BITNOMIAL

March 1, 2024

VIA ELECTRONIC PORTAL

Christopher J. Kirkpatrick
Office of the Secretariat
Commodity Futures Trading Commission
Three Lafayette Centre 1155 21st Street, N.W.
Washington, D.C. 20581

Re: CFTC Regulation 40.2(a) Certification. Notification Regarding the Initial Listing of Hashrate US Dollar Petahash Futures

Bitnomial Submission No. 24-001

Dear Mr. Kirkpatrick:

Bitnomial Exchange, LLC ("BTNL"), a designated contract market ("DCM"), hereby notifies the Commodity Futures Trading Commission ("CFTC" or "Commission") that it is self-certifying the initial listing of Hashrate US Dollar Petahash Futures (the "Contract") for trading on the BTNL electronic trading platform and for submission for clearing by the Minneapolis Grain Exchange, LLC ("MGEX"), a derivatives clearing organization ("DCO"), effective on March 5, 2024, for a future trade date to be determined by BTNL.

In what follows:
1. Section 1: Contract Description
2. Section 2: Compliance with Core Principles
3. Section 3: Market Research
4. Section 4: Certification

With supporting documents:
5. Appendix A: BTNL Rulebook Chapter 14
6. Appendix B: Hashrate Futures Settlement Price Methodology
7. Appendix C: Surveillance Program Appendix (Confidential)
8. Appendix D: FOIA Confidential Treatment Request

Section 1: Contract Description

The Contract is a US Dollar-denominated, financially settled, future on Bitcoin Hashrate. The underlying asset is the Bitcoin Blockchain Hashrate calculated according to the Hashrate Methodology by BTNL. "Hashrate" refers to the total combined computational power that is being used to mine and process transactions on a proof-of-work blockchain, such as Bitcoin. "Hashrate Futures" include the expected value of one terahash per second of hashing power per day. Hashrate Futures quantify how much a miner can expect to earn from a specific quantity of hashrate. Hashrate is inherently denominated in bitcoin and prices are converted from Bitcoin to US Dollar denomination using a spot price implied from the BTNL Bitcoin US Dollar Futures (BUS) curve.

Section 2: Compliance with Core Principles

BTNL has determined that its rules related to the listing of the Contract comply with the requirements of the Commodity Exchange Act ("CEA") and the rules and regulations promulgated by the Commission thereunder. BTNL has reviewed the DCM Core Principles and related guidance and determined that the listing of the Contracts impact the following Core Principles:

Core Principle 2 - Compliance with Rules:

Trading and settlement of the Contract are subject to the Business Conduct and Trading Practice Rules found in Chapter 4 of the BTNL Rulebook including Rule 403 which forbids pre-arranged, pre-negotiated non-competitive trades. Trading of this product will also be subject to Market Operations and Discipline and Enforcement Rules found in Chapters 5 and 6, respectively.

Core Principle 3 - Contracts Not Readily Subject to Manipulation:

Trading and settlement of the Contract is not readily subject to manipulation because the underlying is not a tradable market, but instead a function of emergent factors of the Bitcoin blockchain like difficulty, block fees, and block rewards, and the BTNL Bitcoin US Dollar futures price. Furthermore, BTNL enforces position limits on the Contract. Taking each factor comprising Hashrate individually:

1. **Bitcoin network difficulty** is designed to be extremely resistant to manipulation and ultimately secures the entire deliverable supply of Bitcoin, currently valued at over $580b. This is achieved by targeting 10-minute block times over a two-week period. An effort to manipulation difficulty would require an enormous sustained financial loss over a period of two or more weeks. Other miners would be incentive to step in and mine bitcoin blocks at a more reasonable rate and the attack would be publicly identifiable and thwarted by node operators validating the blockchain.
2. **Bitcoin network transaction fees** requires a significant overpayment in bitcoin transaction fees over the course of 144 blocks, which is approximately one day of blocks, added to the bitcoin blockchain.
3. **Bitcoin network block rewards** are predefined by the network and are halved every 210,000 blocks, or roughly every four years. Blocks are mined every 10 minutes and difficulty is adjusted over a two-week period to target 10-minute block times and four-year block reward halving.
4. **Bitcoin spot price implied from the BTNL Bitcoin futures curve** is subject to the BTNL surveillance programs and are monitored on a continuous basis. The Bitcoin spot price used in hashrate calculations does not come from an unrelated spot exchange. It is derived from a regulated and surveilled physical-futures market with robust liquidity and open interest. Internal analysis and feedback from market participants has consistently shown high correlation between the BTNL BUS futures curve and spot market price.
5. **Bitcoin Hashrate** is ultimately the average of hashrate continuously delivered over a specific period. As such, the Hashrate takes this into account by using a floating price over

