



May 21, 2025

Mr. Christopher J. Kirkpatrick  
Secretary  
Commodity Futures Trading Commission  
Three Lafayette Centre  
1155 21st Street, NW  
Washington, DC 20581

**Re: Request for Comment on Trading and Clearing of Derivatives on a 24/7 Basis**

Dear Mr. Kirkpatrick:

Hyperliquid Labs Pte. Ltd. (“Hyperliquid Labs”) is pleased to offer this response to the request for comment on 24/7 trading and clearing of derivatives (“RFC”) published by the Commodity Futures Trading Commission (the “CFTC” or “Commission”) on April 21, 2025.<sup>1</sup>

**I. Introduction**

Hyperliquid Labs, based in Singapore, is a core contributor to the Hyperliquid general-purpose layer-one blockchain (“Hyperliquid”). Hyperliquid supports trading of perpetual derivatives on a 24/7 basis, as one component of its broader financial infrastructure and ecosystem. While the Commission’s RFC does not expressly seek comment from the decentralized finance (“DeFi”) community, Hyperliquid Labs has unique perspectives about 24/7 trading from its work on Hyperliquid, which it believes may be helpful to the Commission as it evaluates whether and how to extend trading hours in its regulated markets.

DeFi technology generally, and Hyperliquid in particular, have shown that 24/7 trading can not only operate consistently with the Commission’s core aim to foster robust, reliable, and innovative markets, but can also advance it. Hyperliquid Labs appreciates the opportunity to share its views with the Commission about these topics and about DeFi more broadly.

**II. Background on Hyperliquid<sup>2</sup>**

Hyperliquid supports decentralized applications and enables those applications to operate fully on-chain—meaning that all transactions are verified and recorded directly on the blockchain itself.

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<sup>1</sup> *Request for Comment on Trading and Clearing of Derivatives on a 24/7 Basis*, Release No. 9068-25 (CFTC Apr. 21, 2025).

<sup>2</sup> The description of Hyperliquid in this submission is summary and high level in nature and is based on the current state of Hyperliquid. Additional information regarding Hyperliquid is available in the protocol’s public documentation, available at <https://hyperliquid.gitbook.io/hyperliquid-docs>.

Hyperliquid integrates a fully on-chain order book optimized for trading spot digital assets and perpetual derivatives. Hyperliquid incorporates a number of core technological features which are unique to and/or developed using blockchain and DeFi technology and which facilitate safe, resilient, and robust trading on a 24/7 basis, including:

- Fully On-Chain Order Book. Every order, fill, liquidation, and funding payment on Hyperliquid is executed and recorded directly on-chain. There is no off-chain matching engine.
- Oracle Pricing. Validators publish spot oracle prices for the spot assets underlying each perpetual derivative in real-time, which are used to compute funding rates. Oracle prices are also inputs into the mark price, which is a measure of fair price of the perpetual asset itself that is used for margining, liquidations, and the triggering of certain order types.<sup>3</sup>
- Sub-Second Finality and High Throughput. Hyperliquid uses a custom consensus mechanism, called HyperBFT, that finalizes blocks in under 0.2 seconds and has been benchmarked to process up to 200,000 orders per second.
- Zero-Gas Trading Costs. Transactions on Hyperliquid incur minimal fees, lowering friction for price discovery, increasing liquidity and market depth and as a result giving better execution to users. Trading messages do not incur fees.
- Self-Directed Collateral. Traders post collateral from self-custodial wallets. Collateral never sits in an exchange omnibus account and no such account exists or is required for the operation of Hyperliquid as a decentralized blockchain.
- Automatic Liquidations. Liquidations on Hyperliquid occur directly on Hyperliquid's on-chain order book. When a trader's account equity falls below the required maintenance margin level, the position is liquidated based on a liquidation methodology that seeks to minimize market impact while prioritizing timely closing of undercollateralized positions. See Section III.A.2. for details.
- User Funds Self-Custodied. Hyperliquid contributors neither custody nor rehypothecate user funds.

