that ‘controller’ is not a ‘nonce’ word like ‘module.’” *Amazon.com, Inc. v. AC Technologies S.A.*, IPR2015-01803, Paper 10 at 9-10 (PTAB March 8, 2016). The Board credited evidence that in the pertinent art “controller” was a specific class of structures. *Id.*

In *Subotincic et al. v. Ontario Inc.*, 2012 WL 3112005 (C.D. Cal., June 14, 2012) the district court considered whether “controller” in “controller for controlling the motor” was governed by 35 U.S.C. § 112, ¶6. 2012 WL 3112005, at *15-16. The court noted that the claims “focus largely on the function of the controller” though “the specification provides some limited indication of the controller’s structure.” *Id.* at *16. However, the court concluded that “even if the specification was completely silent as to the structure of the controller, the plain meaning of the term itself connotes sufficient structure to a person of ordinary skill in the art to avoid means plus function treatment.” *Id.* In reaching its conclusion

the court relied on an IEEE Standard Dictionary of Electrical and Electronic Terms (the same dictionary cited by Petitioner) for a definition of controller pertinent to the art at issue. *Id.* at *16-17. The court held that “[t]his definition establishes that the term ‘controller’ in claims 24, 45, and 46, while denoting a broad class of structures, would be understood as structural by a person of ordinary skill in the art.” *Id.* at *17. The *Subotincic* order also surveyed other decisions and found that “several districts courts have specifically held that the term ‘controller’ connotes sufficient structure.” *Id.* at *16, citing *Markem–Imaje v. Zipher Ltd.*, 2011 WL 5837087 (D.N.H. Nov. 21, 2011) (“While the terms ‘controller’ and ‘monitor’ undoubtedly cover a class of structures, they are understood by persons of skill in the art as structures, and do not amount to ‘nonce words’ or ‘verbal constructs’ that are simply substitutes for the term ‘means for.’”); see also *Goss Int’l Ams., Inc. v. Graphic Mgmt.*, 739 F. Supp. 2d 1089, 1100 (N.D. Ill. 2010) (noting that “a controller is a known structure that is a type of special purpose computer”).

More recently, in *Sysmex Corp. v. Beckman Coulter, Inc.*, Civil Action No. 19-1642-RGA-CJB, 2021 WL 125970 (D. Del., Apr. 6, 2021), that district court found that “controller configured to...” was not subject 35 U.S.C. § 112, ¶6. *Id.* at *4. The court surveyed other decisions and concluded that “the caselaw strongly supports the notion that, as a general matter, ‘controller’ describes a known class of structures and does not signal the use of means-plus-function claiming” and “there

are numerous cases in which district courts” have reached this result. *Id.* (emphasis added), citing *Va. Innovation Scis., Inc. v. Amazon.com, Inc.*, Civil Action No. 4:18-cv-474, 2019 WL 4259020, at *13-15 (E.D. Tex. Sept. 9, 2019) (rejecting defendants’ argument that “central controller” should be construed as a means-plus-function limitation because “controller” refers to a known class of structures in the art, and nothing in the specification indicated that the claimed controller lacked structure); *Barkan Wireless IP Holdings, L.P. v. Samsung Elecs. Co.*, No. 2:18-CV-28-JRG, 2019 WL 49790, at *22-23 (E.D. Tex. Feb. 7, 2019) (same); *Maxell Ltd. v. Huawei Device USA Inc.*, 297 F. Supp. 3d 668, 748 (E.D. Tex. 2018) (same); see also *Sound View Innovations, LLC v. Facebook, Inc.*, No. 16-cv-116 (RGA), 2017 WL 2221177, at *5 (D. Del. May 19, 2017) (“‘Controller’ may be a class of structures, rather than one specific structure, and may be defined with functional terms, but that does not make it means-plus-function.”).

