UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

LANCIUM LLC, Plaintiff, v. U.S. DATA MINING GROUP, INC. (D/B/A US BITCOIN), U.S. MINING INFRASTRUCTURE OPERATIONS, LLC, and U.S. DATA KING MOUNTAIN LLC, Defendants.	Civil Action No. 6:23-cv-00344 **Jury Trial Demanded**

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Lancium LLC ("Lancium") files this Complaint in this Western District of Texas (the "District") against Defendant U.S. Data Mining Group, Inc. (d/b/a US Bitcoin), U.S. Mining Infrastructure Operations, LLC, and U.S. Data King Mountain LLC (collectively, "Defendants") for infringement of U.S. Patent Nos. 11,016,456; 10,444,818; 11,016,553; 11,031,813; 11,025,060; 10,608,433; and 11,594,888, which are collectively referred to as the "Asserted Patents."

THE PARTIES

1. Plaintiff Lancium LLC is a limited liability company, with its principal office and place of business at 6006 Thomas Road, Houston, Texas 77041.

2. Upon information and belief, Defendant U.S. Data Mining Group, Inc. ("USBTC") is a Nevada corporation that is registered to do business in Florida, has offices at 1221 Brickell

Ave., Ste. 900, Miami, FL 33131-3800, and has Cogency Global, Inc., 115 N. Calhoun St., Ste. 4, Tallahassee, FL 32301, and 321 W. Winnie Lane, Ste. #104, Carson City, NV 89730 as its registered agent.

3. Upon information and belief, USBTC also has places of business in at least New York, Nebraska, and Texas, including in Upton County, Texas, where USBTC conducts Bitcoin mining operations.

4. Upon information and belief, Defendant U.S. Mining Infrastructure Operations, LLC ("USMIO") is a subsidiary of USBTC. Upon information and belief, USMIO is a Delaware limited liability company, has a physical presence in at least Nebraska and Texas, including in Upton County, Texas, and may be served via its registered agent Cogency Global, Inc. at 850 New Burton Road, Ste. 201, Dover, DE 19904.

5. Upon information and belief, Defendant U.S. Data King Mountain, LLC ("USDKM") is a subsidiary of USBTC. Upon information and belief, USDKM is a Nevada limited liability company, has Cogency Global, Inc., 321 W. Winnie Lane, Ste. #104, Carson City, NV, 89730 as its registered agent, and has a physical presence in at least Upton County, Texas.

JURISDICTION AND VENUE

6. This Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a) because this action arises under the patent laws of the United States, 35 U.S.C. § 1 *et seq*.

7. This Court has personal jurisdiction over USBTC because USBTC has committed acts of patent infringement in this District. Upon information and belief, USBTC utilizes Lancium's patented systems, methods, and non-transitory computer readable medium in connection with its Bitcoin and/or other cryptocurrency mining operations in this District and in

Texas. USBTC, therefore, has systematic and continuous contacts with this District, regularly transacts business within this District, and regularly and purposefully avails itself of the benefits of this District. This Court further has personal jurisdiction over USBTC generally because USBTC maintains a regular and established place of business in this District (*e.g.*, USBTC has a Bitcoin mining facility located in this District) and USBTC regularly conducts business in this District. USBTC, therefore, has established minimum contacts within this District such that the exercise of jurisdiction over USBTC would not offend traditional notions of fair play and substantial justice.

8. This Court has personal jurisdiction over USMIO because USMIO has committed acts of patent infringement in this District. Upon information and belief, USMIO deploys the purpose-built operating technology of USBTC to automate site operations and optimize returns at USBTC cryptocurrency mining operations, including those within Texas and within this District. USMIO, therefore, has systematic and continuous contacts with this District, regularly transacts business within this District, and regularly and purposefully avails itself of the benefits of this District. Upon information and belief, this Court further has personal jurisdiction over USMIO generally because USMIO manages 680 MW across three sites in Texas and Nebraska, including at least one site in this District, with a mix of self-mining and hosting operations (*see*, *e.g.*, usbitcoin.com/mining-infrastructure-operations (Exhibit 1)) and USMIO regularly conducts business in this District. USMIO, therefore, has established minimum contacts within this District such that the exercise of jurisdiction over USMIO would not offend traditional notions of fair play and substantial justice.

9. This Court has personal jurisdiction over USDKM because USDKM has committed acts of patent infringement in this District. Upon information and belief, USDKM, as a subsidiary

of USBTC, owns 50% of a facility in Upton County, Texas referred to as the Echo site. There, in cooperation with USBTC and through USMIO, USDKM utilizes Lancium's patented systems, methods, and non-transitory computer readable medium in connection with its Bitcoin and/or other cryptocurrency mining operations in this District. USDKM, therefore, has systematic and continuous contacts with this District, regularly transacts business within this District, and regularly and purposefully avails itself of the benefits of this District. Upon information and belief, this Court further has personal jurisdiction over USDKM generally because USDKM maintains a regular and established place of business in this District (*e.g.*, USDKM has a Bitcoin mining facility located in this District) and USDKM regularly conducts business in this District. USDKM, therefore, has established minimum contacts within this District such that the exercise of jurisdiction over USBTC would not offend traditional notions of fair play and substantial justice.

10. Venue is proper in this District pursuant to 28 U.S.C. §§ 1391 (b) and (c), and 1400(b) because USBTC, USMIO, and USDKM have committed acts of patent infringement complained of herein in this District, and have a regular and established place of business in this District. In the words of USBTC's President, Asher Genroot, "[w]e are called US Bitcoin Corp., but we have found a home in Texas…. [w]e see a bright future for US Bitcoin in West Texas." (8/30/22 Midland Reporter-Telegram (Exhibit 2, at 1)).

LANCIUM'S TECHNOLOGY

11. Lancium was founded in 2017 to, among other things, create solutions to enable more renewable energy on the nation's power grid. Lancium understood that the rise of renewable energy would result in greater variability and volatility of both electricity production and electricity price, and that the growth of more renewable energy would lead to increased periods and locations of negative-priced energy. Lancium also understood that large loads, such as industrial users,

could not absorb and/or drop their electrical load quickly. Lancium recognized that the increased periods of negatively-priced energy, the variability and volatility of electricity production and price of renewable energy compared to traditional energy, and the short-comings of large industrial loads created opportunity.

12. Lancium began work on an entirely new and revolutionary type of datacenter that could essentially be "turned off" or "turned down" during economically opportune time periods. This new type of datacenter could operate during periods of negatively-priced or low-priced power and not operate (*i.e.*, not draw load), or operate in a reduced capacity (*i.e.*, draw a limited amount of load), during times when power prices were higher. These "flexible" datacenters are useful for many computing workloads, including cryptocurrency mining.

13. Lancium also invented novel and innovative control technology that permitted datacenters to absorb or drop load almost instantly, thus solving the slow ramping short-comings that plagued traditional large loads. These datacenters could thus take advantage of the variability and volatility of electricity production and price by selectively operating only under certain conditions (*e.g.*, when there was excess electricity available and/or during periods of negative or low electricity price) thus providing renewable generators an alternative for their electricity during periods that otherwise would make continued electricity generation unfavorable to the renewable generators.

14. The flexible datacenters could connect directly to the grid as participating loads for an Independent System Operator (ISO) and participate in, for example, the Electric Reliability of Texas ("ERCOT") Ancillary Service programs to help provide stability to the grid. The flexible datacenters could also sit behind-the-meter near the renewable generator and utilize electricity directly from the generator.

15. Lancium's founders, Michael McNamara and Raymond Cline, as well as others at Lancium named on certain Lancium patents, conceived and patented numerous inventions relating to these pioneering concepts including, among other things, methods and systems for dynamic power delivery to a flexible datacenters using unutilized energy sources, methods and systems for distributed power control of flexible datacenters, methods and systems for auxiliary power management of behind-the-meter power loads, providing computational resource availability based on power-generation signals, methods and systems for adjusting power consumption based on a fixed duration power option agreement, dynamic power delivery to flexible datacenters, power management and power control relating to such datacenters, and modifying computing system operations based on certain factors and/or conditions. Lancium also designed, built, and operates products based on its patented inventions.

16. Lancium's technology attracted the interest of many companies including, upon information and belief, USBTC, USMIO, and USDKM (collectively, "Defendants"), as described above and below.

DEFENDANTS' STRUCTURE AND OPERATIONS

17. USBTC was formed in 2020. (Exhibit 3). USBTC is a large-scale North American digital mining company that owns and/or operates cryptocurrency mining sites. (4/12/23 HUT8 News Release (Exhibit 4, at 7); 4/17/23 HUT8 SEC Filing S-4 (Exhibit 5, at 7)). USBTC refers to these mining sites as campuses or datacenters: "US Bitcoin Corp (US BTC) builds and operates data centers that secure the Bitcoin network." (Exhibit 1). Upon information and belief, USBTC currently owns and/or operates four datacenter sites in the United States with access over 730 MW of electricity. (Exhibit 5, at 7).

18. USBTC's datacenter sites are in Niagara Falls, NY, which is referred to as the "Alpha" site; Kearney, NE, which is referred to as the "Charlie" site; Granbury, TX, which is referred to as the "Delta" site; and King Mountain, TX, which is referred to as the "Echo" site. (Exhibit 5, at 7; 2/7/23 Strategic Merger of Hut8 Mining and US Bitcoin Corp PowerPoint Presentation (Exhibit 6, at 8)). USBTC previously owned a site in Pecos, TX, but upon information and belief, transferred that site to one of USBTC's former lenders as part of a debt extinguishment transaction. (Exhibit 6, at 5, fn1).

19. Upon information and belief, USBTC has at least four revenue streams, many of which are derived from its datacenter sites: (i) self-mining revenue, (ii) hosting revenue, (iii) managed infrastructure operations revenue, and (iv) equipment sales revenue. (Exhibit 6, at 10; Exhibit 5, at 138).

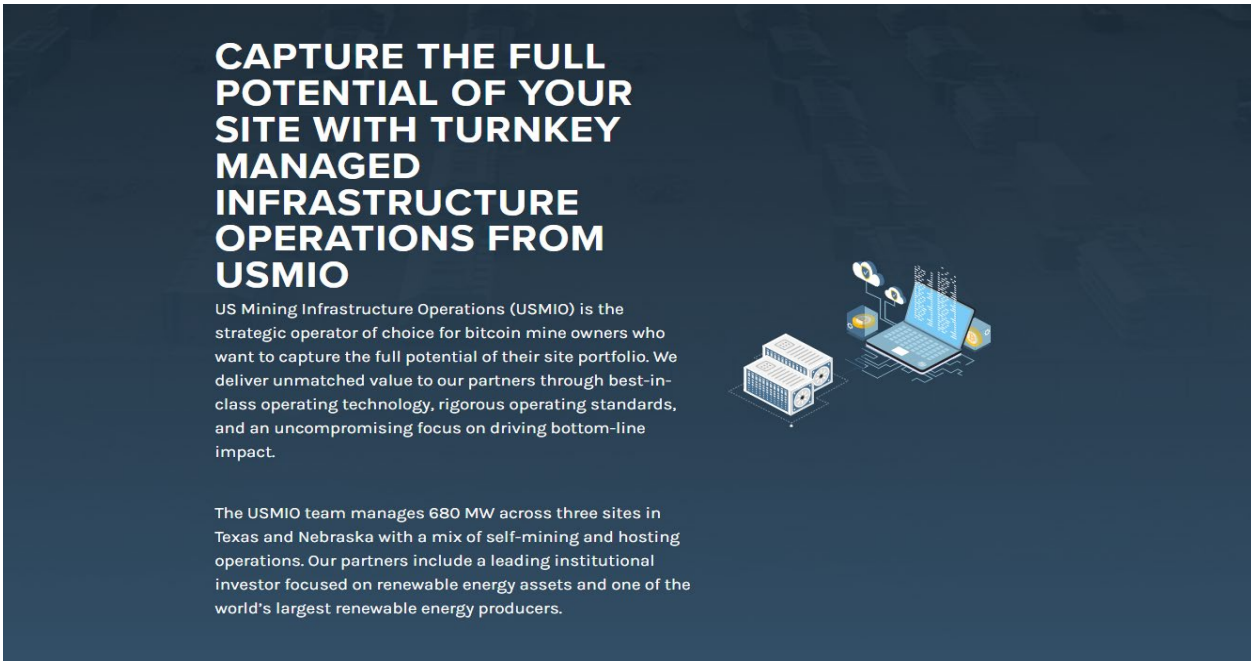
20. Upon information and belief, self-mining revenue refers to all revenue earned from USBTC-owned cryptocurrency machines that contribute computing power to mining pools in exchange for cryptocurrency (*e.g.*, Bitcoin). (Exhibit 5, at 7, 138) Hosting revenue refers to revenue earned by USBTC for operating third party-owned machines at its sites in exchange for a hosting fee. (*Id.*) Managed infrastructure operations revenue refers to revenue earned by USBTC for operating third-party-owned Bitcoin or other cryptocurrency mining sites in exchange for a property management fee. (*Id.*) Equipment sales revenue refers to revenue earned by USBTC for selling mining or infrastructure equipment to third-parties. (*Id.*).

