SUBMISSION COVER SHEET

***IMPORTANT*: Check box if Confidential Treatment is requested** ☐

Registered Entity Identifier Code (optional): 21-155

Organization: Chicago Mercantile Exchange Inc. ("CME")

Filing as a: ☒ **DCM** ☐ **SEF** ☐ **DCO** ☐ **SDR**

Please note - only ONE choice allowed.

Filing Date (mm/dd/yy): 04/16/21 Filing Description: Initial Listing of the Micro Bitcoin Futures Contract

SPECIFY FILING TYPE

Please note only ONE choice allowed per Submission.

Organization Rules and Rule Amendments

☐	Certification	§ 40.6(a)
☐	Approval	§ 40.5(a)
☐	Notification	§ 40.6(d)
☐	Advance Notice of SIDCO Rule Change	§ 40.10(a)
☐	SIDCO Emergency Rule Change	§ 40.10(h)

Rule Numbers:

New Product **Please note only ONE product per Submission.**

☒	Certification	§ 40.2(a)
☐	Certification Security Futures	§ 41.23(a)
☐	Certification Swap Class	§ 40.2(d)
☐	Approval	§ 40.3(a)
☐	Approval Security Futures	§ 41.23(b)
☐	Novel Derivative Product Notification	§ 40.12(a)
☐	Swap Submission	§ 39.5

Official Product Name: Micro Bitcoin Futures.

Product Terms and Conditions (product related Rules and Rule Amendments)

☐	Certification	§ 40.6(a)
☐	Certification Made Available to Trade Determination	§ 40.6(a)
☐	Certification Security Futures	§ 41.24(a)
☐	Delisting (No Open Interest)	§ 40.6(a)
☐	Approval	§ 40.5(a)
☐	Approval Made Available to Trade Determination	§ 40.5(a)
☐	Approval Security Futures	§ 41.24(c)
☐	Approval Amendments to enumerated agricultural products	§ 40.4(a), § 40.5(a)
☐	"Non-Material Agricultural Rule Change"	§ 40.4(b)(5)
☐	Notification	§ 40.6(d)

Official Name(s) of Product(s) Affected:

Rule Numbers:

Christopher Bowen
Managing Director and Chief Regulatory Counsel
Legal Department

April 16, 2021

VIA ELECTRONIC PORTAL

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

Re: CFTC Regulation 40.2(a) Certification. Notification Regarding the Initial Listing of the Micro Bitcoin Futures Contract.
CME Submission No. 21-155

Dear Mr. Kirkpatrick:

Chicago Mercantile Exchange Inc. ("CME" or "Exchange") hereby certifies to the Commodity Futures Trading Commission ("CFTC" or "Commission") the initial listing of the Micro Bitcoin Futures contract ("Contract"), for trading on the CME Globex electronic trading platform ("CME Globex") and for submission for clearing via CME ClearPort effective on Sunday, May 2, 2021, for trade date Monday, May 3, 2021, as set forth below.

Contract Title	Commodity Code	Rulebook Chapter
Micro Bitcoin Futures	MBT	CME 348

This Contract is a product extension of the current CME Bitcoin Futures contract (BTC), which the Exchange first listed for trading in December 2017. The Contract's multiplier is 0.10 bitcoin whereas the multiplier for the standard Bitcoin Futures contracts (BTC) is 5 bitcoins. This lower notional Contract is a plain vanilla USD cash-settled and margined futures contract.

The underlying reference for the Contract is the CME CF Bitcoin Reference Rate ("BRR"), which mirrors the underlying index that the Exchange utilizes to settle its standard Bitcoin Futures contract. The BRR is a once-a-day reference rate of the U.S. dollar price of bitcoin. It represents the aggregate executed trade flow on major cryptocurrency spot exchanges during a specific calculation window; 3:00 p.m. - 4:00 p.m. London time.

The BRR is calculated and administered by CF Benchmarks Ltd. ("CF Benchmarks"), a benchmark administrator registered with the European Securities and Markets Authority in accordance with Article 34 of the EU Benchmark Regulation under the regulatory supervision of the UK Financial Conduct Authority.

Section 1 - Contract Specifications

Contract Title	**Micro Bitcoin Futures**
Rulebook Chapter	CME 348
Commodity Code	CME Globex/CME ClearPort: MBT
Contract Size	0.10 bitcoin
Trading Unit	The unit of trading shall be 0.10 bitcoin, as defined by the CME CF Bitcoin Reference Rate (BRR).
Trading and Clearing Hours	Sunday - Friday 5:00 p.m. - 4:00 p.m. CT (6:00 p.m. - 5:00 p.m. ET) with a 60-minute break each day beginning at 4:00 p.m. CT (5:00 p.m. ET) CME Globex Pre-Open: 4:45 p.m. CT – 5:00 p.m. CT CME ClearPort: Sunday 5:00 p.m. - Friday 5:45 p.m. CT (6:00 p.m. – 6:45 p.m. ET) with no reporting Monday - Thursday 5:45 p.m. – 6:00 p.m. CT (6:45 p.m. – 7:00 p.m. ET)
Settlement Method	Financial
Listing Schedule	Monthly contracts listed for six (6) consecutive months and two (2) additional December contract months. If the six (6) consecutive months includes a December contract month, list only one (1) additional December contract month.
Initial Listing Schedule	May 2021, June 2021, July 2021, August 20201, September 2021, October 2021, December 2021, and December 2022 May 2021 shall expire on Friday, May 28, 2021 at which time November 2021 shall be listed.
Price Basis	Prices are quoted and traded in U.S. Dollar
Minimum Price Fluctuation	Outright: 5.00 index points = $0.50 per contract Calendar spread: 1.00 index points = $0.10 per calendar month spread contract
Termination of Trading	Last Day of Trading is the last Friday of the contract delivery month. Trading terminates at 4:00 p.m. London time on the last Friday of the contract month. If that day is not a business day in both the U.K. and the US, trading shall terminate on the preceding day that is a business day for both the U.K. and the U.S.
Final Settlement	Delivery is by cash settlement by reference to the Final Settlement Price, equal to the CME CF Bitcoin Reference Rate on the Last Day of Trading.
Daily Settlement	Prior to Final Settlement, daily settlements for the Contract will be based on the settlement price of the Exchange's Bitcoin Futures contract (BTC)[1]
Position Limits and Reportable Levels	Spot Position Limits are aggregated with the Exchange's Bitcoin Futures contract (BTC) and set at 2,000 BTC contracts. A position accountability level of 5,000 BTC contracts shall be applied to positions in single months outside the spot month and in all months combined. The reportable level shall be 1 Micro Bitcoin Futures (MBT) Contracts.
Block Trade Minimum Threshold	10 contracts Reportable window: RTH 5 minutes; ETH/ATH 15 minutes
CME Globex Matching Algorithm	F: First In, First Out (FIFO)