Not only have the courts and the Board concluded that “controller” is not a functional term, so did Petitioner in its co-pending PGR2023-00039 challenging “controller” claims 15 and 16. The rules require the petition to “set forth ... [h]ow the challenged claim is to be construed,” and “[w]here the claim to be construed contains a means-plus-function or step-plus-function limitation ..., the construction of the claim must identify the specific portions of the specification that describe the structure, material, or acts corresponding to each claimed function.” 37 C.F.R. §

42.104(b)(3). In PGR2023-00039 Petitioner did not identify any claims as comprising a means-plus-function or step-plus-function limitation. PGR2023-00039, Paper 2 at 4-7. Accordingly, Petitioner understood that “controller” is not subject to 35 U.S.C. § 112, ¶6.⁷

3. Petitioner Improperly Sweeps In Claims Without “Controller”

Petitioner overreaches by extending its indefiniteness arguments regarding “controller” to claims that do not include this term: claims 10-12, 23, 35-41. Petition, 4, 33-34; EX1001, claims 10-12, 23, 35-41. Stated another way, only *four* of the *fifteen* claims attacked by Petitioner recite a “controller.” The only rationale offered by Petitioner is in footnote 10: “Even the claims that lack the specific use of ‘controller’ invoke ‘controller’ as the identified structure for performing the functions.” Petition, 33, fn.10. This argument makes no sense. Petitioner’s entire argument is premised on the term “controller” invoking 35 U.S.C. § 112, ¶6. Claims that do not recite controller cannot “invoke” controller by some unstated implication. Nor are these claims written in the means plus function format that would require some “identified structure for performing the functions.”

⁷ In the alternative the Board should deny the PGR2023-00039 petition for the additional reason that Petitioner did not comply with 37 C.F.R. § 42.104(b)(3).

Even if the specification may recite a controller as a preferred embodiment for a claim limitation, that is not a license to add “controller” where the claim language expressly omits it. “[I]t is improper to read limitations from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited.” *Liebel–Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004); *see also Thorner v. Sony Computer Entertainment America LLC*, 669 F.3d 1362; 1365 (Fed. Cir. 2012) (Words in a claim are given their ordinary meaning with only two exceptions: “(1) when a patentee sets out a definition and acts as his own lexicographer, or (2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution.”)

Here Petitioner has not pointed to any clear indication that the patentee intended non-controller claims to be limited to a controller or that the patentee acted as its own lexicographer or disavowed claim scope. Therefore, there is no basis to read non-controller claims 10-12, 23, 35-41 as somehow “invoking” this limitation.

Not surprisingly, Petitioner does not cite any cases for the novel proposition that a claim can “invoke” a term it does not recite. Its only support is an unpublished Federal Circuit opinion that has no bearing on Petitioner’s argument. Petition, 33, fn.10, *citing Dionex Softron GmbH v. Agilent Techs., Inc.*, 811 F. App’x

630 (Fed. Cir. 2020). *Dionex* was an appeal from an interference involving an apparatus claim reciting “a control unit configured for controlling the valve switch...” and a method claim that “recit[ed] similar matter:” “controlling the valve to switch...” 811 F. App’x at 631. On appeal the parties did not dispute that “control unit” was subject to 35 U.S.C. § 112, ¶6. *Id.* at 632. As for the method claim, the Federal Circuit stated that “we agree with... the Board that the ‘controlling’ limitation is a functional claim term subject to the same construction as” the apparatus claim because “the Board determined that [the method claim] does not recite acts sufficient to perform the recited function, and we agree.” *Id.*

Accordingly, the Federal Circuit in *Dionex* affirmed the Board’s analysis that had *separately* considered the apparatus and method claims and concluded that each claim invoked 35 U.S.C. § 112, ¶ 6. Petitioner’s assertion that *Dionex* “interpret[ed] functional limitations lacking the disputed claim term as performed by the disputed claim term because the claimed functions were substantially similar,” (Petition, 34, fn.10), is a gross misinterpretation.

The Board should decline to commit the legal error advocated by Petitioner. Aside from its unfounded “invocation” theory, Petitioner has not shown that any non-controller claims are subject to 35 U.S.C. § 112, ¶ 6. Therefore, even if the Board credits Petitioner’s argument that “controller” in claims 13 through 16 is

functional (it is not), the Board should not sweep in non-controller claims 10-12, 23, 35-41.