21. Upon information and belief, USBTC owns and operates its Alpha site. (*Id.*).

22. Upon information and belief, USBTC operates the Echo site and owns 50% of the Echo site. (*Id.*). This 50% interest was acquired in December 2022 when USBTC (through its subsidiary USDKM) acquired Compute North Member LLC's entire membership interest in

TZRC LLC. (*Id.*; 11/25/22 Asset Purchase Agreement (Exhibit 7)). The TZRC LLC membership represented 50% of all issued and outstanding membership interests in King Mountain JV with NextEra. (Exhibit 5, at 7, 138). The Echo site is co-located behind-the-meter at a wind farm in Upton County, Texas. (Exhibit 5, at 7, 138; Exhibit 6, at 13). The Echo site can draw up to 100% of the energy the wind farm produces, but it can also utilize energy sourced from ERCOT. (2/7/23 FD (Fair Disclosure) Wire 13:30:00, at 2 (Exhibit 8)).

23. Upon information and belief, USBTC is the site operator for the Charlie and Delta sites through its subsidiary USMIO. (Exhibit 5, at 7, 138). USMIO also is the site operator for the Echo site. (*Id.*). USMIO manages ~680 MW of cryptocurrency mining capacity across these three sites with a mix of self-mining and hosting operations. (*Id.*; Exhibit 1).



24. Upon information and belief, USBTC, through at least USMIO, offers site automation, energy management, hosting operations design and management, and other services. (Exhibit 1). USBTC, through at least USMIO, deploys the "purpose-built operating technology of US Bitcoin Corp to automate site operations and optimize returns." (Exhibit 1; Exhibit 5, at

138). "The Operator asset management platform drives miner efficiency by tracking miners in real-time at the site, container, and unit levels, automatically identifying and diagnosing miner dysfunctions, and issuing work orders to streamline repair operations." (Exhibit 1). Among the parameters tracked are fan speed, miner temperature, hashrate performance, and errors in real time such that the Operator enables USBTC to drive hashrate efficiency through precise diagnosis of environmental and infrastructural issues that affect miner efficiency. (Exhibit 5, at 138).

25. "Reactor is an advanced, algorithmic energy curtailment software platform that USBTC believes will drive significant Bitcoin mining profitability." (Exhibit 5, at 139). Reactor monitors energy price data from grid data streams to calculate when real-time energy costs would render Bitcoin mining unprofitable. (*Id.*). The "Reactor energy curtailment platform is powered by a custom algorithm with miner-level granularity and drives enhanced site return by adjusting the energy consumption of each miner onsite in real-time based on its unique profitability profile." (Exhibit 1). Reactor is integrated with USBTC's Operator and is designed to automatically adjust power consumption of each miner in real-time based on longitudinal data on the miner's unique, observed profitability. (Exhibit 5, at 139). The algorithm can follow desired ramp curves provided by each grid, with the capability of full power ramp-down / ramp-up in seconds. (*Id.*).

26. USBTC, through at least USMIO, helps "design and implement, technical energy management strategy that captures revenue upside and protects against downside risk … bringing deep expertise in hedge optimization, energy trading, economic curtailment, and ancillary services." (Exhibit 1). Stated differently, USBTC "brings a disciplined, technical approaching to building and managing the site energy portfolio with a strategic focus on … [e]lectron arbitrage to optimize site returns … [and] [s]eamless participation in a wide range of ancillary service programs using custom firmware with a set of rapid consumption adjustment and chip frequency modulating

commands....” (Exhibit 6, at 13; Exhibit 5, at 140 (highlighting USBTC’s, through its Reactor energy curtailment platform, ability to “participate in a wide range of ancillary services programs offered by Independent System Operators…”)).

27. Referring to at least USBTC’s Texas sites, USBTC’s President Asher Genoot explained that his company helps the state’s grid overcome the problems associated with renewable energy because USBTC can ramp up datacenters when renewable energy is plentiful, and ramp down the datacenters when energy is less plentiful (*e.g.*, the wind isn’t blowing). (*See*, *e.g.*, Exhibit 2). Its facilities can also absorb extra energy generated by renewables and underwrite demand while the grid infrastructure catches up. (*Id.*).

28. Defendants’ infringing datacenters and conduct relating to behind-the-meter (“BTM”) operation with co-located power generation plants are collectively referred to as “BTM Accused Instrumentalities.” Upon information and belief, the Echo cryptocurrency datacenter (also sometimes referred to as King Mountain) is configured to receive BTM power directly from a co-located wind farm operated by NextEra. “Echo is co-located behind the meter at a wind farm and at peak wind generation periods can draw up to 100% of the energy the wind project produces; the rest of the time, the energy is sourced from ERCOT.” (Exhibit 6, at 13; Exhibit 5, at 7, 138). “USBTC also owns a 50% interest in the King Mountain JV with NextEra. The King Mountain JV owns the Echo Site, a Bitcoin mining site in Upton County, Texas with access to approximately 280 MW of electricity. The Echo Site is co-located behind-the-meter at a wind farm.” (Exhibit 5, at 152).

29. Upon information and belief, the Delta cryptocurrency datacenter is also co-located with a power generation facility and operates behind-the-meter. “USBTC currently operates two behind-the-meter Bitcoin mining sites, Delta and Echo, which are co-located with an energy source

and share a meter into the grid." (Exhibit 5, at 139). Upon information and belief, the Delta cryptocurrency datacenter is located in proximity to a power generation facility operated by Constellation Energy Corporation. (Exhibit 17, at 2).

30. Defendants' infringing datacenters and conduct operating in relation to ancillary services or other similar agreements and programs are collectively referred to as "AS Accused Instrumentalities." Upon information and belief, "USBTC participates in deregulated markets with sophisticated trading and arbitrage strategies that enable it to settle physical and financial products from the Bitcoin, power, and ancillary markets" (Exhibit 5, at 139), and Defendants Reactor platform is designed to "bid into ancillary service programs." (*Id.* at 139, 140 (Reactor "gives USBTC the ability to participate in a wide range of ancillary service programs")).

THE ASSERTED PATENTS

31. Lancium protected its revolutionary technology by, among other things, obtaining patents, including the Asserted Patents.

32. On May 25, 2021, the United States Patent and Trademark Office ("USPTO") duly and legally issued U.S. Patent No. 11,016,456 ("the '456 patent") titled "Method and System for Dynamic Power Delivery to a Flexible Data Center Using Unutilized Energy Sources." A true and correct copy of the '456 patent is attached as Exhibit 9.

33. On October 15, 2019, the USPTO duly and legally issued U.S. Patent No. 10,444,818 ("the '818 patent") titled "Methods and Systems for Distributed Power Control of Flexible Datacenters." A true and correct copy of the '818 patent is attached as Exhibit 10.

34. On May 25, 2021, the USPTO duly and legally issued U.S. Patent No. 11,016,553 ("the '553 patent") titled "Methods and Systems for Distributed Power Control of Flexible Datacenters." A true and correct copy of the '553 patent is attached as Exhibit 11.

35. On June 8, 2021, the USPTO duly and legally issued U.S. Patent No. 11,031,813 ("the '813 patent") titled "Systems and Methods for Auxiliary Power Management of Behind-the-Meter Power Loads." A true and correct copy of the '813 patent is attached as Exhibit 12.

36. On June 1, 2021, the USPTO duly and legally issued U.S. Patent No. 11,025,060 ("the '060 patent") titled "Providing Computational Resource Availability Based on Power-Generation Signals." A true and correct copy of the '060 patent is attached as Exhibit 13.

37. On March 31, 2020, the USPTO duly and legally issued U.S. Patent No. 10,608,433 ("the '433 patent") titled "Methods and Systems for Adjusting Power Consumption Based on a Fixed-Duration Power Option Agreement." A true and correct copy of the '433 patent is attached as Exhibit 14.

38. On February 28, 2023, the USPTO duly and legally issued U.S. Patent No. 11,594,888 ("the '888 patent") titled "Methods and Systems for Adjusting Power Consumption Based on a Fixed-Duration Power Option Agreement." A true and correct copy of the '888 patent is attached as Exhibit 15.

39. Lancium owns all rights, title, and interest in and to, including the right to assert all causes of action and the right to any remedies for the infringement of, each of the above-identified patents, referred to herein as the Asserted Patents.

COUNT I – INFRINGEMENT OF U.S. PATENT NO. 11,016,456

40. Lancium incorporates by reference and re-alleges all of the preceding paragraphs of this Complaint as if fully set forth herein.

41. The '456 patent generally relates to methods and systems for dynamic power deliver to flexible datacenters using unutilized energy sources. The claims of the '456 patent, including claim 1, recite novel and inventive systems and/or methods.

42. For example, claim 1 of the ’456 patent recites:

> 1. A flexible datacenter comprising:
>
> a behind-the-meter (BTM) power input system, wherein the BTM power input system is configured to receive power from a power generation station prior to the power undergoing step-up transformation for transmission to a power grid;
>
> a power distribution system;
>
> a plurality of computing systems; and
>
> a datacenter control system configured to modulate power delivery to the plurality of computing systems based on an operational directive.

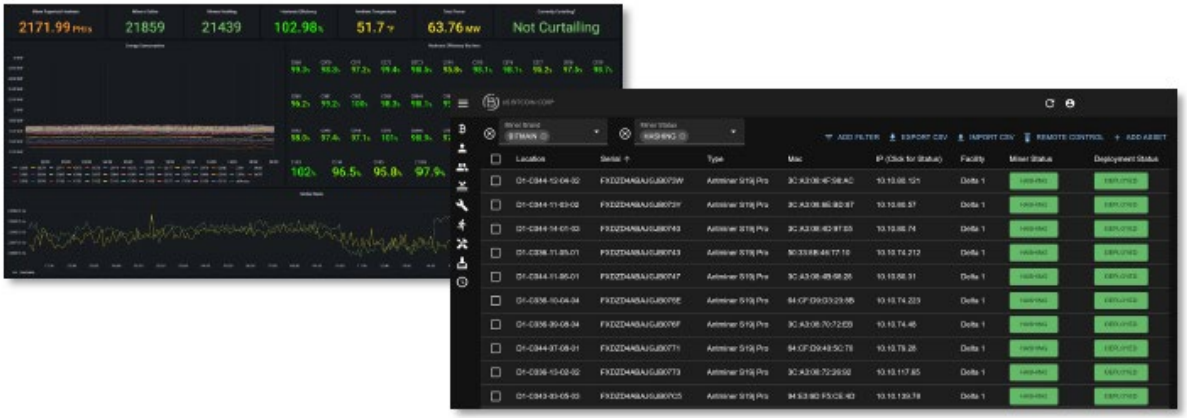
43. Defendants have directly infringed and continue to directly infringe, literally and/or under the doctrine of equivalents, one or more claims, including claim 1, of the ’456 patent in violation of 35 U.S.C. § 271(a). For example, Defendants have, without authorization, made, operated, used, sold access to, and offered for sale access to the BTM Accused Instrumentalities.