[1] [1]https://www.cmegroup.com/confluence/display/EPICSANDBOX/Bitcoin

Section 2 – Index Administration, Governance, and Methodology

Bitcoin Market Overview

Bitcoin was created by Satoshi Nakamoto, a pseudonymous person or team who outlined the technology in a 2008 white paper. The bitcoin network went live in 2009. Every transaction involving bitcoin is tracked on the bitcoin blockchain ledger which is public and permissionless. Unlike a bank's ledger, the bitcoin blockchain is distributed across the entire network. No company, country, or third party is in control of it; and anyone can become part of that network.

The network's native cryptocurrency token is bitcoin. According to Coinmarketcap.com (https://coinmarketcap.com/), the market cap for all digital assets is over $1.7 TN. Bitcoin is the largest cryptocurrency by market capitalization, estimated to be $1,068m[2] as at March 22, 2021. The 24-hour trading volume in bitcoin for March 22, 2021 is $49 BN. Bitcoin is traded against many other crypto pairs (e.g., Ether) and in a number of fiat currency pairs. The dominant fiat currency pair is the USD.

Figure 1: Bitcoin Market Capitalization

Source: CoinMarketCap.com

The value of a single bitcoin has steadily climbed to an all-time high of $61,683 on March 13, 2021 The current price at March 22, 2021 is $58,000.

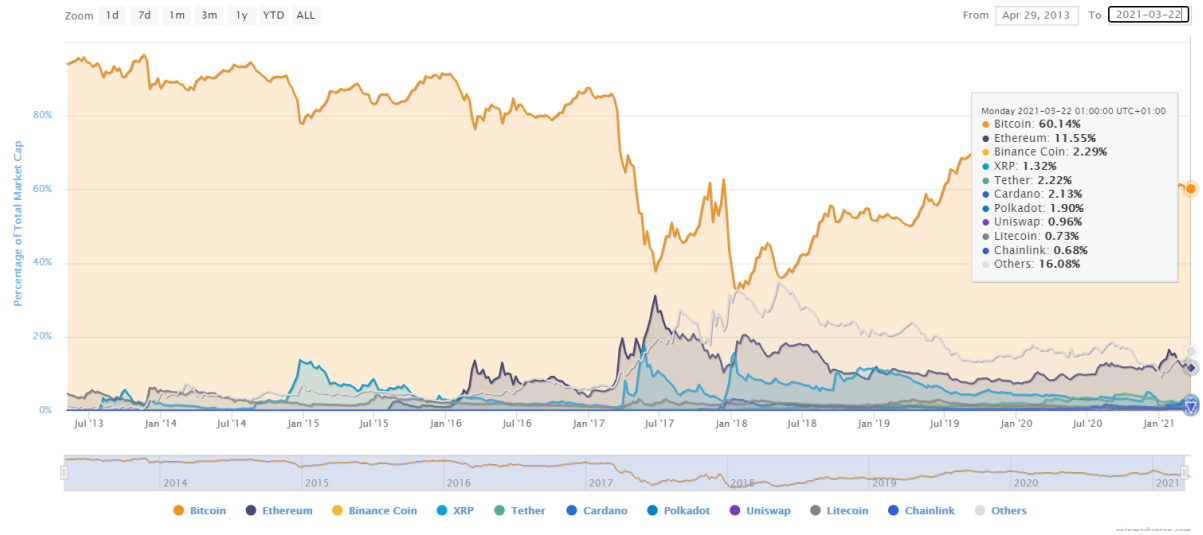
[2] Source: https://coinmarketcap.com/currencies/bitcoin/

Figure 2: Bitcoin Price History

Source: CoinMarketCap.com

In terms of market dominance, bitcoin is consistently the dominant cryptocurrency, as demonstrated in Figure 3.

Figure 3: Bitcoin's Percentage of Total Market Capitalization (Dominance)



Source: CoinMarketCap.com

CME CF Bitcoin Reference Rate

The Contract's final settlement is determined by reference to the BRR, which is calculated and administered by CF Benchmarks. The BRR is the same index that is used to determine a final settlement price for CME's standard Bitcoin Futures contract.

The Exchange commenced daily publication of the BRR in November 2016. The Exchange publishes the BRR on its website at 4:00 p.m. London time 365 days per year. The BRR is the U.S. dollar price of bitcoin as derived from the aggregate executed trade flow on major cryptocurrency spot exchanges during a specific calculation window; 3:00 p.m. and 4:00 p.m. London time.

Selection of Constituent Exchanges

The BRR is calculated from U.S. Dollar bitcoin trades transacted on specific constituent exchanges. Specific eligibility criteria must be adhered to, in order to become a constituent exchange. The constituent exchanges eligibility criteria are publicly available on the CF Benchmarks website.[3]

To assure that the BRR reflects global cryptocurrency trading activity in a representative and unbiased manner, a geographically diverse set of constituent exchanges are included within the current framework for deriving BRR valuations. Applications in connection with potential additions of new constituent exchanges will continue to be based on the predefined eligibility criteria, and the operation of all existing constituent exchanges will continue to be monitored against the same criteria.