These state-of-the-art features have made Hyperliquid a top marketplace for 24/7 trading. The front-end user interface on which Hyperliquid Labs worked is governed by Terms of Use that prohibit trading by U.S. persons. However, as a core contributor to Hyperliquid, Hyperliquid Labs

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<sup>3</sup> The spot oracle prices are computed by validators as the weighted median of prices on certain specified reference exchanges. Mark price is the median of (i) oracle price plus a 150 second exponential moving average of the difference between Hyperliquid's mid price and the oracle price; (ii) the median of best bid, best ask, and last trade on Hyperliquid; and (iii) the median of the mid prices of multiple perpetual derivatives exchanges. If two of the three inputs above exist, the 30 second exponential moving average of the median of best bid, best ask, and last trade on Hyperliquid is also added to the median inputs. Mark price is updated whenever validators publish new oracle prices, which is approximately once every 3 seconds.

believes the Hyperliquid model and framework is one the Commission should consider when evaluating whether and how 24/7 trading can be offered in its markets consistent with its core principles. More detail in response to the Commission’s specific questions about 24/7 trading, and how they are addressed through DeFi and Hyperliquid, are set forth below.

### **III. Applying DeFi Framework to Commission’s Questions About 24/7 Trading**

The RFC reflects a number of important observations and questions about how a 24/7 trading framework can be applied to derivatives markets in a manner consistent with the Commission’s core principles. This includes recurring themes around (i) liquidity and access to margin and collateral—*i.e.*, whether a market that operates 24/7 can retain margin and collateral coverage during non-business hours; (ii) operational resilience—*i.e.*, whether a trading platform operating 24/7 will reliably be able to upgrade itself and recover without any downtime or routine maintenance windows; and (iii) surveillance—*i.e.*, whether regulators will have the same insight into market activity when trading and clearing occur 24/7.

First, with respect to liquidity and margining, as a public blockchain, Hyperliquid offers provable on-chain solvency—including through block-level margin checks and automatic deleveraging to close positions that do not meet maintenance margin requirements, regardless of the day/time of week or market conditions. Second, the operation of Hyperliquid is resilient and automated by design; it does not depend on maintenance or other staffing being deployed during off-hours. Third, anyone, including market regulators, can have continuous, auditable surveillance of trading on Hyperliquid, because every order, fill, and liquidation is recorded and time-stamped on-chain—a feature that can enhance the Commission’s oversight. We address each of these topics in turn.

#### **A. Liquidity, Collateral, and Margining**

The RFC asks whether 24/7 trading creates risks relating to liquidity, collateral, and margining requirements outside of traditional market hours. The RFC asks, for example: (i) whether FCMs should “require customers with open positions going into a weekend to prefund additional margin as a cushion against adverse price moves”; (ii) “is auto-liquidation of customer positions an acceptable and prudent risk mitigant” for open positions held during non-business hours; and (iii) are there other risks in holding customer positions open during weekends or overnight.<sup>4</sup> Hyperliquid’s model is instructive on these questions and demonstrates that the concerns raised can be successfully addressed in DeFi markets on a 24/7 basis, without the need to rely on bank wires or weekend staffing.

##### *1. Blockchain-Level Collateral and Margin Requirements*

Hyperliquid’s collateral requirements minimize risks that may otherwise result during off-hours or periods of low liquidity. Traders on Hyperliquid are required to self-collateralize their positions up-front, prior to trading. In other words, margin is pre-funded on-chain in US dollar-denominated stablecoins. Accordingly, no market intermediary would be exposed to daylight overdrafts or overnight credit calls. Margin levels are also re-assessed on every trade and every

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<sup>4</sup> See, e.g., RFC Question Nos. 1, 2, 4, 6, and 8.

oracle price update, eliminating any need for weekend prefunding. As set forth below, Hyperliquid will liquidate a position for an account that might otherwise run negative. For that reason, no “after-hours” margin top-up is ever required, as such top-ups would simply lock excess capital without adding any additional protection.

In traditional financial models, markets may at times rely on a well-capitalized affiliate bank to advance variation margin payments. That structure may raise competitive concerns. First, it creates a barrier to entry, as only vertically integrated groups with deep credit lines can provide around-the-clock guarantees. Second, it creates a moral-hazard risk. If losses are socialized to the affiliate, pricing discipline weakens and the guarantor may concentrate risk off balance sheet. By contrast, a fully pre-funded, on-chain model like that used by Hyperliquid removes the need for, and attendant risks of, an affiliate guarantee, because collateral is posted in advance and positions are liquidated automatically if equity falls below maintenance.

## *2. Automatic Liquidations*

Hyperliquid also applies blockchain-level collateral checks to automatically liquidate any account that falls below maintenance margin requirements. If a very rare shortfall remains, the system automatically reduces offsetting profitable positions (*i.e.*, auto-deleveraging). On a per user basis, even in extreme circumstances, negative balances are resolved within seconds by Hyperliquid’s liquidation mechanisms. Collectively, these mechanisms ensure that liabilities do not exceed collateral held on-chain, which operates as a provable solvency assurance that anyone can confirm by inspecting the public blockchain. These mechanisms on the blockchain eliminate the weekend gap-risk found in less frequent margin models.