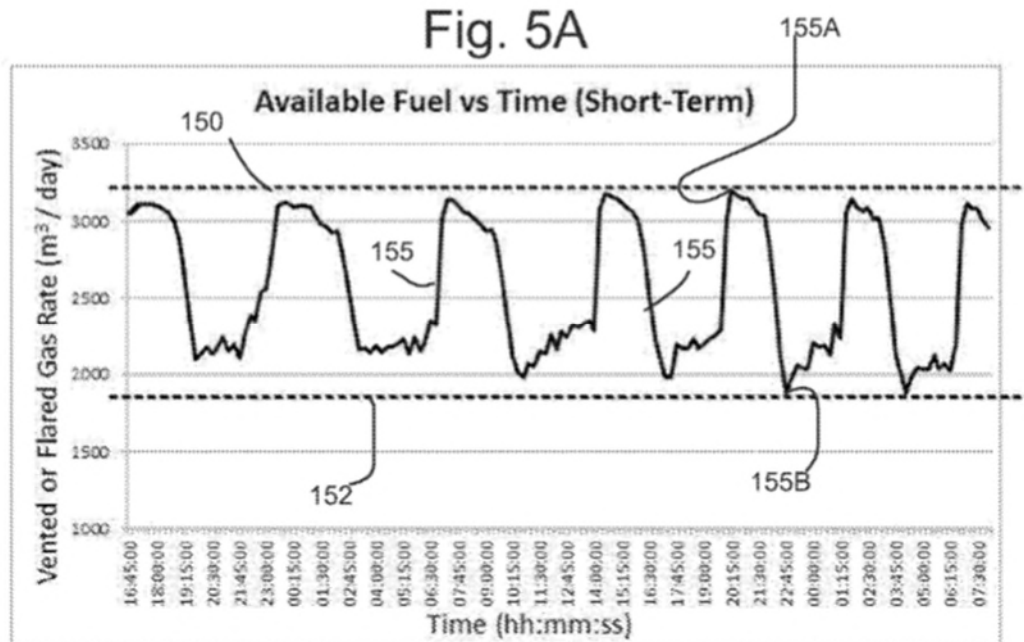
4. Specification Discloses Sufficient Structure for “Controller” Claims

a. Claim 13

To the extent it is determined that this claim is subject to 35 U.S.C. § 112, ¶ 6, the function is: when the production rate is above the daily minimum production rate, limiting the power load level to at or below a power level producible by the generator when the production rate is at the daily minimum production rate. EX2101, ¶94.

The corresponding structure is special purpose processor controller 86 connected to modulate the mining activity, or hashrate, of a mining processor 92 and implementing the following algorithm disclosed in the specification and expressed in prose and diagram of Fig. 5A:

- Referring to Fig. 5A, at least while the production rate is above the daily minimum production rate 155B, or for a period of time of eight, twelve, twenty-four, or more hours, the controller 86 may be set to limit the power load level to at or below a power level 152 producible by the generator 28 when the production rate is at the daily minimum production rate 155B.



EX1001, Fig. 5A, 18:16-27; EX2101, ¶95; see *Williamson*, 792 F.3d at 1352 (“We require that the specification disclose an algorithm for performing the claimed function. The algorithm may be expressed as a mathematical formula, in prose, or as a flow chart, or in any other manner that provides sufficient structure.”) (internal quotation marks and citation omitted).