44. The BTM Accused Instrumentalities satisfy all claim limitations of one or more of the claims of the ’456 patent, including at least claim 1. By way of a non-limiting example, the BTM Accused Instrumentalities include infringing flexible datacenters.

45. One or more of the BTM Accused Instrumentalities have a behind-the-meter (BTM) power input system. (Exhibit 5, at 7, 138-139 (Echo and Delta sites located behind-the-meter)). Because the flexible datacenter is co-located with the renewable generator, upon information and belief, the BTM power input system is configured to receive power from a power generation station such as a wind farm prior to the power undergoing step-up transformation for transmission to a power grid at a Point of Interconnect (POI). The Echo site, for example, is co-located behind-the-meter at a wind farm and can receive up to 100% of its power from the wind farm. (Exhibit 5, at 141; Exhibit 6, at 13).

46. The BTM Accused Instrumentalities have power distribution systems and a plurality of computing systems. The BTM Accused Instrumentalities are configured to receive power and distribute it to cryptocurrency miners ("computing systems") owned by Defendants and/or operated/managed by Defendants. (Exhibit 5, at 138-140; Exhibit 6, at 13-14).

47. The BTM Accused Instrumentalities' datacenter control systems are configured to modulate power delivery to the plurality of computing systems based on an operational directive. For example, the BTM Accused Instrumentalities have an asset management platform called Operator that monitors, among other things, the computing systems' (miners) key performance metrics at the fleet, site, container, and unit levels. (Exhibit 5, at 138-139; Exhibit 6, at 14).



The BTM Accused Instrumentalities also have control software called, upon information and belief, "Reactor" – an "algorithmic energy curtailment platform with miner-level granularity" – that adjusts the energy consumption of miners in real time and is capable of rapid curtailment (*e.g.*, full power ramp down and/or full power ramp up) in seconds in response to signals from the software. (Exhibit 5, at 139-140; Exhibit 6, at 14).

In addition, upon information and belief, at least the Echo site can draw up to 100% of the energy the wind farm, at which it is co-located, produces to power mining and hosting (Exhibit 8, at 2), and can also use energy sourced from ERCOT. (*Id.*). Upon information and belief, the decision(s) regarding the amount of power to draw from the wind farm at which the Echo site's datacenter is co-located, for example, would be implemented by the BTM Accused Instrumentalities' control system via an operational directive.

48. On October 24, 2022, Lancium sent a letter to Compute North Holdings, Inc. notifying it that "certain Compute North affiliates are operating, and other affiliates intend to operate, bitcoin mining facilities that infringe one or more patents covering Lancium's technology." (Exhibit 16). The letter specifically identified Compute North's King Mountain facility in McCamey, Texas operated by joint venture affiliate TZRC LLC as infringing Lancium's patent rights. (*Id.*). This facility is now identified by Defendants as the Echo site. The letter also identified Compute North's Wolf Hollow planned facility in Granbury, Texas as likely to infringe. (*Id.*). Defendants now refer to that facility as the Delta site. The '456 patent is one of the patents specifically identified in the letter. (*Id.*).

49. On information and belief, on or about November 25, 2022, Defendants acquired certain assets of Compute North LLC ("Compute North"). (Exhibit 7; Exhibit 5, at 142-143). In connection with that transaction, Defendant USDKM acquired an interest in the King Mountain facility through an Asset Purchase Agreement between it and Compute North Member, LLC. (Exhibit 7). Upon information and belief, USBTC is also the site operator for the Delta site through its subsidiary USMIO. (Exhibit 5, at 7, 138).

50. Upon information and belief, due diligence was done in connection with Defendants acquiring Compute North's assets and with Defendant USDKM acquiring an interest in King Mountain, and such diligence resulted in Defendants learning that Lancium put Compute North on notice of patent infringement with respect to the '456 patent on October 24, 2022. Thus, Defendants had notice of the '456 patent and that Lancium contended Defendants' newly-acquired assets, and Compute North and Defendants' use and/or management thereof, infringed the '456 patent.

51. On information and belief, in violation of 35 U.S.C. § 271(b), Defendants induce others, including third-party owners of datacenters for which Defendants manage operations, to infringe one or more of the claims of the '456 patent by encouraging and facilitating them to perform actions known by Defendants to infringe. Defendants do so, for example, by encouraging and facilitating their customers to use the BTM Accused Instrumentalities with the intent that such use will infringe the '456 patent, and Defendants do so with notice that Lancium contended that their continued operation of Compute North's previous assets infringed the '456 patent.

52. On information and belief, in violation of 35 U.S.C. § 271(c), Defendants with knowledge of the '456 patent, sell or offer to sell the BTM Accused Instrumentalities, knowing they are especially made or especially adapted for practicing the inventions of the '456 patent and

are not a staple article or commodity of commerce suitable for substantial non-infringing use. Specifically, the BTM Accused Instrumentalities are designed for an infringing purpose and are not suited for other purposes. Upon information and belief, Defendants are indirectly infringing one or more claims of the '456 patent by actively contributing to their customers' direct infringement within the United States.

53. Defendants' acts of infringement have caused and will continue to cause substantial and irreparable damage to Lancium.

54. As a result of the infringement of the '456 patent by Defendants, Lancium has been damaged.

55. Lancium is entitled to injunctive relief under 35 U.S.C. § 283.

56. In addition to injunctive relief, Lancium is entitled to recover damages pursuant to 35 U.S.C. § 284 in an amount adequate to compensate Lancium for the infringement, but in no event less than a reasonable royalty.

57. Defendants' acts of infringement have been willful since they were done with knowledge of the '456 patent and with knowledge that Defendants' BTM Accused Instrumentalities and/or the use thereof infringed the '456 patent. Lancium is entitled to an award of up to treble damages pursuant to 35 U.S.C. § 284.

58. Due to Defendants' willful infringement, this case is exceptional, and Lancium is entitled to an award of its reasonable attorneys' fees pursuant to 35 U.S.C. § 285.

COUNT II – INFRINGEMENT OF U.S. PATENT NO. 10,444,818

59. Lancium incorporates by reference and re-alleges paragraphs 1-39 of this Complaint as if fully set forth herein.

60. The ’818 patent generally relates to methods, systems, and non-transitory computer readable medium for distributed power control of flexible data centers. The claims of the ’818 patent, including claim 1, recite novel and inventive systems, methods, and/or non-transitory computer readable medium.

61. For example, claim 1 of the ’818 patent recites:

> 1. A distributed power control system comprising:
>
> a flexible datacenter comprising:
>
> > (i) a plurality of computing systems powered by a behind-the-meter input system,
> > (ii) the behind-the-meter power input system configured to receive power from a power generation system prior to the power undergoing step-up transformation for transmission to a grid and deliver the power to the plurality of computing systems, and
> > (iii) a datacenter control system configured to control the plurality of computing systems and the behind-the-meter power input system;
>
> a remote master control system configured to issue instructions to the flexible datacenter that affect an amount of behind-the-meter power consumed by the flexible datacenter;
>
> one or more processors; and
>
> data storage comprising a first set of instructions that, when executed by the one or more processors, cause the data center control system to perform operations comprising:
>
> > receiving a first operational directive from the remote master control system, wherein the first operational directive is an operational directive for the flexible data center to ramp-down power consumption, and
> >
> > in response to receiving the first operational directive, causing the plurality of computing systems of the flexible datacenter to perform a first set of predetermined operations correlated with the first operational directive.

62. Defendants have directly infringed and continue to directly infringe, literally and/or under the doctrine of equivalents, one or more claims, including claim 1, of the ’818 patent in

violation of 35 U.S.C. § 271(a). For example, Defendants have, without authorization, made, operated, used, sold access to, and offered for sale access to the BTM Accused Instrumentalities.

63. The BTM Accused Instrumentalities satisfy all claim limitations of one or more of the claims of the '818 patent, including at least claim 1. By way of a non-limiting example, the BTM Accused Instrumentalities include infringing distributed power control systems.

64. The BTM Accused Instrumentalities have a behind-the-meter (BTM) power input system. (Exhibit 5, at 7, 138-139). Because the flexible datacenter is co-located with the renewable generator, upon information and belief, the BTM power input system is configured to receive power from a power generation station such as a wind farm prior to the power undergoing step-up transformation for transmission to a power grid at a Point of Interconnect (POI). The Echo site, for example, is co-located behind-the-meter at a wind farm and can receive up to 100% of its power from the wind farm. (Exhibit 5, at 141; Exhibit 6, at 13).

65. The BTM Accused Instrumentalities have a plurality of computing systems. The BTM Accused Instrumentalities are configured to receive BTM power and distribute it to cryptocurrency miners ("computing systems") either owned by Defendants and/or operated/managed by Defendants. (Exhibit 5, at 138-140; Exhibit 6, at 13-14).

66. The BTM Accused Instrumentalities include control capability of the plurality of computing systems and the behind-the-meter power input system. By way of example, upon information and belief, the BTM Accused Instrumentalities include control capability to "adjust[] the energy consumption of each miner onsite in real-time based on its unique profitability profile." (Exhibit 1; Exhibit 5, at 139). Upon information and belief, the BTM Accused Instrumentalities additionally direct the BTM power input system to provide BTM power and/or grid power. For example, "Echo is co-located behind the meter at a wind farm and at peak wind generation periods

can draw up to 100% of the energy the wind project produces; the rest of the time, the energy is sourced from ERCOT." (Exhibit 6, at 13). Upon information and belief, the BTM Accused Instrumentalities also include control capability configured to activate electrical isolation breakers in the behind-the-meter power input system for the purpose of electrically isolating the cryptocurrency miners from the power generation equipment of the wind farm. (Exhibit 6, at 13; Exhibit 5, at 139).

67. Upon information and belief, the BTM Accused Instrumentalities include control capability configured to issue instructions to the flexible datacenter that affect an amount of behind-the-meter power consumed by the flexible datacenter. The "Reactor" platform "[a]djusts consumption of each miner in real-time" and is "[c]apable of full power ramp-down and full power ramp-up in seconds," (Exhibit 6, at 14), and "USBTC's purpose-built operating technology can be deployed across the site portfolio." (*Id.* at 7).

68. Upon information and belief, the BTM Accused Instrumentalities include control capability using software and/or other programmable logic control implemented in hardware using one or more processors and data storage comprising instructions that, when executed by the one or more processors, cause a control system to perform operations. Upon information and belief, the BTM Accused Instrumentalities receive an operational directive from a remote master control system instructing the miners in the flexible datacenter to ramp down power consumption and, in response to receiving the operational directive, the computing systems perform a set of predetermined operations correlated with that operational directive to ramp down power consumption. For example, the Operator platform "enables centralized site management" and tracks groups of miners at the container level. (Exhibit 6, at 7). The Reactor platform then leverages that data captured by Operator and adjusts consumption in real time, including the

capability of full power ramp down. (*Id.* at 7; Exhibit 5, at 139). In at least one known control methodology, Defendants "developed purpose-built custom firmware with a set of rapid consumption adjustment and chip frequency modulating commands for commonly used miner models to enable this approach." (Exhibit 5, at 140). "[T]he chip frequency-modulating commands enable Reactor to adjust the efficiency of USBTC's data centers in real-time to protect against downside." (Exhibit 5, at 140). Thus, Reactor sends an operational directive directed to miners in a container and in response to receiving the operational directive, the miners adjust power consumption based on preprogramed firmware.