a specified window, such as one month, making the duration to sustain manipulation efforts even larger and more infeasible.

In summary, the sheer size of the financial, power, and hardware resources required to attempt to attack these fundamental factors of the Bitcoin Blockchain network would need to be sustained over more than a two-week period and would be easily identifiable and filterable by node operators, making manipulation extremely impractical.

Core Principle 4 - Prevention of Market Disruption:

Trading and settlement in the Contract are subject to prohibitions of market disruption under Chapters 4, 5 and 6 relating to Business Conduct and Trading Practices, Market Operations, and Discipline and Enforcement, respectively. All trading at BTNL is subject to market surveillance and a robust disciplinary framework.

Core Principle 5 - Position Limits or Accountability:

Trading and settlement in the Contract are subject to position limits as set forth in Chapter 14. The position limits are consistent with Commission guidance. Position limits may be adjusted based on market needs.

Core Principle 7 - Availability of General Information:

Prior to the launch of trading in the Contract, contract terms and conditions will be made available on the BTNL website. Information on the cash settlement of the Contract will also be available on the BTNL website.

Core Principle 8 - Daily Publication of Trading Information:

BTNL will publish the Contract trading volumes, open interest levels, and price information on its website and through quote vendors.

Core Principle 9 - Execution of Transactions:

Execution of the Contract will take place on the BTNL electronic trading platform. Electronic execution provides competitive and transparent transactions. The Contract is cleared by the MGEX DCO.

Core Principle 10 - Trade Information:

All requisite trade information is recorded and stored in the audit trail and are surveilled and monitored in accordance with BTNL Rules.

Core Principle 11 - Financial Integrity of Transactions:

All Contracts are cleared by MGEX, a DCO subject to Commission rules and oversight.

<u>Core Principle 12 - Protection of Markets and Market Participants</u>:

BTNL Rules set forth numerous requirements and protections to prevent intermediaries from disadvantaging customers.

<u>Core Principle 13 - Disciplinary Procedures</u>:

All Contracts are subject to the protections provided by Chapter 6 of the BTNL Rulebook. Chapter 6 describes the disciplinary procedures of BTNL that authorize BTNL to discipline, suspend, or expel Participants that violate the BTNL Rules.

<u>Core Principle 14 - Dispute Resolution</u>:

Disputes arising from trading of the Contract must be arbitrated in accordance with BTNL Rules found in Chapter 7. All disputes, controversies or claims between or among themselves that relate to or arise out of any contract or otherwise arise out of one or more transactions made or to be made on BTNL or subject to the Rules and that are based upon facts and circumstances that occurred at a time when the parties were Participants or Customers.

Section 3: Market Research

BTNL has worked closely with potential market participants and commercial hedgers, such as miners and mining pool operators, to conduct market research to ensure the Contract's terms and conditions reflect the underlying and that the futures contract will perform the intended risk management and/or price discovery functions.

Sellers of Hashrate are typically seeking to hedge exposure to Hashrate fluctuations, lock-in income, or break-even points[1], whether they are a mining company, hardware financier, or ASIC manufacturer looking to manage inventory risk. Buyers of the Hashrate are typically miners awaiting procurement of mining hardware or operationalization and need to gain exposure to Hashrate in the short-term. Additionally, traditional buy-side firms are interested in gaining non-physical exposure to Hashrate to generate alpha or portfolio diversification. The Contract allows miners and other mining adjacent businesses to hedge real risks.