Currently, there are five (5) constituent exchanges: Bitstamp, Coinbase, Gemini, itBit and Kraken as more specifically noted in Figure 4 below. The list of current constituent exchanges is also available on the CF Benchmarks website.[4]

Figure 4: Constituent Exchanges

CME CF Bitcoin Reference Rate		
Constitute Exchange	**Date Added**	**Date Suspended**
Bitstamp	Nov 14, 2016	n/a
Kraken	Nov 14, 2016	n/a
itBit	Nov 14, 2016	n/a
Gemini	Aug 30, 2019	n/a
Coinbase	Nov 14, 2016	n/a
Bitfinex	Nov 14, 2016	Apr 14, 2017
OkCoin.com (HK)	Nov 14, 2016	Apr 01, 2017

Calculation Methodology

The BRR is a daily reference rate of the U.S. Dollar price of one bitcoin. As described above, it is the aggregation of executed trade flow of major cryptocurrency spot exchanges that participate in the price discovery process as constituent exchanges during a specific one-hour calculation window (3:00 p.m. to 4:00 p.m. London time). All relevant transactions are added to a joint list, recording the trade price and size for each transaction. This one-hour window is then partitioned into twelve, five-minute intervals. For each partition, the volume-weighted median trade price is calculated from the trade prices and sizes of all relevant transactions across all constituent exchanges. The BRR is then derived from the equally-weighted average of the volume-weighted medians of all partitions and published daily at 4:00 p.m. London time.

[3] CME-CF Constituent Exchanges Eligibility Criteria: https://docs-cfbenchmarks.s3.amazonaws.com/CME+CF+Constituent+Exchanges+Criteria.pdf
[4] CME-CF Constituent Exchanges List: https://docs-cfbenchmarks.s3.amazonaws.com/CME+CF+Constituent+Exchanges.pdf

The BRR calculation methodology is publicly available on the CF Benchmarks website.[5]
A pre-defined CF Benchmarks policy has also been established to evaluate any hard fork for its significance and impact on the BRR. Procedural policy details are provided in a Hard Fork Policy document on the CF Benchmark website.[6]

Quality of Data Inputs

The BRR's methodology adheres to rules in consideration of the following factors to ensure the robustness of the index:

- Delayed data and missing data
- Erroneous data
- Potentially erroneous data
- Calculation failure

The calculation process includes automated screening for erroneous data for non-numeric or non-positive trade price or trade size and un-parseable data.

Automated data validation checks are implemented for each constituent exchange individually. Such validation checks are made to ensure that the volume-weighted median trade price for one constituent exchange does not deviate too widely from the median of the volume-weighted median trade prices of all constituent exchanges. Any data that is outside of a pre-defined deviation tolerance of the other constituent exchanges results in the entire data set from that particular constituent exchange being discarded.

Methodology Design Choices

The BRR calculation methodology mitigates to a high degree against price anomalies, while being replicable through spot trading on the constituent exchanges. This is achieved through several design choices around partitions, the weighting of those partitions, medians and the volume weighting of medians. Further details on the BRR's methodology are available on the CF Benchmarks website.[7]

Overall, the BRR is designed to have limited susceptibility to temporary price swings and outlier prices. There are criteria for an exchange to charge a fee for trading, which eliminates wash trading to increase volumes. The BRR only includes bitcoin trades executed in USD and (1) excludes alternate currency pairs or crypto to crypto trading, (2) does not apply conversion calculations, and (3) excludes stable coin transactions.

Not Readily Susceptible to Manipulation

The BRR is not readily susceptible to manipulation due to the design of the methodology. As noted above, the use of medians reduces the effect of outlier prices on one or more constituent exchange. The volume-weighting of medians filters out high numbers of small trades that may otherwise control the value of a non-volume weighted median. The use of twelve (12) non-weighted partitions assures that price information is sourced equally over the entire observation period. Influencing the rate would therefore require trading activity during multiple partitions on several exchanges over an extended period, which would prove a costly and an operationally intensive undertaking. The methodology is designed to remove the reliance on any single contributing exchange, where delayed or missing data from an exchange does not cause a calculation failure.

In accordance with the methodology, if for any constituent exchange the absolute percentage deviation of the volume-weighted median trade price in comparison with the median of the volume-weighted median trade prices of all constituent exchanges exceeds a given threshold (currently set at 10% and defined in the

[5] CME-CF Reference Rate Methodology: https://docs-cfbenchmarks.s3.amazonaws.com/CME+CF+Reference+Rates+Methodology.pdf
[6] CME-CF Hard Fork Policy: https://docs-cfbenchmarks.s3.amazonaws.com/CME+CF+Hard+Fork+Policy.pdf
[7] CME-CF Reference Rate Methodology: https://docs-cfbenchmarks.s3.amazonaws.com/CME+CF+Reference+Rates+Methodology.pdf

methodology), all relevant transactions of that constituent exchange are flagged as potentially erroneous and are disregarded in the calculation of BRR for that calculation day.

Furthermore for inclusion in the BRR's calculation, a constituent exchange's bitcoin U.S. Dollar spot trading volume must meet the minimum threshold (currently, 3% relative contribution over two (2) consecutive quarters) as detailed in the methodology.

The criteria collectively cause that constituent exchanges deliver transparent and consistent trade and order data to CF Benchmarks via an API with sufficient reliability, detail and timeliness.

Furthermore, the constituent exchanges maintain fair and transparent market conditions to impede illegal, unfair or manipulative trading practices, and comply with applicable law and regulations including, capital markets regulations, money transmission regulations, client money custody requirements, know-your-client (KYC) requirements, and anti-money-laundering (AML) regulations.

The constituent exchanges are also required to cooperate with inquiries and investigations of the administrator (CF Benchmarks) and execute a data sharing agreement with CME.

According to coinmarketcap.com, bitcoin trades on approximately 400 spot exchanges/platforms. Bitcoin trades in U.S. Dollars are transacted on approximately 20 spot exchanges at prices that vary from exchange to exchange. A recent analysis based upon coinmarketcap.com[8] data indicates that roughly twelve (12) dominant exchanges account for nearly 95% of all bitcoin trading in U.S. Dollars globally.

In aggregate, the five (5) constituent exchanges that contribute data to the BRR host several thousand bitcoin transactions on a daily basis and represent over 70% of bitcoin to USD transactions. The BRR has become a source of price discovery and transparency for the market.