69. On October 24, 2022, Lancium sent a letter to Compute North Holdings, Inc. notifying it that "certain Compute North affiliates are operating, and other affiliates intend to operate, bitcoin mining facilities that infringe one or more patents covering Lancium's technology." (Exhibit 16). The letter specifically identified Compute North's King Mountain facility in McCamey, Texas operated by joint venture affiliate TZRC LLC as infringing Lancium's patent rights. (*Id.*). This facility is now identified by Defendants as the Echo site. The letter also identified Compute North's Wolf Hollow planned facility in Granbury, Texas as likely to infringe. (*Id.*). Defendants now refer to that facility as the Delta site. The '818 patent is one of the patents specifically identified in the letter. (*Id.*).

70. On information and belief, on or about November 25, 2022, Defendants acquired certain assets of Compute North LLC ("Compute North"). (Exhibit 7; Exhibit 5, at 142-143). In connection with that transaction, Defendant USDKM acquired an interest in the King Mountain facility through an Asset Purchase Agreement between it and Compute North Member, LLC. (Exhibit 7). Upon information and belief, USBTC is also the site operator for the Delta site through its subsidiary USMIO. (Exhibit 5, at 7, 138).

71. Upon information and belief, due diligence was done in connection with Defendants acquiring Compute North's assets and with Defendant USDKM acquiring an interest in King Mountain, and such diligence resulted in Defendants learning that Lancium put Compute North on notice of patent infringement with respect to the '818 patent on October 24, 2022. Thus, Defendants had notice of the '818 patent and that Lancium contended Defendants' newly-acquired assets, and Compute North and Defendants' use and/or management thereof, infringed the '818 patent.

72. On information and belief, in violation of 35 U.S.C. § 271(b), Defendants induce others, including third-party owners of datacenters for which Defendants manage operations, to infringe one or more of the claims of the '818 patent by encouraging and facilitating them to perform actions known by Defendants to infringe. Defendants do so, for example, by encouraging and facilitating their customers to use the BTM Accused Instrumentalities with the intent that such use will infringe with the '818 patent, and Defendants do so with notice that Lancium contended that their continued operation of Compute North's previous assets infringed the '818 patent.

73. On information and belief, in violation of 35 U.S.C. § 271(c), Defendants with knowledge of the '818 patent, sell or offer to sell the BTM Accused Instrumentalities, knowing they are especially made or especially adapted for practicing the inventions of the '818 patent and are not a staple article or commodity of commerce suitable for substantial non-infringing use. Specifically, the BTM Accused Instrumentalities are designed for an infringing purpose and are not suited for other purposes. Upon information and belief, Defendants are indirectly infringing one or more claims of the '818 patent by actively contributing to their customers' direct infringement within the United States.

74. Defendants' acts of infringement have caused and will continue to cause substantial and irreparable damage to Lancium.

75. As a result of the infringement of the '818 patent by Defendants, Lancium has been damaged.

76. Lancium is entitled to injunctive relief under 35 U.S.C. § 283.

77. In addition to injunctive relief, Lancium is entitled to recover damages pursuant to 35 U.S.C. § 284 in an amount adequate to compensate Lancium for the infringement, but in no event less than a reasonable royalty.

78. Defendants' acts of infringement have been willful since they were done with knowledge of the '818 patent and with knowledge that Defendants' BTM Accused Instrumentalities and/or the use thereof infringed the '818 patent. Lancium is entitled to an award of up to treble damages pursuant to 35 U.S.C. § 284.

79. Due to Defendants' willful infringement, this case is exceptional, and Lancium is entitled to an award of its reasonable attorneys' fees pursuant to 35 U.S.C. § 285.

COUNT III – INFRINGEMENT OF U.S. PATENT NO. 11,016,553

80. Lancium incorporates by reference and re-alleges paragraphs 1-39 of this Complaint as if fully set forth herein.

81. The '553 patent generally relates to methods, systems, and non-transitory computer readable medium for distributed power control of flexible data centers. The claims of the '553 patent, including claim 1, recite novel and inventive systems, methods, and/or non-transitory computer readable medium.

82. For example, claim 1 of the '553 patent recites:

> 1. A distributed power control system comprising:

a flexible datacenter comprising

(i) a plurality of computing systems powered by a behind-the-meter input system,
(ii) the behind-the-meter power input system configured to receive power from a power generation system prior to the power undergoing step-up transformation for transmission to a grid and deliver the power to the plurality of computing systems, and
(iii) a datacenter control system configured to control the plurality of computing systems and the behind-the-meter power input system;

a remote master control system configured to issue instructions to the flexible datacenter that affect an amount of behind-the-meter power consumed by the flexible datacenter;

one or more processors; and

data storage comprising a first set of instructions that, when executed by the one or more processors, cause the data center control system to perform operations comprising:

receiving a first operational directive from a local station control system, wherein the local station control system is configured to at least partially control the power generation system, wherein the first operational directive is an operational directive for the flexible data center to ramp-down power consumption, and

in response to receiving the first operational directive, causing the plurality of computing systems of the flexible datacenter to perform a first set of predetermined operations correlated with the first operational directive.

83. Defendants have directly infringed and continue to directly infringe, literally and/or under the doctrine of equivalents, one or more claims, including claim 1, of the ’553 patent in violation of 35 U.S.C. § 271(a). For example, Defendants have, without authorization, made, operated, used, sold access to, and offered for sale access to the BTM Accused Instrumentalities.

84. The BTM Accused Instrumentalities satisfy all claim limitations of one or more of the claims of the ’553 patent, including at least claim 1. By way of a non-limiting example, the BTM Accused Instrumentalities include infringing distributed power control systems.

85. The BTM Accused Instrumentalities have a behind-the-meter (BTM) power input system. (Exhibit 5, at 7, 139). Because the flexible datacenter is co-located with the renewable generator, upon information and belief, the BTM power input system is configured to receive power from a power generation station such as a wind farm prior to the power undergoing step-up transformation for transmission to a power grid at a Point of Interconnect (POI). The Echo site, for example, is co-located behind-the-meter at a wind farm and can receive up to 100% of its power from the wind farm. (Exhibit 6, at 13; Exhibit 5, at 141).

86. The BTM Accused Instrumentalities have a plurality of computing systems. The BTM Accused Instrumentalities are configured to receive BTM power and distribute it to cryptocurrency miners ("computing systems") either owned by Defendants and/or operated/managed by Defendants. (Exhibit 5, at 138-140; Exhibit 6, at 13-14).

87. The BTM Accused Instrumentalities include control capability of the plurality of computing systems and the behind-the-meter power input system. By way of example, upon information and belief, the BTM Accused Instrumentalities include control capability to "adjust[] the energy consumption of each miner onsite in real-time based on its unique profitability profile." (Exhibit 1; Exhibit 5, at 139). Upon information and belief, the BTM Accused Instrumentalities additionally direct the BTM power input system to provide BTM power and/or grid power. For example, "Echo is co-located behind the meter at a wind farm and at peak wind generation periods can draw up to 100% of the energy the wind project produces; the rest of the time, the energy is sourced from ERCOT." (Exhibit 6, at 13; Exhibit 5, at 141). Upon information or belief, the BTM Accused Instrumentalities also include a datacenter control system that is configured to control the plurality of computing systems (*e.g.*, miners) and is capable of activating electrical isolation

breakers in the behind-the-meter power input system for the purpose of electrically isolating the cryptocurrency miners from the power generation equipment of the wind farm.

88. Upon information and belief, the BTM Accused Instrumentalities include remote control capability configured to receive instructions from the power generator control system that affect an amount of behind-the-meter power consumed by the flexible datacenter. The "Reactor" platform "[a]djusts consumption of each miner in real-time" and is "[c]apable of full power ramp-down and full power ramp-up in seconds" (Exhibit 6, at 14), and "USBTC's purpose-built operating technology can be deployed across the site portfolio." (*Id.* at 7).

89. Upon information and belief, at least the Delta and Echo sites' generators include data storage comprising instructions that when executed cause the datacenter control system to perform operations. For example, upon information and belief, the generator's (*e.g.*, wind farm's) control system is able to instruct the BTM Accused Instrumentalities related to, for example, the Echo site to operate at a lower power consumption level in order to satisfy safety and grid power supply obligations of the wind farm, and therefore the BTM Accused Instrumentalities related to the Echo site are able to receive such an operational directive from the wind farm control system (*e.g.*, the BTM Accused Instrumentalities may receive Maximum Power Consumption (MPC) directives from the wind farm that are lower than an operating power consumption level, and thus function as a directive to ramp down power consumption). Alternatively or additionally, the BTM Accused Instrumentalities, while operating and consuming power, may receive a shut down or emergency stop directive from the wind farm, which also functions as a directive to ramp down power consumption.

90. Upon information and belief, BTM Accused Instrumentalities include control capability using software and/or other programmable logic control implemented in hardware using

one or more processors and data storage comprising instructions that, when executed by the one or more processors, cause a control system to perform operations. Upon information and belief, the BTM Accused Instrumentalities receive an operational directive from a local station control system instructing the miners in the flexible datacenter to ramp down power consumption and, in response to receiving the operational directive, the computing systems perform a set of predetermined operations correlated with that operational directive to ramp down power consumption. For example, the Operator platform "enables centralized site management" and tracks groups of miners at the container level. (Exhibit 6, at 7). The Reactor platform then leverages that data captured by Operator and adjusts consumption in real time, including the capability of full power ramp down. (Exhibit 6, at 7; Exhibit 5, at 139). In at least one known control methodology, Defendants "developed purpose-built custom firmware with a set of rapid consumption adjustment and chip frequency modulating commands for commonly used miner models to enable this approach." (Exhibit 5, at 140). "[T]he chip frequency-modulating commands enable Reactor to adjust the efficiency of USBTC's data centers in real-time to protect against downside." (*Id.*). Thus, the miners adjust power consumption based on preprogramed firmware.

91. On October 24, 2022, Lancium sent a letter to Compute North Holdings, Inc. notifying it that "certain Compute North affiliates are operating, and other affiliates intend to operate, bitcoin mining facilities that infringe one or more patents covering Lancium's technology." (Exhibit 16). The letter specifically identified Compute North's King Mountain facility in McCamey, Texas operated by joint venture affiliate TZRC LLC as infringing Lancium's patent rights. (*Id.*). This facility is now identified by Defendants as the Echo site. The letter also identified Compute North's Wolf Hollow planned facility in Granbury, Texas as likely to infringe.

(*Id*.). Defendants now refer to that facility as the Delta site. The '553 patent is one of the patents specifically identified in the letter. (*Id*.).

92. On information and belief, on or about November 25, 2022, Defendants acquired certain assets of Compute North LLC ("Compute North"). (Exhibit 7; Exhibit 5, at 142-143). In connection with that transaction, Defendant USDKM acquired an interest in the King Mountain facility through an Asset Purchase Agreement between it and Compute North Member, LLC. (Exhibit 7). Upon information and belief, USBTC is also the site operator for the Delta site through its subsidiary USMIO. (Exhibit 5, at 7, 138).