Auto-liquidation can thus be a prudent control for trading pre-funded, on-chain positions, including when banks are closed. Hyperliquid checks every account on each trade, so trades are immediately guaranteed to be collateralized. Positions that fall below maintenance margin are liquidated immediately in the same block, capping a user’s loss to their posted collateral and eliminating unsecured variation calls. Further, Hyperliquid employs safeguards to mitigate any potential residual risks from auto-liquidations, including, among other things, the use of a partial liquidation model to dampen the risk of liquidation cascades and reduce market impact.<sup>5</sup>

## *3. Blockchain-Level Controls Prevent Destabilizing Orders*

DeFi markets like Hyperliquid are also a better guard against the risk of off-hours destabilizing orders. In the traditional model of centralized exchanges, markets may close Friday afternoon and reopen Sunday evening or Monday morning, creating periods during which brokers are closed and liquidity is thin. For example, markets may gap-move, exposing firms to losses they cannot call. Further, under the current model in traditional derivatives markets, margin is static during off-hours, and therefore a single adverse move against a trader’s position can exhaust

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<sup>5</sup> For liquidations of positions larger than 100,000 USDC, only 20% of the position is initially sent to the order book for liquidation. Following that initial, partial liquidation, any further liquidation requirements for that user in the next 30 seconds lead to full liquidation. Partial liquidations lead to less slippage and market impact for liquidated users and are typically sufficient to bring accounts above the maintenance margin requirement. The full liquidation trigger ensures liquidations are timely during extreme volatility.

their collateral. If operations are thinly staffed during off-hours, there may also be delays in detecting large profit-and-loss swings.

DeFi markets, on the other hand, never close, so there is no “Friday gap.” Rather, prices update block-by-block, and traders’ collateral reprices continuously. As noted above, automated liquidations occur immediately when a trader’s equity falls below the required maintenance margin, capping their loss to posted collateral. Traders can monitor their collateral in real-time and may top-up at any time.

Further, Hyperliquid incorporates controls—hard-coded pre-trade limits, such as maximum trade sizes—directly into the blockchain. These controls alleviate the risk of orders that could destabilize the market in periods of lower liquidity—whether through extreme leverage, overly large notional size, or a price outside the current acceptable limit price range relative to the maximum leverage on the asset and its current fair price.<sup>6</sup> Hyperliquid enforces maximum leverage and maximum order sizes, and a non-compliant order is rejected before it can be sequenced. Validators treat an order that breaches the hard-coded leverage cap or maximum order size the same way Bitcoin nodes treat a spend without sufficient balance: the transaction is simply invalid and never added to a block.

Accordingly, the principal weekend risk in the traditional model—*i.e.*, un-callable variation margin—is replaced by short-lived micro-volatility that is automatically resolved by block-level liquidation or topping up collateral.

## **B. Operational Resilience**

The RFC also asks about the impact of 24/7 trading on the operational resilience of systems on which derivatives markets rely. The RFC asks, for example, (i) what operational risks does trading or clearing on a 24/7 basis pose beyond those faced during traditional business hours; (ii) how should firms design their systems to accommodate “[c]ontinuous trading [which] requires a high-availability systems architecture with active failover, hot-swappable components, and load balancing,” when those systems cannot depend on “windows for regular updates, patches, and upgrades”; and (iii) how can firms “ensure that they are adequately staffed to detect and respond to market anomalies and technical events at all hours.”<sup>7</sup>

Hyperliquid is designed with a number of controls enabling it to operate continuously and reliably without planned downtime. First, Hyperliquid’s validator set supports operational resiliency. Hyperliquid’s permissionless validator nodes are run by multiple independent teams across different cloud providers and bare-metal hosts (*i.e.*, physical servers that are dedicated to a single tenant, and not shared with other users).<sup>8</sup> Having distributed validator nodes means trading

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<sup>6</sup> The acceptable limit price range control is analogous to price bands on traditional markets but relies on a real-time anchor price instead of the opening prices commonly used in price band controls on traditional markets, given that opening prices do not exist in 24/7 markets.

<sup>7</sup> See, *e.g.*, RFC Question No. 1; RFC DCM/SEF Question Nos. 1-4.