Petitioner does not directly address this claim but alleges that it is “related” to claim 11. Petition, 38. As an initial matter, claim 11 is not a “controller” claim so Petitioner’s arguments cannot apply to claim 13. Moreover, Petitioner’s allegations of “missing structure” are directed to irrelevant details. For example, Petitioner asserts that “connection or interface” between the production rate sensor and controller is not disclosed. Petition, 40. Even if the production rate sensor (EX1001, 17:64-18:5) is considered part of the structure, a POSITA would

understand how to use conventional connectors between the sensor and controller. EX2101, ¶96. As explained above, industrial process controllers (*e.g.*, PLC programmable logic controllers, EX1001, 17:1-2) are well known and comprise conventionally-defined interfaces to sensors and controlled components. EX2101, ¶96. *S3 Inc. v. NVIDIA Corp.*, 259 F.3d 1364, 1371 (Fed. Cir. 2001) (“The law is clear that patent documents need not include subject matter that is known in the field of the invention.”)

b. Claim 14

To the extent it is determined that this claim is subject to 35 U.S.C. § 112, ¶ 6, the function is diverting to a load bank excess electricity produced by the generator. The corresponding structure is special purpose processor controller 86 connected to load bank 32 and executing the following algorithm disclosed in the specification and expressed in prose: while the power load level is set to the daily minimum, diverting excess electricity produced by generator 28 to load bank 32 when the production rate is above the daily minimum production rate 155B in Fig. 5A. EX1001, Fig. 5A, 18:34-40; EX2101, ¶97.

Thus, Petitioner’s assertion that there is no algorithm is incorrect. Petition, 43. Petitioner also alleges that “no connections are shown in FIG 4 (shown above) or disclosed in the specification that would explain how the ‘controller’ 86 knows when there is excess power, how much excess power, and how to divert it.”

Petition, 44. Once again Petitioner is focused on conventional controller functions and interfaces known to a POSITA. A POSITA would understand how to connect the controller to conventional components such as a production rate sensor or load bank. EX2101, ¶98; *S3 Inc. v. NVIDIA Corp.*, 259 F.3d at 1371.

Moreover, Petitioner's questions regarding what the controller "knows" are answered in the specification. Gas production rate can be measured with a gas production rate sensor (EX1001, 17:64-18:5) or historic data as illustrated in Fig. 5A. EX1001, 18:1-5; EX2101, ¶99. Controller 86 can increase mining activity when gas production increases, meaning that power generated by generator 28 increases when more gas is available. EX1001, 18:6-9; EX2101, ¶99. The algorithm of claim 14 kicks in when the power load level (known to controller 86 because it sets this parameter, EX1001, 17:61-64, 18:6-9) is at a daily minimum but too much gas is available (known to controller 86 through production rate sensor or historical data in Fig. 5A, EX1001, 18:1-5). EX2101, ¶99. Thus, even if the operational details discussed by Petitioner were part of the corresponding structure, they all are disclosed.

c. Claim 15

To the extent it is determined that this claim is subject to 35 U.S.C. § 112, ¶ 6, the function is limiting the power load level to above a power level producible by the generator when the production rate is at the daily minimum production rate.

The corresponding structure is the same as discussed above for claim 13 as the recited functions are substantially similar. EX2101, ¶100.

d. Claim 16

To the extent it is determined that this claim is subject to 35 U.S.C. § 112, ¶ 6, the function is operating a cooling system to maintain the blockchain mining devices within a predetermined operating range of temperature. EX2101, ¶101.

The corresponding structure is special purpose processor controller 86 connected to a cooling system and implementing the following algorithm disclosed in the specification and expressed in prose:

- [I]f the internal temperature within the mining device 12 spikes above a predetermined maximum predetermined temperature, the air ventilation system may initiate or ramp up, and if the temperature contains past a second, relatively higher maximum predetermined temperature, the chilling unit may initiate or ramp up to achieve an air-conditioning effect.
- Similarly, if the temperature drops below a minimum predetermined temperature, a heating system (not shown) may initiate.

EX1001, 17:29-39; EX2101, ¶102; *see Williamson*, 792 F.3d at 1352.

Petitioner concedes that sufficient structure is disclosed. Petition, 44-45.

V. 35 U.S.C. § 314(A) CONSIDERATIONS

Petitioner's assertions of diligence in filing the second petition do not square with the facts. Petition, 46-47. Petitioner's stated reason for not including its section 112 grounds in the first petition is the word count limit, but for which these "challenges would have been asserted in the first petition." Petition, 2, fn. 2. If that were true, the second petition would have been filed contemporaneously with the first, or shortly thereafter.