93. Upon information and belief, due diligence was done in connection with Defendants acquiring Compute North's assets and with Defendant USDKM acquiring an interest in King Mountain, and such diligence resulted in Defendants learning that Lancium put Compute North on notice of patent infringement with respect to the '553 patent on October 24, 2022. Thus, Defendants had notice of the '553 patent and that Lancium contended Defendants' newly-acquired assets, and Compute North and Defendants' use and/or management thereof, infringed the '553 patent.

94. On information and belief, in violation of 35 U.S.C. § 271(b), Defendants induce others, including third-party owners of datacenters for which Defendants manage operations, to infringe one or more of the claims of the '553 patent by encouraging and facilitating them to perform actions known by Defendants to infringe. Defendants do so, for example, by encouraging and facilitating their customers to use the BTM Accused Instrumentalities with the intent that such use will infringe the '553 patent, and Defendants do so with notice that Lancium contended that their continued operation of Compute North's previous assets infringed the '553 patent.

95. On information and belief, in violation of 35 U.S.C. § 271(c), Defendants with knowledge of the '553 patent, sell or offer to sell the BTM Accused Instrumentalities, knowing they are especially made or especially adapted for practicing the inventions of the '553 patent and are not a staple article or commodity of commerce suitable for substantial non-infringing use. Specifically, the BTM Accused Instrumentalities are designed for an infringing purpose and are not suited for other purposes. Upon information and belief, Defendants are indirectly infringing one or more claims of the '553 patent by actively contributing to their customers' direct infringement within the United States.

96. Defendants' acts of infringement have caused and will continue to cause substantial and irreparable damage to Lancium.

97. As a result of the infringement of the '553 patent by Defendants, Lancium has been damaged.

98. Lancium is entitled to injunctive relief under 35 U.S.C. § 283.

99. In addition to injunctive relief, Lancium is entitled to recover damages pursuant to 35 U.S.C. § 284 in an amount adequate to compensate Lancium for the infringement, but in no event less than a reasonable royalty.

100. Defendants' acts of infringement have been willful since they were done with knowledge of the '553 patent and with knowledge that Defendants' BTM Accused Instrumentalities and/or the use thereof infringed the '553 patent. Lancium is entitled to an award of up to treble damages pursuant to 35 U.S.C. § 284.

101. Due to Defendants' willful infringement, this case is exceptional, and Lancium is entitled to an award of its reasonable attorneys' fees pursuant to 35 U.S.C. § 285.

COUNT IV – INFRINGEMENT OF U.S. PATENT NO. 11,031,813

102. Lancium incorporates by reference and re-alleges paragraphs 1-39 of this Complaint as if fully set forth herein.

103. The '813 patent generally relates to auxiliary power management of behind-the-meter power loads. The claims of the '813 patent, including claim 15, recite novel and inventive systems and methods.

104. For example, claim 15 of the '813 patent recites:

> 15. A method comprising:
>
> detecting a first indication that an intermittent power generation unit is or will be transitioning to a stand-down mode from a power generation mode,
>
> > wherein the intermittent power generation unit is coupled to a grid, generates power during the power generation mode, and does not generate power during the stand-down mode,
> >
> > wherein the intermittent power generation unit supplies the generated power as behind-the-meter power to a flexible datacenter prior to the generated power undergoing step-up transformation for transmission to the grid, and
> >
> > wherein the flexible datacenter comprises: a datacenter control system and a plurality of computing systems configured to perform computational operations; and
>
> based on detecting the first indication, responsively:
>
> > (a) selecting an alternate power source for power delivery to at least one of the computing system of the plurality of computing systems, and
> >
> > (b) enabling power delivery from the selected alternate power source to the flexible datacenter such that the at least one computing system receives continuous power from the alternate power source, and
> >
> > (c) causing a set of computing systems of the plurality of computing systems to ramp down power consumption until receiving a subsequent indication that indicates the intermittent power generation unit is transitioning to the power generation mode.

105. Defendants have directly infringed and continue to directly infringe, literally and/or under the doctrine of equivalents, one or more claims, including claim 15, of the '813 patent in violation of 35 U.S.C. § 271(a). For example, Defendants have, without authorization, made, operated, used, sold access to, and offered for sale access to the BTM Accused Instrumentalities.

106. The BTM Accused Instrumentalities satisfy all claim limitations of one or more of the claims of the '813 patent, including at least claim 15. By way of a non-limiting example, upon information and belief, the BTM Accused Instrumentalities include detecting a first indication that the co-located wind farm is or will be transitioning to a stand-down mode from a power generation mode and responsively selecting a grid power source as a second power source for power delivery to at least one cryptocurrency miner at the datacenter site (*e.g.* the Echo and Delta sites), enabling power delivery from the grid to the miner such that it receives continuous power from the grid, and causing other miners to ramp down power consumption until BTM power is indicated to be available again because the wind farm is transitioning to power generation.

107. Upon information and belief, the Delta cryptocurrency datacenter is co-located with the Wolf Hollow II Generating Station. (Exhibit 5, at 7, 138; Exhibit 17, at 2). The Echo cryptocurrency datacenter is co-located with the King Mountain wind farm operated by NextEra. (Exhibit 5, at 7, 138; Exhibit 6, at 13). Upon information and belief, the wind farm generates power on an intermittent basis due to, for example, lack of wind speed or curtailment. According to Defendants, "Co-locating with intermittent generation sources materially improves site economics and enables USBTC to build long-term development pipeline partnerships." (Exhibit 5, at 139).

108. Upon information and belief, at least the Echo cryptocurrency datacenter is configured to receive BTM power directly from a wind farm. (Exhibit 5, at 139). Upon information and belief, the BTM Accused Instrumentalities additionally directs BTM power from

the wind farm as a first power source and/or grid power from grid operator ERCOT as a second power source to the computing systems at the Echo datacenter. "Echo[, for example,] is co-located behind the meter at a wind farm and at peak wind generation periods can draw up to 100% of the energy the wind project produces; the rest of the time, the energy is sourced from ERCOT." (Exhibit 6, at 13). Upon information and belief, power from the wind farm undergoes step-up transformation into high-voltage power before being transferred at a Point of Interconnect (POI) to the ERCOT transmission network. Upon information and belief, the co-located cryptocurrency datacenter at the Echo site cannot accept high-voltage power and therefore accepts its BTM power prior to the generated power undergoing step-up transformation for transmission as high-voltage power through the ERCOT grid.

109. The BTM Accused Instrumentalities related to the Echo site have a plurality of computing systems configured to perform computational operations (*e.g.*, cryptocurrency miners) either owned by Defendants and/or operated/managed by Defendants. (Exhibit 1; Exhibit 5, at 139).

110. Upon information and belief, the wind farm is not always in power generation mode and sometimes cannot or does not generate power (*i.e.*, stands down) due to lack of wind or curtailment. (*See*, *e.g.*, Exhibit 5, at 13 (noting that Echo does not always draw 100% of its power from the wind farm)). In such cases, the Defendants source power from ERCOT. (*Id.*). Upon information and belief, the BTM Accused Instrumentalities are necessarily configured to detect an indication that the wind farm (or portions of the wind farm) is or will be transitioning to a stand-down mode from a power generation mode, thereby permitting the Defendants to procure grid energy from an ERCOT marketplace and/or or switch to previously procured grid energy. (Exhibit 5, at 139 ("USBTC engages with load-serving entities on fixed forward energy supply

agreements."). Upon information and belief, Defendant's Operator platform tracks site metrics related to the BTM Accused Instrumentalities, including power, in real time. (Exhibit 6, at 13).

111. Upon information and belief, the BTM Accused Instrumentalities related to the Echo site are able to select an alternate power source (*e.g.*, ERCOT grid power) for one or more computing systems at the Echo cryptocurrency datacenter and enable power delivery from that alternate power source to one or more of the computing systems. (*See*, *e.g.*, Exhibit 6, at 13 (The Echo datacenter can "… draw up to 100% of the energy the wind project produces; the rest of the time, the energy is sourced from ERCOT."; Exhibit 5, at 141).

112. Additionally, the BTM Accused Instrumentalities include control capability to "adjust[] the energy consumption of each miner onsite in real-time based on its unique profitability profile." (Exhibit 1; Exhibit 5, at 139). Defendants' Reactor platform "[l]everages data captured by Operator on the observed profitability of each miner." (Exhibit 6, at 14). The "Reactor" platform adjusts consumption of each miner in real-time and is "capable of full power ramp-down and full power ramp-up in seconds," and can do so based on the observed profitability of each miner. (Exhibit 6, at 14; Exhibit 5, at 139). Upon information and belief, the BTM Accused Instrumentalities consider power prices on a per miner basis and determine which miners are no longer acceptably profitable when switched to grid power pricing and subsequently ramp down

those miners. "The speed of these power modulating commands supports USBTC's goal of maximizing profitability by examining power markets granularly to ensure that each decision made by Reactor aligns with USBTC's broader energy strategy, while the chip frequency-modulating commands enable Reactor to adjust the efficiency of USBTC's data centers in real-time to protect against downside." (Exhibit 5, at 140). Upon information and belief, this ramped down state for the otherwise unprofitable miners will continue until BTM Accused Instrumentalities receive an indication that the wind farm is transitioning back to a power generation mode and more favorable BTM pricing will again render the ramped down miners acceptably profitable at a ramped up state.

113. On October 24, 2022, Lancium sent a letter to Compute North Holdings, Inc. notifying it that "certain Compute North affiliates are operating, and other affiliates intend to operate, bitcoin mining facilities that infringe one or more patents covering Lancium's technology." (Exhibit 16). The letter specifically identified Compute North's King Mountain facility in McCamey, Texas operated by joint venture affiliate TZRC LLC as infringing Lancium's patent rights. (*Id*.). This facility is now identified by Defendants as the Echo site. The letter also identified Compute North's Wolf Hollow planned facility in Granbury, Texas as likely to infringe. (*Id*.). Defendants now refer to that facility as the Delta site. The '813 patent is one of the patents specifically identified in the letter. (*Id*.).

114. On information and belief, on or about November 25, 2022, Defendants acquired certain assets of Compute North LLC ("Compute North"). (Exhibit 7; Exhibit 5, at 142-143). In connection with that transaction, Defendant USDKM acquired an interest in the King Mountain facility through an Asset Purchase Agreement between it and Compute North Member, LLC.

(Exhibit 7). Upon information and belief, USBTC is also the site operator for the Delta site through its subsidiary USMIO. (Exhibit 5, at 7, 138).

115. Upon information and belief, due diligence was done in connection with Defendants acquiring Compute North's assets and with Defendant USDKM acquiring an interest in King Mountain, and such diligence resulted in Defendants learning that Lancium put Compute North on notice of patent infringement with respect to the '813 patent on October 24, 2022. Thus, Defendants had notice of the '813 patent and that Lancium contended Defendants' newly-acquired assets, and Compute North and Defendants' use and/or management thereof, infringed the '813 patent.

116. On information and belief, in violation of 35 U.S.C. § 271(b), Defendants induce others, including third-party owners of datacenters for which Defendants manage operations, to infringe one or more of the claims of the '813 patent by encouraging and facilitating them to perform actions known by Defendants to infringe. Defendants do so, for example, by encouraging and facilitating their customers to use the BTM Accused Instrumentalities, and with the intent that such use will infringe the '813 patent, and Defendants do so with notice that Lancium contended that their continued operation of Compute North's previous assets infringed the '813 patent.