<sup>8</sup> Unlike cloud servers, which often run multiple virtual machines on a single physical server, a bare metal host provides direct access to the hardware. This setup allows for greater control over the server’s resources, potentially leading to improved performance, security, and customization options. Bare metal

operations can continue even if a few nodes experience an outage. Traffic is also routed by the “gossip protocol”<sup>9</sup> to a robust set of peers that ultimately propagate the data to the whole network. These measures support the high-availability objectives the Commission notes are important in the RFC.

Second, Hyperliquid eliminates the need for operations personnel to be staffed 24/7. The code is designed to run autonomously and not require manual intervention. As an additional layer of safety, different validators run different monitoring scripts to receive continuous alerts for block time, price-feed variance, and abnormalities. Potential problems are flagged in seconds without needing eyes on screens 24/7. Any supervisor or auditor could run a node themselves, which streams real-time data 24/7 and is provably tamper-resistant.<sup>10</sup> Likewise, if a data-center fails, anyone—including the Commission—could launch a new node, sync the public ledger, and be fully caught up within minutes, well before the “next business-day” recovery standard.

These measures keep trading online, secure, and recoverable on a 24/7 basis.

### **C. Enhanced Surveillance in DeFi Markets**

The RFC also asks whether 24/7 trading would present any risks relating to market surveillance by market supervisors.<sup>11</sup> Here again, blockchain technology provides a framework for enhancing regulatory oversight, including in the context of 24/7 trading. Hyperliquid, for example, allows for full transaction-level transparency. Every order, transfer, margin change, and liquidation is publicly verifiable in real-time and written to the immutable blockchain history, giving regulators a tamper-proof trail and greater market insight than end-of-day reports may provide.

Further, because anyone—including the Commission—can run a read-only or validating node, supervisory access can shift from T+1 batch files to real-time state inspection without imposing new reporting burdens. Indeed, in a 24/7 trading framework on a decentralized exchange, continuous surveillance may replace manual searching for events and patterns—with the beneficial result that overnight staffing no longer depends as much on “watching the screen” and can shift to a more efficient process of responding to flagged events.

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hosting is often used for applications that require high performance, specific hardware configurations, or enhanced security measures.

<sup>9</sup> The “gossip protocol” is a method of spreading information across a network where each node selectively shares data with other nodes, ensuring that the information eventually reaches all parts of the network efficiently and reliably with minimal network overhead.

<sup>10</sup> These measures are also consistent with National Institute of Standards and Technology (“NIST”) SP 800-53 IR-4 (Incident Handling).

<sup>11</sup> See RFC DCM/SEF Question No. 5.

#### **D. Perpetual Derivatives Are Well-Suited to 24/7 Markets**

Finally, the RFC asks whether there are particular product types that are more reasonably suited to a 24/7 model.<sup>12</sup> Perpetual derivatives based on digital assets are well-suited to trading in 24/7 markets, because they (i) have reliable oracle prices with 24/7 trading of digital asset spot markets; (ii) utilize block-level margining that keeps mark-to-market simple; (iii) can be fully pre-funded and auto-liquidated when equity falls below maintenance margin requirements; and also (iv) have no fixed expiry, using funding rates that continuously align the contract price to spot price. Some markets may not be suitable for 24/7 trading, but for many markets it represents an important evolution with real advantages for markets and market participants. For additional perspective on the potential uses and benefits of perpetual derivatives, we refer the Commission to Hyperliquid Labs' concurrently filed response to the Request for Comment on the Trading and Clearing of "Perpetual" Style Derivatives, Release No. 9069-25 (CFTC Apr. 21, 2025).

#### **IV. Conclusion**

Hyperliquid Labs hopes the Commission will pursue further engagement to advance its consideration of DeFi markets and 24/7 trading. In that spirit, we propose that the Commission consider an industry-wide study analyzing how to integrate DeFi technologies most effectively into CFTC-regulated markets that are suited to offer 24/7 trading. The report could also evaluate, for example, the risks faced by centralized markets that DeFi technology and innovation can and does help mitigate, and other enhancements that DeFi offers over traditional, centralized markets. Continuous, on-chain markets like Hyperliquid already meet—and in several respects may exceed—the Commission's policy objectives for resilience and customer protection in its markets. By adopting technology-neutral, principles-based rules and updates to its existing framework, the Commission can strengthen oversight, enhance market integrity, and foster cutting-edge financial innovation in the United States.

We appreciate the Commission's consideration of this submission.

Respectfully submitted,

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<sup>12</sup> RFC Question No. 7.