Section 4: Certification

BTNL hereby certifies that the Contract and settlement rules comply with the CEA and all regulations promulgated by the Commission thereunder. As discussed above, trading in Contract will not commence until the related MGEX clearing rules have become effective and BTNL determines to launch its contracts.

BTNL certifies that this submission has been concurrently posted on the BTNL website at https://bitnomial.com/exchange/regulation/.

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[1] https://www.galaxy.com/insights/research/analyzing-public-miners-breakeven-hashprice/

Should you have any questions concerning the above filing, please contact the undersigned at james.walsh@bitnomial.com.

Sincerely, /s/

James A. Walsh
Chief Regulatory Officer
Bitnomial Exchange, LLC

APPENDIX A

CHAPTER 14
HASHRATE FUTURES

Rule 1401   Hashrate US Dollar Petahash Futures

Product Name	Hashrate US Dollar Petahash Futures
Product Code	HUP
Contract Size	1 petahash per second for 30 days
Price Quotation	US Dollars per Bitcoin per petahash per second per day
Minimum Price Fluctuation	$0.25 per petahash ($7.50 per contract)
Trading Hours	8:30 Open to 14:30 Close CPT, Monday through Friday.
Trading Termination	9:30 CPT of the trading day two trading days prior to the last Friday of the expiry month.
Reportable Position Level	25 contracts
Margin	US Dollars
Settlement	Financial
Settlement Price	See Rule 1404
Listing	3 consecutive monthly contracts and up to 4 consecutive contracts in the March quarterly series.
Clearing Timeline	See MGEX Rulebook Chapter 23: Bitnomial Exchange Clearing Rules.

Rule 1402   Hashrate US Dollar Petahash Futures Price Bands and Price Limits

(a)   **Price Bands.** Price Bands are a per-product price range for aggressive orders based on the latest top-of-book price. The initial Price Bands are based on the previous day settlement price +/- the Price Band Variation which is set by the Bitnomial Market Operations & Risk Team. The Price Band Variation range is continuously re-calculated from top-of-book.

(b)   **Price Limits.** Price Limits are a per product price range based on a percentage of the previous day settlement price. If a trade occurs at the Price Limit for a

side, the matching engine triggers a timer. If the timer elapses and no trades occur inside of the Price Limit, the Price Limits are re-calculated and reset. The resultant Price Limits are outside the original Price Limits to allow for additional price movement. The Exchange Market Operations & Risk Team may adjust the daily Price Limits at its sole discretion based on market conditions.

Products	Price Band Variation	Price Limit (the greater of)
HUP	$10	50% or $40
HUP-HUP	$5	50% or $20

Rule 1403   Hashrate US Dollar Petahash Futures Position Limits

For purposes of aggregation, no market participant shall own or control any combination of futures and options contracts that exceeds twenty thousand (20,000) Hashrate US Dollar Petahash Futures -equivalent contracts net long or short in any single month, five thousand (5,000) of such contracts net long or short beginning on the first trading day of the spot month, or two thousand (2,000) of such contracts net long or short beginning on the first day of the Roll Period, the five trading days prior to contract expiration day. In no case may a market participant own or control more than eighty thousand (80,000) Hashrate US Dollar Petahash Futures-equivalent contracts net long or short for all contract months.

In determining whether any market participant has exceeded the position limits, all positions in accounts for which such market participant by power of attorney or otherwise directly or indirectly holds positions or controls trading will be included with the positions held by such market participant. Position limits will apply to positions held by two or more market participants acting pursuant to an expressed or implied agreement or understanding, the same as if the positions were held by a single market participant.