117. On information and belief, in violation of 35 U.S.C. § 271(c), Defendants with knowledge of the '813 patent, sell or offer to sell the BTM Accused Instrumentalities, knowing they are especially made or especially adapted for practicing the inventions of the '813 patent and are not a staple article or commodity of commerce suitable for substantial non-infringing use. Specifically, the BTM Accused Instrumentalities are designed for an infringing purpose and are not suited for other purposes. Upon information and belief, Defendants are indirectly infringing

one or more claims of the '813 patent by actively contributing to their customers' direct infringement within the United States.

118. Defendants' acts of infringement have caused and will continue to cause substantial and irreparable damage to Lancium.

119. As a result of the infringement of the '813 patent by Defendants, Lancium has been damaged.

120. Lancium is entitled to injunctive relief under 35 U.S.C. § 283.

121. In addition to injunctive relief, Lancium is entitled to recover damages pursuant to 35 U.S.C. § 284 in an amount adequate to compensate Lancium for the infringement, but in no event less than a reasonable royalty.

122. Defendants' acts of infringement have been willful since they were done with knowledge of the '813 patent and with knowledge that Defendants' BTM Accused Instrumentalities and/or the use thereof infringed the '813 patent. Lancium is entitled to an award of up to treble damages pursuant to 35 U.S.C. § 284.

123. Due to Defendants' willful infringement, this case is exceptional, and Lancium is entitled to an award of its reasonable attorneys' fees pursuant to 35 U.S.C. § 285.

COUNT V – INFRINGEMENT OF U.S. PATENT NO. 11,025,060

124. Lancium incorporates by reference and re-alleges paragraphs 1-39 of this Complaint as if fully set forth herein.

125. The '060 patent generally relates to methods, systems, and non-transitory computer-readable medium for providing computational resource availability based on power-generation signals. The claims of the '060 patent, including claim 1, recite novel and inventive systems, methods, and/or non-transitory computer readable medium.

126. Claim 1 of the ’060 patent recites:

> 1. A method comprising:
>
> receiving, at a first control system, information indicative of a plurality of power-generation economic signals;
>
> based on the received information, identifying, by the first control system, at least one of:
>
> a change indicative of a power-generation economic signal that exceeds a predefined threshold change, (ii) a power-generation economic signal that is below a predefined lower threshold limit, or (iii) a power-generation economic signal that is above a predefined upper threshold limit; and
>
> based on the identification, performing at least one of: (i) adjusting a rate of power use by a flexible datacenter and (ii) determining and providing an indication of computation resource availability to a second control system, wherein the flexible datacenter comprises a behind-the-meter power input system, a power distribution system, and a plurality of computing systems configured to receive power from the behind-the-meter power input system via the power distribution system and
>
> wherein the adjusting a rate of power use by the flexible datacenter comprises ramping up, ramping down, or adjusting power consumption by at least one of the plurality of computing systems.

127. Defendants have directly infringed and continue to directly infringe, literally and/or under the doctrine of equivalents, one or more claims, including claim 1, of the ’060 patent in violation of 35 U.S.C. § 271(a). For example, Defendants have, without authorization, made, operated, used, sold access to, and offered for sale access to the BTM Accused Instrumentalities.

128. The BTM Accused Instrumentalities satisfy all claim limitations of one or more of the claims of the ’060 patent, including at least claim 1.

129. The BTM Accused Instrumentalities include monitoring and receiving at a control system information indicative of a plurality of power-generation economic signals (*e.g.*, purchase price for power from various sources and/or the availability of power from the power sources). For example, Defendants’ Operator and Reactor platforms receive power price information, which

for the Echo site includes two power price signals because it operates on both BTM power and grid power. "Echo is co-located behind the meter at a wind farm and at peak wind generation periods can draw up to 100% of the energy the wind project produces; the rest of the time, the energy is sourced from ERCOT." (Exhibit 6, at 13; Exhibit 5, at 139). Additionally, Defendants' Operator and Reactor platforms report on curtailment status and, upon information and belief, received information indicative of power availability. (Exhibit 6, at 14).

130. Based on the received information, Defendants' Operator and Reactor platforms identify (i) a change indicative of a power-generation economic signal that exceeds a predefined threshold change, (ii) a power-generation economic signal that is below a predefined lower

threshold limit, or (iii) a power-generation economic signal that is above a predefined upper threshold limit. Upon information and belief, the BTM Accused Instrumentalities can at a minimum identify when a power price exceeds a predefined upper threshold limit. For example, "Reactor was developed to monitor energy price data from grid data streams to calculate when real-time energy costs would render Bitcoin mining unprofitable. For example, in May 2022, Reactor triggered a curtailment event at a USBTC site in Texas when electricity prices increased to over $5,000 per MWh." (Exhibit 5, at 139).

131. The Reactor platform can, based on the identification, adjust a rate of power use by the datacenter. (*Id*. ("Reactor triggered a curtailment event…")).

132. The BTM Accused Instrumentalities have a behind-the-meter (BTM) power input system. (Exhibit 5, at 7, 139 (referring to the Echo and Delta sites being co-located behind-the-meter)). The Echo site, for example, is co-located behind-the-meter at a wind farm and can receive up to 100% of its power from the wind farm. (Exhibit 6, at 13; Exhibit 5, at 141).

133. The BTM Accused Instrumentalities have power distribution systems and a plurality of computing systems. The BTM Accused Instrumentalities are configured to receive power from the behind-the-meter power input system via the power distribution system and distribute it to cryptocurrency miners ("computing systems") either owned by Defendants and/or operated/managed by Defendants. (Exhibit 1; Exhibit 5, at 138-139).

134. The BTM Accused Instrumentalities adjust a rate of power use by the flexible datacenter, which comprises ramping up, ramping down, or adjusting power consumption by at least one of the plurality of computing systems. Upon information and belief, the BTM Accused Instrumentalities include control capability to "adjust[] the energy consumption of each miner onsite in real-time based on its unique profitability profile." (Exhibit 1; Exhibit 5, at 139). The

"Reactor" platform "[a]djusts consumption of each miner in real-time" and is "[c]apable of full power ramp-down and full power ramp-up in seconds" (Exhibit 6, at 14), and "USBTC's purpose-built operating technology can be deployed across the site portfolio." (Exhibit 6, at 7). The Reactor platform then leverages that data captured by Operator and adjusts consumption in real time, including the capability of full power ramp down. (Exhibit 6, at 7; Exhibit 5, at 139).

135. On October 24, 2022, Lancium sent a letter to Compute North Holdings, Inc. notifying it that "certain Compute North affiliates are operating, and other affiliates intend to operate, bitcoin mining facilities that infringe one or more patents covering Lancium's technology." (Exhibit 16). The letter specifically identified Compute North's King Mountain facility in McCamey, Texas operated by joint venture affiliate TZRC LLC as infringing Lancium's patent rights. (*Id*.). This facility is now identified by Defendants as the Echo site. The letter also identified Compute North's Wolf Hollow planned facility in Granbury, Texas as likely to infringe. (*Id*.). Defendants now refer to that facility as the Delta site. The '060 patent is one of the patents specifically identified in the letter. (*Id*.).

136. On information and belief, on or about November 25, 2022, Defendants acquired certain assets of Compute North LLC ("Compute North"). (Exhibit 7; Exhibit 5, at 142-143). In connection with that transaction, Defendant USDKM acquired an interest in the King Mountain facility through an Asset Purchase Agreement between it and Compute North Member, LLC. (Exhibit 7). Upon information and belief, USBTC is also the site operator for the Delta site through its subsidiary USMIO. (Exhibit 5, at 7, 138).

137. Upon information and belief, due diligence was done in connection with Defendants acquiring Compute North's assets and with Defendant USDKM acquiring an interest in King Mountain, and such diligence resulted in Defendants learning that Lancium put Compute

North on notice of patent infringement with respect to the '060 patent on October 24, 2022. Thus, Defendants had notice of the '060 patent and that Lancium contended Defendants' newly-acquired assets, and Compute North and Defendants' use and/or management thereof, infringed the '060 patent.

138. On information and belief, in violation of 35 U.S.C. § 271(b), Defendants induce others, including third-party owners of datacenters for which Defendants manage operations, to infringe one or more of the claims of the '060 patent by encouraging and facilitating them to perform actions known by Defendants to infringe. Defendants do so, for example, by encouraging and facilitating them to use the BTM Accused Instrumentalities with the intent that such use will infringe the '060 patent, and Defendants do so with notice that Lancium contended that their continued operation of Compute North's previous assets infringed the '060 patent.

139. On information and belief, in violation of 35 U.S.C. § 271(c), Defendants with knowledge of the '060 patent, sell or offer to sell the BTM Accused Instrumentalities, knowing they are especially made or especially adapted for practicing the inventions of the '060 patent and are not a staple article or commodity of commerce suitable for substantial non-infringing use. Specifically, the BTM Accused Instrumentalities are designed for an infringing purpose and are not suited for other purposes. Upon information and belief, Defendants are indirectly infringing one or more claims of the '060 patent by actively contributing to their customers' direct infringement within the United States.

140. Defendants' acts of infringement have caused and will continue to cause substantial and irreparable damage to Lancium.

141. As a result of the infringement of the '060 patent by Defendants, Lancium has been damaged.

142. Lancium is entitled to injunctive relief under 35 U.S.C. § 283.

143. In addition to injunctive relief, Lancium is entitled to recover damages pursuant to 35 U.S.C. § 284 in an amount adequate to compensate Lancium for the infringement, but in no event less than a reasonable royalty.

144. Defendants' acts of infringement have been willful since they were done with knowledge of the '060 patent and with knowledge that Defendants' BTM Accused Instrumentalities and/or the use thereof infringed the '060 patent. Lancium is entitled to an award of up to treble damages pursuant to 35 U.S.C. § 284.

145. Due to Defendants' willful infringement, this case is exceptional, and Lancium is entitled to an award of its reasonable attorneys' fees pursuant to 35 U.S.C. § 285.

COUNT VI – INFRINGEMENT OF U.S. PATENT NO. 10,608,433

146. Lancium incorporates by reference and re-alleges paragraphs 1-39 of this Complaint as if fully set forth herein.

147. The '433 patent generally relates to methods, systems, and non-transitory computer readable medium for adjusting power consumption based on a fixed-duration power option agreement. The claims of the '433 patent, including claim 1, recite novel and inventive systems, methods, and/or non-transitory computer readable mediums.

148. For example, claim 1 of the '433 patent recites:

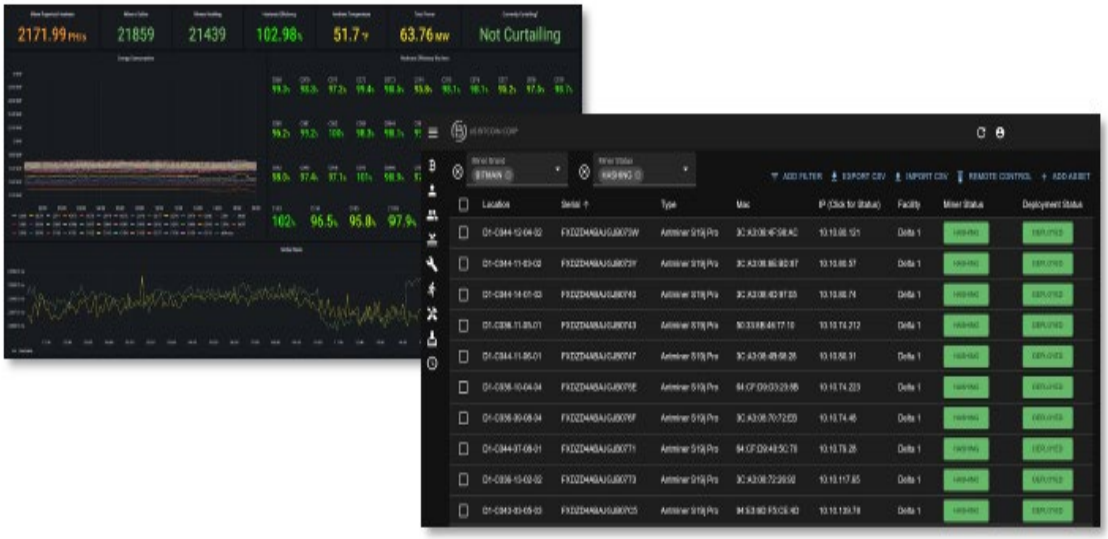
> 1. A system comprising:
>
> a set of computing systems, wherein the set of computing systems is configured to preform computational operations using power from a grid;
>
> a control system configured to:
>
> monitor a set of conditions;

> receive power option data based, at least in part, on a power option agreement, wherein the power option data specify: (i) a set of minimum power thresholds, and (ii) a set of time intervals, wherein each minimum power threshold in the set of minimum power thresholds is associated with a time interval in the set of time intervals;
>
> responsive to receiving the power option data, determining a performance strategy for the set of computing systems based on a combination of at least one condition in the set of conditions, wherein the performance strategy comprises a power consumption target for the set of computing systems for each time interval in the set of time intervals, wherein each power consumption target is equal to or greater than the minimum power threshold associated with each time interval; and
>
> provide instructions to the set of computing systems to perform one or more computational operations based on the performance strategy.