Governance

The BRR is calculated and administrated by CF Benchmarks, a leading provider of cryptocurrency benchmarks and indices. CF Benchmarks is registered with the European Securities and Markets Authority ("ESMA") as a benchmark administrator in accordance with Article 34 of the EU Benchmark Regulation and under the regulatory supervision of the UK Financial Conduct Authority. The CME CF Benchmark Statement, which provides additional details on regulatory compliance requirements, is available on the CF Benchmarks website.[9]

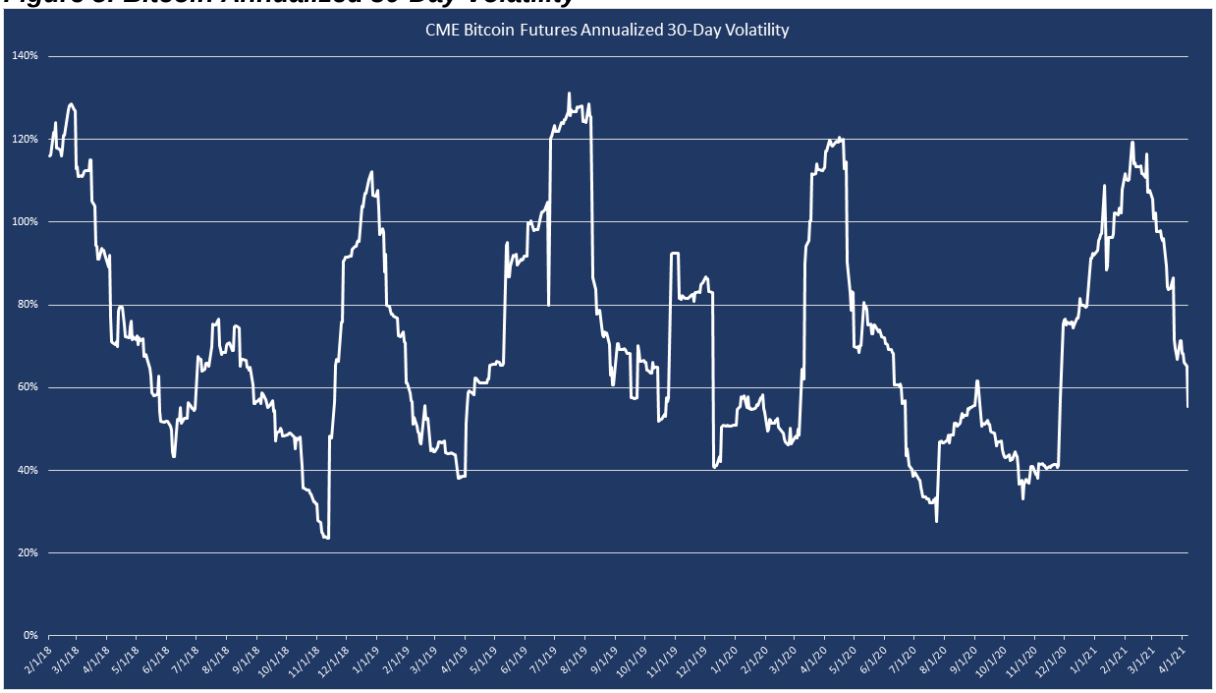
Furthermore, an oversight committee is responsible for overseeing certain activities undertaken in connection with the BRR by approving and regularly reviewing the calculation methodology, practice, standards and definition of the reference rate to ensure it remains relevant and robust. Currently there are seven (7) members of the oversight committee. The committee is comprised of a (1) CF Benchmarks representative, two (2) representatives from CME Group, and at least two (2) independent experts. The oversight committee meets at least once per quarter and publishes its minutes publicly on the CF Benchmarks website. Further details of the oversight committee's charter and related governance policies are available on the CF Benchmarks website.[10]

[8] Data Source: https://coinmarketcap.com/currencies/bitcoin/markets/
[9] CME-CF Benchmark Statement: https://docs-cfbenchmarks.s3.amazonaws.com/CME+CF+Benchmark+Statement.pdf
[10] CME-CF Oversight Committee Charter: https://docs-cfbenchmarks.s3.amazonaws.com/CME+CF+Oversight+Committee+Charter.pdf
CME-CF Practice Standards: https://docs-cfbenchmarks.s3.amazonaws.com/CME+CF+Practice+Standards.pdf
CME-CF Conflicts of Interest Policy: https://docs-cfbenchmarks.s3.amazonaws.com/CME+CF+Conflicts+of+Interest+Policy.pdf

Section 3 – Volatility

Bitcoin prices can be highly volatile, annualized realized volatility in the Bitcoin Futures contract rose to 120% in February 2021 and has averaged about 70% during the past three years. 30-day volatility has reduced to approximately 56% as at the beginning of April 2021, as shown in Figure 5.

Figure 5: Bitcoin Annualized 30-Day Volatility



Source: CME

The Exchange is adept at managing periods of prolonged volatility as well as spikes in volatility as has been demonstrated through its risk management of a variety of asset classes including commodities, agriculture and financial products. The Exchange will implement certain risk controls on the Contract, including special price fluctuations limits, daily price limits, and margin levels that appropriately reflect the volatility of bitcoin. Though the spikes in bitcoin volatility can look extreme, the daily price movements of the BRR is routinely in line with other CME Group contracts and reference rates that underlie exchange-listed contracts.

Section 4 – Customer Feedback

Market participants have expressed interest in the Exchange listing a lower notional value bitcoin futures contract. Such demand has increased as a result of the recent price increase to over $60,000 in March 2021. Market participants advised the Exchange that its standard Bitcoin Futures contract's notional value (5 bitcoins) may be too large and further advised that liquidity has declined in terms of the bid offer spread.

Interest has come from crypto lending platforms, traditional as well as crypto-focused hedge funds, futures liquidity providers and intermediaries. Such parties indicate that a cash-settled lower notional value contract on a regulated exchange would be a welcomed addition to the ecosystem which is currently dominated by unregulated platforms. Such contract would allow market participants to hedge their long physical positions more precisely, allow others to gain exposure to this growing asset class and attract new customers who are unable to participate in the larger contract.

As a result of the extensive market participant validation, the Exchange understands that Miners and institutions with accumulated bitcoin positions could use a lower notional value bitcoin futures contract to more precisely hedge their long exposure and that these market participants would be natural sellers of the Contract. The lower notional value Contract may accommodate institutional and other investors seeking to benefit from bitcoin's growing popularity as a commodity that can be held in a diversified portfolio. These participants may not want direct exposure to physical bitcoin and may be dissuaded from accessing the larger, existing Bitcoin Futures contract as new market entrants. It is expected that professional trading companies looking to arbitrage price differences across other bitcoin exchanges will provide additional liquidity. It is also expected that crypto lending platforms, OTC desks, hedge funds and crypto-focused hedge funds will participate as both buyers and sellers of the Contract depending on their specific trading book and market view. In general, the bitcoin market structure will be similar to other asset classes and will be comprised of hedgers, speculators and market makers.