Rule 1404   Hashrate US Dollar Petahash Futures Settlement Price Computation

(a)   **Settlement Times and Definitions**

Daily Settlement Period	Five minutes prior to Trading Close
Final Settlement Period	Five minutes prior to Trading Termination
Settlement Period	Daily or Final Settlement Period
Roll Period	Five trading days prior to contract expiration day
Front Month Contract After Roll Period	Next contract to expire
Deferred Month Contracts	All contracts yet to expire excluding the Front Month Contract
Pricing Contract	Contract used for determining settlement prices

(b)   **Futures Pricing Contract Selection**. Unless during the Roll Period, the

Front Month Contract is the Pricing Contract for determining settlement prices. During the Roll Period, the next-to-expire Deferred Month Contract is used as the Pricing Contract.

     (c)   **Futures Settlement Price Computation**

     (i) The settlement price of the Pricing Contract is the volume-weighted average price (VWAP) of all the trades during the Settlement Period, the five minutes prior to Trading Close.

     (ii) If no trades occur during the Settlement Period, the settlement price is the time-weighted average price (TWAP) of the bid-ask spread midpoint during the Settlement Period.

     (iii) If a bid-ask spread is not available during the Settlement Period, earlier market data, including previous settlement prices, are used.

     (iv) All settlement prices are rounded to the nearest tick.

     (d)   **Futures Non-Pricing Contract Settlement Prices**. The settlement prices for non-Pricing Contracts are inferred from the quoted spread market relationships to the Pricing Contract settlement price, directly or indirectly.

     (e)   **Futures Final Settlement**. The Final Settlement Price is the computed Bitcoin Hashrate according to the Luxor Hashrate Methodology.

     (f)   **Sole Discretion**. The Exchange has sole discretion to determine an alternative settlement price if the stated settlement procedure produces prices which are not representative of the fair value of the contract.

APPENDIX B

Bitnomial Exchange, LLC
Hashrate Futures Settlement Price Methodology

The Hashrate Futures Settlement Price Methodology, described in the document herein, is calculated by Bitnomial Exchange, LLC (the "Exchange") for the purpose of futures contract final settlement. Hashrate is inherently denominated in Bitcoin (BTC) and then converted to US Dollars (USD) using the spot price implied by the Exchange's Bitcoin US Dollar Futures (BUS) curve.

Hashrate Futures price the expected value of one petahash per second of hashing power per day. The metric quantifies how much a miner can expect to earn, in USD, from a specific quantity of hashrate deployed to the Bitcoin network.

The Hashrate conversion from BTC to USD using the spot price derived from the BUS futures curve aims to provide a fair-value price determined by the market. Market participants can precisely manage Hashrate risk in USD *or* BTC at specific points along the forward curve with immediate and transparent access to the underlying BUS pricing market. It is important to note that this price is not anticipated to align precisely with any particular spot price or index as the BUS futures market expresses its own spot price without any external price references.

Hashrate is a function of three Bitcoin blockchain network parameters: network "difficulty", block "subsidy" or "reward", and network transaction fees. Spot Hashrate changes with every block mined and may be viewed as a continuously delivering commodity. As such, Hashrate Futures take this into account by using a floating price, whereby the Hashrate settlement price is an average of the blocks for the duration of the contract month. Hashrate futures settlement uses a 144-block moving average to account for transaction fee variance. Fees exceeding 500-standard deviation moves, which may be adjusted at the discretion of the Exchange, are excluded from the average fee calculation to limit impact of extremely erroneous or non-competitive fees. Non-public blockchain transactions are also excluded to prevent non-competitive fees impacting the average fee rate.

1. The Luxor Bitcoin Hashrate Methodology defines Hashrate as:

$$HP_{btc} = \frac{SR_{btc} + \text{Avg}(TXF_{btc})}{HR}$$

SR_{btc} : Block Subsidy Rate, in bitcoin
TXF_{btc} : Transaction Fees, in bitcoin, for previous 144 blocks
HR : Hashrate, PH/s

2. To convert to a USD denominated price, the BTCUSD price is implied from the Exchange's BUS futures curve as follows:

$$B_s = F_p - \left(\frac{B_{Fp}}{B_{Ft}} F_{Pt} \right)$$

B_s : BTC/USD Conversion Price

F_p : Pricing contract price

B_{Fp} : Back-Front month spread price

B_{Ft} : Time between front and back month contracts, in days

F_{Pt} : Time to front month expiration, in days

For this calculation, the Exchange has discretion to select the most liquid and most representative of fair value Front and Back month contracts and those legs may not necessarily be consecutive contract months. The Exchange computes each contract month's price according to the contract's settlement price rules.