149. Defendants have directly infringed and continue to directly infringe, literally and/or under the doctrine of equivalents, one or more claims, including claim 1, of the ’433 patent in violation of 35 U.S.C. § 271(a).

150. The AS Accused Instrumentalities satisfy all claim limitations of one or more of the claims of the ’433 patent, including at least claim 1. By way of a non-limiting example, the AS Accused Instrumentalities are systems that comprise a set of computing systems (*e.g.*, cryptocurrency miners) that are configured to perform computational operations, such as those used to mine cryptocurrency, including Bitcoin, using power from multiple sources, including power from the grid. For example, USBTC’s website explains that Defendant USMIO is the strategic operator of choice for Bitcoin mine owners and explains that USMIO employs purpose-built operating technology, including the Operator asset management platform and Reactor energy curtailment platform to automate site operations and maximize returns. (Exhibit 1). Bitcoin miners are computing systems that perform computational operations and to perform these operations the miners need power, and such power may be supplied by the electrical grid.

151. The AS Accused Instrumentalities have a control system configured to monitor conditions. For example, the Operator asset management platform "drives miner efficiency by tracking miners in real-time at the site, container, and unit levels." (Exhibit 1; Exhibit 5, at 138-139). And, as Mr. Genoot explained on the Final Merger call between Hut 8 Mining Corp. and USBTC: "[T]he software [USBTC's software] is designed to provide real time monitoring capabilities to optimize the energy consumption of thousands of machines across the site and maximizing the hardware's efficiency." (Exhibit 8, at 5). Upon information and belief, the picture below shows the dashboard of part of the control system that identifies the location, type, and status of miners at the Delta site, as well as other monitored data. (Exhibit 6, at 14).



152. Upon information and belief, the AS Accused Instrumentalities' control system receives power option data based, at least in part, on a power option agreement, wherein the power option data specify: (i) a set of minimum power thresholds, and (ii) a set of time intervals, wherein each minimum power threshold in the set of minimum power thresholds is associated with a time interval in the set of time intervals. For example, Defendant USMIO has an in-house energy team that brings "deep expertise" in, among other things, "ancillary services." (Exhibit 1). Ancillary

service programs are a type of demand response program in which, for example, loads enter into an agreement to curtail power consumption under certain conditions in return for financial consideration. USBTC brings "seemless participation in [a] wide range of ancillary service programs using custom firmware with a set of rapid consumption adjustment and chip frequency modulating commands for commonly used miners." (Exhibit 6, at 13; Exhibit 5, at 140). To participate in certain ancillary service programs within, for example, ERCOT and the participating entity (*e.g.*, a cryptocurrency datacenter acting as a load and registered as a Load Resource) enters into a specific type of agreement (*e.g.*, a power option agreement) that provides a power entity (*e.g.*, ERCOT) the option to instruct the load to curtail a specified amount of power in exchange for the load agreeing to consume at least a specified amount of power (the minimum power threshold) over a set of time periods. Because Defendants indicate that they participate in "a wide range of ancillary service programs offered by Independent Service Operators" (Exhibit 5, at 140), operate within the ERCOT system, and indicate the AS Accused Instrumentalities monitor conditions, and can ramp miners up and down within seconds, upon information and belief, Defendants participate as a Load Resource in at least ERCOT ancillary services programs (and perhaps others) requiring that the AS Accused Instrumentalities' control system receives power option data based, at least in part, on a power option agreement, and that such data specifies a set of minimum power thresholds and a set of time intervals, and that each minimum power threshold is associated with a time interval in the set of time intervals.

153. Upon information and belief, the AS Accused Instrumentalities' control system can, responsive to receiving the power option data, determine a performance strategy for the set of computing systems based on a combination of at least a portion of the power option data and at least one condition in the set of conditions, wherein the performance strategy comprises a power

consumption target for the set of computing systems for each time interval in the set of time intervals, wherein each power consumption target is equal to or greater than the minimum power threshold associated with each time interval. For example, Defendants' Operator platform monitors conditions and Defendants' Reactor curtailment platform adjusts the energy consumption of each miner in the AS Accused Instrumentalities in real-time based on its unique profitability profile. (Exhibit 1; Exhibit 5, at 138-140; Exhibit 6, at 14). In the instance of participating in ERCOT ancillary service programs as a Load Resource, the control system would receive the minimum power threshold data (the power option data) and using that data combined with a condition (*e.g.*, Bitcoin price, power price, global hash rate, etc.) determine a power consumption target for the set of computing systems (miners) for each time interval within the set of time intervals and, because in the instances of participating in ERCOT ancillary services programs as a Load Resource, the system would need to maintain a power usage of at least the minimum power threshold that power consumption target would be equal to or greater than the minimum power threshold for each time interval. USBTC "participates in demand response programs to monetize its flexible load structure" while also using its Reactor curtailment platform to "simultaneously reducing the risk profile of ancillary service program participation." (Exhibit 5, at 140).

154. Upon information and belief, the AS Accused Instrumentalities' control system provides instructions to the set of computing systems to perform one or more computational operations based on the performance strategy. For example, instructions provided to the miners (or to a subset of the miners) to curtail for certain periods of time to help ensure profitability, as

shown below. (Exhibit 6, at 14).

155. On October 24, 2022, Lancium sent a letter to Compute North Holdings, Inc. notifying it that "certain Compute North affiliates are operating, and other affiliates intend to operate, bitcoin mining facilities that infringe one or more patents covering Lancium's technology." (Exhibit 16). The letter specifically identified Compute North's King Mountain facility in McCamey, Texas operated by joint venture affiliate TZRC LLC as infringing Lancium's patent rights. (*Id.*). This facility is now identified by Defendants as the Echo site. The letter also identified Compute North's Wolf Hollow planned facility in Granbury, Texas as likely to infringe. (*Id.*). Defendants now refer to that facility as the Delta site. The '433 patent is one of the patents specifically identified in the letter. (*Id.*).

156. On information and belief, on or about November 25, 2022, Defendants acquired certain assets of Compute North LLC ("Compute North"). (Exhibit 7; Exhibit 5, at 142-143). In connection with that transaction, Defendant USDKM acquired an interest in the King Mountain facility through an Asset Purchase Agreement between it and Compute North Member, LLC. (Exhibit 7). Upon information and belief, USBTC is also the site operator for the Delta site through its subsidiary USMIO. (Exhibit 5, at 7, 138).

157. Upon information and belief, due diligence was done in connection with Defendants acquiring Compute North's assets and with Defendant USDKM acquiring an interest in King Mountain, and such diligence resulted in Defendants learning that Lancium put Compute North on notice of patent infringement with respect to the '433 patent on October 24, 2022. Thus, Defendants had notice of the '433 patent and that Lancium contended Defendants' newly-acquired assets, and Compute North and Defendants' use and/or management thereof, infringed the '433 patent.

158. On information and belief, in violation of 35 U.S.C. § 271(b), Defendants induce others, including third-party owners of datacenters for which Defendants manage operations, to infringe one or more of the claims of the '433 patent by encouraging and facilitating them to perform actions known by Defendants to infringe. Defendants do so, for example, by encouraging and facilitating their customers to use the AS Accused Instrumentalities with the intent that such use will infringe the '433 patent, and Defendants do so with notice that Lancium contended that their continued operation of Compute North's previous assets infringed the '433 patent.

159. On information and belief, in violation of 35 U.S.C. § 271(c), Defendants with knowledge of the '433 patent, sell and/or offer to sell the AS Accused Instrumentalities, knowing they are especially made or especially adapted for practicing the inventions of the '433 patent and are not a staple article or commodity of commerce suitable for substantial non-infringing use. Specifically, the AS Accused Instrumentalities are designed for an infringing purpose and are not suited for other purposes. Upon information and belief, Defendants are indirectly infringing one or more claims of the '433 patent by actively contributing to their customers' direct infringement within the United States.

160. Defendants' acts of infringement have caused and will continue to cause substantial and irreparable damage to Lancium.

161. As a result of the infringement of the '433 patent by Defendants, Lancium has been damaged.

162. Lancium is entitled to injunctive relief under 35 U.S.C. § 283.

163. In addition to injunctive relief, Lancium is entitled to recover damages pursuant to 35 U.S.C. § 284 in an amount adequate to compensate Lancium for the infringement, but in no event less than a reasonable royalty.

164. Defendants' acts of infringement have been willful since they were done with knowledge of the '433 patent and with knowledge that Defendants' AS Accused Instrumentalities and/or the use thereof infringed the '433 patent. Lancium is entitled to an award of up to treble damages pursuant to 35 U.S.C. § 284.

165. Due to Defendants' willful infringement, this case is exceptional, and Lancium is entitled to an award of its reasonable attorneys' fees pursuant to 35 U.S.C. § 285.

COUNT VII – INFRINGEMENT OF U.S. PATENT NO. 11,594,888

166. Lancium incorporates by reference and re-alleges paragraphs 1-39 of this Complaint as if fully set forth herein.

167. The '888 patent, including claim 21, generally relates to novel and inventive methods, systems, and non-transitory computer readable medium for adjusting power consumption based on a fixed-duration power option agreement.