Interest in a lower notional value bitcoin futures contract has also been keenly represented by potential exchange-traded fund (ETF) providers who have been gearing up to launch products as soon as they are approved by their regulators. Specifically, ETF providers cite that a lower notional value contract can help them better manage daily cashflows.

In the early development stages of the Contract, the Exchange engaged a group of market participants across a multitude of customer segments including proprietary trading firms, brokers, OTC platforms, crypto lending platforms, as well as traditional and crypto-focused hedge funds. During this extensive market participant validation period, contract specifications and other details of a futures contract were deliberated and validated.

The Exchange also engaged its clearing member firms to assess their operational readiness and assess potential impacts of the Contact. Clearing members generally did not express concern regarding the launch of the Contract from an operational or risk perspective. The Micro Bitcoin Futures contract is a standard cash-settled futures contract and as such will have minimal operational impacts on clearing members. The Exchange also deliberated with clearing members who are material participants in this market. Such clearing members advised of their intent to approve trading of the Contract on a client-by-client basis.

Subsequent to publicly announcing its intention to launch the Contract, the Exchange has been in receipt of a significant amount of interest from market participants, inclusive of buy-side, commercials, ETF providers, and potential market makers spanning the spectrum of market segment and geographic location. Several bank and non-bank futures commission merchants have indicated early support, and several have expressed commitment of trading the Contract on the first launch date.

Section 5 – Compliance with Core Principles

The Exchange reviewed the designated contract market core principles ("DCM Core Principles") as set forth in the Commodity Exchange Act ("CEA" or the "Act") and identified that the following DCM Core Principles may be impacted as follows:

Core Principle 2 – Compliance with Rules

Trading in the Contract shall be subject to CME Rulebook Chapter 4, which includes prohibitions against fraudulent, noncompetitive, unfair, and abusive practices. Additionally, trading in this Contract shall be subject to the Exchange's trade practice rules, the majority of which are contained in Chapter 5 and Chapter 8 of the Rulebook. Trading activity in this Contract shall be subject to monitoring and surveillance by CME Group's Market Regulation Department, which has the authority to exercise its investigatory and enforcement power where potential rule violations are identified.

Core Principle 3 – Contracts Not Readily Subject to Manipulation

The Exchange certifies that the underlying reference rate, the CME CF Bitcoin Reference Rate (BRR), is not readily subject to manipulation. The index is calculated from a large number of trades observed during the calculation window. The combination of volume weighting of medians plus non-weighted partitions prevents manipulation in the reference rate. Ultimately, influencing the BRR would require significant trading activity on several exchanges over an extended period of time.

BRR is calculated and administered by CF Benchmarks (registered with the European Securities and Markets Authority as a benchmark administrator in accordance with Article 34 of the EU Benchmarks Regulation) under the regulatory supervision of the UK Financial Conduct Authority.

The BRR was first published on November 14, 2016 and has been calculated and published daily without exception to date. It is published daily on the CME Group website.

Core Principle 4 – Prevention of Market Disruption

Trading in the Contract will be subject to CME Rulebook Chapters 4 and 7, which include prohibitions on manipulation, price distortion, and disruption to the expiration and assignment process. As with any new product listed for trading on a CME Group designated contract market, trading activity in the contracts certified herein will be subject to monitoring and surveillance by CME Group's Market Regulation Department. The Exchange will initially and may on an ongoing basis supplement the monitoring process by providing expiration surveillance reports to the Commission's Division of Market Oversight staff.

Core Principle 5 – Position Limits or Accountability

Positions will be aggregated with the Exchange's Bitcoin Futures contract (BTC) and options thereon at the applicable ratio given the differing notional values. Uniform position limits will be applied to the Contract and the standard Bitcoin Futures contract (BTC) and options thereon. The spot month position limit will remain 2,000 standard Bitcoin Futures contract equivalents. The single month position limit and all-months accountability level will remain 5,000 standard Bitcoin Futures contract equivalents.

Core Principle 7 – Availability of General Information

The Exchange shall disseminate a Special Executive Report ("SER") that sets forth information in regard to specifications, terms, and conditions of the Contract. The SER will also be published on the Exchange's website.

Core Principle 8 – Daily Publication of Trading Information

The Exchange shall publish trading volumes, open interest levels, and price information daily of the Contract on the CME Group website and through quote vendors.

Core Principle 9 – Execution of Transactions

The Contract will be listed for trading on the CME Globex electronic trading and for clearing through CME ClearPort. The CME Globex electronic trading venue provides for competitive and open execution of transactions. CME Globex affords the benefits of reliability and global connectivity.

Core Principle 10 – Trade Information

All requisite trade information shall be included in the audit trail and will suffice for the Market Regulation Department to monitor for market abuse.

Core Principle 11 – Financial Integrity of Transactions

The Contract shall be cleared by CME Clearing, which is registered with the Commission as a derivative clearing organization, and which is subject to all CFTC regulations related thereto.

Core Principle 12 – Protection of Markets and Market Participants

Chapters 4 and 5 in the CME Rulebook set forth multiple strictures that preclude intermediaries from disadvantaging their customers. These Rules apply to trading in the Exchange's competitive trading venues and will apply to transactions in the Contract.

Core Principle 13 – Disciplinary Procedures

Chapter 4 of the CME Rulebook provide for the Exchange to discipline, suspend, or expel members or market participants who violate the rules of the Exchange. Trading in the Contract shall be subject to these provisions. The Exchange's Market Regulation Department has the authority to exercise its powers of enforcement, in the event that rule violations in the Contract are identified.

Core Principle 14 – Dispute Resolution

Disputes in respect of the Contract shall be subject to the arbitration provisions set forth in Chapter 6 of both the CME Rulebook, which allow all nonmembers to submit to arbitration claims for financial loss resulting from transactions on the Exchange. Pursuant to these provisions, any member named as a respondent in any such claim submitted by a nonmember is required to participate in arbitration proceedings. Additionally, the Exchange requires members to resolve via arbitration all disputes concerning transactions on the Exchange.