3. Combined, the resulting USD denominated Hashrate is defined as:

$$HP_{usd} = \frac{SR_{btc} + \text{Avg}(TXF_{btc})}{HR} * \left(F_p - \left(\frac{B_{Fp}}{B_{Ft}} F_{Pt} \right) \right)$$

4. The futures final settlement price is the average of all Hashrate prices for the duration of the contract month (4,320 Hashrate pirces). This constitutes continuous delivery over the contract month, which is defined as the following:

$$HP_{fs} = \frac{\sum HP_{usd}}{4320}$$

5. For example, the Bitcoin US Dollar Hashrate for 2023-06-30 is:

$$HP_{usd} = \$77.81 = \frac{6.25 + .21745818}{1.01883 \times 10^{16}} * \left(\$30,805 - \left(\frac{\$525}{91} 89 \right) \right)$$

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March 1, 2024

VIA ELECTRONIC SUBMISSION

Assistant Secretary of the Commission
for FOI, Privacy and Sunshine Acts Compliance
Commodity Futures Trading Commission
Three Lafayette Centre
1155 21st Street, NW
Washington, D.C. 20581

Re: **FOIA Confidential Treatment Request - Bitnomial Exchange, LLC**

Dear Sir/Madam:

On behalf of Bitnomial Exchange, LLC (the "Company), we have submitted documents, dated March 1, 2024 (the "Confidential Submission"), to the Commodity Futures Trading Commission ("Commission") as part of Bitnomial Exchange, LLC's new product filing. The Company considers its Hashrate Methodology document to be proprietary and confidential. The Company requests confidential treatment for Appendix C.

We hereby petition the Commission, pursuant to Commission Regulations 145.5 and 145.9, to accept and retain in confidence the aforementioned documents until further notice as against any requestor who files with the Commission a request to inspect such documents pursuant to the Freedom of Information Act.

Confidential treatment is requested, among other things, on the grounds that the Confidential Submission contains data and information which would separately disclose business transactions and trade secrets that may not be disclosed to third parties, as provided in Section 8(a) of the Commodity Exchange Act and Commission Regulation 145.5(c)(1). Confidential treatment also is requested on the grounds that the Confidential Submission is exempt from disclosure under paragraph (b)(4) of the Freedom of Information Act ("FOIA") and Commission Regulations 145.5(d) and 145.9(d)(1)(ii), because it contains commercial and financial information that is confidential and would be of material assistance to competitors. Further, confidential treatment is requested on the grounds that the Confidential Submission includes personal information of the Company and other persons, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

We understand that if the Commission receives a FOIA request for the Confidential Submission, we will be notified of such request in accordance with the Commission's regulations and be asked to submit, within ten business days, a detailed written justification for confidential treatment of the Confidential Submission. In such event, we request that Commission staff telephone or email the undersigned rather than rely solely upon U.S. mail for such notice.

If the Commission or its staff transmits any of the Confidential Submission to another federal agency, we request that you forward a copy of this letter to any such agency with the

Confidential Submission and further request that you advise any such agency of the request that the material be accorded confidential treatment.

The requests set forth in the preceding paragraphs also apply to any memoranda, notes, transcripts or other writings of any sort whatsoever that are made by, or at the request of, any employee of the Commission (or any other federal agency) and which (1) incorporate, include or relate to any aspect of the Confidential Submission; or (2) refer to any conference, meeting, or telephone conversation regarding the Company relating to the Confidential Submission. Please direct any questions regarding this request for confidential treatment, as well as any notices pursuant to Commission Regulation 145.9(e), to the attention of the undersigned at james.walsh@bitnomial.com.

Very truly yours,
/s/
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