168. For example, claim 21 of the '888 patent recites:

> 21. A method comprising:
>
> monitoring, by a control system, a set of conditions related to operation of computing systems of a set of computing systems;

receiving, at the control system, power option data, wherein the power option data specify: (i) a set of power thresholds, and (ii) a set of time intervals, wherein each power threshold in the set of power thresholds is associated with a time interval in the set of time intervals;

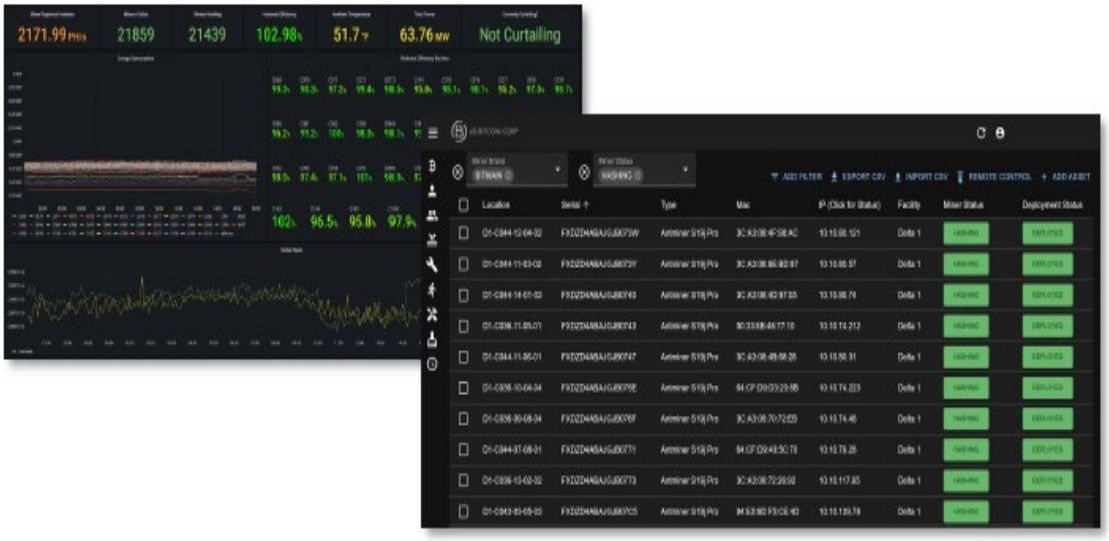
responsive to receiving the power option data, determining control instructions for at least some of the computing systems of the set of computing systems based at least in part on a combination of at least a portion of the power option data and at least one condition of the set of conditions; and

causing power consumption of the at least some of the computing systems of the set of computing systems to be dynamically adjusted as a function of the control instructions.

169. Defendants have directly infringed and continue to directly infringe, literally and/or under the doctrine of equivalents, one or more claims, including claim 21, of the ’888 patent in violation of 35 U.S.C. § 271(a).

170. The AS Accused Instrumentalities satisfy all claim limitations of one or more of the claims of the ’888 patent, including at least claim 21.

171. By way of a non-limiting example, the AS Accused Instrumentalities have a control system that monitors conditions related to operation of computing systems of a set of computing systems. For example, the Operator asset management platform “drives miner efficiency by tracking miners in real-time at the site, container, and unit levels.” (Exhibit 1). And, as Mr. Genoot explained on the Final Merger call between Hut 8 Mining Corp. and USBTC: “[T]he software [USBTC’s software] is designed to provide real time monitoring capabilities to optimize the energy consumption of thousands of machines across the site and maximizing the hardware’s efficiency.” (Exhibit 8, at 5). Upon information and belief, the picture below shows the dashboard of part of the control system that identifies the location, type, and status of miners at the Delta site, as well as other monitored data. (Exhibit 6, at 14).



172. The AS Accused Instrumentalities include a set of computing systems (*e.g.*, cryptocurrency miners) that are configured to perform computational operations, such as those used to mine cryptocurrency, including Bitcoin, using power from multiple sources, including power from the grid. For example, USBTC's website explains that Defendant USMIO is the strategic operator of choice for Bitcoin mine owners and explains that USMIO employs purpose-built operating technology, including the Operator asset management platform and Reactor energy curtailment platform to automate site operations and maximize returns. (Exhibit 1; Exhibit 5, at 138-140; Exhibit 6, at 14). Bitcoin miners are computing systems that perform computational operations and to perform these operations the miners need power, and such power may be supplied by the electrical grid.

173. Upon information and belief, the AS Accused Instrumentalities' control system receives power option data, wherein the power option data specify: (i) a set of power thresholds, and (ii) a set of time intervals, wherein each power threshold in the set of power thresholds is associated with a time interval in the set of time intervals. For example, Defendant USMIO has an in-house energy team that brings "deep expertise" in, among other things, "ancillary services."

Ancillary service programs are a type of demand response program in which, for example, loads enter into an agreement to curtail power consumption under certain conditions in return for financial consideration. USBTC brings "seemless participation in [a] wide range of ancillary service programs using custom firmware with a set of rapid consumption adjustment and chip frequency modulating commands for commonly used miners." (Exhibit 6, at 13). To participate in certain ancillary service programs, the participating entity (*e.g.*, a cryptocurrency datacenter acting as a load) and a power entity enter into an agreement that provides the power entity the option to instruct the load to curtail a specified amount of power in exchange for the load agreeing to consume at least a specified amount of power (*e.g.*, a type of power threshold) over a set of time periods. Because Defendants indicate that they participate in "a wide range of ancillary service programs offered by Independent Service Operators" (Exhibit 5, at 140), and because the AS Accused Instrumentalities monitor conditions and can ramp miners up and down within seconds, upon information and belief, Defendants participate as a load in at least ERCOT and/or private ancillary services programs requiring that the AS Accused Instrumentalities' control system receives power option data and that such data specifies a set of power thresholds and a set of time intervals, and that each power threshold is associated with a time interval in the set of time intervals.

174. Upon information and belief, the AS Accused Instrumentalities' control system can, responsive to receiving the power option data, determine control instructions for at least some of the computing systems in a set of computing systems based at least in part on a combination of at least a portion of the power option data and at least one condition of the set of conditions and causing power consumption of at least some of the computing systems of the set of computing systems to be dynamically adjusted as a function of the control instructions. For example,

Defendants' Operator platform management monitors conditions and Defendants' Reactor curtailment platform adjusts the energy consumption of each miner in the AS Accused Instrumentalities in real-time based on its unique profitability profile. (Exhibit 5, at 138-140; Exhibit 6, at 14). In the instance of participating in an ERCOT ancillary service programs as a Load Resource, the control system would receive the power threshold data (the power option data) and using that data combined with a condition (*e.g.*, Bitcoin price, power price, global hash rate, etc.) determine control instructions for at least some of the computing systems (miners) for each time interval within the set of time intervals and, because in the instances of participating in, *e.g.*, an ERCOT ancillary services programs, the control system, via control instructions, would need to dynamically adjust power consumption of at least some of the computing systems of the set of computing systems in order to maintain a power usage of at least the power threshold so that power consumption would be equal to or greater than the power threshold for each time interval. For example, USBTC "participates in demand response programs to monetize its flexible load structure" while also using its Reactor curtailment platform to "simultaneously reducing the risk profile of ancillary service program participation." (Exhibit 5, at 140). Additionally, "[t]hese commands are integrated into the Reactor energy curtailment platform, which gives USBTC the ability to participate in a wide range of ancillary service programs offered by Independent System Operators …. The speed of these power modulating commands supports USBTC's goal of maximizing profitability by examining power markets granularly to ensure that each decision made by Reactor aligns with USBTC's broader energy strategy, while the chip frequency-modulating commands enable Reactor to adjust the efficiency of USBTC's data centers in real-time to protect against downside." (*Id.*).

175. Upon information and belief, the AS Accused Instrumentalities' control system causes dynamic adjustment of power consumption as a function of the control instructions. For example, instructions provided to the miners (or to a subset of the miners) to curtail for certain periods of time help ensure profitability, as shown below. (Exhibit 6, at 14).

176. On October 24, 2022, Lancium sent a letter to Compute North Holdings, Inc. notifying it that "certain Compute North affiliates are operating, and other affiliates intend to operate, bitcoin mining facilities that infringe one or more patents covering Lancium's technology." (Exhibit 16). The letter specifically identified Compute North's King Mountain facility in McCamey, Texas operated by joint venture affiliate TZRC LLC as infringing Lancium's patent rights. (*Id.*). This facility is now identified by Defendants as the Echo site. The letter also identified Compute North's Wolf Hollow planned facility in Granbury, Texas as likely to infringe. (*Id.*). Defendants now refer to that facility as the Delta site.

177. On information and belief, on or about November 25, 2022, Defendants acquired certain assets of Compute North LLC ("Compute North"). (Exhibit 7; Exhibit 5, at 142-143). In connection with that transaction, Defendant USDKM acquired an interest in the King Mountain facility through an Asset Purchase Agreement between it and Compute North Member, LLC.

(Exhibit 7). As part of the diligence done in connection with Defendants acquiring Compute North's assets and with Defendant USDKM acquiring an interest in King Mountain, upon information and belief, Defendants would have learned of the '888 patent. Thus, by late November 2022, Defendants knew or should have known of the '888 patent.

178. On information and belief, in violation of 35 U.S.C. § 271(b), Defendants induce others, including third-party owners of datacenters for which Defendants manage operations, to infringe one or more of the claims of the '888 patent by encouraging and facilitating them to perform actions known by Defendants to infringe. Defendants do so, for example, by encouraging and facilitating their customers to use the AS Accused Instrumentalities with knowledge of the '888 patent and with the intent that such use will infringe the '888 patent.

179. On information and belief, in violation of 35 U.S.C. § 271(c), Defendants with knowledge of the '888 patent, sell and/or offer to sell the AS Accused Instrumentalities, knowing they are especially made or especially adapted for practicing the inventions of the '888 patent and are not a staple article or commodity of commerce suitable for substantial non-infringing use. Specifically, the AS Accused Instrumentalities are designed for an infringing purpose and are not suited for other purposes. Upon information and belief, Defendants are indirectly infringing one or more claims of the '888 patent by actively contributing to their customers' direct infringement within the United States.

180. Defendants' acts of infringement have caused and will continue to cause substantial and irreparable damage to Lancium.

181. As a result of the infringement of the '888 patent by Defendants, Lancium has been damaged.

182. Lancium is entitled to injunctive relief under 35 U.S.C. § 283.

183. In addition to injunctive relief, Lancium is entitled to recover damages pursuant to 35 U.S.C. § 284 in an amount adequate to compensate Lancium for the infringement, but in no event less than a reasonable royalty.

184. Defendants' acts of infringement have been willful since they were done with knowledge of the '888 patent and with knowledge that Defendants' AS Accused Instrumentalities and/or the use thereof infringed the '888 patent. Lancium is entitled to an award of up to treble damages pursuant to 35 U.S.C. § 284.

185. Due to Defendants' willful infringement, this case is exceptional, and Lancium is entitled to an award of its reasonable attorneys' fees pursuant to 35 U.S.C. § 285.

PRAYER FOR RELIEF

WHEREFORE, Lancium respectfully requests that this Court find in its favor and against each of USBTC, USMIO, and USDKM, and that the Court grant Lancium the following relief:

A. Judgment in favor of Lancium that each of USBTC, USMIO, and USDKM has directly infringed, either literally and/or under the doctrine of equivalents, one or more claims of each of the Asserted Patents;

B. Judgment in favor of Lancium that each of USBTC, USMIO, and USDKM has induced infringement of each of the Asserted Patents;

C. Judgment in favor of Lancium that each of USBTC, USMIO, and USDKM has contributed to the infringement of each of the Asserted Patents;

D. An award of all damages adequate to compensate Lancium for Defendants' infringement of each of the Asserted Patents;

E. Judgment that Defendants' infringement was willful and that the Court award treble damages for the period of such willful infringement pursuant to at least 35 U.S.C. § 284;

F. An award of pre-judgment and post-judgment interest at the maximum rate permitted by law;

G. A finding that this is an exceptional case and awarding Lancium its costs, expenses, disbursements, and reasonable attorney's fees related to Defendants' infringement under 35 U.S.C. § 285 and all other applicable statutes, rules, and common law;

H. A permanent injunction preventing Defendants, their officers, agents, servants and employees, and those person in active concert and participation with any of them, from infringement of one or more claims of each of the Asserted Patents or, in the alternative, if the Court finds that an injunction is not warranted, Lancium requests an award of post-judgment damages adequate to compensate for future infringement;

I. That Lancium be granted all other relief, in law or equity, as the Court may deem just and proper.

JURY TRIAL

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Lancium hereby requests a trial by jury on all issues so triable.

Dated: May 10, 2023

Respectfully submitted,

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