Pursuant to Section 5c(c) of the Act and CFTC Regulation 40.2(a), the Exchange certifies that listing the Contract complies with the Act including all regulations thereunder. There were no substantive opposing views to this proposal.

The Exchange certifies that this submission has been concurrently posted on the Exchange's website at http://www.cmegroup.com/market-regulation/rule-filings.html.

Should you have any questions concerning the above, please contact the undersigned at (212) 299-2200 or via e-mail at CMEGSubmissionInquiry@cmegroup.com.

Sincerely,

/s/ Christopher Bowen
Managing Director and Chief Regulatory Counsel

Attachments:	Appendix A	CME Rulebook Chapter 348
	Appendix B	Position Limit, Position Accountability, and Reportable Level Table in Chapter 5 of the CME Rulebook (attached under separate cover)
	Appendix C	CME Rule 588.H. – ("Globex Non-Reviewable Trading Ranges") Table
	Appendix D	CME Rule 589. – Special Price Fluctuation Limits and Daily Price Limits Table
	Appendix E	Daily Settlement Procedure Document
	Appendix F	Exchange Fees
	Appendix G	Deliverable Supply Analysis
	Appendix H	Bitcoin Reference Rate Analysis – (CONFIDENTIAL TREATMENT REQUESTED)

Appendix A

CME Rulebook
Chapter 348
Micro Bitcoin Futures

34800. SCOPE OF CHAPTER

This chapter is limited in application to Micro Bitcoin Futures. In addition to this chapter, futures shall be subject to the general rules and regulations of the Exchange as applicable.

34801. CONTRACT SPECIFICATIONS

Each futures contract shall be valued at 0.10 bitcoin as defined by the CME CF Bitcoin Reference Rate ("BRR").

34802. TRADING SPECIFICATIONS

34802.A. Trading Schedule

Futures contracts shall be scheduled for trading during such hours and for delivery in such months as may be determined by the Exchange.

34802.B. Trading Unit

The unit of trading shall be 0.10 bitcoin.

34802.C. Price Increments

The minimum price increment shall be 5.00 index points, equal to $0.50 per contract, except for intermonth spreads executed pursuant to Rule 542.A., for which the minimum price increment shall be 1.00 index points, equal to $0.10 per intermonth spread.

34802.D. Position Limits, Exemptions, Position Accountability and Reportable Levels

The applicable position limits and/or accountability levels, in addition to the reportable levels, are set forth in the Position Limit, Position Accountability and Reportable Level Table in the Interpretations & Special Notices Section of Chapter 5.

A Person seeking an exemption from position limits for bona fide commercial purposes shall apply to the Market Regulation Department on forms provided by the Exchange, and the Market Regulation Department may grant qualified exemptions in its sole discretion.

Refer to Rule 559 for requirements concerning the aggregation of positions and allowable exemptions from the specified position limits.

34802.E. Price Limits and Trading Halts

At the commencement of each Trading Day, the contract shall be subject to special price fluctuation limits and daily price limits as set forth in Rule 589 and in the Special Price Fluctuation Limits and Daily Price Limits Table in the Interpretations & Special Notices Section of Chapter 5.

34802.F. Termination of Trading

Trading in expiring futures shall terminate at 4 p.m. London time on the last Friday of the contract month. If that day is not a business day in both the UK and the US, trading shall terminate on the preceding day that is a business day for both the UK and the US. Trading shall terminate at 4 p.m. London time on the Last Trade Date.

34803. SETTLEMENT PROCEDURES

Delivery shall be by cash settlement.

34803.A. Final Settlement Price

For a futures contract for a given delivery month, the Final Settlement Price shall be the BRR published at 4 p.m. London time on the Last Trade Date (Rule 34802.F.).

In the event that the BRR is not publishable or published on the CME Micro Bitcoin Futures Termination of Trading day, and therefore, CME cannot determine the CME Micro Bitcoin Final Settlement Price, then final settlement of the CME Micro Bitcoin futures contract is at the discretion of the Exchange and may be deferred or postponed for up to 14 consecutive calendar days.

34803.B. Final Settlement

Clearing members holding open positions in an expiring futures contract at its termination of trading (Rule 34802.F.) shall make payment to or receive payment from the Clearing House in accordance with normal variation margin procedures based on such expiring contract's Final Settlement Price (Rule 34803.A.).

In the event of a hard fork, Micro Bitcoin futures shall continue to settle to the BRR corresponding to the original token pair (BTC:USD). The Exchange may, in its sole discretion, take alternative action with respect to hard forks in consultation with market participants as may be appropriate.

(End Chapter 348)

Appendix B

CME Rulebook
Chapter 5
("Trading Qualifications and Practices")
Position Limit, Position Accountability, and Reportable Level Table

(attached under separate cover)

Appendix C

CME Rulebook
Chapter 5
("Trading Qualifications and Practices")
Rule 588.H. – ("Globex Non-Reviewable Trading Ranges") Table

(additions underlined)

		Outrights			Spreads	
Instrument	Globex Symbol	Globex Non-Reviewable Ranges (NRR)	NRR: Globex Format	NRR: Minimum Ticks	NRR: Globex Format	NRR: Minimum Ticks
Micro Bitcoin Futures	MBT	1%	Variable	Variable	Each leg evaluated as an outright	

Appendix D

CME Rulebook
Chapter 5
("Trading Qualifications and Practices")
Rule 589. – Special Price Fluctuation Limits and Daily Price Limits Table

(additions underlined)

Product	Rulebook Chapter	Commodity Code	Primary/ Associated	Associated With	Dynamically Calculated Variant
Micro Bitcoin Futures	348	MBT	Associated	BTC	10% of Dynamically Calculated Reference Price Daily Price Limit Table

Appendix E

Micro Bitcoin Futures Daily Settlement Procedure Document

Normal Daily Settlement Procedure

The daily settlements in the Micro Bitcoin (MBT) Futures contracts are derived directly from the settlements in the Bitcoin (BTC) futures contracts. Daily settlements derived in the BTC will be copied directly to the MBT for each contract listing.