However, Petitioner waited two months to file the second petition showing that it had no intention of including the section 112 grounds in the first petition regardless of word limits.⁸ This is because the second petition presents claim constructions and arguments that are contrary to the first petition. Thus, while the first petition construed "blockchain mining devices" and "mining processor," the second petition argues that these terms are incapable of construction. The first petition identified mining processors "adapted to mine transactions" in the prior art while the second petition argues that this term is confusing and indefinite. In another glaring example, the second petition asserts that "controller" is functional,

⁸ If the word limit were a true concern, Petitioner had the option to bring a motion to waive the page limit, as Petitioner recognizes. Petition, 47-48.

but the first petition did not identify this term as subject to 35 U.S.C. § 112, ¶ 6 even though it was required to do so by 37 C.F.R. § 42.104(b)(3).

The Consolidated Trial Practice Guide (“CTPG”) recognizes that “[t]wo or more petitions filed against the same patent at or about the same time (e.g., before the first preliminary response by the patent owner) may place a substantial and unnecessary burden on the Board and the patent owner and could raise fairness, timing, and efficiency concerns.” CTPG, 59. These concerns are especially evident here because the second petition is a vehicle to present inconsistent claim construction arguments and skirt the claim term identification requirements in 37 C.F.R. § 42.104(b)(3).

CTPG further states that, while “multiple petitions by a petitioner are not necessary in the vast majority of cases... the Board recognizes that there may be circumstances in which more than one petition may be necessary, including, for example, when the patent owner has asserted a large number of claims in litigation or when there is a dispute about priority date.” CTPG, 59. Petitioner’s arguments regarding these factors are unconvincing. Petitioner recognizes that Patent Owner’s complaint asserts “at least claims 1-2,” but nevertheless alleges that Patent Owner “has asserted a large number of claims.” Petition, 49-50. This is mere speculation rather than fact. As to the priority date factor, Petitioner does not identify any dispute. Petitioner also alleges that it only challenged certain claims in the first

petition. Petition, 50. However, this was Petitioner's choice and there is no reason for why it could not have alleged obviousness of claims 1-41 in the first petition.

Petitioner has ranked the first petition above the second, demonstrating its own belief regarding the relative merits. Petition, 51. Moreover, as established above, the three section 112 grounds lack merit.

In sum, Petitioner has not shown that this is a rare case where a second parallel petition is warranted. Accordingly, the Board should exercise its discretion to deny institution.

VI. CONCLUSION

For the reasons given above, Crusoe's Petition for institution of a Post Grant Review trial should be denied.

January 3, 2024

Respectfully Submitted,

By: /James M. Heintz, 41,828/
James M. Heintz, Reg. No. 41,828
DLA Piper LLP (US)
11911 Freedom Drive, Suite 300
Reston, VA 20190
Phone: 703-773-4148
Fax: 703-773-5200
jim.heintz@dlapiper.com

CERTIFICATION OF WORD COUNT

Pursuant to 37 C.F.R. § 42.24(c) and (d), Patent Owner certifies that the word count of Patent Owner's Preliminary Response Regarding Post Grant Review (exclusive of any table of contents, table of authorities, mandatory notices under § 42.8, certificates of service and word count, and list of exhibits or claim listing) as measured by Microsoft Word is 13,668 words.

By: /James M. Heintz, 41,828/
James M. Heintz, Reg. No. 41,828

CERTIFICATE OF SERVICE ON PETITIONER UNDER 37 C.F.R. § 42.207

Pursuant to 37 C.F.R. §§ 42.6(e) and 42.207 and agreement by the attorneys listed below and the undersigned, the undersigned certifies that on January 3, 2024, a complete and entire copy of Patent Owner's Preliminary Response was served on Petitioner electronically by emailing a copy of the same to the following attorneys for the Petitioner:

John Phillips
Jia Zhu
PGR54598-0001PS2@fr.com

By: /James M. Heintz, 41,828/
James M. Heintz, Reg. No. 41,828