Appendix F

Exchange Fees

Membership Type	Venue/Transaction Type	Fee
Individual Members Clearing Members Rule 106.J Equity Member Firms & Rule 106.J Qualified Subsidiaries Rule 106.I Members & Rule 106.I Qualified Affiliates Rule 106.S Member Approved Funds	CME Globex	$1.25
	EFP	$2.00
	EFR	$2.00
	Block	$2.00
	Delivery	$0.65
	Exe|Asn|Future From	$0.70
Rule 106.D Lessees Rule 106.F Employees	CME Globex	$2.00
	EFP	$3.20
	EFR	$3.20
	Block	$3.20
	Delivery	$1.00
	Exe|Asn|Future From	$1.05
Rule 106.R Electronic Corporate Members (For other than CME Globex - Non-Member rates apply)	CME Globex	$2.05
Rule 106.H and 106.N Firms	CME Globex	$2.20
	EFP	$3.55
	EFR	$3.55
	Block	$3.55
	Delivery	$1.10
	Exe|Asn|Future From	$1.15
International Incentive Program (IIP) and International Volume Incentive Program (IVIP) Participants	CME Globex	$2.50
Central Bank Incentive Program (CBIP), Emerging Markets Bank Incentive Program (EMBIP), Latin American Fund Manager Incentive Program (FMIP), Participants (For other than CME Globex - Non-Member rates apply)	CME Globex	$2.50
CBOE Members (Non-Member rates apply)	CME Globex	N/A
	EFP	N/A
	EFR	N/A
	Block	N/A
	Delivery	N/A
	Exe|Asn|Future From	N/A
CTA/Hedge Fund Incentive Program Participants (Non-Member rates apply)	CME Globex	$2.50
Members Trading Outside of Division (For other than CME Globex During ETH - Non-Member rates apply)	Globex During ETH Only	$2.40
Non-Members	CME Globex	$2.50
	EFP	$4.00
	EFR	$4.00
	Block	$4.00
	Delivery	$1.25
	Exe|Asn|Future From	$1.30

Processing Fees	Fee
106.D Lessee/106.H Brokerage	$0.13
106.F Employee Brokerage	$0.13
Floor / "New" Brokerage	$0.04
Position Adjustment/Position Transfer	$0.10
Give-Up Surcharge	$0.05
Facilitation Fee	$0.40

Appendix G

Deliverable Supply Analysis

Cash Market Overview

Bitcoin is a decentralized open source blockchain and digital currency that allows for secure peer-to-peer transactions on the internet. The native cryptocurrency token is BTC. It is the largest cryptocurrency by market capitalization, estimated to be $1,060m[11] as at March 16, 2021. Bitcoin can be traded for other cryptocurrencies or other sovereign currencies. Its current value is around $55,000 as of 16 March 2021. The analysis that follows evaluate bitcoin as the deliverable for a cash settled Micro Bitcoin Futures contract (the "Contract").

Bitcoin

Bitcoin was created by Satoshi Nakamoto, a pseudonymous person or team who outlined the technology in a 2008 white paper. The bitcoin network went live in 2009. Every transaction involving Bitcoin is tracked on the Bitcoin blockchain ledger which is public and permissionless. Unlike a bank's ledger, the Bitcoin blockchain is distributed across the entire network. No company, country, or third party is in control of it; and anyone can become part of that network.

The bitcoin protocol defines, in advance, how the currency will be created and at what rate. Upon release of bitcoin in 2009, Satoshi Nakamoto coded the creation of 21 million bitcoin. The supply of new bitcoins is designed to grow toward a ceiling of 21 million units. However, not all 21 million coins are currently in circulation.

Bitcoin Mining and Blocks

Bitcoin mining is the process by which new bitcoin enter circulation. Miners are individuals or groups who work to secure the network by verifying transactions and adding them to a public ledger; the bitcoin blockchain, in what is called blocks. A block contains details of all the transactions that have been transacted within a given timeframe. Blocks form a chain by referring to the hash (or fingerprint) of the previous block

Mining requires specialist equipment and great power. The miners are an important part of preserving the blockchain ledgers. The miner that first finds the newest block is rewarded with new bitcoin for their work. Miners also take transaction fees paid by parties sending bitcoin.

The bitcoin code is designed to create a new block every ten minutes. As such the number of bitcoins in existence increases about every 10 minutes when new blocks are mined and added to the bitcoin blockchain.

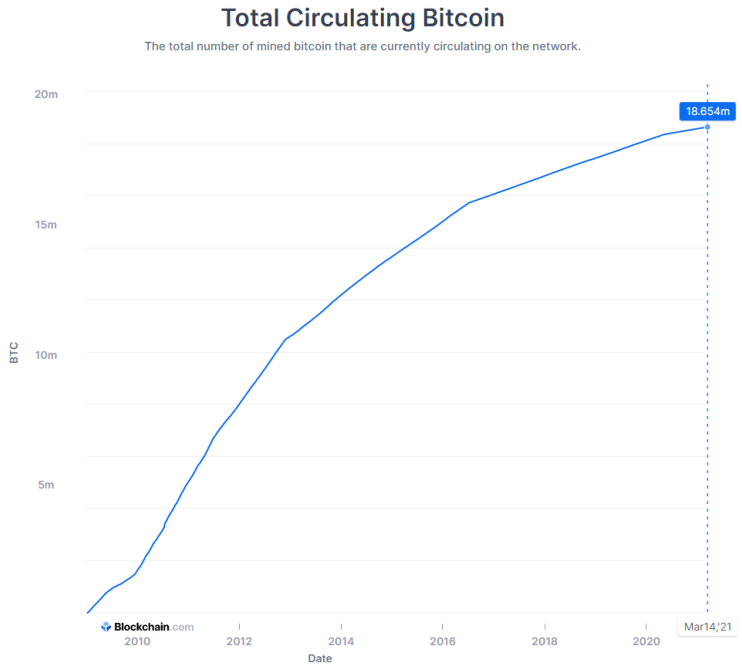
The bitcoin protocol defines how many bitcoins are released each time a miner discovers a new block. At the current mining rate each new block adds 6.25 bitcoins into circulation, which is approximately 900 bitcoins per day.

[11] Source: https://coinmarketcap.com/currencies/bitcoin/

Initially, the block reward was set to 50 bitcoins per solved block. The protocol states that the number of bitcoins created per block, i.e., the mining reward, will decrease geometrically. This system is in place to systematically reduce the rate at which new bitcoins are issued into circulation This gradual systematic process will see a 50% reduction every 210,000 blocks, or approximately every four (4) years, until all the 21 million units of bitcoin have been created, which will occur in 2140.

Bitcoin in Circulation

As at March 2021, 18,653,556 million coins are in circulation (rounded to 18.6 m here after). This represents circa 89%[12] of all the bitcoin supply originally set.



As designed, the percent growth of bitcoin in circulation has slowed since inception. The growth of the bitcoin in circulation is expected to slow with time, eventually ending at 21 million bitcoins.

Year	Total Bitcoin in Circulation at EOY	Total Percent Increase
2009	1,606,650	
2010	5,003,550	211%
2011	7,983,450	60%
2012	10,608,200	33%
2013	12,191,400	15%
2014	13,668,225	12%
2015	15,026,575	10%
2016	16,074,563	7%
2017	16,769,238	4%
2018	17,451,413	4%
2019	18,128,275	4%
2020	18,584,831	3%

[12] March 16, 2021 https://www.blockchain.com/en/charts/total-bitcoins

The theoretical circulating supply of bitcoin, however, is not the total spendable supply. The total spendable supply is lower than the total circulating supply due to accidental loss, willful destruction, and technical peculiarities.

From the total circulating supply of 18.6 million bitcoins, it would be prudent to discount for unrecoverable bitcoins that are burned (bitcoins that will never be spent - for example, if the bitcoin were sent to a public address without any party knowing or having a way to compute the private key, the bitcoin associated with that key are considered “burned.”); permanently withdrawn from circulation or lost. There is no consensus on the number to be deducted, but best estimates indicate there to be about a 20% total loss. This would produce an estimate of 14.88 million bitcoin as circulating supply (equal to 18.6 million x 0.80).

Deliverable Supply

CME launched Bitcoin futures in December 2017, with a contract size of 5 bitcoin. The Micro Bitcoin futures contract size will be 0.10 bitcoin.

Both contracts will cash settle to the CME CF Bitcoin Reference Rate (BRR) published on the futures contract’s last day of trading.

As with Options on Bitcoin futures contracts, Micro Bitcoin futures contracts will aggregate into the Exchange’s standard Bitcoin futures contract for position limit purposes. For the discussion of position limits that follows, the contract size referenced is for the existing Bitcoin Futures contract. The standard contract has a 5 bitcoin multiplier and the Micro Bitcoin contract will share an aggregated position limit. The ratio for the application of spot month position limits will be 50 MBT:1 BTC.

In theory, all 14.88 million units extant may be considered as notional deliverable supply of contract-grade commodity. A prudent and conservative estimate, however, would acknowledge that bitcoin is traded in multiple currency denominations, of which USD is one.

For illustration, consider that during the six months ending March 1, 2021, around 60% of fiat bitcoin transaction volume was in U.S. dollars. Were this used as a proxy for the share of outstanding bitcoin that stands as notional contract-grade supply for Bitcoin futures, it would produce an estimate of 8.93 million bitcoins (equal to 14.88 million x 0.60) as the ‘money stock’ notionally eligible for delivery in fulfilment of expiring contract months. The following analysis uses this estimate.

An acceptable regulatory practice for setting spot month position limits is to set such limits at or below 25 percent of estimated spot month deliverable supply. Under current bitcoin market conditions, the resultant maximum position limit would be 2.2 million bitcoin, or 446,400 contracts ((equal to 8.93 million bitcoin x 0.25) / (5 bitcoin per contract)).

An alternative approach is based on the standard that the Exchange has typically applied to foreign exchange futures products, according to which the position limit is set at or below one percent of the money stock in the contract-grade currency denomination. Applied to the estimated bitcoin ‘money stock’, the result would be a position limit of 89,280 bitcoin, or 17,856 contracts ((equal to (8.93 million bitcoin x 0.01) / (5 bitcoin per contract)) or less.

Recommendation

A spot-month position limit of 1,000 contracts was applied to the Bitcoin Futures contact upon launch in December 2017. In September 2019, the Exchange increased the limit from 1,000 contracts to 2,000 contracts, which represents 11% of the 1% test typically applied to foreign exchange futures contracts. Options on Bitcoin Futures contracts were launched in January 2020.

Upon the Exchange's launch of its Bitcoin Futures contract in December 2017, the crypto market was beginning to emerge. Since that time, the crypto market has grown tremendously. Institutional participation has increased, and a new ecosystem of lenders, hedge funds and custodians has emerged. A significant number of market makers support the Bitcoin Futures contract. In December 2020 CME became the largest crypto derivates exchange for bitcoin in terms of open interest. The Bitcoin futures year-to-date average daily volume as of March 17, 2021 is 13,934 futures contracts per day. Open interest in Bitcoin futures has also been growing steadily, and peaked in August 2020, with a record 15,406 contracts. Current open interest as of March 17, 2021 is 11,172 contracts. The number of unique accounts that have traded the Bitcoin Futures contract since launch is above 7,700, with diverse participation across market participant categories and geographic locations. As of December 2020, the number of large open interest holders of Bitcoin Futures grew to 110 and as of March 16, stands at 77. CME's growth in this market is evidenced by increased centralized and competitive trading on the Exchange's CME Globex electronic trading platform and market participants' central limit order book.

By way of background, the framework used for determining position limits at the inception of CME Ether Futures contract was set at roughly 60% of 1% test typically applied to foreign exchange futures products. Applying the same haircut and viewed in the context of the preceding cash market overview, an aggregate position limit of 11,000 contracts would be consistent with the Commission's guidance (11,000 / 17,856 contracts = 61% of the 1% test typically applied to foreign exchange futures products). The resultant quantity would be sufficiently stringent to further supplement the Contract's lack of susceptibility to manipulation and would be significantly below the standard 25% 'money stock' analysis of deliverable supply test.

Although higher position limits are consistent with the Commission's guidance, the spot month position limits shall remain below the 60% reduction at the current level of 2,000 contracts standard Bitcoin Futures contract equivalents. The single month position limit and all-months accountability level will remain 5,000 standard Bitcoin Futures contract equivalents. Accountability levels are set at 2.5 times the position limit. Additionally, to allow for enhanced transparency and more effective market surveillance, a reportable position level of one (1) Micro Bitcoin Futures contract will be implemented.

Appendix H

Bitcoin Reference Rate Analysis

(attached under separate cover)

(CONFIDENTIAL TREATMENT REQUESTED)